











Pham 169543

251: TINguyen7_46 + 7		231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886	
252: Pembroke_48 + 10		231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886	
253: GingkoMaracino_48 + 1		231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886	
254: Zetzy_47		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
255: Isca_44		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
256: HeiDan_45 + 3		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
257: Agiel_49	148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886	
258: DaHudson_48		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
259: MA5_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
260: Sabinator_47 + 1		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
261: JeppNRM_49		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
262: Rockstar_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
263: Farber_48		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
264: Melvin_47 + 93		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
265: Cici_44 + 12		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
266: Stink_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
267: Cindaradix_42		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
268: DirtyDunning_44 + 2		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
269: LochMonster_46 + 2		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
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271: Miramae_44		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
272: JetBlade_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
273: OKaiNui_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
274: ICleared_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
275: Thanksgiving_44 + 1		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
276: AvatarAhPeg_44		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
277: Sparxx_46		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
278: Cimron_44		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
279: Noelle_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
280: Pumbaa_45		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
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283: Palestino_44		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
284: Shygu2_44		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
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286: George_38		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
287: MarysWei_37		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
288: Naca_39		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
289: Scorpio_40 + 1		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
290: LittleCherry_39 + 2		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
291: Phlorence_37 + 3		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
292: ForGen_38 + 5		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
293: Jabiru_39		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
294: PeterN_40		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
295: Bonamassa_39 + 1		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
296: Ghoulboy_40 + 2		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
297: UnionJack_39		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
298: Midas2_38 + 1		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
299: ETiger69_39		148	231	256	292	329	388	424	487	511	549	577	663	683	673	683	700	709	728	739	791	792	796	834	851	871	886
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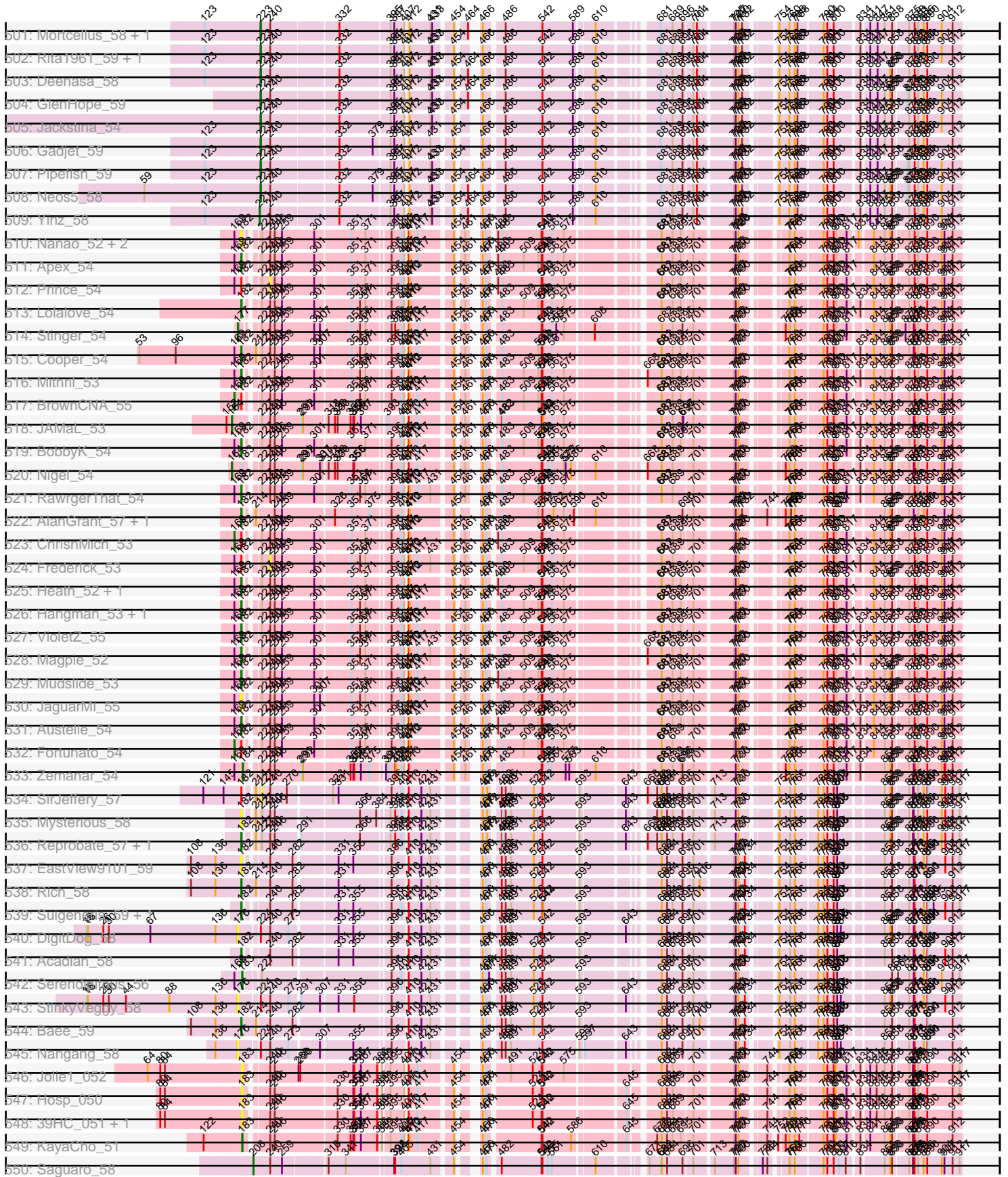








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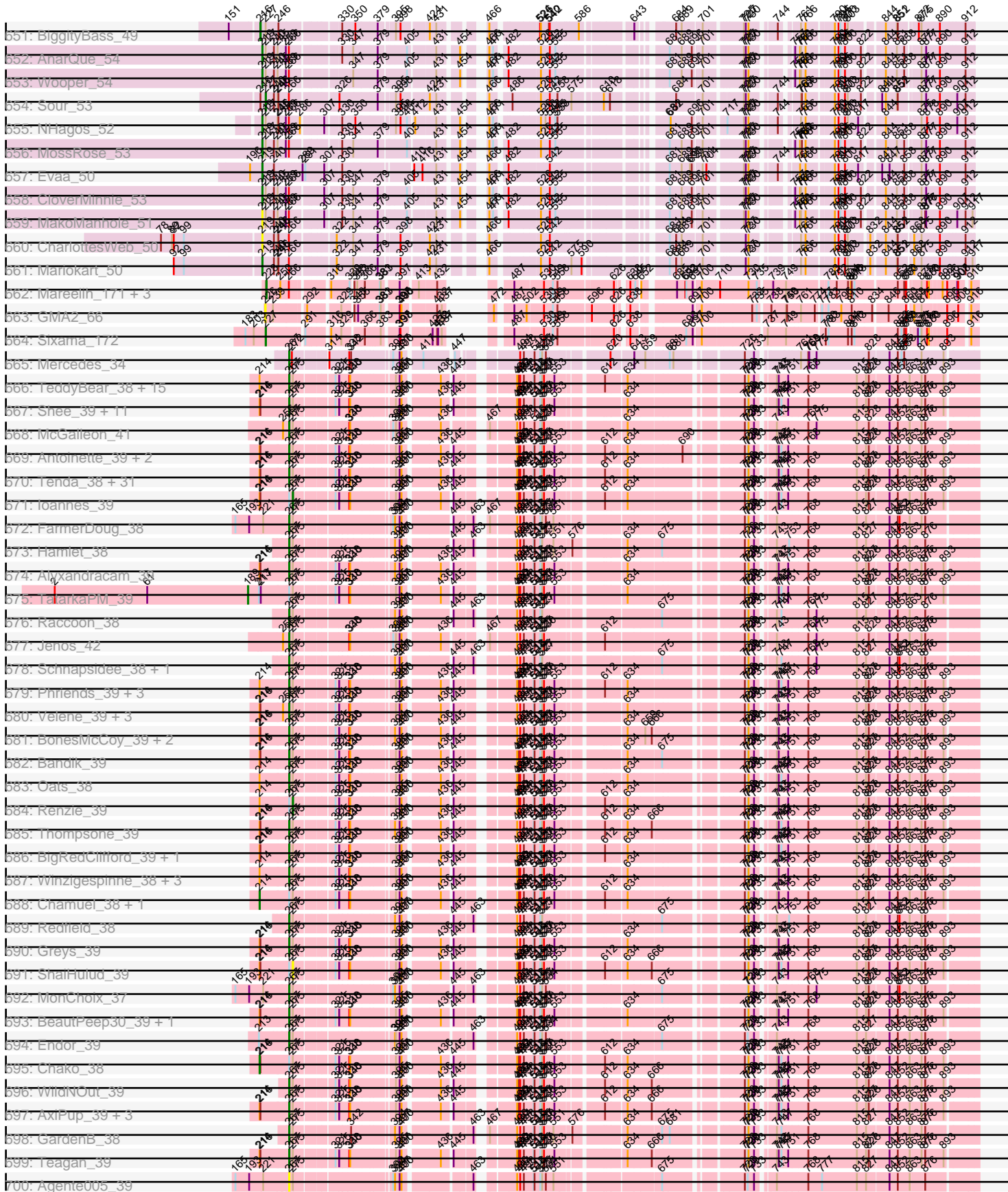


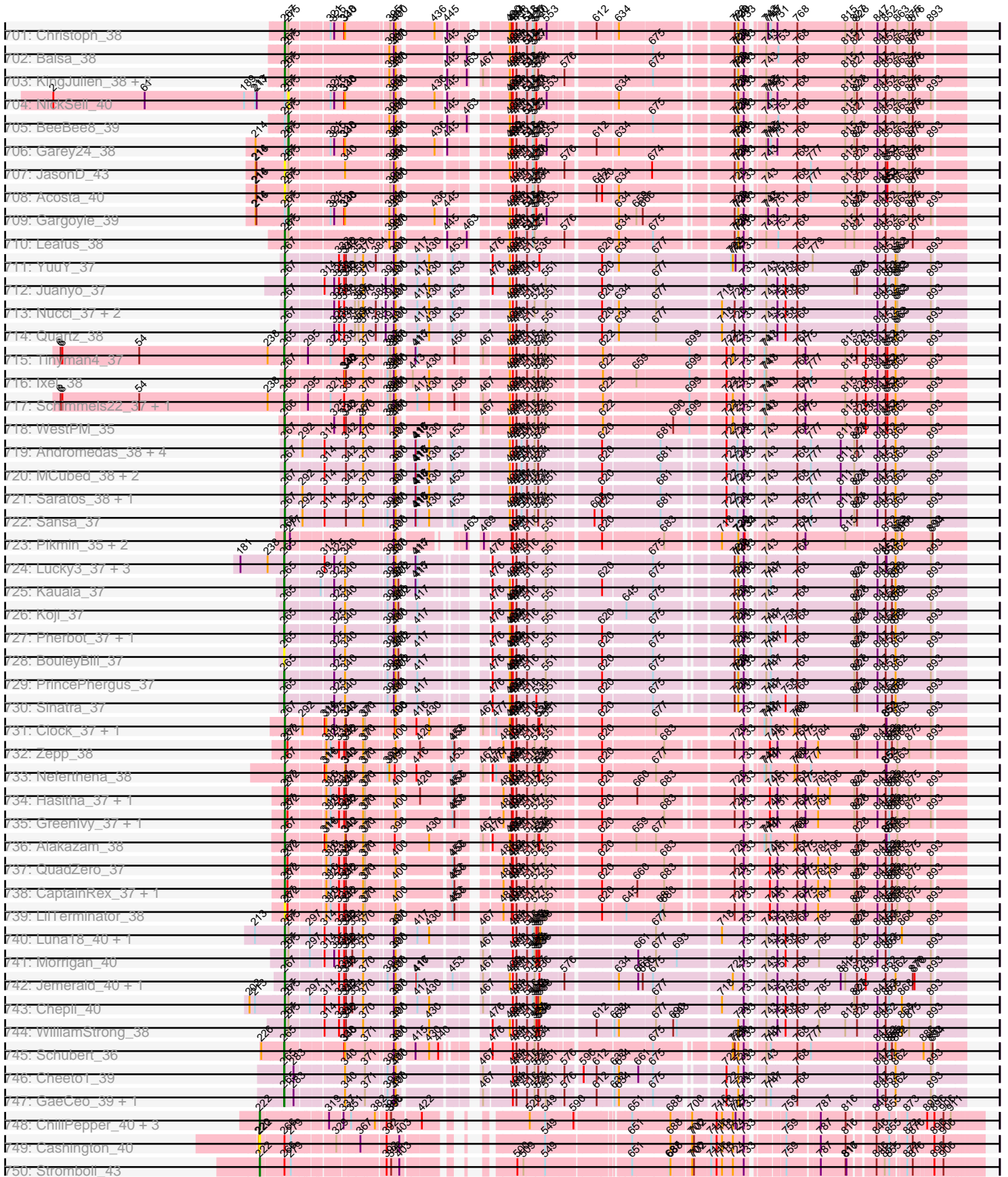
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572: Zuko_61	74	112	138	174	200	303	375	391	431	454	469	500	575	624	685	696	746	780	744	786	844	866	875	880	912
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579: Phrankenstein_36 + 2	224	240	299	330	375	391	431	454	469	500	624	685	696	746	780	744	786	844	866	875	880	912			
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591: Orly_40	74	112	138	174	200	303	375	391	431	454	469	500	575	624	685	696	746	780	744	786	844	866	875	880	912
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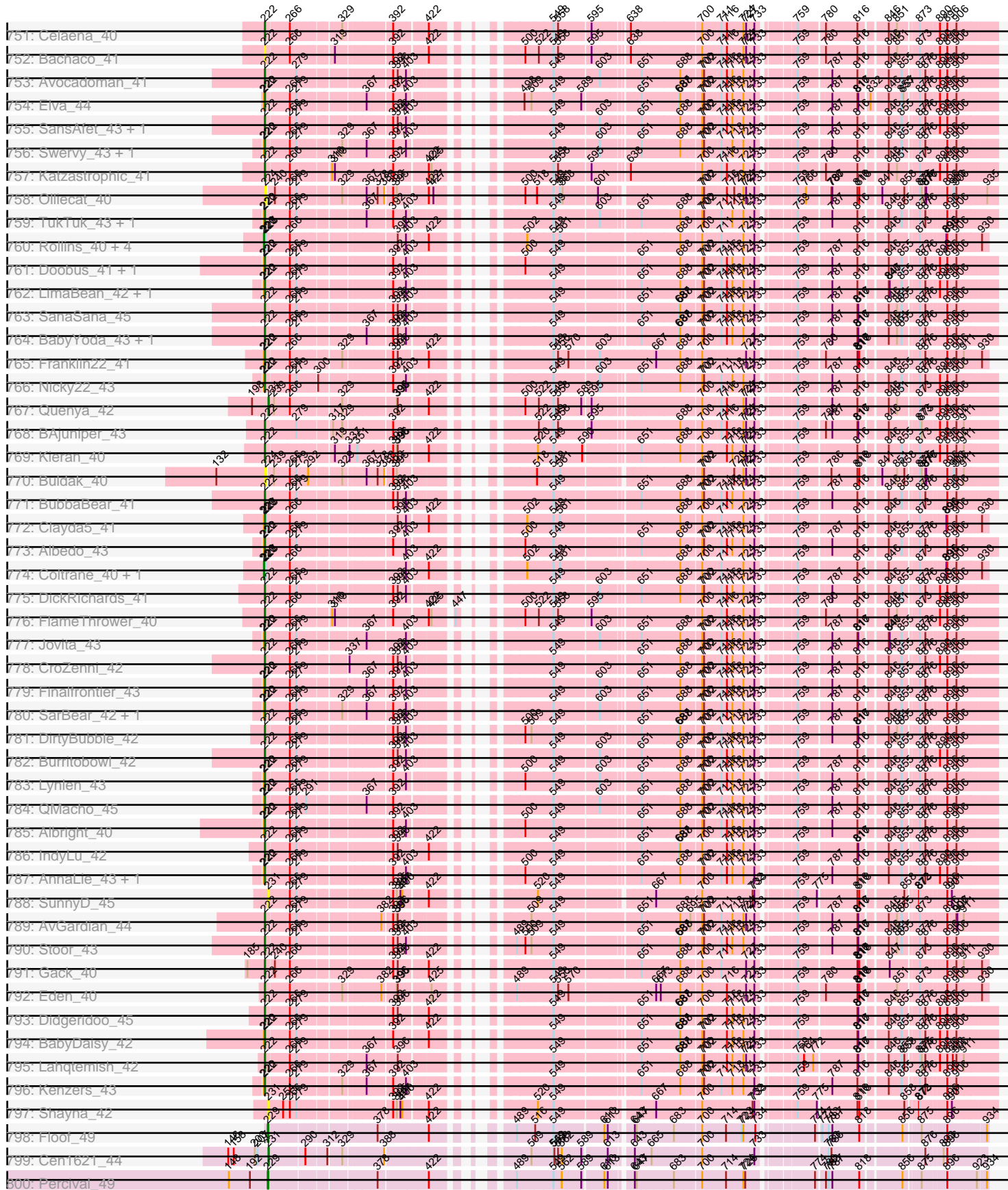
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503: Mayweather	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
504: Elliot_43 + 1	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
505: Zareel_42	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
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507: GIKK_48	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
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511: GoldHunter	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
512: Cozz_41 + 1	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
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514: Typhonomas	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
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524: SummitAcad	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
525: Yakult_46	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
526: ButtmikeB	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
527: Yam_40	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
528: BinDoor_43	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
529: Button_46	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
530: Survivors_40	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
531: Fibs8_39	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
532: Mavan_40	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
533: Gibbous_32	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
534: IMScarn_47	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
535: IMAnor_46	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
536: SteamedHas	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
537: Quasar_43	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
538: Burnsey_43	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
539: RedBanan_4	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
540: Margarit_49	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
541: SheckWes_4	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
542: PotPie_44	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
543: Jamzy_48	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
544: GodonK_188	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
545: Phendrix_176	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
546: Fresco_51 + 1	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
547: CatB_54	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
548: LittleMunchkin_5	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
549: Shatter_51 + 1	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926
550: Yag084_49 + 2	33	58	81	141	191	245	303	331	365	400	440	463	480	551	576	600	680	706	714	738	771	787	847	856	883	896	926

Pham 169543





Pham 169543







Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 169543 Report

This analysis was run 07/09/24 on database version 566.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 169543 has 1752 members, 167 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_44
- Track 2 : Kugel\_46
- Track 3 : lLeeKay\_49, Fushigi\_43, Sumter\_42
- Track 4 : Slagathor\_47, Arcanine\_46, Ringer\_46
- Track 5 : Marchy\_38, Adahisdi\_44, Payneful\_43
- Track 6 : Blue\_44
- Track 7 : Burton\_44, Museum\_45
- Track 8 : JuliaChild\_45, Swole\_45, TwoPeat\_45, Tote\_40
- Track 9 : Parliament\_44, Manatee\_45
- Track 10 : LilBib\_45
- Track 11 : Turj99\_42, Magnito\_42
- Track 12 : GrecoEtereo\_45, HanShotFirst\_43, Big3\_43, Gwendoluna\_48, CactusRose\_42, Paraselene\_43, HarryOW\_43, Tripl3t\_45
- Track 13 : Greg\_47, Pippin\_47, Fajezeel\_47, Ciao\_45
- Track 14 : Jasper\_46, Dreamboat\_46
- Track 15 : Buttons\_43
- Track 16 : Rohr\_45, Jerm2\_45, HermioneGrange\_44
- Track 17 : Arlo\_42, Hope4ever\_46, Kanely\_45, Rubeus\_45, Altman\_46
- Track 18 : Snazzy\_42
- Track 19 : Sunshine924\_45, BPBiabs31\_45, Kenmech\_48
- Track 20 : Homines\_37, Makemake\_44, ShortQueendom\_39, Wheeler\_45
- Track 21 : Michley\_44
- Track 22 : Paphu\_43, Oogway\_42
- Track 23 : Fascinus\_41, Bigfoot\_41, Maroc7\_43
- Track 24 : Zeeculate\_43
- Track 25 : Corvo\_45, SwissCheese\_46, Forsytheast\_44, Bruns\_43, Moose\_44
- Track 26 : SpikeBT\_45
- Track 27 : Francis47\_44, PacerPaul\_45
- Track 28 : Pinto\_45, Petruchio\_45
- Track 29 : Peterson\_48
- Track 30 : Hermia\_46
- Track 31 : PascalRango\_45, Jorgensen\_45, Norz\_45, Edtherson\_45
- Track 32 : KSSJEB\_43, Target\_45

- Track 33 : Espresso\_44
- Track 34 : Abrogate\_440, Perseus\_45
- Track 35 : DrFeelGood\_43
- Track 36 : Licorice\_48, BigPaolini\_45, TheloniousMonk\_46
- Track 37 : MaryBeth\_45, MetalQZJ\_44
- Track 38 : MrGordo\_44, Gyzlar\_41, Anglerfish\_45, Dulcie\_45, Crispicous1\_43
- Track 39 : Marcell\_43
- Track 40 : Rufus\_45
- Track 41 : JackSparrow\_46
- Track 42 : Barriga\_45
- Track 43 : IgnatiusPatJac\_44, BluSpix\_43
- Track 44 : Niza\_47, Ruotula\_48
- Track 45 : Pita2\_47, PSullivan\_44
- Track 46 : Agaliana\_41
- Track 47 : Squee\_44
- Track 48 : Bones\_45, Eyeball\_46, Rajelicia\_46
- Track 49 : Teodoridan\_43
- Track 50 : Bxb1\_41
- Track 51 : Sibs6\_45, Wilkins\_44, Topgun\_44
- Track 52 : Alvin\_44
- Track 53 : Ajay\_45
- Track 54 : Switzer\_45, Sanya\_43, Bethlehem\_44, BeesKnees\_45, Dynamix\_45
- Track 55 : JC27\_45, Applejack\_40
- Track 56 : Beatrix\_44, STLscum\_46
- Track 57 : Trouble\_46
- Track 58 : Bexan\_43, StrongArm\_44
- Track 59 : Dexes\_45
- Track 60 : Pelly\_44
- Track 61 : KyMonks1A\_47, Ashballer\_46
- Track 62 : Lamina13\_45, Tasp14\_46
- Track 63 : Monet\_48
- Track 64 : Sagefire\_48
- Track 65 : Euphoria\_43
- Track 66 : Violet\_42
- Track 67 : Atkinbua\_46
- Track 68 : Chanagan\_42, Pepe\_42
- Track 69 : Carlyle\_44
- Track 70 : Petp2012\_45
- Track 71 : QTRlifeCrisis\_45, Rhynn\_44, Lesedi\_42, ConceptII\_46
- Track 72 : Smairt\_47
- Track 73 : Dussy\_46, Froghopper\_43, Killigrew\_44, Abbyshoes\_47
- Track 74 : DreamCatcher\_47
- Track 75 : Aeneas\_47
- Track 76 : Mryolo\_42, Nhonho\_45
- Track 77 : StewieG\_44, Solon\_44, Zeuska\_44, BillKnuckles\_45
- Track 78 : Lockley\_44, DD5\_44
- Track 79 : PherrisBueller\_44, Scowl\_45
- Track 80 : Doom\_45
- Track 81 : BigMau\_45
- Track 82 : BaconJack\_48
- Track 83 : Kykar\_45
- Track 84 : Magnar\_44
- Track 85 : Watermelon\_46

- Track 86 : Cueylyss\_46
- Track 87 : Bob3\_42
- Track 88 : Sandaddy\_44, Sorpresa\_43
- Track 89 : Fenn\_46
- Track 90 : Zephyr\_44
- Track 91 : PhrostyMug\_44
- Track 92 : Graduation\_48
- Track 93 : Bircsak\_44, Gompeii16\_44
- Track 94 : SkiPole\_47, Seanderson\_47
- Track 95 : BK1\_41, A6\_41
- Track 96 : Ohno789\_45
- Track 97 : Lopton\_45
- Track 98 : Acme\_47, Hami1\_38
- Track 99 : NEHalo\_43, AFIS\_43
- Track 100 : Seabiscuit\_46
- Track 101 : SarFire\_43, Thor\_43
- Track 102 : Naira\_46
- Track 103 : Gandalf20\_46
- Track 104 : PinkPlastic\_43
- Track 105 : Rutherferd\_47
- Track 106 : Papez\_47
- Track 107 : PattyP\_45
- Track 108 : Nerujay\_46
- Track 109 : Molly\_45
- Track 110 : Ichabod\_46
- Track 111 : RidgeCB\_44
- Track 112 : U2\_43
- Track 113 : McGuire\_45
- Track 114 : Treddle\_46
- Track 115 : KBG\_46
- Track 116 : Traft412\_45
- Track 117 : MPlant7149\_43
- Track 118 : Briton15\_46
- Track 119 : Mule\_42
- Track 120 : Marge\_45
- Track 121 : Alsfro\_48
- Track 122 : Pari\_45
- Track 123 : Smeagol\_46
- Track 124 : Marsha\_45
- Track 125 : GageAP\_45
- Track 126 : OKCentral2016\_43
- Track 127 : Rebeuca\_44, Kristoff\_44
- Track 128 : Goose\_44, Chupacabra\_43
- Track 129 : Twister\_42, WalterMcMickey\_42, Topanga\_42
- Track 130 : Severus\_42, Drake94\_42, PeaceMeal1\_42, KittenMittens\_41, Trike\_42
- Track 131 : Poompha\_43
- Track 132 : Eaglepride\_45
- Track 133 : RhynO\_45
- Track 134 : Edison31\_43
- Track 135 : Sham4\_44, Fibonacci\_44, MaCh\_45, Bachome\_46, Petersenfast\_43, Hutc2\_44
- Track 136 : Insomnia\_45, Lucivia\_45, Snape\_44, Orange\_44, Bowtie\_45, Mulciber\_44

- Track 137 : Aneem\_45, Munch\_45, Gilberta\_45, Flaverint\_45, Joselito\_45
- Track 138 : Jabith\_45
- Track 139 : Salz\_44, TinyTimmy\_44, Mabel\_45, Timothy\_45, Ebony\_45
- Track 140 : Et2Brutus\_44
- Track 141 : Bud\_44
- Track 142 : Refuge\_44
- Track 143 : Zimmer\_42
- Track 144 : DARTHPhader\_42
- Track 145 : Pharaoh\_39
- Track 146 : Steamy\_41
- Track 147 : Phlei\_33
- Track 148 : Gail\_49
- Track 149 : SororFago\_48
- Track 150 : Jeeves\_50
- Track 151 : Luchador\_50
- Track 152 : Boohoo\_47, Epsocamisio\_46, ShayRa\_48, Soups\_47, Anaysia\_47, LastResort\_46, Looper\_47, Battleship\_48, Rosalind\_46, JSwag\_46, KatherineG\_48, Switzerland\_47, ReMo\_46, DekHockey33\_47
- Track 153 : Remus\_47, Strosahl\_47
- Track 154 : Oofda\_48, Waits\_47
- Track 155 : Nebulosus\_46
- Track 156 : Nedarya\_43
- Track 157 : Anon\_42
- Track 158 : MinecraftSteve\_48
- Track 159 : EagleEye\_46, Lucyedi\_45
- Track 160 : PainterBoy\_45
- Track 161 : 40AC\_46
- Track 162 : MyraDee\_40
- Track 163 : Kimona\_43
- Track 164 : Crucio\_44, Georgie2\_45, QueenBeesly\_44, SnapTap\_44, FiringLine\_44, SemperFi\_45
- Track 165 : Dignity\_46
- Track 166 : Updawg\_45, Piro94\_44, Equemioh13\_45, WideWale\_45, Buggy\_46, Baehexic\_43, NaSiaTalie\_44, Flare16\_44, MiculUcigas\_44
- Track 167 : SweetiePie\_44
- Track 168 : RedRock\_46
- Track 169 : DudeLittle\_43
- Track 170 : Jsquared\_43
- Track 171 : WeiHuaDA\_48
- Track 172 : LOKK\_45
- Track 173 : Deloris\_43
- Track 174 : Che12\_47
- Track 175 : Adzzy\_46
- Track 176 : Iwokeuplikedis\_47
- Track 177 : 20ES\_45, First\_0044
- Track 178 : Echild\_44, Benvolio\_41
- Track 179 : Journey13\_40
- Track 180 : EvilGenius\_47, ChipMunk\_47
- Track 181 : Loser\_46
- Track 182 : Caraxes\_45, Superchunk\_44
- Track 183 : Dalmatian\_45, Retro23\_45
- Track 184 : Smeagan\_47
- Track 185 : Miko\_43

- Track 186 : Leviathan\_46
- Track 187 : QueenB2\_44
- Track 188 : Landor\_44, Bactobuster\_43
- Track 189 : Heffalump\_43, Fameo\_44
- Track 190 : BabyBack\_43
- Track 191 : Odin\_44
- Track 192 : Centaur\_45
- Track 193 : Herbertwm\_42
- Track 194 : Changeling\_45
- Track 195 : L5\_44
- Track 196 : Kerberos\_47, Duplo\_47, DBQu4n\_47, Pomar16\_47, Tomathan\_47
- Track 197 : Phaded\_46
- Track 198 : StarStuff\_47
- Track 199 : CRB1\_46
- Track 200 : HarryHoudini\_45
- Track 201 : AbbyPaige\_46, Turbido\_45, Whabigail7\_45, Agape74\_46, Jerm\_46
- Track 202 : AnnaL29\_46
- Track 203 : XianYue\_44
- Track 204 : AN3\_45, VA6\_43
- Track 205 : D32\_47, D29\_44, Naji\_47
- Track 206 : Serenity\_45
- Track 207 : TarsusIV\_42
- Track 208 : JoshKayV\_46
- Track 209 : Acolyte\_41
- Track 210 : EZMoney23\_43
- Track 211 : C3\_43, VC3\_48, AN9\_48, ANI8\_48
- Track 212 : Malec\_45, Larenn\_44
- Track 213 : Power\_43
- Track 214 : LilTurb\_45
- Track 215 : Kalpine\_44
- Track 216 : BobSwaget\_44
- Track 217 : NothingSpecial\_43
- Track 218 : Rachaly\_45
- Track 219 : TipsytheTRex\_42
- Track 220 : ArcherNM\_42
- Track 221 : Pukovnik\_43
- Track 222 : Colin\_46
- Track 223 : NicoleTera\_45
- Track 224 : Ph8s\_46
- Track 225 : MissWhite\_43
- Track 226 : LadyBird\_47
- Track 227 : SwirlSquare\_48
- Track 228 : Leogania\_44, BiancaTri92\_44
- Track 229 : GaugeLDP\_43
- Track 230 : Jaan\_45
- Track 231 : Trixie\_44
- Track 232 : BengiVuitton\_44
- Track 233 : Trooper\_45
- Track 234 : Koduck\_44
- Track 235 : IronMan\_44
- Track 236 : Anselm\_45
- Track 237 : KingCyrus\_47
- Track 238 : Drake55\_46

- Track 239 : Anthony\_39
- Track 240 : OlanP\_47
- Track 241 : MarQuardt\_48, Stagni\_48, Mainiac\_48, Cullens\_48, Wooldri\_50, Beauxregard13\_48, SoYo\_48, StepMih\_48, JenCasNa\_49, JHC117\_48, Hercules11\_48, PotatoSplit\_50, LBerry\_49, Sabia\_48, Dieselweasel\_49, LugYA\_51, Penny1\_49, EpicPhail\_49, BreSam8\_48, Tiffany\_48, Colbster\_48, P28Green\_49, Marie\_48, Fernando\_48, MoneyMay\_48, Snickers\_48, Phoebe\_49, Taurus\_49, Anubis\_51, Vix\_48
- Track 242 : MadMarie\_48
- Track 243 : Methuselah\_45, BuzzBuzz\_46, Soshari\_50, Misomonster\_49, KADY\_48, LarryKay\_48, Spike509\_48, HashRod\_49, Daishi\_47, Rummer\_47, Louie6\_47, Phoxy\_48
- Track 244 : Grif\_48, GtownJaz\_48
- Track 245 : Margo\_44, Noella\_44, Hookmount\_44, QuinnKiro\_43, Norbert\_43, Texage\_43, Pocahontas\_44, Popcicle\_44, ResDef\_45, Panamaxus\_42, Lambert1\_44, Caviar\_44, Veracruz\_43, Todacoro\_44
- Track 246 : JF2\_45, MK4\_45, JF4\_45, B1\_42
- Track 247 : Phantastic\_46
- Track 248 : PhishRPhriends\_46, HaveUMetTed\_49, PurpleHaze\_48, Pawn\_48, Heliosoles\_47, Phranny\_49, ACFishhook\_47, Manu\_48, Reba\_48, Grouphthink\_49, Kalnok\_49, Kalb97\_49, Marius\_49, Gemma\_47
- Track 249 : Bxz2\_44, AgronaGT15\_47
- Track 250 : BabyRay\_45
- Track 251 : TNguyen7\_46, BlueBird\_47, Bugatti\_46, Giroux\_46, Idleandcovert\_46, Pistachio\_47, SaturnRing\_46, Puppy\_47
- Track 252 : Pembroke\_48, SoilDragon\_48, Jobu08\_47, AugsMagnumOpus\_51, Lilith\_49, Malinsilva\_50, Grub\_48, PGHhamlin\_50, MuchMore\_51, Microwolf\_48, Watson\_48
- Track 253 : GingkoMaracino\_48, Ollie\_48
- Track 254 : Zetzy\_47
- Track 255 : Isca\_44
- Track 256 : HelDan\_45, Heathen\_45, Fred313\_45, Scout\_45
- Track 257 : Aglet\_49
- Track 258 : DaHudson\_48
- Track 259 : MA5\_45
- Track 260 : Sabinator\_47, Grum1\_48
- Track 261 : JeppNRM\_49
- Track 262 : Rockstar\_45
- Track 263 : Farber\_48
- Track 264 : Melvin\_47, Deano\_44, Phelipe\_46, Baby16\_45, Koreni\_44, Cocoaberry\_45, CentreCat\_45, Morrow\_46, Bruiser\_44, Iracema64\_46, Houdini22\_45, Florean\_45, Nemo27\_45, Dhanush\_45, Bombshell\_45, Holli\_44, Clarenza\_44, Eapen\_45, Caelakin\_45, Medusa\_45, Phacado\_45, Wizard007\_45, Lunsford\_46, Roosevelt\_44, Albee\_45, TiroTheta9\_45, HamSlice\_44, LappelDuVide\_44, Blackmoor\_45, Abdiel\_45, Nebs\_46, Lemur\_45, BubbleTrouble\_44, TinaFeyge\_45, Maxo\_46, Scamp\_45, Citius\_45, Kyee\_45, Millski\_44, Skipitt\_44, Bartimeaus\_45, Burger\_43, Flux\_45, Maverick\_45, Lorenzo\_45, Relief\_44, Jaykayelowell\_43, Wander\_45, Polymorphads\_46, Nyxis\_45, Iceman\_45, Kingmustik0402\_45, Avle17\_45, LeoAvram\_45, PeterPeter\_45, Ruin\_45, BellusTerra\_46, Camperdownii\_43, Druantia\_45, Phontbonne\_45, Kampy\_45, Funston\_44, Mazhar510\_45, Chaph\_45, Happiness\_44, YoSam321\_45, Shaka\_45, Ohfah\_46, NorthStar\_44, Tinybot\_44, Broseidon\_45, Gadost\_45, NotAPhaseMom\_45, Eurydice\_46, MeeZee\_45, Spino\_44, Pipcraft\_43, Alberto7\_46,

Connomayer\_45, KFPoly\_44, Romney\_45, Peaches\_45, LittleGuy\_45, Wilbur\_45, Eagle\_45, JoongJeon\_44, Phighter1804\_45, TygerBlood\_45, TroyPia\_46, LittleB\_45, Sabertooth\_45, Eros\_45, Commander\_45, Taquarus\_45

- Track 265 : Cici\_44, Xena\_43, Backyardigan\_43, Wile\_44, Katalie136\_44, Morpher26\_44, Perplexer\_44, Achebe\_43, Badger\_43, Bumblebee11\_43, AbbysRanger\_44, Datway\_44, PetiteSangsue\_44
- Track 266 : Stink\_45
- Track 267 : Cindaradix\_42
- Track 268 : DirtyDunning\_44, Arturo\_44, Kratark\_45
- Track 269 : LochMonster\_46, Eris\_44, Ulysses\_44
- Track 270 : LHTSCC\_47, ChampagnePapi\_47, BangNhom\_46, SheldonCooper\_47, Obama12\_46, Cerulean\_46
- Track 271 : Miramae\_44
- Track 272 : JetBlade\_45
- Track 273 : OKaNui\_45
- Track 274 : ICleared\_45
- Track 275 : Thanksgivukkah\_44, Annyong\_45
- Track 276 : AvatarAhPeg\_44
- Track 277 : Sparxx\_46
- Track 278 : Cintron\_44
- Track 279 : Noelle\_45
- Track 280 : Pumbaa\_45
- Track 281 : Kremtemulon\_43
- Track 282 : Mundrea\_44
- Track 283 : Palestino\_44
- Track 284 : Shygu2\_44
- Track 285 : Stasia\_44
- Track 286 : George\_38
- Track 287 : MarysWell\_37
- Track 288 : Naca\_39
- Track 289 : Scorpia\_40, Chadwick\_40
- Track 290 : LittleCherry\_39, HuhtaEnerson15\_39, Swirley\_41
- Track 291 : Phlorence\_37, Tiger\_37, Discoknowium\_37, Aragog\_37
- Track 292 : ForGetIt\_38, Lev2\_38, Archetta\_38, Conspiracy\_38, PickleBack\_38, Jovo\_38
- Track 293 : Jabiru\_39
- Track 294 : PetterN\_40
- Track 295 : Bonamassa\_39, Tarynearal\_37
- Track 296 : Ghoulboy\_40, Zolita\_39, SydNat\_40
- Track 297 : UnionJack\_39
- Track 298 : Midas2\_38, Coog\_38
- Track 299 : EITiger69\_39
- Track 300 : Micasa\_39
- Track 301 : AgentM\_37
- Track 302 : Milcery\_39
- Track 303 : Bluefalcon\_37
- Track 304 : Airmid\_39
- Track 305 : Cuco\_38
- Track 306 : Dublin\_37, Theia\_36
- Track 307 : Benedict\_39
- Track 308 : Lilbunny\_43, Tucker\_46, CloudWang3\_45, Yokurt\_45, ToneTone\_42, Artemis2UCLA\_45, Zaka\_45, Hexamo\_45, Roksolana\_46, Zulu\_46, Wiks\_44, WunderPhul\_45



- Track 309 : Isiphiwo\_43
- Track 310 : Jordennis\_45
- Track 311 : SuperCallie99\_45
- Track 312 : Indra\_48, Pmask\_45, Helmet\_47, BABullseye\_43, Newrala\_45, Garak\_47, GreedyLawyer\_45, Chartreuse\_45, Neeharika16\_45, DaVinci\_45, Cookiedough\_45, JewelBug\_47, SuperAwesome\_45
- Track 313 : Jeffabunny\_45
- Track 314 : Blue7\_48, Rifter\_47
- Track 315 : Candra\_45, SmellyB\_45, Hoot\_45, Kipper29\_45, EricB\_45, Dorothea\_44, McFly\_45, VohminGhazi\_45, Kazan\_46
- Track 316 : Gladiator\_45
- Track 317 : Hammer\_47, Koko\_47
- Track 318 : Blinn1\_48
- Track 319 : Priamo\_47
- Track 320 : Gruunaga\_45
- Track 321 : DroogsArmy\_41
- Track 322 : Timshel\_43
- Track 323 : PP\_46
- Track 324 : Sheen\_44
- Track 325 : HINdeR\_41
- Track 326 : Roary\_43
- Track 327 : NearlyHeadless\_43
- Track 328 : Smeadley\_43
- Track 329 : Danforth\_42
- Track 330 : Astro\_42
- Track 331 : Phillis\_44
- Track 332 : Groundhog\_41
- Track 333 : Expelliarmus\_42
- Track 334 : Saintus\_38
- Track 335 : Stephig9\_43
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- Track 812 : Bloom\_103, Mimi\_105, Racecar\_100
- Track 813 : SJReid\_106
- Track 814 : DunneganBoMo\_92
- Track 815 : CallinAllBarbz\_41
- Track 816 : BaileyBlu\_41
- Track 817 : Dewdrop\_95, Leaf\_95
- Track 818 : Rasputia\_89
- Track 819 : Hendrix\_88
- Track 820 : A3Wally\_117
- Track 821 : PauloDiaboli\_117
- Track 822 : Big4\_105
- Track 823 : Zooman\_100
- Track 824 : Cece\_99
- Track 825 : Pumpernickel\_113
- Track 826 : Huwbert\_71
- Track 827 : Triscuit\_70
- Track 828 : Ibantik\_18
- Track 829 : EmiRose\_34
- Track 830 : TPA2\_63
- Track 831 : Shocker\_43
- Track 832 : StAugustine\_89
- Track 833 : Attoomi\_34
- Track 834 : Success\_19

- Track 835 : BFK20\_ORF44
- Track 836 : Samy\_65
- Track 837 : Pine5\_49

**Summary of Final Annotations (See graph section above for start numbers):**

The start number called the most often in the published annotations is 231, it was called in 845 of the 1585 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_45, A6\_41, ACFishhook\_47, AEgle\_37, AFIS\_43, AGrandiflora\_42, AN3\_45, AN9\_48, ANI8\_48, AbbeyMikolon\_44, AbbyPaige\_46, AbbysRanger\_44, Abbyshoes\_47, Abdiel\_45, Abrogate\_440, Achebe\_43, Acme\_47, Acolyte\_41, Adahisdi\_44, Adolin\_40, Adumb2043\_38, Adzzy\_46, Aeneas\_47, Agaliana\_41, Agape74\_46, AgentM\_37, Aglet\_49, AgronaGT15\_47, AinMach\_42, Airmid\_39, Ajay\_45, Alatin\_36, Albee\_45, Alberto7\_46, Aliter\_45, Alma\_45, Alpacados\_35, Alsfro\_48, Altman\_46, Alvin\_44, Amyev\_40, Anaysia\_47, Aneem\_45, Anglerfish\_45, AngryOrchard\_34, AnnaL29\_46, Annyong\_45, Anon\_42, Anselm\_45, Anthony\_39, Anubis\_51, AppleCloud\_34, Applejack\_40, Aragog\_37, Arcanine\_46, ArcherNM\_42, Archetta\_38, Arissanae\_44, Arlo\_42, Artemis2UCLA\_45, Arturo\_44, Asa16\_39, Ascela\_41, Ashballer\_46, Astro\_42, Atkinbua\_46, Attoomi\_34, AugsMagnumOpus\_51, AvatarAhPeg\_44, Avle17\_45, B1\_42, BABullseye\_43, BK1\_41, BPBiels31\_45, Baby16\_45, BabyBack\_43, BabyRay\_45, Bachome\_46, Backyardigan\_43, BaconJack\_48, Bactobuster\_43, Badger\_43, Baehexic\_43, BaileyBlu\_41, BangNhom\_46, Barriga\_45, Bartimeaus\_45, Battleship\_48, Beatrix\_44, Beauxregard13\_48, Beemo\_45, BeesKnees\_45, Belenaria\_36, BellusTerra\_46, Benedict\_39, BengiVuitton\_44, Benvolio\_41, Berrie\_42, Bethlehem\_44, Bexan\_43, BiancaTri92\_44, Big3\_43, BigMau\_45, BigPaolini\_45, Bigfoot\_41, BillKnuckles\_45, Bircsak\_44, Blackmoor\_45, Blinn1\_48, BluSpix\_43, Blue7\_48, BlueBird\_47, Blue\_44, Bluefalcon\_37, Bob3\_42, BobSwaget\_44, BobbyDazzler\_36, BogosyJay\_44, Bombshell\_45, Bonamassa\_39, Bonanza\_36, Bones\_45, Boohoo\_47, Bowtie\_45, Bradshaw\_36, BreSam8\_48, Briton15\_46, Broseidon\_45, Bruiser\_44, Bruns\_43, Bryce\_36, BubbleTrouble\_44, Bud\_44, Bugatti\_46, Buggy\_46, Bumblebee11\_43, Burger\_43, Burton\_44, Buttons\_43, BuzzBuzz\_46, Bxb1\_41, Bxz2\_44, C3\_43, CRB1\_46, CactusRose\_42, Caelakin\_45, CallinAllBarbz\_41, Camperdownii\_43, Candra\_45, Caraxes\_45, Carlyle\_44, Cassia\_40, Catalina\_46, Caviar\_44, Cen1621\_44, Centaur\_45, CentreCat\_45, Cerulean\_46, Chadwick\_40, ChampagnePapi\_47, Chanagan\_42, Changeling\_45, Chaph\_45, Chargerpower\_44, Charm\_42, Chartreuse\_45, Che12\_47, ChipMunk\_47, Chupacabra\_43, Ciao\_45, Cici\_44, Cindaradix\_42, Cintron\_44, Citius\_45, Clarenza\_44, CloudWang3\_45, Cocoaberry\_45, Colbster\_48, Colin\_46, Commander\_45, Community\_43, Conceptll\_46, Connomayer\_45, Conquerage\_45, Conspiracy\_38, Coog\_38, Cookiedough\_45, Corvo\_45, CosmicSans\_36, Crewmate\_46, Crispicous1\_43, Crucio\_44, Cuco\_38, Cueyliss\_46, Cullens\_48, Cyan\_40, D29\_44, D32\_47, DBQu4n\_47, DD5\_44, DaHudson\_48, DaVinci\_45, Daishi\_47, Dalmatian\_45, Danforth\_42, Darrell\_45, DarthPhader\_42, Datway\_44, Deano\_44, DekHockey33\_47, Deloris\_43, Dexes\_45, Dhanush\_45, Dieselweasel\_49, Dignity\_46, Dinger\_36, DirtyDunning\_44, Discoknowium\_37, Dixon\_43, Doom\_45, Dorothea\_44, DrFeelGood\_43, DrManhattan\_40, DrSierra\_39, Drake55\_46, Drake94\_42, DreamCatcher\_47, DreamTeam1\_42, Dreamboat\_46,

DroogsArmy\_41, Druantia\_45, Dublin\_37, Dubu\_35, DudeLittle\_43, Dulcie\_45, Duplo\_47, Dussy\_46, Dynamix\_45, EagleEye\_46, Eagle\_45, Eaglepride\_45, Eapen\_45, Ebony\_45, Echild\_44, Edison31\_43, Edtherson\_45, Eidsmoe\_45, Elephantoon\_44, Elezi\_39, Emotion\_46, EmyBug\_44, EpicPhail\_49, Epsocamisio\_46, Equemioh13\_45, Eraser\_39, EricB\_45, Erik\_36, Eris\_44, Eros\_45, Espica\_36, Espresso\_44, Et2Brutus\_44, Euphoria\_43, Euratis\_35, Eurydice\_46, EvilGenius\_47, Exile\_36, Expelliarmus\_42, ExplosioNervosa\_45, Eyeball\_46, Fajezeel\_47, Fameo\_44, Farber\_48, Fascinus\_41, Fayely\_45, Fenn\_46, Fernando\_48, Fibonacci\_44, FiringLine\_44, First\_0044, Flare16\_44, Flaverint\_45, Florean\_45, Flux\_45, ForGetIt\_38, Forsytheast\_44, Francis47\_44, Fred313\_45, Froghopper\_43, Funston\_44, Fushigi\_43, Gadost\_45, GageAP\_45, Gail\_49, Gandalf20\_46, Garak\_47, GaugeLDP\_43, Gemma\_47, George\_38, Georgie2\_45, Ghoulboy\_40, Gilberta\_45, GingkoMaracino\_48, Giroux\_46, Gladiator\_45, Gollum\_36, Gompeii16\_44, Goose\_44, Graduation\_48, GrecoEtereo\_45, GreedyLawyer\_45, Greg\_47, Grif\_48, Groundhog\_41, Groupthink\_49, Grub\_48, Grum1\_48, Gruunaga\_45, GtownJaz\_48, Gwendoluna\_48, Gyzlar\_41, HINdeR\_41, Halsey\_49, HamSlice\_44, Hami1\_38, Hammer\_47, HanShotFirst\_43, Happiness\_44, Harlequin\_36, HarryHoudini\_45, HarryOW\_43, HashRod\_49, HaveUMetTed\_49, Heathen\_45, Heather\_37, Heffalump\_43, HelDan\_45, Heliosoles\_47, Helmet\_47, Herbertwm\_42, Hercules11\_48, Hermia\_46, HermioneGrange\_44, Hexamo\_45, Hiro\_36, Holli\_44, Homines\_37, Hookmount\_44, Hoot\_45, Hope4ever\_46, HortumSL17\_45, Houdini22\_45, HuhtaEnerson15\_39, Hutc2\_44, ICleared\_45, ILeeKay\_49, Iceman\_45, Ichabod\_46, Idleandcovert\_46, IgnatiusPatJac\_44, Indra\_48, Insomnia\_45, Iracema64\_46, IronMan\_44, Isca\_44, Isiphiwo\_43, Iter\_41, IttyBittyPiggy\_40, Iwokeuplikedis\_47, JC27\_45, JF2\_45, JF4\_45, JHC117\_48, JSwag\_46, Jaan\_45, Jabiru\_39, Jabith\_45, JackSparrow\_46, Janeemi\_43, JasmineDragon\_45, Jasper\_46, Jaykayelowell\_43, Jeeves\_50, JenCasNa\_49, JeppNRM\_49, Jerm2\_45, Jerm\_46, Jester\_36, JetBlade\_45, JewelBug\_47, Jobu08\_47, Joemato\_43, JohnDoe\_41, JoongJeon\_44, Jordennis\_45, Jorgensen\_45, Joselito\_45, JoshKayV\_46, Journey13\_40, Jovo\_38, Jstan\_41, JuliaChild\_45, KADY\_48, KBG\_46, KFPoly\_44, KSSJEB\_43, Kalb97\_49, Kalnoky\_49, Kalpine\_44, Kampy\_45, Kanely\_45, Katalie136\_44, KatherineG\_48, Kaylissa\_42, Kazan\_46, KeAlii\_40, Kenmech\_48, Kerberos\_47, Killigrew\_44, Kimona\_43, KingCyrus\_47, Kingmustik0402\_45, Kipper29\_45, KittenMittens\_41, Koduck\_44, Koko\_47, Koreni\_44, Kratark\_45, Kremtemulon\_43, Krishelle\_36, Kristoff\_44, Kugel\_46, KyMonks1A\_47, Kyee\_45, Kykar\_45, L5\_44, LBerry\_49, LHTSCC\_47, LadyBird\_47, Lambert1\_44, Lamina13\_45, Landor\_44, LappelDuVide\_44, Larenn\_44, LarryKay\_48, LastResort\_46, Lego\_41, Lemur\_45, LeoAvram\_45, Leogania\_44, Lesedi\_42, Lev2\_38, Leviathan\_46, Licorice\_48, LilBib\_45, LilTurb\_45, Lilbooboo\_34, Lilbunny\_43, Lilith\_49, Lillie\_36, LittleB\_45, LittleCherry\_39, LittleGuy\_45, Lizalica\_39, LochMonster\_46, Lockley\_44, Lokk\_45, London\_39, LoneWolf\_45, Looper\_47, Lopton\_45, Lorenzo\_45, Loser\_46, Louie6\_47, Luchador\_50, Lucivia\_45, Lucyedi\_45, LugYA\_51, Lunsford\_46, MA5\_45, MK4\_45, MPlant7149\_43, MaCh\_45, MaGuCo\_40, Mabel\_45, MadMarie\_48, Magnar\_44, Magnito\_42, Mainiac\_48, Makemake\_44, Malec\_45, Malinsilva\_50, Maminiaina\_44, Manatee\_45, Manu\_48, MarQuardt\_48, Marcell\_43, Marchy\_38, Marge\_45, Margo\_44, Marie\_48, Marius\_49, Maroc7\_43, Marsha\_45, MaryBeth\_45, MarysWell\_37, Maureen\_42, Maverick\_45, Maxo\_46, Mazhar510\_45, McFly\_45, McGuire\_45, Medusa\_45, MeeZee\_45, Melvin\_47, MetalQZJ\_44, Methuselah\_45, Micasa\_39, Michley\_44, Microwolf\_48, MiculUcigas\_44, Midas2\_38, Miko\_43, Milcery\_39, Millski\_44, MinecraftSteve\_48, MiniMommy\_47, Miramae\_44, Misomonster\_49, MissSwiss\_41, MissWhite\_43, Molly\_45, Monet\_48, MoneyMay\_48, Moose\_44, Morpher26\_44, Morrow\_46, Moss\_45, MrGordo\_44,

Mryolo\_42, MuchMore\_51, Mudpuppy\_39, Mulciber\_44, Mule\_42, Munch\_45, Mundrea\_44, Museum\_45, MyraDee\_40, Myxus\_45, NEHalo\_43, NaSiaTalie\_44, Naiad\_36, Naira\_46, Naji\_47, Nancinator\_36, Natosaleda\_36, NearlyHeadless\_43, Nebs\_46, Nebulosus\_46, Nedarya\_43, Neeharika16\_45, Nemo27\_45, Nerujay\_46, Nesbitt\_42, Newrala\_45, Nhonho\_45, NicoleTera\_45, Niobe\_39, Nitro\_40, Niza\_47, Noella\_44, Noelle\_45, Norbert\_43, NorthStar\_44, Norz\_45, NotAPhaseMom\_45, NothingSpecial\_43, Nyxis\_45, OKCentral2016\_43, OKaNui\_45, Obama12\_46, ObiToo\_46, Odin\_44, Ohfah\_46, Ohno789\_45, OlanP\_47, Ollie\_48, Oofda\_48, Oogway\_42, Orange\_44, P28Green\_49, PGHhamlin\_50, PP\_46, PSullivan\_44, PacerPaul\_45, PackMan\_44, PainterBoy\_45, Palestino\_44, Panamaxus\_42, Papez\_47, Paphu\_43, Paraselene\_43, Pari\_45, Parliament\_44, Partridge\_36, PascalRango\_45, PattyP\_45, PauloDiaboli\_117, Pawn\_48, Payneful\_43, PeaceMeal1\_42, Peaches\_45, Pelly\_44, Pembroke\_48, Penny1\_49, Pepe\_42, Perplexer\_44, Perseus\_45, PeterPeter\_45, Petersenfast\_43, Peterson\_48, PetiteSangsue\_44, Petp2012\_45, Petruccio\_45, PetterN\_40, Ph8s\_46, Phacado\_45, Phaded\_46, Phaeder\_45, PhailMary\_35, Phantastic\_46, Pharaoh\_39, Phelipe\_46, PherrisBueller\_44, Phighter1804\_45, Phillis\_44, PhishRPhriends\_46, Phives\_43, Phlei\_33, Phlorence\_37, Phoebe\_49, Phonnegut\_45, Phontbonne\_45, Phoxy\_48, Phrankenstein\_36, Phranny\_49, PhrostyMug\_44, PickleBack\_38, PinkPlastic\_43, Pinto\_45, Pioneer\_45, Pipcraft\_43, Pippin\_47, Piro94\_44, Pistachio\_47, Pita2\_47, Pixelle\_42, Pmask\_45, Pocahontas\_44, Polymorphads\_46, Pomar16\_47, Poompha\_43, Popcicle\_44, PotatoSplit\_50, Power\_43, Powerpuff\_43, Priamo\_47, Priya\_45, Pukovnik\_43, Pumbaa\_45, Pumpkins\_40, Puppy\_47, PurpleHaze\_48, QTRLifeCrisis\_45, Qobbit\_45, QueenB2\_44, QueenBeesly\_44, Quenya\_42, QuinnKiro\_43, RER2\_29, RGL3\_31, Rachaly\_45, Rahalelujah\_44, Rajelicia\_46, Rasputin\_36, ReMo\_46, Reba\_48, Rebeuca\_44, RedRock\_46, Reedo\_40, Refuge\_44, Relief\_44, RemusLoopin\_36, Remus\_47, ResDef\_45, Retro23\_45, RexFury\_36, Rhodalysa\_36, RhynO\_45, Rhynn\_44, RidgeCB\_44, Rifter\_47, Ringer\_46, Roary\_43, Rockstar\_45, Rohr\_45, Roksolana\_46, Romney\_45, Roosevelt\_44, Rosalind\_46, Rowa\_41, Rubeus\_45, Rufus\_45, Ruin\_45, Rummer\_47, Ruotula\_48, Rutherferd\_47, STLscum\_46, Sabertooth\_45, Sabia\_48, Sabinator\_47, Sagefire\_48, Saintus\_38, Salz\_44, Samora\_36, Samy\_65, Sandaddy\_44, Sanya\_43, SarFire\_43, SaturnRing\_46, Scamp\_45, Scherzo\_45, Scorpia\_40, Scout\_45, Scowl\_45, Seabiscuit\_46, Seanderson\_47, Sebastisaurus\_36, SemperFi\_45, Serenity\_45, Severus\_42, Shaka\_45, ShakeltOph\_47, Sham4\_44, Shawty\_33, ShayRa\_48, Shayna\_42, SheaKeira\_43, Sheen\_44, SheldonCooper\_47, ShortQueendom\_39, Shuman\_36, Shygu2\_44, Sibs6\_45, Simpson\_43, SkiPole\_47, Skipitt\_44, Slagathor\_47, Smairt\_47, Smeadley\_43, Smeagan\_47, Smeagol\_46, SmellyB\_45, SnapTap\_44, Snape\_44, Snazzy\_42, Snek\_40, Snickers\_48, SoYo\_48, SoilDragon\_48, Solon\_44, Soondubu\_37, SororFago\_48, Sorpresa\_43, Soshari\_50, Soups\_47, Sparxx\_46, Spike509\_48, SpikeBT\_45, Spino\_44, Spouty\_43, Squee\_44, StCroix\_36, Stagni\_48, StarStuff\_47, Stasia\_44, Steamy\_41, StepMih\_48, Stephig9\_43, StewieG\_44, Stink\_45, StrongArm\_44, Strosahl\_47, Success\_19, Sue2\_42, Sumter\_42, SunnyD\_45, Sunshine924\_45, SuperAwesome\_45, SuperCallie99\_45, Superchunk\_44, Swann\_36, SweetiePie\_44, SwirlSquare\_48, Swirley\_41, SwissCheese\_46, Switzer\_45, Switzerland\_47, Swole\_45, SydNat\_40, TG1\_31, TNguyen7\_46, TWAMP\_36, Takoda\_36, Tallboi\_40, Taquarus\_45, Target\_45, TarsusIV\_42, Tarynearal\_37, Tasp14\_46, Taurus\_49, Tbone\_40, Teodoridan\_43, Texage\_43, TforTroy\_42, Thanksgivukkah\_44, Theia\_36, TheloniousMonk\_46, Thor\_43, Tian\_39, Tiffany\_48, Tiger\_37, Timothy\_45, Timshel\_43, TinaFeyge\_45, TinyTimmy\_44, Tinybot\_44, TiroTheta9\_45, Todacoro\_44, Tomathan\_47, ToneTone\_42, Topanga\_42, Topgun\_44, Tote\_40, Traft412\_45, Treddle\_46,

Trike\_42, Tripl3t\_45, Trixie\_44, Trooper\_45, Trouble\_46, TroyPia\_46, Tubs\_45, Tuck\_44, Tucker\_46, Turab\_38, Turbido\_45, Turj99\_42, Tutumahutu\_42, Tweety19\_41, Twister\_42, TwoPeat\_45, TygerBlood\_45, U2\_43, Ugenie5\_42, UhSalsa\_36, Ulysses\_44, UnionJack\_39, Updawg\_45, VA6\_43, VC3\_48, VResidence\_41, Vanisoa\_44, Vash\_34, Veracruz\_43, Violet\_42, Vix\_48, VohminGhazi\_45, VroomVroom\_45, Waits\_47, WalterMcMickey\_42, Wander\_45, Warda\_41, Watermelon\_46, Watson\_48, WeiHuaDA\_48, Whabigail7\_45, Wheeler\_45, WideWale\_45, Wiks\_44, Wilbur\_45, Wildwest\_40, Wile\_44, Wilkins\_44, Wizard007\_45, Wooldri\_50, WunderPhul\_45, Xena\_43, XianYue\_44, Yecey3\_46, YesChef\_41, YoSam321\_45, Yogi\_36, Yokurt\_45, Yoncess\_36, Zaka\_45, Zeeculate\_43, Zephyr\_44, Zetzy\_47, Zeuska\_44, Zimmer\_42, Zolita\_39, Zulu\_46, phiBT1\_11, phiSASD1\_12,

Genes that have the "Most Annotated" start but do not call it:

- 40AC\_46, A3Wally\_117, EITiger69\_39, Jeffabunny\_45, JuneStar\_42, Liebe\_42, Naca\_39, Yang\_41,

Genes that do not have the "Most Annotated" start:

- 39HC\_051, 40BC\_051, 8UZL\_44, ABU\_61, Abigail\_42, Abinghost\_58, AbsoluteMadLad\_61, Acadian\_58, Acosta\_40, Adat\_36, Adriana\_62, Aelin\_60, Agatha\_43, Agente005\_39, Ahwei\_52, AikoCarson\_44, Akoma\_58, Alakazam\_38, AlanGrant\_57, Albedo\_43, Albright\_40, AlexAdler\_39, Allegro\_57, AltPhacts\_60, Altwerkus\_58, Alyxandracam\_39, Amavida\_53, Amigo\_55, Amok\_44, AnClar\_50, Anansi\_54, AnarQue\_54, AndPeggy\_40, Anderson\_61, Andre\_63, Andromedas\_38, AnnaLie\_43, Antoinette\_39, Antonia\_60, Apex\_54, Apizium\_60, AranulaLuti\_38, Arbiter\_56, Ares\_57, Armstrong\_40, Arroyo\_43, Ashraf\_62, Asta\_38, Athena\_60, Atuin\_96, Aubergine\_38, Audrey\_58, Austelle\_54, AvGardian\_44, Avocadoman\_41, AxiPup\_39, Axumite\_51, Axym\_42, Azira\_40, BAjuniper\_43, BFK20\_ORF44, BabyDaisy\_42, BabyYoda\_43, Bachaco\_41, Badfish\_61, Bae\_59, Baines\_38, Baloo\_58, Balsa\_38, Bananafish\_57, Bandik\_39, Banjo\_59, Barnstormer\_47, Basato\_61, BatteryCK\_61, Beaglebox\_60, BeautPeep30\_39, BeeBee8\_39, BelmontSKP\_43, Ben11\_58, Benjalauen\_39, Bernardo\_59, Bernstein\_40, Big4\_105, BigChungus\_44, BigRedClifford\_39, BiggityBass\_49, BillDoor\_43, BirdsNest\_61, Bishoperium\_60, Biskit\_45, BlackStallion\_62, Blage\_39, Blocker23\_57, Bloom\_103, BlueHusk\_62, BlueNGold\_170, Bluephacebaby\_60, BobbyK\_54, Boehler\_60, Boersma\_57, BonesMcCoy\_39, Bonino\_38, Boopy\_173, BouleyBill\_37, Boyle\_57, Brad\_36, Brahms\_40, Briakila\_57, Brilliant\_63, BrownCNA\_55, Brownie5\_57, BubbaBear\_41, Buckeye\_61, Buldak\_40, Burnsey\_43, Burr\_60, Burritobowl\_42, Bustleton\_37, Button\_46, Buttrmlkdreams\_45, Byron23\_39, CRB2\_57, CaiB\_54, Calamitous\_57, Calix\_38, CamL\_60, CampRoach\_62, Cannibal\_60, CaptainRex\_37, Caron\_50, Carostasia\_37, Carthage\_59, Casbah\_58, Casey\_35, Cashington\_40, Casserole\_35, Cece\_99, Celaena\_40, ChaChing\_58, Chaelin\_61, Chah\_62, Chako\_38, Chamuel\_38, Chandler\_58, Charles1\_61, CharlieGBrown\_61, CharlottesWeb\_50, CheetO\_60, Cheeto1\_39, Chepli\_40, Cher\_60, CherryonLim\_46, ChickenKing\_38, ChikPic\_38, Childish\_60, ChiliPepper\_40, Chorkpop\_60, ChrisnMich\_53, Christoph\_38, Chunky\_59, Chute\_62, Clancy\_38, Clayda5\_41, Cleo\_38, Clock\_37, CloverMinnie\_53, Cobra\_62, Coffee\_57, ColaCorta\_38, Colbert\_59, Coletti\_63, Coltrane\_40, Compostia\_58, Convict\_39, Cooper\_54, Cornobble\_60, Corofin\_58, Cosmolli16\_61, Cozz\_41, Craff\_63, CroZenni\_42, Crownjwl\_60, DaddyDaniels\_62, Daffy\_60, Daisy\_57, Daka\_63, Dati\_60, Dave\_39, Deenasa\_58, DelRivs\_59, Delphidian\_40, Den3\_39, Derpp\_60, Devonte\_57, Dewdrop\_95, Dice\_62, DickRichards\_41, Didgeridoo\_45, DigitDog\_58, Dingo\_59, Dione\_58, DirtJuice\_61, DirtyBubble\_42, Dismas\_40, Doddsville\_61,

DoesntMatter\_58, DonSanchon\_58, Donny\_59, Doobus\_41, Dothraki\_39, Dre3\_38, DuchessDung\_62, Duggie\_61, DunneganBoMo\_92, Duocatuli\_38, Durga\_63, EZMoney23\_43, Eaglehorse\_57, EastView9101\_59, Eden\_40, Eleri\_38, Elinal\_48, Elliott\_43, Elva\_44, Emalyn\_42, EmiRose\_34, Emiris\_63, EmpTee\_60, Endor\_39, Eremos\_60, Erla\_38, Espinosa\_38, Etaye\_62, Etna\_38, Etta\_38, Eugenia\_60, Eula\_43, Evaa\_50, FF47\_43, Fang\_62, FarmerDoug\_38, Faze9\_56, Feastonyeet\_44, Figueroism\_39, Finalfrontier\_43, Finny\_38, FlameThrower\_40, Floof\_49, FluffyNinja\_62, Fortunato\_54, Forza\_174, Fozzie\_61, Frankicide\_59, Franklin22\_41, Frederick\_53, FrenchFry\_57, Fresco\_51, Freya\_58, FriarPreacher\_60, Fribs8\_39, Fringe\_64, FugateOSU\_61, Fulton\_38, Funsized\_59, GMA2\_66, GTE2\_35, Gack\_40, Gadget\_59, GaeCeo\_39, GardenB\_38, GardenState\_48, Gareth\_60, Garey24\_38, Gargoyle\_39, Gelo\_38, GeneCoco\_61, Gershwin\_38, Gervas\_59, GiKK\_48, Gibbous\_38, Giraffe\_61, Glamour\_37, Glass\_57, GlenHope\_59, Godines\_58, GodonK\_188, GoldHunter\_44, Golden\_37, Gophee\_62, Gorgeous\_54, Grand2040\_60, Greenlvy\_37, Gretchen\_48, Greys\_39, Gubbabump\_38, Guetzie\_37, GurgleFerb\_36, Gustav\_47, Gwilliam\_62, Gyarad\_0059, HSavage\_59, Haimas\_59, Haleema\_59, Halfpint\_57, Hamish\_59, Hamlet\_38, HanSolo\_38, Hangman\_53, HankSprout\_39, Hartsy\_61, HarveySr\_57, Harvey\_59, Hashim76\_62, Hasitha\_37, Heath\_52, Heathcliff\_58, Hedgerow\_57, Held\_60, Hendrix\_88, HenryJackson\_60, HerculesXL\_37, Hertubise\_60, Hetaeria\_60, Hexbug\_51, Heylee\_53, HighStump\_62, HippoPololi\_40, Hocus\_60, Holeinone\_57, Honk\_44, Horchata\_59, Horseradish\_45, Hosp\_050, HungryHenry\_38, Huwbert\_71, Hydro\_53, IAmGroot\_48, Ibantik\_18, Icarian\_45, Ichor\_55, Ilzat\_38, ImtiyazSitla\_62, Imvubu\_52, Inchworm\_62, Indlovu\_55, IndyLu\_42, Inventa\_39, Inverness\_59, Ioannes\_39, Iridoclysis\_61, IsaacEli\_62, ItsyBitsy1\_57, Ixel\_38, JAMaL\_53, JDog\_59, JacAttac\_62, Jackstina\_54, JacoRen57\_40, Jaek\_55, JaguarMi\_55, JakeO\_61, Jamzy\_48, JangoPhett\_60, Janus167\_38, Jasmine\_38, JasonD\_43, JasperRussell\_38, Jemerald\_40, Jenos\_42, Jerbirus\_39, JeriBeth\_39, Jillium\_60, Jiminy\_61, Jiraiya\_64, Johnathan\_41, Jolie1\_052, Jovita\_43, Jsquared\_43, Juanyo\_37, Juicer\_40, KLucky39\_59, Kahve\_60, Kailash\_61, Kale\_38, Kaleb\_57, Kamiyu\_58, KannH\_38, KatChan\_40, Katniss\_61, Katzastrophic\_41, Kauala\_37, KayGee\_45, KayaCho\_51, Keitherie\_62, Kenzers\_43, Keziacharles14\_44, Kheth\_57, Kieran\_40, Kikipoo\_62, KimJongPhill\_80, Kimbrough\_61, KingJulien\_38, KingTut\_53, KingVeVeVe\_59, KlimbOn\_60, Klimt\_38, Kloppinator\_61, Knocker\_59, Knox\_39, Koji\_37, Kronus\_58, Kurt1\_39, Kwadwo\_59, Kwksand96\_61, Labeouficaum\_61, Lahqtemish\_42, Lars\_57, LasagnaCat\_62, Lasso\_61, Lauer\_41, Laurie\_57, Leaf\_95, Leafus\_38, LeeLot\_61, Lego3393\_59, Legolas\_62, LeiMonet\_63, LemonSlice\_61, Lephleur\_57, LestyG\_57, Librie\_37, Ligma\_51, LilMcDreamy\_55, LilTerminator\_38, LimaBean\_42, LittleMunchkin\_52, LizLemon\_57, Lolalove\_54, Longacauda\_61, Lopsy\_59, LostAndPhound\_61, Lovelyunicorn\_39, Lucky3\_37, LuckyMarjie\_58, Ludgate\_39, Lulumae\_58, Lulwa\_58, Lumine\_61, Luna18\_40, Lynlen\_43, MAnor\_46, MCubed\_38, MRabcd\_60, MScarn\_47, MaVan\_40, Mabodamaca\_48, Maco6\_42, MaeLinda\_39, Mag7\_61, Magic8\_61, Magpie\_52, Mahdia\_44, MakoManhole\_51, ManRay\_38, Mana\_59, Manad\_60, Mandalorian\_37, Mareelih\_171, Margaret\_49, Mariokart\_50, Marley1013\_59, Martin\_40, Maru\_60, Maskar\_62, MasterPo\_57, Matalotodo\_60, Mayweather\_49, McGalleon\_41, Mcshane\_59, Mecca\_60, Megamind20\_61, Megatron\_61, Melc17\_60, MelsMeow\_61, Mercedes\_34, Mesh1\_62, MichaelPhcott\_61, Mikota\_59, MillyPhilly\_39, Mimi\_105, MiniBoss\_58, MitKao\_60, Mithril\_53, MmasiCarm\_59, Molivia\_56, MonChoix\_37, Morgushi\_60, Morrigan\_40, Morrissey\_47, Mortcellus\_58, Morty007\_58, Morty\_61, Mosaic\_59, MossRose\_53, MrPhizzler\_61, MrWorldwide\_39, Muddy\_44, Mudslide\_53, Mulan\_60, MunkgeeRoachy\_43, Murdoc\_59, Mutante\_60, Mysterious\_58,



NHagos\_52, Nacho\_0062, Nagem\_39, Nanao\_52, Nangang\_58, Nattles\_38, Nebulous\_37, Neferthena\_38, Nellie\_36, Neos5\_58, Newman\_59, Nibbles\_39, NickSell\_40, Nicky22\_43, Nicole21\_61, Nigel\_54, Nina\_42, NoShow\_52, Nodigi\_51, Nozo\_58, Nucci\_37, Numberten\_60, Nyala\_59, OSmaximus\_62, Oats\_38, Obutu\_59, Olak\_61, OldNelly\_39, Oline\_61, Olive\_60, OliverWalter\_59, Olliecat\_40, Omniscient\_61, Oosterbaan\_60, Opia\_57, OrangeOswald\_58, Orfeu\_60, Orion\_62, Orla\_51, Orwigg\_61, Oxtober96\_39, PG1\_61, Pacifista\_63, Pajaza\_35, Papafritta\_38, ParleG\_39, Patbob\_100, Peep\_39, PenguinLover67\_56, Peppino\_38, Percival\_49, Phaedrus\_54, Phamished\_62, Phantasmagoria\_57, Phareon\_59, PhatCats2014\_61, PhatLouie\_62, Phayeta\_60, Phelemich\_56, Phendrix\_176, PhenghisKhan\_61, Pherbot\_37, Pherdinand\_62, Pherferi\_39, Phergie\_62, Phiderman\_39, Philly\_57, Phipps\_60, Phireproof\_39, Phisb\_43, Phleuron\_61, Phlyer\_58, PhrankReynolds\_60, PhredFlintston\_39, Phriends\_39, PhrodoBaggins\_61, Phunky\_59, Piglet\_0060, Pikmin\_35, Pine5\_49, PinheadLarry\_61, Pinkman\_60, Pipefish\_59, Pipsqueak\_59, Placalicious\_61, Plmatters\_59, Pocket\_38, Podrick\_59, Pons\_46, Pops\_60, Poster\_52, PotPie\_44, Potter\_59, Prickles\_62, PrincePhergus\_37, Prince\_54, ProfessorX\_60, PsychoKiller\_42, Puhltonio\_60, Pumpernickel\_113, Puppies\_42, PuppyEggo\_39, QMacho\_45, QuadZero\_37, Quartz\_38, Quasar\_43, QueenBeane\_60, Quesadilla\_58, Quisquilliae\_61, Qyrzula\_52, Raccoon\_38, Racecar\_100, RagingRooster\_57, Rappheph\_39, Raptor\_39, Rasputia\_89, RawrgerThat\_54, RedBaron\_45, RedMaple\_62, Redfield\_38, Renzie\_39, Reprobate\_57, Rhinoforte\_57, Rich\_58, Ricotta\_60, Riggan\_61, Rimu\_63, Rings\_55, Rita1961\_59, Riyhil\_39, Robinson\_39, Robyn\_60, Rog141\_38, Roliet\_58, Rollins\_40, RomaT\_58, Rona\_40, Roscoe\_61, Rosebush\_56, Roy17\_59, SDcharge11\_60, SJReid\_106, SJay\_39, Sabella\_56, Saguario\_58, Samaymay\_60, SanaSana\_45, SansAfet\_43, Sansa\_37, SarBear\_42, Saratos\_38, SassyCat97\_59, Schadenfreude\_60, Schimmels22\_37, Schnapsidee\_38, Schubert\_36, Schueller\_62, Scoot17C\_61, Scrick\_61, Sedgewig\_38, Selr12\_62, Serendipitous\_56, Serendipity\_60, Serpentine\_0060, ShaiHulud\_39, Shamu\_38, Sharkboy\_41, Shatter\_51, SheckWes\_48, Shee\_39, Sheila\_58, ShiVal\_58, Shocker\_43, Sigman\_61, Simielle\_60, Sinatra\_37, SirJeffery\_57, SirVictor\_37, Sisko\_49, Sixama\_172, SketchMex\_43, Skippy\_61, Skylord\_40, Slatt\_61, Slay\_43, SlippinJimmy\_60, SoilGremlin\_39, Soile\_61, Solosis\_59, SonOfLevi\_38, Sopespian\_41, Sophia\_59, SorJuana\_54, Soto\_59, Sour\_53, Spartan300\_60, Squid\_60, Squiggle\_61, StAugustine\_89, Stanktossa\_39, SteamedHams\_43, StingRay\_38, Stinger\_54, StinkyVeggy\_58, StirfryIV\_39, Stoor\_43, Stormbreaker8\_38, Strathdee\_39, Stromboli\_43, Struggle\_61, SuMoo\_50, Suffolk\_59, Suigeneris\_59, SummitAcademy\_44, Superfresh\_39, Surely\_60, Survivors\_40, SweatNTears\_44, Swervy\_43, Swiphy\_64, Swish\_62, SynergyX\_58, TA17A\_57, TPA2\_63, Talia1610\_101, TallGrassMM\_60, TatarkaPM\_39, Teagan\_39, TeddyBear\_38, Telesworld\_58, Tenda\_38, Thompsone\_39, Thonko\_60, Thora\_60, Thorongil\_39, ThreeOh3D2\_62, Thunderbird\_61, Thunderclap\_54, Timmi\_59, TinSulphur\_39, Tinciduntolum\_58, Tinyman4\_37, TipsytheTRex\_42, Toaka\_44, Tolls\_44, TomBombadil\_60, Tomlarah\_61, Toni\_60, Tooj\_59, Tres\_57, Trine\_42, Triscuit\_70, Troje\_45, True\_59, Trypo\_63, TukTuk\_43, Tydolla\_56, Typhonmarchy\_43, TyrionL\_61, UAch1\_60, UncleHowie\_59, Upyo\_46, Usavi\_60, UtzChips\_47, Vaishali24\_59, Valjean\_60, Vaticameos\_57, Velene\_39, Veritas\_62, Vincenzo\_56, Vine\_47, VioletZ\_55, Virapocalypse\_61, Virgeve\_60, Vispistious\_39, Vista\_60, Vitas\_40, Vivaldi\_62, Vortex\_60, Waleliano\_53, Wallhey\_61, Waterdiva\_60, Weher20\_60, West99\_57, WestPM\_35, Widow\_43, WildNOut\_39, WilliamStrong\_38, Windsor\_60, Winzigespinne\_38, Wooper\_54, Xavier\_59, Yago84\_49, Yahalom\_57, Yakult\_46, Yarn\_40, Yeezus\_55, Yinz\_58, Yoshand\_62, YouGoGlencoco\_61,

Yummy\_45, YuuY\_37, Zada\_39, Zaider\_61, Zareef\_42, Zayuliv\_37, Zelda\_61, Zemanar\_54, Zenitsu\_38, Zenteno07\_62, Zepp\_38, Zeta1847\_40, Zonia\_62, Zooman\_100, Zuko\_78,

### Summary by start number:

#### Start 4:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 5 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gustav\_47 (CD), Mahdia\_44 (CD), Morrissey\_47 (CD), Puppies\_42 (CD), Widow\_43 (CD),

#### Start 13:

- Found in 3 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Zuko\_78 (BR),

#### Start 18:

- Found in 1 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Upyo\_46 (CD),

#### Start 24:

- Found in 2 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 2 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Huwbert\_71 (GG), Triscuit\_70 (GG),

#### Start 33:

- Found in 23 of 1752 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 15 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agatha\_43 (CT), Axym\_42 (CT), BillDoor\_43 (CT), Biskit\_45 (CT), Burnsey\_43 (CT), Buttrmlkdreams\_45 (CT), Cozz\_41 (CT), Elliott\_43 (CT), GTE2\_35 (CT), GoldHunter\_44 (CT), Horseradish\_45 (CT), MScarn\_47 (CT), MunkgeeRoachy\_43 (CT), Nina\_42 (CT), PsychoKiller\_42 (CT), Quasar\_43 (CT), RedBaron\_45 (CT), SketchMex\_43 (CT), Sopespian\_41 (CT), SweatNTears\_44 (CT), Troje\_45 (CT), Typhonomachy\_43 (CT), Yummy\_45 (CT),

#### Start 34:

- Found in 2 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 50.0% of time when present
- Phage (with cluster) where this start called: KimJongPhill\_80 (BR),

#### Start 40:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 40.0% of time when present
- Phage (with cluster) where this start called: FF47\_43 (AB), HippoPololi\_40 (CT),

Start 41:

- Found in 26 of 1752 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 23 of 1585
- Called 92.3% of time when present
- Phage (with cluster) where this start called: AikoCarson\_44 (CT), Amok\_44 (CT), AndPeggy\_40 (CT), Azira\_40 (CT), Button\_46 (CT), Cleo\_38 (CT), Dre3\_38 (CT), Emalyn\_42 (CT), Fribs8\_39 (CT), GiKK\_48 (CT), Gibbous\_38 (CT), Hexbug\_51 (CT), Jamzy\_48 (CT), MaVan\_40 (CT), Margaret\_49 (CT), Nibbles\_39 (CT), Nodigi\_51 (CT), Orla\_51 (CT), SteamedHams\_43 (CT), Survivors\_40 (CT), Tolls\_44 (CT), Yakult\_46 (CT), Yarn\_40 (CT), Zareef\_42 (CT),

Start 43:

- Found in 13 of 1752 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 11 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigChungus\_44 (CT), CherryonLim\_46 (CT), Elinal\_48 (CT), Feastonyeet\_44 (CT), KayGee\_45 (CT), Lauer\_41 (CT), MAnor\_46 (CT), Mayweather\_49 (CT), Pons\_46 (CT), PotPie\_44 (CT), SheckWes\_48 (CT), SummitAcademy\_44 (CT), Vine\_47 (CT),

Start 51:

- Found in 4 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 25.0% of time when present
- Phage (with cluster) where this start called: NoShow\_52 (AB),

Start 56:

- Found in 19 of 1752 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 5.3% of time when present
- Phage (with cluster) where this start called: JacoRen57\_40 (AB),

Start 60:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 40.0% of time when present
- Phage (with cluster) where this start called: 8UZL\_44 (AB), Muddy\_44 (AB),

Start 74:

- Found in 8 of 1752 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Maco6\_42 (AB),

Start 95:

- Found in 1 of 1752 ( 0.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 40AC\_46 (A17),

Start 136:

- Found in 8 of 1752 ( 0.5% ) of genes in pham

- Manual Annotations of this start: 1 of 1585
- Called 12.5% of time when present
- Phage (with cluster) where this start called: JuneStar\_42 (AZ1),

#### Start 145:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Liebe\_42 (AZ2),

#### Start 161:

- Found in 4 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Trine\_42 (CD),

#### Start 164:

- Found in 2 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 2 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JAMaL\_53 (B4), Nigel\_54 (B4),

#### Start 169:

- Found in 25 of 1752 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 3 of 1585
- Called 12.0% of time when present
- Phage (with cluster) where this start called: BrownCNA\_55 (B4), ChrisnMich\_53 (B4), Fortunato\_54 (B4),

#### Start 173:

- Found in 9 of 1752 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Yang\_41 (AZ1),

#### Start 175:

- Found in 274 of 1752 ( 15.6% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 0.4% of time when present
- Phage (with cluster) where this start called: Piglet\_0060 (B1),

#### Start 176:

- Found in 3 of 1752 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DigitDog\_58 (B5), Nangang\_58 (B5), StinkyVeggy\_58 (B5),

#### Start 177:

- Found in 2 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Stinger\_54 (B4),

Start 180:

- Found in 2 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Imvubu\_52 (B10),

Start 182:

- Found in 51 of 1752 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 24 of 1585
- Called 58.8% of time when present
- Phage (with cluster) where this start called: Acadian\_58 (B5), Ahwei\_52 (B4), AlanGrant\_57 (B4), Apex\_54 (B4), Austelle\_54 (B4), Bae\_59 (B5), BobbyK\_54 (B4), Cooper\_54 (B4), Donny\_59 (B5), EastView9101\_59 (B5), Hangman\_53 (B4), Heath\_52 (B4), Hydro\_53 (B4), JaguarMi\_55 (B4), LilMcDreamy\_55 (B12), Lolalove\_54 (B4), Maggie\_52 (B4), Mithril\_53 (B4), Mudslide\_53 (B4), Mysterious\_58 (B5), Nanao\_52 (B4), Phelemich\_56 (B5), Poster\_52 (B4), RawrgerThat\_54 (B4), Reprobate\_57 (B5), Rich\_58 (B5), Suigeneris\_59 (B5), Vincenzo\_56 (B4), VioletZ\_55 (B4), Waleliano\_53 (B4),

Start 183:

- Found in 9 of 1752 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 1585
- Called 77.8% of time when present
- Phage (with cluster) where this start called: 39HC\_051 (B6), 40BC\_051 (B6), Hosp\_050 (B6), Indlovu\_55 (B11), Jolie1\_052 (B6), KayaCho\_51 (B6), Serendipitous\_56 (B5),

Start 184:

- Found in 1 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zemanar\_54 (B4),

Start 188:

- Found in 34 of 1752 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 31 of 1585
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Allegro\_57 (B2), Arbiter\_56 (B2), Ares\_57 (B2), Bananafish\_57 (B2), Blocker23\_57 (B2), Boyle\_57 (B2), Brownie5\_57 (B2), Calamitous\_57 (B2), Coffee\_57 (B2), Eaglehorse\_57 (B2), Faze9\_56 (B2), FrenchFry\_57 (B2), Glass\_57 (B2), Godines\_58 (B2), Hedgerow\_57 (B2), Holeinone\_57 (B2), ItsyBitsy1\_57 (B2), Kaleb\_57 (B2), Kheth\_57 (B2), Lars\_57 (B2), Laurie\_57 (B2), Lephleur\_57 (B2), LizLemon\_57 (B2), MasterPo\_57 (B2), Opia\_57 (B2), Phantasmagoria\_57 (B2), Rhinoforte\_57 (B2), Rosebush\_56 (B2), Sabella\_56 (B2), TA17A\_57 (B2), Tinciduntolum\_58 (B2), Tres\_57 (B2), West99\_57 (B2),

Start 189:

- Found in 3 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 33.3% of time when present
- Phage (with cluster) where this start called: TatarkaPM\_39 (EA1),

Start 193:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 20.0% of time when present
- Phage (with cluster) where this start called: EmiRose\_34 (singleton),

Start 196:

- Found in 277 of 1752 ( 15.8% ) of genes in pham
- Manual Annotations of this start: 254 of 1585
- Called 99.3% of time when present
- Phage (with cluster) where this start called: ABU\_61 (B1), AbsoluteMadLad\_61 (B1), Adriana\_62 (B1), Aelin\_60 (B1), AltPhacts\_60 (B1), Altwerkus\_58 (B1), Anderson\_61 (B1), Andre\_63 (B1), Antonia\_60 (B1), Apizium\_60 (B1), Ashraf\_62 (B1), Badfish\_61 (B1), Banjo\_59 (B1), Basato\_61 (B1), BatteryCK\_61 (B1), Beaglebox\_60 (B1), Bishoperium\_60 (B1), BlackStallion\_62 (B1), BlueHusk\_62 (B1), Bluephacebaby\_60 (B1), Boehler\_60 (B1), Brilliant\_63 (B1), Buckeye\_61 (B1), Burr\_60 (B1), CamL\_60 (B1), CampRoach\_62 (B1), Cannibal\_60 (B1), Carthage\_59 (B1), Chaelin\_61 (B1), Chah\_62 (B1), Charles1\_61 (B1), CharlieGBrown\_61 (B1), CheetO\_60 (B1), Cher\_60 (B1), Childish\_60 (B1), Chorkpop\_60 (B1), Chunky\_59 (B1), Chute\_62 (B1), Cobra\_62 (B1), Colbert\_59 (B1), Coletti\_63 (B1), Cornobble\_60 (B1), Cosmolli16\_61 (B1), Craff\_63 (B1), Crownjwl\_60 (B1), DaddyDaniels\_62 (B1), Daffy\_60 (B1), Daka\_63 (B1), Dati\_60 (B1), DelRivs\_59 (B1), Derpp\_60 (B1), Dice\_62 (B1), Dingo\_59 (B1), Dione\_58 (B1), DirtJuice\_61 (B1), Doddsville\_61 (B1), DoesntMatter\_58 (B1), DonSanchon\_58 (B1), DuchessDung\_62 (B1), Duggie\_61 (B1), Durga\_63 (B1), Emiris\_63 (B1), EmpTee\_60 (B1), Eremos\_60 (B1), Etaye\_62 (B1), Eugenia\_60 (B1), Fang\_62 (B1), FluffyNinja\_62 (B1), Fozzie\_61 (B1), Frankicide\_59 (B1), Freya\_58 (B1), FriarPreacher\_60 (B1), Fringe\_64 (B1), FugateOSU\_61 (B1), Funsized\_59 (B9), Gareth\_60 (B1), GeneCoco\_61 (B1), Giraffe\_61 (B1), Gophee\_62 (B1), Grand2040\_60 (B1), Gwilliam\_62 (B1), Gyarad\_0059 (B1), HSavage\_59 (B1), Haimas\_59 (B1), Haleema\_59 (B1), Hamish\_59 (B1), Hartsy\_61 (B1), Harvey\_59 (B1), Held\_60 (B1), HenryJackson\_60 (B1), Hertubise\_60 (B1), Hetaeria\_60 (B1), HighStump\_62 (B1), Hocus\_60 (B1), Horchata\_59 (B1), ImtiyazSitla\_62 (B1), Inchworm\_62 (B1), Inverness\_59 (B1), Iridoclysis\_61 (B1), IsaacEli\_62 (B1), JDog\_59 (B1), JacAttac\_62 (B1), JakeO\_61 (B1), JangoPhett\_60 (B1), Jillium\_60 (B1), Jiminy\_61 (B1), Jiraiya\_64 (B1), KLucky39\_59 (B1), Kahve\_60 (B1), Kailash\_61 (B1), Katniss\_61 (B1), Keitherie\_62 (B1), Kikipoo\_62 (B1), Kimbrough\_61 (B1), KingTut\_53 (B1), KingVeVeVe\_59 (B1), KlimbOn\_60 (B1), Kloppinator\_61 (B1), Knocker\_59 (B9), Kwadwo\_59 (B1), Kwksand96\_61 (B1), Labeouficaum\_61 (B1), LasagnaCat\_62 (B1), Lasso\_61 (B1), LeeLot\_61 (B1), Lego3393\_59 (B1), Legolas\_62 (B1), LeiMonet\_63 (B1), LemonSlice\_61 (B1), Longacauda\_61 (B1), Lopsy\_59 (B1), LostAndPhound\_61 (B1), LuckyMarjie\_58 (B1), Lulumae\_58 (B1), Lulwa\_58 (B1), Lumine\_61 (B1), MRabcd\_60 (B1), Mag7\_61 (B1), Magic8\_61 (B1), Mana\_59 (B1), Manad\_60 (B1), Maru\_60 (B1), Maskar\_62 (B1), Matalotodo\_60 (B1), Mcshane\_59 (B1), Mecca\_60 (B1), Megamind20\_61 (B1), Megatron\_61 (B1), Melc17\_60 (B1), MelsMeow\_61 (B1), Mesh1\_62 (B1), MichaelPhcott\_61 (B1), Mikota\_59 (B1), MiniBoss\_58 (B1), MitKao\_60 (B1), Morgushi\_60 (B1), Morty\_61 (B1), Mosaic\_59 (B1), MrPhizzler\_61 (B1), Mulan\_60 (B1), Murdoc\_59 (B1), Mutante\_60 (B1), Nacho\_0062 (B1), Newman\_59 (B1), Nicole21\_61 (B1), Numberten\_60 (B1), Nyala\_59 (B1), OSmaximus\_62 (B1), Olak\_61 (B1), Oline\_61 (B1), Olive\_60 (B1), OliverWalter\_59 (B1), Omniscient\_61 (B1), Oosterbaan\_60 (B1), Orfeu\_60 (B1), Orion\_62 (B1), Orwigg\_61 (B1), PG1\_61 (B1), Pacifista\_63 (B1), Phamished\_62 (B1), Phareon\_59 (B1), PhatCats2014\_61 (B1), PhatLouie\_62 (B1), PhenghisKhan\_61 (B1),

Pherdinand\_62 (B1), Phergie\_62 (B1), Phipps\_60 (B1), Phleuron\_61 (B1), PhrankReynolds\_60 (B1), PhrodoBaggins\_61 (B1), Phunky\_59 (B1), PinheadLarry\_61 (B1), Pinkman\_60 (B1), Pipsqueak\_59 (B1), Placalicious\_61 (B1), Plmatters\_59 (B1), Podrick\_59 (B1), Pops\_60 (B1), Potter\_59 (B1), Prickles\_62 (B1), ProfessorX\_60 (B1), Puhltonio\_60 (B1), QueenBeane\_60 (B1), Quisquilliae\_61 (B1), RedMaple\_62 (B1), Ricotta\_60 (B1), Riggan\_61 (B1), Rimu\_63 (B1), Robyn\_60 (B1), Roliet\_58 (B1), Roscoe\_61 (B1), Roy17\_59 (B1), SDcharge11\_60 (B1), Samaymay\_60 (B1), SassyCat97\_59 (B1), Schadenfreude\_60 (B1), Schueller\_62 (B1), Scoot17C\_61 (B1), Scrick\_61 (B1), Selr12\_62 (B1), Serendipity\_60 (B1), Serpentine\_0060 (B1), Sheila\_58 (B1), ShiVal\_58 (B1), Sigman\_61 (B1), Simielle\_60 (B1), Skippy\_61 (B1), Slatt\_61 (B1), Soile\_61 (B1), Solosis\_59 (B1), Sophia\_59 (B1), Soto\_59 (B1), Spartan300\_60 (B1), Squid\_60 (B1), Squiggle\_61 (B1), Struggle\_61 (B1), Suffolk\_59 (B1), Surely\_60 (B1), Swiphy\_64 (B1), Swish\_62 (B1), TallGrassMM\_60 (B1), Telesworld\_58 (B1), Thora\_60 (B1), ThreeOh3D2\_62 (B1), Thunderbird\_61 (B1), Timmi\_59 (B1), TomBombadil\_60 (B1), Tomlarah\_61 (B1), Toni\_60 (B1), Tooj\_59 (B1), True\_59 (B1), Trypo\_63 (B1), TyrionL\_61 (B1), UAch1\_60 (B1), UncleHowie\_59 (B1), Usavi\_60 (B1), Vaishali24\_59 (B1), Valjean\_60 (B1), Vaticameos\_57 (B1), Veritas\_62 (B1), Virapocalypse\_61 (B1), Virgeve\_60 (B1), Vista\_60 (B1), Vivaldi\_62 (B1), Vortex\_60 (B1), Wallhey\_61 (B1), Waterdiva\_60 (B1), Weher20\_60 (B1), Windsor\_60 (B1), Xavier\_59 (B1), Yoshand\_62 (B1), YouGoGlencoco\_61 (B1), Zaider\_61 (B1), Zelda\_61 (B1), Zonia\_62 (B1),

#### Start 197:

- Found in 6 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 4 of 1585
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Dewdrop\_95 (GC), Hendrix\_88 (GC), Leaf\_95 (GC), Rasputia\_89 (GC),

#### Start 199:

- Found in 1 of 1752 ( 0.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BFK20\_ORF44 (singleton),

#### Start 204:

- Found in 7 of 1752 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 1585
- Called 28.6% of time when present
- Phage (with cluster) where this start called: EITiger69\_39 (A5), Naca\_39 (A5),

#### Start 208:

- Found in 17 of 1752 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 3 of 1585
- Called 17.6% of time when present
- Phage (with cluster) where this start called: CRB2\_57 (B9), Quesadilla\_58 (B9), Saguaro\_58 (B7),

#### Start 209:

- Found in 16 of 1752 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 11 of 1585
- Called 81.2% of time when present

- Phage (with cluster) where this start called: Amavida\_53 (AQ), Amigo\_55 (AQ), Anansi\_54 (AQ), Boersma\_57 (AQ), Gorgeous\_54 (AQ), Heylee\_53 (AQ), Ichor\_55 (AQ), Jaek\_55 (AQ), Molivia\_56 (AQ), Rings\_55 (AQ), SorJuana\_54 (AQ), Thunderclap\_54 (AQ), Yeezus\_55 (AQ),

#### Start 210:

- Found in 14 of 1752 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Jeffabunny\_45 (A6),

#### Start 212:

- Found in 15 of 1752 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 6.7% of time when present
- Phage (with cluster) where this start called: PenguinLover67\_56 (B9),

#### Start 214:

- Found in 157 of 1752 ( 9.0% ) of genes in pham
- Manual Annotations of this start: 4 of 1585
- Called 2.5% of time when present
- Phage (with cluster) where this start called: Chako\_38 (EA1), Chamuel\_38 (EA1), SonOfLevi\_38 (EA1), Thonko\_60 (B8),

#### Start 216:

- Found in 83 of 1752 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 7 of 1585
- Called 9.6% of time when present
- Phage (with cluster) where this start called: AnClar\_50 (DR), BiggityBass\_49 (DR), BirdsNest\_61 (B13), Hashim76\_62 (B13), LittleMunchkin\_52 (DR), Sisko\_49 (DR), Yago84\_49 (DR), Zenteno07\_62 (B13),

#### Start 219:

- Found in 14 of 1752 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 12 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnarQue\_54 (DR), Axumite\_51 (DR), CaiB\_54 (DR), CharlottesWeb\_50 (DR), CloverMinnie\_53 (DR), Evaa\_50 (DR), Fresco\_51 (DR), Ligma\_51 (DR), MakoManhole\_51 (DR), Mariokart\_50 (DR), MossRose\_53 (DR), NHagos\_52 (DR), Shatter\_51 (DR), Wooper\_54 (DR),

#### Start 220:

- Found in 34 of 1752 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 7 of 1585
- Called 26.5% of time when present
- Phage (with cluster) where this start called: Armstrong\_40 (EB), Bernstein\_40 (EB), Brahms\_40 (EB), Coltrane\_40 (EB), Pine5\_49 (singleton), Rollins\_40 (EB), Skylord\_40 (EB), TPA2\_63 (singleton), Vitas\_40 (EB),

#### Start 221:

- Found in 279 of 1752 ( 15.9% ) of genes in pham
- Manual Annotations of this start: 2 of 1585
- Called 0.7% of time when present



- Phage (with cluster) where this start called: HarveySr\_57 (B3), Yinz\_58 (B3),

#### Start 222:

- Found in 70 of 1752 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 57 of 1585
- Called 85.7% of time when present
- Phage (with cluster) where this start called: A3Wally\_117 (GD1), Abigail\_42 (EB), Albedo\_43 (EB), Albright\_40 (EB), AnnaLie\_43 (EB), Arroyo\_43 (EB), AvGardian\_44 (EB), Avocadoman\_41 (EB), BAjuniper\_43 (EB), BabyDaisy\_42 (EB), BabyYoda\_43 (EB), Bachaco\_41 (EB), BelmontSKP\_43 (EB), Big4\_105 (GD2), BubbaBear\_41 (EB), Burritobowl\_42 (EB), Cashington\_40 (EB), Cece\_99 (GD3), Celaena\_40 (EB), ChiliPepper\_40 (EB), Clayda5\_41 (EB), CroZenni\_42 (EB), DickRichards\_41 (EB), Didgeridoo\_45 (EB), DirtyBubble\_42 (EB), Dismas\_40 (EB), Doobus\_41 (EB), Eden\_40 (EB), Elva\_44 (EB), Eula\_43 (EB), Finalfrontier\_43 (EB), FlameThrower\_40 (EB), Franklin22\_41 (EB), Gack\_40 (EB), Icarian\_45 (EB), IndyLu\_42 (EB), Johnathan\_41 (EB), Jovita\_43 (EB), Katzastrophic\_41 (EB), Kenzers\_43 (EB), Kieran\_40 (EB), Lahqtemish\_42 (EB), LimaBean\_42 (EB), Lynlen\_43 (EB), Nicky22\_43 (EB), Phisb\_43 (EB), Pumpernickel\_113 (GD4), QMacho\_45 (EB), Rona\_40 (EB), SanaSana\_45 (EB), SansAfet\_43 (EB), SarBear\_42 (EB), Sharkboy\_41 (EB), Slay\_43 (EB), StAugustine\_89 (singleton), Stoor\_43 (EB), Stromboli\_43 (EB), Swervy\_43 (EB), TukTuk\_43 (EB), Zooman\_100 (GD2),

#### Start 223:

- Found in 45 of 1752 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 42 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abinghost\_58 (B3), Akoma\_58 (B3), Athena\_60 (B3), Audrey\_58 (B3), Baloo\_58 (B3), Ben11\_58 (B3), Bernardo\_59 (B3), Briakila\_57 (B3), Casbah\_58 (B3), ChaChing\_58 (B3), Chandler\_58 (B3), Compostia\_58 (B3), Corofin\_58 (B3), Daisy\_57 (B3), Deenasa\_58 (B3), Devonte\_57 (B3), Gadget\_59 (B3), Gervas\_59 (B3), GlenHope\_59 (B3), Halfpint\_57 (B3), Heathcliff\_58 (B3), Jackstina\_54 (B3), Kamiyu\_58 (B3), Kronus\_58 (B3), LestyG\_57 (B3), Marley1013\_59 (B3), MmasiCarm\_59 (B3), Mortcellus\_58 (B3), Morty007\_58 (B3), Neos5\_58 (B3), Nozo\_58 (B3), Obutu\_59 (B3), OrangeOswald\_58 (B3), Phaedrus\_54 (B3), Phayeta\_60 (B3), Philly\_57 (B3), Phlyer\_58 (B3), Pipefish\_59 (B3), RagingRooster\_57 (B3), Rita1961\_59 (B3), RomaT\_58 (B3), SlippinJimmy\_60 (B3), SynergyX\_58 (B3), Tydolla\_56 (B3), Yahalom\_57 (B3),

#### Start 224:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Buldak\_40 (EB), Olliecat\_40 (EB),

#### Start 226:

- Found in 4 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 2 of 1585
- Called 75.0% of time when present
- Phage (with cluster) where this start called: GMA2\_66 (DS), GodonK\_188 (DK), Phendrix\_176 (DK),

#### Start 227:

- Found in 360 of 1752 ( 20.5% ) of genes in pham

- Manual Annotations of this start: 3 of 1585
- Called 1.1% of time when present
- Phage (with cluster) where this start called: Qyrzula\_52 (B2), SirJeffery\_57 (B5), Sixama\_172 (DS), Sour\_53 (DR),

#### Start 228:

- Found in 4 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 4 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_170 (DS), Boopy\_173 (DS), Forza\_174 (DS), Mareelih\_171 (DS),

#### Start 229:

- Found in 14 of 1752 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 7 of 1585
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Floop\_49 (EH), GardenState\_48 (EH), Gretchen\_48 (EH), Honk\_44 (EH), IAmGroot\_48 (EH), Percival\_49 (EH), SuMoo\_50 (EH), Zeta1847\_40 (EH),

#### Start 230:

- Found in 9 of 1752 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 8 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnstormer\_47 (EH), Caron\_50 (EH), EZMoney23\_43 (A2), Jsquared\_43 (A2), Keziacharles14\_44 (A9), Mabodamaca\_48 (EH), TopsytheTRex\_42 (A2), Toaka\_44 (A9), UtzChips\_47 (EH),

#### Start 231:

- Found in 923 of 1752 ( 52.7% ) of genes in pham
- Manual Annotations of this start: 845 of 1585
- Called 99.1% of time when present
- Phage (with cluster) where this start called: 20ES\_45 (A2), A6\_41 (A1), ACFishhook\_47 (A3), AEgle\_37 (AZ1), AFIS\_43 (A1), AGrandiflora\_42 (AZ1), AN3\_45 (A2), AN9\_48 (A2), ANI8\_48 (A2), AbbeyMikolon\_44 (BL), AbbyPaige\_46 (A2), AbbysRanger\_44 (A4), Abbyshoes\_47 (A1), Abdiel\_45 (A4), Abrogate\_440 (A1), Achebe\_43 (A4), Acme\_47 (A1), Acolyte\_41 (A2), Adahisdi\_44 (A1), Adolin\_40 (AZ1), Adumb2043\_38 (AZ1), Adzzy\_46 (A2), Aeneas\_47 (A1), Agaliana\_41 (A1), Agape74\_46 (A2), AgentM\_37 (A5), Aglet\_49 (A3), AgronaGT15\_47 (A3), AinMach\_42 (AZ), Airmid\_39 (A5), Ajay\_45 (A1), Alatin\_36 (CA), Albee\_45 (A4), Alberto7\_46 (A4), Aliter\_45 (A9), Alma\_45 (A9), Alpacados\_35 (CA), Alsfro\_48 (A1), Altman\_46 (A1), Alvin\_44 (A1), Amyev\_40 (AZ1), Anaysia\_47 (A15), Aneem\_45 (A11), Anglerfish\_45 (A1), AngryOrchard\_34 (CA), AnnaL29\_46 (A2), Annyong\_45 (A4), Anon\_42 (A15), Anselm\_45 (A2), Anthony\_39 (A20), Anubis\_51 (A3), AppleCloud\_34 (CA), Applejack\_40 (A1), Aragog\_37 (A5), Arcanine\_46 (A1), ArcherNM\_42 (A2), Archetta\_38 (A5), Arissanee\_44 (A9), Arlo\_42 (A1), Artemis2UCLA\_45 (A6), Arturo\_44 (A4), Asa16\_39 (AZ1), Ascela\_41 (AZ1), Ashballer\_46 (A1), Astro\_42 (A8), Atkinbua\_46 (A1), Attoomi\_34 (singleton), AugsMagnumOpus\_51 (A3), AvatarAhPeg\_44 (A4), Avle17\_45 (A4), B1\_42 (A3), BABullseye\_43 (A6), BK1\_41 (A1), BPBiebs31\_45 (A1), Baby16\_45 (A4), BabyBack\_43 (A2), BabyRay\_45 (A3), Bachome\_46 (A11), Backyardigan\_43 (A4), BaconJack\_48 (A1), Bactobuster\_43 (A2), Badger\_43 (A4), Baehexic\_43 (A2), BaileyBlu\_41 (FP), BangNhom\_46 (A4), Barriga\_45 (A1), Bartimeaus\_45 (A4),

Battleship\_48 (A15), Beatrix\_44 (A1), Beauxregard13\_48 (A3), Beemo\_45 (A9), BeesKnees\_45 (A1), Belenaria\_36 (CA), BellusTerra\_46 (A4), Benedict\_39 (A5), BengiVuitton\_44 (A2), Benvolio\_41 (A2), Berrie\_42 (AZ1), Bethlehem\_44 (A1), Bexan\_43 (A1), BiancaTri92\_44 (A2), Big3\_43 (A1), BigMau\_45 (A1), BigPaolini\_45 (A1), Bigfoot\_41 (A1), BillKnuckles\_45 (A1), Bircsak\_44 (A1), Blackmoor\_45 (A4), Blinn1\_48 (A6), BluSpix\_43 (A1), Blue7\_48 (A6), BlueBird\_47 (A3), Blue\_44 (A1), Bluefalcon\_37 (A5), Bob3\_42 (A1), BobSwaget\_44 (A2), BobbyDazzler\_36 (CA), BogosyJay\_44 (A9), Bombshell\_45 (A4), Bonamassa\_39 (A5), Bonanza\_36 (CA), Bones\_45 (A1), Boohoo\_47 (A15), Bowtie\_45 (A11), Bradshaw\_36 (CA), BreSam8\_48 (A3), Briton15\_46 (A1), Broseidon\_45 (A4), Bruiser\_44 (A4), Bruns\_43 (A1), Bryce\_36 (CA), BubbleTrouble\_44 (A4), Bud\_44 (A11), Bugatti\_46 (A3), Buggy\_46 (A2), Bumblebee11\_43 (A4), Burger\_43 (A4), Burton\_44 (A1), Buttons\_43 (A1), BuzzBuzz\_46 (A3), Bxb1\_41 (A1), Bxz2\_44 (A3), C3\_43 (A2), CRB1\_46 (A2), CactusRose\_42 (A1), Caelakin\_45 (A4), CallinAllBarbz\_41 (FP), Camperdownii\_43 (A4), Candra\_45 (A6), Caraxes\_45 (A2), Carlyle\_44 (A1), Cassia\_40 (AZ1), Catalina\_46 (A9), Caviar\_44 (A3), Cen1621\_44 (EH), Centaur\_45 (A2), CentreCat\_45 (A4), Cerulean\_46 (A4), Chadwick\_40 (A5), ChampagnePapi\_47 (A4), Chanagan\_42 (A1), Changeling\_45 (A2), Chaph\_45 (A4), Chargerpower\_44 (A), Charm\_42 (A9), Chartreuse\_45 (A6), Che12\_47 (A2), ChipMunk\_47 (A2), Chupacabra\_43 (A10), Ciao\_45 (A1), Cici\_44 (A4), Cindaradix\_42 (A4), Cintron\_44 (A4), Citius\_45 (A4), Clarenza\_44 (A4), CloudWang3\_45 (A6), Cocoaberry\_45 (A4), Colbster\_48 (A3), Colin\_46 (A2), Commander\_45 (A4), Community\_43 (AZ1), Conceptll\_46 (A1), Connomayer\_45 (A4), Conquerage\_45 (A9), Conspiracy\_38 (A5), Coog\_38 (A5), Cookiedough\_45 (A6), Corvo\_45 (A1), CosmicSans\_36 (CA), Crewmate\_46 (AZ1), Crispicous1\_43 (A1), Crucio\_44 (A2), Cucu\_38 (A5), Cueyllyss\_46 (A1), Cullens\_48 (A3), Cyan\_40 (AZ1), D29\_44 (A2), D32\_47 (A2), DBQu4n\_47 (A2), DD5\_44 (A1), DaHudson\_48 (A3), DaVinci\_45 (A6), Daishi\_47 (A3), Dalmatian\_45 (A2), Danforth\_42 (A8), Darrell\_45 (A9), DarthPhader\_42 (A12), Datway\_44 (A4), Deano\_44 (A4), DekHockey33\_47 (A15), Deloris\_43 (A2), Dexes\_45 (A1), Dhanush\_45 (A4), Dieselweasel\_49 (A3), Dignity\_46 (A2), Dinger\_36 (CA), DirtyDunning\_44 (A4), Discoknowium\_37 (A5), Dixon\_43 (A8), Doom\_45 (A1), Dorothea\_44 (A6), DrFeelGood\_43 (A1), DrManhattan\_40 (AZ1), DrSierra\_39 (AZ1), Drake55\_46 (A2), Drake94\_42 (A10), DreamCatcher\_47 (A1), DreamTeam1\_42 (A9), Dreamboat\_46 (A1), DroogsArmy\_41 (A7), Druantia\_45 (A4), Dublin\_37 (A5), Dubu\_35 (BJ), DudeLittle\_43 (A2), Dulcie\_45 (A1), Duplo\_47 (A2), Dussy\_46 (A1), Dynamix\_45 (A1), EagleEye\_46 (A16), Eagle\_45 (A4), Eaglepride\_45 (A10), Eapen\_45 (A4), Ebony\_45 (A11), Echild\_44 (A2), Edison31\_43 (A10), Edtherson\_45 (A1), Eidsmoe\_45 (A9), Elephantoon\_44 (A9), Elezi\_39 (AZ1), Emotion\_46 (AZ4), EmyBug\_44 (A9), EpicPhail\_49 (A3), Epsocamisio\_46 (A15), Equemioh13\_45 (A2), Eraser\_39 (AZ1), EricB\_45 (A6), Erik\_36 (CA), Eris\_44 (A4), Eros\_45 (A4), Espica\_36 (CA), Espresso\_44 (A1), Et2Brutus\_44 (A11), Euphoria\_43 (A1), Euratis\_35 (BB1), Eurydice\_46 (A4), EvilGenius\_47 (A2), Exile\_36 (AZ), Expelliarmus\_42 (A8), ExplosioNervosa\_45 (A9), Eyeball\_46 (A1), Fajezeel\_47 (A1), Fameo\_44 (A2), Farber\_48 (A3), Fascinus\_41 (A1), Fayely\_45 (A9), Fenn\_46 (A1), Fernando\_48 (A3), Fibonacci\_44 (A11), FiringLine\_44 (A2), First\_0044 (A2), Flare16\_44 (A2), Flaverint\_45 (A11), Florean\_45 (A4), Flux\_45 (A4), ForGetIt\_38 (A5), Forsytheast\_44 (A1), Francis47\_44 (A1), Fred313\_45 (A3), FrogHopper\_43 (A1), Funston\_44 (A4), Fushigi\_43 (A1), Gadost\_45 (A4), GageAP\_45 (A1), Gail\_49 (A14), Gandalf20\_46 (A1), Garak\_47 (A6), GaugeLDP\_43 (A2), Gemma\_47 (A3), George\_38 (A5), Georgie2\_45 (A2), Ghoulboy\_40 (A5), Gilberta\_45 (A11), GingkoMaracino\_48 (A3), Giroux\_46 (A3), Gladiator\_45 (A6), Gollum\_36 (CA), Gompeii16\_44 (A1), Goose\_44 (A10), Graduation\_48 (A1), GrecoEtereo\_45 (A1), GreedyLawyer\_45 (A6), Greg\_47 (A1), Grif\_48 (A3), Groundhog\_41 (A8),

Groupthink\_49 (A3), Grub\_48 (A3), Grum1\_48 (A3), Gruunaga\_45 (A6), GtownJaz\_48 (A3), Gwendoluna\_48 (A1), Gyzlar\_41 (A1), HINdeR\_41 (A7), Halsey\_49 (AZ), HamSlice\_44 (A4), Hami1\_38 (A1), Hammer\_47 (A6), HanShotFirst\_43 (A1), Happiness\_44 (A4), Harlequin\_36 (CA), HarryHoudini\_45 (A2), HarryOW\_43 (A1), HashRod\_49 (A3), HaveUMetTed\_49 (A3), Heathen\_45 (A3), Heather\_37 (BB2), Heffalump\_43 (A2), HelDan\_45 (A3), Heliosoles\_47 (A3), Helmet\_47 (A6), Herbertwm\_42 (A2), Hercules11\_48 (A3), Hermia\_46 (A1), HermioneGrange\_44 (A1), Hexamo\_45 (A6), Hiro\_36 (CA), Holli\_44 (A4), Homines\_37 (A1), Hookmount\_44 (A3), Hoot\_45 (A6), Hope4ever\_46 (A1), HortumSL17\_45 (A9), Houdini22\_45 (A4), HuhtaEnerson15\_39 (A5), Hutc2\_44 (A11), ICleared\_45 (A4), ILeeKay\_49 (A1), Iceman\_45 (A4), Ichabod\_46 (A1), Idleandcovert\_46 (A3), IgnatiusPatJac\_44 (A1), Indra\_48 (A6), Insomnia\_45 (A11), Iracema64\_46 (A4), IronMan\_44 (A2), Isca\_44 (A3), Isiphiwo\_43 (A6), Iter\_41 (AZ1), IttyBittyPiggy\_40 (AZ1), Iwokeuplikedis\_47 (A2), JC27\_45 (A1), JF2\_45 (A3), JF4\_45 (A3), JHC117\_48 (A3), JSwag\_46 (A15), Jaan\_45 (A2), Jabiru\_39 (A5), Jabith\_45 (A11), JackSparrow\_46 (A1), Janeemi\_43 (AZ1), JasmineDragon\_45 (AZ4), Jasper\_46 (A1), Jaykayelowell\_43 (A4), Jeeves\_50 (A14), JenCasNa\_49 (A3), JeppNRM\_49 (A3), Jerm2\_45 (A1), Jerm\_46 (A2), Jester\_36 (CA), JetBlade\_45 (A4), JewelBug\_47 (A6), Jobu08\_47 (A3), Joemato\_43 (AZ1), JohnDoe\_41 (AZ1), JoongJeon\_44 (A4), Jordennis\_45 (A6), Jorgensen\_45 (A1), Joselito\_45 (A11), JoshKayV\_46 (A2), Journey13\_40 (A2), Jovo\_38 (A5), Jstan\_41 (AZ1), JuliaChild\_45 (A1), KADY\_48 (A3), KBG\_46 (A1), KFPoly\_44 (A4), KSSJEB\_43 (A1), Kalb97\_49 (A3), Kalnoky\_49 (A3), Kalpine\_44 (A2), Kampy\_45 (A4), Kanely\_45 (A1), Katalie136\_44 (A4), KatherineG\_48 (A15), Kaylissa\_42 (AZ1), Kazan\_46 (A6), KeAlii\_40 (AZ1), Kenmech\_48 (A1), Kerberos\_47 (A2), Killigrew\_44 (A1), Kimona\_43 (A19), KingCyrus\_47 (A2), Kingmustik0402\_45 (A4), Kipper29\_45 (A6), KittenMittens\_41 (A10), Koduck\_44 (A2), Koko\_47 (A6), Koreni\_44 (A4), Kratark\_45 (A4), Kremtemulon\_43 (A4), Krishelle\_36 (CA), Kristoff\_44 (A10), Kugel\_46 (A1), KyMonks1A\_47 (A1), Kyee\_45 (A4), Kykar\_45 (A1), L5\_44 (A2), LBerry\_49 (A3), LHTSCC\_47 (A4), LadyBird\_47 (A2), Lambert1\_44 (A3), Lamina13\_45 (A1), Landor\_44 (A2), LappelDuVide\_44 (A4), Larenn\_44 (A2), LarryKay\_48 (A3), LastResort\_46 (A15), Lego\_41 (AZ1), Lemur\_45 (A4), LeoAvram\_45 (A4), Leogania\_44 (A2), Lesedi\_42 (A1), Lev2\_38 (A5), Leviathan\_46 (A2), Licorice\_48 (A1), LilBib\_45 (A1), LilTurb\_45 (A2), Lilbooboo\_34 (BB1), Lilbunny\_43 (A6), Lilit\_49 (A3), Lillie\_36 (CA), LittleB\_45 (A4), LittleCherry\_39 (A5), LittleGuy\_45 (A4), Lizalica\_39 (AZ1), LochMonster\_46 (A4), Lockley\_44 (A1), Lokk\_45 (A2), London\_39 (AZ1), LoneWolf\_45 (A9), Looper\_47 (A15), Lopton\_45 (A1), Lorenzo\_45 (A4), Loser\_46 (A2), Louie6\_47 (A3), Luchador\_50 (A14), Lucivia\_45 (A11), Lucyedi\_45 (A16), LugYA\_51 (A3), Lunsford\_46 (A4), MA5\_45 (A3), MK4\_45 (A3), MPlant7149\_43 (A1), MaCh\_45 (A11), MaGuCo\_40 (AZ2), Mabel\_45 (A11), MadMarie\_48 (A3), Magnar\_44 (A1), Magnito\_42 (A1), Mainiac\_48 (A3), Makemake\_44 (A1), Malec\_45 (A2), Malinsilva\_50 (A3), Maminiaina\_44 (A9), Manatee\_45 (A1), Manu\_48 (A3), MarQuardt\_48 (A3), Marcell\_43 (A1), Marchy\_38 (A1), Marge\_45 (A1), Margo\_44 (A3), Marie\_48 (A3), Marius\_49 (A3), Maroc7\_43 (A1), Marsha\_45 (A1), MaryBeth\_45 (A1), MarysWell\_37 (A5), Maureen\_42 (AZ2), Maverick\_45 (A4), Maxo\_46 (A4), Mazhar510\_45 (A4), McFly\_45 (A6), McGuire\_45 (A1), Medusa\_45 (A4), MeeZee\_45 (A4), Melvin\_47 (A4), MetalQZJ\_44 (A1), Methuselah\_45 (A3), Micasa\_39 (A5), Michley\_44 (A1), Microwolf\_48 (A3), MiculUcigas\_44 (A2), Midas2\_38 (A5), Miko\_43 (A2), Milcery\_39 (A5), Millski\_44 (A4), MinecraftSteve\_48 (A15), MiniMommy\_47 (AZ4), Miramae\_44 (A4), Misomonster\_49 (A3), MissSwiss\_41 (AZ1), MissWhite\_43 (A2), Molly\_45 (A1), Monet\_48 (A1), MoneyMay\_48 (A3), Moose\_44 (A1), Morpher26\_44 (A4), Morrow\_46 (A4), Moss\_45 (AZ), MrGordo\_44 (A1), Mryolo\_42 (A1), MuchMore\_51

(A3), Mudpuppy\_39 (AZ1), Mulciber\_44 (A11), Mule\_42 (A1), Munch\_45 (A11), Mundrea\_44 (A4), Museum\_45 (A1), MyraDee\_40 (A18), Myxus\_45 (A9), NEHalo\_43 (A1), NaSiaTalie\_44 (A2), Naiad\_36 (CA), Naira\_46 (A1), Naji\_47 (A2), Nancinator\_36 (CA), Natosaleda\_36 (CA), NearlyHeadless\_43 (A8), Nebs\_46 (A4), Nebulosus\_46 (A15), Nedarya\_43 (A15), Neeharika16\_45 (A6), Nemo27\_45 (A4), Nerujay\_46 (A1), Nesbitt\_42 (BL), Newrala\_45 (A6), Nhonho\_45 (A1), NicoleTera\_45 (A2), Niobe\_39 (AZ1), Nitro\_40 (AZ1), Niza\_47 (A1), Noella\_44 (A3), Noelle\_45 (A4), Norbert\_43 (A3), NorthStar\_44 (A4), Norz\_45 (A1), NotAPhaseMom\_45 (A4), NothingSpecial\_43 (A2), Nyxis\_45 (A4), OKCentral2016\_43 (A10), OKaNui\_45 (A4), Obama12\_46 (A4), ObiToo\_46 (AZ1), Odin\_44 (A2), Ohfah\_46 (A4), Ohno789\_45 (A1), OlanP\_47 (A3), Ollie\_48 (A3), Oofda\_48 (A15), Oogway\_42 (A1), Orange\_44 (A11), P28Green\_49 (A3), PGHhamlin\_50 (A3), PP\_46 (A7), PSullivan\_44 (A1), PacerPaul\_45 (A1), PackMan\_44 (A9), PainterBoy\_45 (A16), Palestino\_44 (A4), Panamaxus\_42 (A3), Papez\_47 (A1), Paphu\_43 (A1), Paraselene\_43 (A1), Pari\_45 (A1), Parliament\_44 (A1), Partridge\_36 (CA), PascalRango\_45 (A1), PattyP\_45 (A1), PauloDiaboli\_117 (GD1), Pawn\_48 (A3), Payneful\_43 (A1), PeaceMeal1\_42 (A10), Peaches\_45 (A4), Pelly\_44 (A1), Pembroke\_48 (A3), Penny1\_49 (A3), Pepe\_42 (A1), Perplexer\_44 (A4), Perseus\_45 (A1), PeterPeter\_45 (A4), Petersenfast\_43 (A11), Peterson\_48 (A1), PetiteSangsue\_44 (A4), Petp2012\_45 (A1), Petrucchio\_45 (A1), PetterN\_40 (A5), Ph8s\_46 (A2), Phacado\_45 (A4), Phaded\_46 (A2), Phaeder\_45 (A9), PhailMary\_35 (CA), Phantastic\_46 (A3), Pharaoh\_39 (A12), Felipe\_46 (A4), PherrisBueller\_44 (A1), Phighter1804\_45 (A4), Phillis\_44 (A8), PhishRPhriends\_46 (A3), Phives\_43 (AZ1), Phlei\_33 (A13), Phlorence\_37 (A5), Phoebe\_49 (A3), Phonnegut\_45 (A9), Phontbonne\_45 (A4), Phoxy\_48 (A3), Phrankenstien\_36 (CA), Phranny\_49 (A3), PhrostyMug\_44 (A1), PickleBack\_38 (A5), PinkPlastic\_43 (A1), Pinto\_45 (A1), Pioneer\_45 (A9), Pipcraft\_43 (A4), Pippin\_47 (A1), Piro94\_44 (A2), Pistachio\_47 (A3), Pita2\_47 (A1), Pixelle\_42 (AZ1), Pmask\_45 (A6), Pocahontas\_44 (A3), Polymorphads\_46 (A4), Pomar16\_47 (A2), Poompha\_43 (A10), Popcicle\_44 (A3), PotatoSplit\_50 (A3), Power\_43 (A2), Powerpuff\_43 (AZ1), Priamo\_47 (A6), Priya\_45 (A9), Pukovnik\_43 (A2), Pumbaa\_45 (A4), Pumpkins\_40 (AZ1), Puppy\_47 (A3), PurpleHaze\_48 (A3), QTRlifeCrisis\_45 (A1), Qobbit\_45 (A9), QueenB2\_44 (A2), QueenBeesly\_44 (A2), Quenya\_42 (EB), QuinnKiro\_43 (A3), RER2\_29 (CA), RGL3\_31 (CA), Rachaly\_45 (A2), Rahalelujah\_44 (A9), Rajelicia\_46 (A1), Rasputin\_36 (CA), ReMo\_46 (A15), Reba\_48 (A3), Rebeuca\_44 (A10), RedRock\_46 (A2), Reedo\_40 (AZ1), Refuge\_44 (A12), Relief\_44 (A4), RemusLoopin\_36 (BB2), Remus\_47 (A15), ResDef\_45 (A3), Retro23\_45 (A2), RexFury\_36 (CA), Rhodalysa\_36 (CA), RhynO\_45 (A10), Rhynn\_44 (A1), RidgeCB\_44 (A1), Rifter\_47 (A6), Ringer\_46 (A1), Roary\_43 (A8), Rockstar\_45 (A3), Rohr\_45 (A1), Roksolana\_46 (A6), Romney\_45 (A4), Roosevelt\_44 (A4), Rosalind\_46 (A15), Rowa\_41 (BL), Rubeus\_45 (A1), Rufus\_45 (A1), Ruin\_45 (A4), Rummer\_47 (A3), Ruotula\_48 (A1), Rutherford\_47 (A1), STLscum\_46 (A1), Sabertooth\_45 (A4), Sabia\_48 (A3), Sabinator\_47 (A3), Sagefire\_48 (A1), Saintus\_38 (A8), Salz\_44 (A11), Samora\_36 (BB1), Samy\_65 (singleton), Sandaddy\_44 (A1), Sanya\_43 (A1), SarFire\_43 (A1), SaturnRing\_46 (A3), Scamp\_45 (A4), Scherzo\_45 (A9), Scorpia\_40 (A5), Scout\_45 (A3), Scowl\_45 (A1), Seabiscuit\_46 (A1), Seanderson\_47 (A1), Sebastisaurus\_36 (BB2), SemperFi\_45 (A2), Serenity\_45 (A2), Severus\_42 (A10), Shaka\_45 (A4), ShakeltOph\_47 (AZ4), Sham4\_44 (A11), Shawty\_33 (BB1), ShayRa\_48 (A15), Shayna\_42 (EB), SheaKeira\_43 (A9), Sheen\_44 (A7), SheldonCooper\_47 (A4), ShortQueendom\_39 (A1), Shuman\_36 (CA), Shygu2\_44 (A4), Sibs6\_45 (A1), Simpson\_43 (AZ1), SkiPole\_47 (A1), Skipitt\_44 (A4), Slagathor\_47 (A1), Smairt\_47 (A1), Smeadley\_43 (A8), Smeagan\_47 (A2), Smeagol\_46 (A1), SmellyB\_45 (A6), SnapTap\_44 (A2), Snape\_44 (A11), Snazzy\_42 (A1), Snek\_40 (AZ3), Snickers\_48 (A3), SoYo\_48 (A3),

SoilDragon\_48 (A3), Solon\_44 (A1), Soondubu\_37 (AZ), SororFago\_48 (A14), Sorpresa\_43 (A1), Soshari\_50 (A3), Soups\_47 (A15), Sparxx\_46 (A4), Spike509\_48 (A3), SpikeBT\_45 (A1), Spino\_44 (A4), Spouty\_43 (A9), Squee\_44 (A1), StCroix\_36 (CA), Stagni\_48 (A3), StarStuff\_47 (A2), Stasia\_44 (A4), Steamy\_41 (A12), StepMih\_48 (A3), StepHig9\_43 (A8), StewieG\_44 (A1), Stink\_45 (A4), StrongArm\_44 (A1), Strosahl\_47 (A15), Success\_19 (singleton), Sue2\_42 (AZ1), Sumter\_42 (A1), SunnyD\_45 (EB), Sunshine924\_45 (A1), SuperAwesome\_45 (A6), SuperCallie99\_45 (A6), Superchunk\_44 (A2), Swann\_36 (CA), SweetiePie\_44 (A2), SwirlSquare\_48 (A2), Swirley\_41 (A5), SwissCheese\_46 (A1), Switzer\_45 (A1), Switzerland\_47 (A15), Swole\_45 (A1), SydNat\_40 (A5), TG1\_31 (BB1), TNguyen7\_46 (A3), TWAMP\_36 (CA), Takoda\_36 (CA), Tallboi\_40 (AZ1), Taquarus\_45 (A4), Target\_45 (A1), TarsusIV\_42 (A2), Tarynearal\_37 (A5), Tasp14\_46 (A1), Taurus\_49 (A3), Tbone\_40 (AZ1), Teodoridan\_43 (A1), Texage\_43 (A3), TforTroy\_42 (AZ1), Thanksgivukkah\_44 (A4), Theia\_36 (A5), TheloniousMonk\_46 (A1), Thor\_43 (A1), Tian\_39 (AZ1), Tiffany\_48 (A3), Tiger\_37 (A5), Timothy\_45 (A11), Timshel\_43 (A7), TinaFeyge\_45 (A4), TinyTimmy\_44 (A11), Tinybot\_44 (A4), TiroTheta9\_45 (A4), Todacoro\_44 (A3), Tomathan\_47 (A2), ToneTone\_42 (A6), Topanga\_42 (A10), Topgun\_44 (A1), Tote\_40 (A1), Traft412\_45 (A1), Treddle\_46 (A1), Trike\_42 (A10), Tripi3t\_45 (A1), Trixie\_44 (A2), Trooper\_45 (A2), Trouble\_46 (A1), TroyPia\_46 (A4), Tubs\_45 (A9), Tuck\_44 (AZ1), Tucker\_46 (A6), Turab\_38 (AZ1), Turbido\_45 (A2), Turj99\_42 (A1), Tutumahutu\_42 (AZ1), Tweety19\_41 (AZ3), Twister\_42 (A10), TwoPeat\_45 (A1), TygerBlood\_45 (A4), U2\_43 (A1), Ugenie5\_42 (A9), UhSalsa\_36 (CA), Ulysses\_44 (A4), UnionJack\_39 (A5), Updawg\_45 (A2), VA6\_43 (A2), VC3\_48 (A2), VResidence\_41 (AZ1), Vanisoa\_44 (A9), Vash\_34 (BB1), Veracruz\_43 (A3), Violet\_42 (A1), Vix\_48 (A3), VohminGhazi\_45 (A6), VroomVroom\_45 (AZ4), Waits\_47 (A15), WalterMcMickey\_42 (A10), Wander\_45 (A4), Warda\_41 (AZ1), Watermelon\_46 (A1), Watson\_48 (A3), WeiHuaDA\_48 (A2), Whabigail7\_45 (A2), Wheeler\_45 (A1), WideWale\_45 (A2), Wiks\_44 (A6), Wilbur\_45 (A4), Wildwest\_40 (AZ1), Wile\_44 (A4), Wilkins\_44 (A1), Wizard007\_45 (A4), Wooldri\_50 (A3), WunderPhul\_45 (A6), Xena\_43 (A4), XianYue\_44 (A2), Yecy3\_46 (A9), YesChef\_41 (AZ1), YoSam321\_45 (A4), Yogi\_36 (CA), Yokurt\_45 (A6), Yoncess\_36 (CA), Zaka\_45 (A6), Zeeculate\_43 (A1), Zephyr\_44 (A1), Zetzy\_47 (A3), Zeuska\_44 (A1), Zimmer\_42 (A12), Zolita\_39 (A5), Zulu\_46 (A6), phiBT1\_11 (BB1), phiSASD1\_12 (BJ),

#### Start 232:

- Found in 3 of 1752 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ibantik\_18 (singleton),

#### Start 233:

- Found in 5 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bloom\_103 (FC), Mimi\_105 (FC), Patbob\_100 (FC), Racecar\_100 (FC), Talia1610\_101 (FC),

#### Start 234:

- Found in 4 of 1752 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: SJReid\_106 (FC),

Start 240:

- Found in 255 of 1752 ( 14.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Frederick\_53 (B4), Prince\_54 (B4),

Start 247:

- Found in 6 of 1752 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 6 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adat\_36 (AV), Brad\_36 (AV), Casserole\_35 (AV), GurgleFerb\_36 (AV), Jasmine\_38 (AV), Nellie\_36 (AV),

Start 260:

- Found in 1 of 1752 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shocker\_43 (singleton),

Start 265:

- Found in 18 of 1752 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 17 of 1585
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BouleyBill\_37 (EA4), Bustleton\_37 (EA4), Cheeto1\_39 (EA9), ChickenKing\_38 (EA9), GaeCeo\_39 (EA9), Golden\_37 (EA4), Guetzie\_37 (EA4), HerculesXL\_37 (EA11), Kauala\_37 (EA4), Koji\_37 (EA4), Lucky3\_37 (EA4), Pherbot\_37 (EA4), PrincePhergus\_37 (EA4), Schimmels22\_37 (EA11), Schubert\_36 (EA8), Sinatra\_37 (EA4), SirVictor\_37 (EA4), Tinyman4\_37 (EA11),

Start 266:

- Found in 131 of 1752 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 4 of 1585
- Called 3.1% of time when present
- Phage (with cluster) where this start called: Casey\_35 (EA3), Pajaza\_35 (EA3), Pikmin\_35 (EA3), WestPM\_35 (EA11),

Start 267:

- Found in 190 of 1752 ( 10.8% ) of genes in pham
- Manual Annotations of this start: 137 of 1585
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Acosta\_40 (EA1), Agente005\_39 (EA1), Alakazam\_38 (EA5), AlexAdler\_39 (EA1), Alyxandracam\_39 (EA1), Andromedas\_38 (EA2), Antoinette\_39 (EA1), AranulaLuti\_38 (EA1), Asta\_38 (EA1), Aubergine\_38 (EA1), AxiPup\_39 (EA1), Baines\_38 (EA1), Balsa\_38 (EA1), Bandik\_39 (EA1), BeautPeep30\_39 (EA1), Benjalauren\_39 (EA1), BigRedClifford\_39 (EA1), Blage\_39 (EA1), BonesMcCoy\_39 (EA1), Bonino\_38 (EA1), Byron23\_39 (EA1), Calix\_38 (EA1), CaptainRex\_37 (EA5), Carostasia\_37 (EA10), Chepli\_40 (EA6), ChikPic\_38 (EA2), Christoph\_38 (EA1), Clancy\_38 (EA1), Clock\_37 (EA5), ColaCorta\_38 (EA2), Convict\_39 (EA1), Dave\_39 (EA1), Delphidian\_40 (EA1), Den3\_39 (EA1), Dothraki\_39 (EA1), Duocatuli\_38 (EA1), Eleri\_38 (EA2), Endor\_39 (EA1), Erla\_38 (EA1), Espinosa\_38 (EA1), Etna\_38 (EA1), Etta\_38 (EA1), FarmerDoug\_38 (EA1),

Figuerismo\_39 (EA1), Finny\_38 (EA2), Fulton\_38 (EA5), GardenB\_38 (EA1), Gelo\_38 (EA1), Gershwin\_38 (EA1), Glamour\_37 (EA2), GreenIvy\_37 (EA5), Greys\_39 (EA1), Gubbabump\_38 (EA1), Hamlet\_38 (EA1), HanSolo\_38 (EA1), HankSprout\_39 (EA1), Hasitha\_37 (EA5), HungryHenry\_38 (EA1), Ilzat\_38 (EA1), Inventa\_39 (EA1), Ixel\_38 (EA11), Janus167\_38 (EA1), JasonD\_43 (EA1), JasperRussell\_38 (EA1), Jemerald\_40 (EA6), Jenos\_42 (EA1), Jerbirus\_39 (EA1), JeriBeth\_39 (EA1), Juanyo\_37 (EA10), Juicer\_40 (EA6), Kale\_38 (EA1), KannH\_38 (EA1), KatChan\_40 (EA6), KingJulien\_38 (EA1), Klimt\_38 (EA1), Knox\_39 (EA1), Kurt1\_39 (EA1), Leafus\_38 (EA1), Librie\_37 (EA5), LilTerminator\_38 (EA5), Lovelyunicorn\_39 (EA1), Ludgate\_39 (EA1), Luna18\_40 (EA6), MCubed\_38 (EA2), MaeLinda\_39 (EA1), ManRay\_38 (EA1), Mandalorian\_37 (EA10), Martin\_40 (EA1), McGalleon\_41 (EA1), Mercedes\_34 (EA), MillyPhilly\_39 (EA1), MonChoix\_37 (EA1), Morrigan\_40 (EA6), MrWorldwide\_39 (EA1), Nagem\_39 (EA1), Nattles\_38 (EA1), Nebulous\_37 (EA5), Neferthena\_38 (EA5), Nucci\_37 (EA10), Oats\_38 (EA1), OldNelly\_39 (EA1), Oxtober96\_39 (EA1), Papafritta\_38 (EA1), ParleG\_39 (EA1), Peep\_39 (EA1), Peppino\_38 (EA1), Pherferi\_39 (EA1), Phiderman\_39 (EA1), Phireproof\_39 (EA1), PhredFlintston\_39 (EA1), Phriends\_39 (EA1), Pocket\_38 (EA1), PuppyEggo\_39 (EA1), QuadZero\_37 (EA5), Quartz\_38 (EA10), Raccoon\_38 (EA1), Rapheph\_39 (EA1), Raptor\_39 (EA1), Redfield\_38 (EA1), Rihhil\_39 (EA1), Robinson\_39 (EA1), Rog141\_38 (EA1), SJay\_39 (EA1), Sansa\_37 (EA2), Saratos\_38 (EA2), Schnapsidee\_38 (EA1), Sedgewig\_38 (EA1), Shamu\_38 (EA2), Shee\_39 (EA1), SoilGremlin\_39 (EA1), Stanktossa\_39 (EA1), StingRay\_38 (EA1), SturfryIV\_39 (EA1), Stormbreaker8\_38 (EA1), Strathdee\_39 (EA1), Superfresh\_39 (EA1), Teagan\_39 (EA1), TeddyBear\_38 (EA1), Tenda\_38 (EA1), Thompsone\_39 (EA1), Thorongil\_39 (EA1), TinSulphur\_39 (EA1), Velene\_39 (EA1), Vispistious\_39 (EA1), WildNOut\_39 (EA1), WilliamStrong\_38 (EA6), Winzigespinne\_38 (EA1), YuuY\_37 (EA10), Zada\_39 (EA1), Zayuliv\_37 (EA5), Zenitsu\_38 (EA2), Zepp\_38 (EA5),

#### Start 274:

- Found in 178 of 1752 ( 10.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.1% of time when present
- Phage (with cluster) where this start called: Atuin\_96 (FC), DunneganBoMo\_92 (FC),

#### Start 275:

- Found in 129 of 1752 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 5 of 1585
- Called 5.4% of time when present
- Phage (with cluster) where this start called: BeeBee8\_39 (EA1), Garey24\_38 (EA1), Gargoyle\_39 (EA1), Ioannes\_39 (EA1), NickSell\_40 (EA1), Renzie\_39 (EA1), ShaiHulud\_39 (EA1),

#### Summary by clusters:

There are 75 clusters represented in this pham: FP, GD1, singleton, GD3, GD4, DK, BL, GD2, BJ, FC, B12, B13, BR, B11, DR, DS, A15, A14, A17, A16, A11, A10, A13, A12, A19, A18, A1, A3, A2, A5, A4, A7, A6, A9, A8, EA6, BB2, BB1, A, AB, EH, CA, EA, CD, AQ, EA8, B10, GC, AV, EA1, EA3, EA2, EA5, EA4, EB, CT, A20, EA9, EA11, EA10, GG, B8, AZ, B4, B5, B6, B7, B1, B2, B3, AZ1, AZ2, AZ3, AZ4, B9,

Info for manual annotations of cluster A:



- Start number 231 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A1:

- Start number 231 was manually annotated 201 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 231 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 231 was manually annotated 23 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 231 was manually annotated 5 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 231 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 231 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 231 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 231 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 231 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 230 was manually annotated 2 times for cluster A2.
- Start number 231 was manually annotated 99 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 231 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 231 was manually annotated 111 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 231 was manually annotated 135 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 204 was manually annotated 2 times for cluster A5.
- Start number 231 was manually annotated 35 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 210 was manually annotated 1 time for cluster A6.
- Start number 231 was manually annotated 39 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 231 was manually annotated 5 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 231 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 230 was manually annotated 2 times for cluster A9.
- Start number 231 was manually annotated 31 times for cluster A9.

Info for manual annotations of cluster AB:

- Start number 51 was manually annotated 1 time for cluster AB.
- Start number 56 was manually annotated 1 time for cluster AB.
- Start number 60 was manually annotated 1 time for cluster AB.
- Start number 74 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster AQ:

- Start number 209 was manually annotated 11 times for cluster AQ.

Info for manual annotations of cluster AV:

- Start number 247 was manually annotated 6 times for cluster AV.

Info for manual annotations of cluster AZ:

- Start number 231 was manually annotated 1 time for cluster AZ.

Info for manual annotations of cluster AZ1:

- Start number 136 was manually annotated 1 time for cluster AZ1.
- Start number 173 was manually annotated 1 time for cluster AZ1.
- Start number 231 was manually annotated 37 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 145 was manually annotated 1 time for cluster AZ2.
- Start number 231 was manually annotated 2 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 231 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 231 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster B1:

- Start number 175 was manually annotated 1 time for cluster B1.
- Start number 196 was manually annotated 252 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 180 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 183 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 182 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 216 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 188 was manually annotated 31 times for cluster B2.
- Start number 227 was manually annotated 1 time for cluster B2.

Info for manual annotations of cluster B3:

- Start number 221 was manually annotated 2 times for cluster B3.
- Start number 223 was manually annotated 42 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 164 was manually annotated 2 times for cluster B4.
- Start number 169 was manually annotated 3 times for cluster B4.
- Start number 177 was manually annotated 1 time for cluster B4.
- Start number 182 was manually annotated 16 times for cluster B4.
- Start number 184 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B5:

- Start number 182 was manually annotated 7 times for cluster B5.
- Start number 183 was manually annotated 1 time for cluster B5.

Info for manual annotations of cluster B6:

- Start number 183 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 208 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 214 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 196 was manually annotated 2 times for cluster B9.
- Start number 208 was manually annotated 2 times for cluster B9.
- Start number 212 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster BB1:

- Start number 231 was manually annotated 5 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 231 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster BJ:

- Start number 231 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster BL:

- Start number 231 was manually annotated 3 times for cluster BL.

Info for manual annotations of cluster BR:

- Start number 13 was manually annotated 1 time for cluster BR.
- Start number 34 was manually annotated 1 time for cluster BR.

Info for manual annotations of cluster CA:

- Start number 231 was manually annotated 36 times for cluster CA.

Info for manual annotations of cluster CD:

- Start number 4 was manually annotated 5 times for cluster CD.
- Start number 18 was manually annotated 1 time for cluster CD.
- Start number 161 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CT:

- Start number 33 was manually annotated 15 times for cluster CT.
- Start number 40 was manually annotated 1 time for cluster CT.
- Start number 41 was manually annotated 23 times for cluster CT.
- Start number 43 was manually annotated 11 times for cluster CT.

Info for manual annotations of cluster DK:

- Start number 226 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DR:

- Start number 216 was manually annotated 5 times for cluster DR.
- Start number 219 was manually annotated 12 times for cluster DR.
- Start number 227 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster DS:

- Start number 227 was manually annotated 1 time for cluster DS.
- Start number 228 was manually annotated 4 times for cluster DS.

Info for manual annotations of cluster EA:

- Start number 267 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EA1:

- Start number 189 was manually annotated 1 time for cluster EA1.
- Start number 214 was manually annotated 3 times for cluster EA1.
- Start number 267 was manually annotated 102 times for cluster EA1.
- Start number 275 was manually annotated 5 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 267 was manually annotated 5 times for cluster EA10.

Info for manual annotations of cluster EA11:

- Start number 265 was manually annotated 3 times for cluster EA11.
- Start number 266 was manually annotated 1 time for cluster EA11.
- Start number 267 was manually annotated 1 time for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 267 was manually annotated 11 times for cluster EA2.

Info for manual annotations of cluster EA3:

- Start number 266 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 265 was manually annotated 10 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 267 was manually annotated 10 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 267 was manually annotated 7 times for cluster EA6.

Info for manual annotations of cluster EA8:

- Start number 265 was manually annotated 1 time for cluster EA8.

Info for manual annotations of cluster EA9:

- Start number 265 was manually annotated 3 times for cluster EA9.

Info for manual annotations of cluster EB:

- Start number 220 was manually annotated 7 times for cluster EB.
- Start number 222 was manually annotated 52 times for cluster EB.
- Start number 231 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster EH:

- Start number 229 was manually annotated 7 times for cluster EH.
- Start number 230 was manually annotated 4 times for cluster EH.
- Start number 231 was manually annotated 1 time for cluster EH.

Info for manual annotations of cluster FC:

- Start number 233 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster FP:

- Start number 231 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster GC:

- Start number 197 was manually annotated 4 times for cluster GC.

Info for manual annotations of cluster GD1:

- Start number 222 was manually annotated 1 time for cluster GD1.
- Start number 231 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 222 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 222 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 222 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster GG:

- Start number 24 was manually annotated 2 times for cluster GG.

### ***Gene Information:***

Gene: 20ES\_45 Start: 31266, Stop: 29479, Start Num: 231

Candidate Starts for 20ES\_45:

(49, 31683), (Start: 231 @31266 has 845 MA's), (329, 31062), (330, 31059), (332, 31053), (337, 31038), (350, 31023), (367, 30990), (369, 30987), (378, 30960), (390, 30933), (395, 30912), (403, 30882), (434, 30780), (487, 30687), (490, 30678), (509, 30639), (513, 30630), (524, 30615), (562,

30549), (595, 30468), (613, 30420), (616, 30414), (652, 30351), (683, 30276), (700, 30195), (719, 30111), (720, 30108), (733, 30042), (742, 30003), (755, 29982), (775, 29907), (782, 29889), (786, 29877), (796, 29844), (806, 29817), (823, 29781), (834, 29763), (846, 29727), (851, 29703), (873, 29646), (877, 29625), (896, 29568), (902, 29556), (906, 29547),

Gene: 39HC\_051 Start: 52288, Stop: 50447, Start Num: 183

Candidate Starts for 39HC\_051:

(80, 52552), (84, 52537), (Start: 183 @52288 has 3 MA's), (240, 52231), (246, 52216), (330, 52042), (355, 51991), (356, 51988), (367, 51967), (386, 51916), (389, 51910), (395, 51892), (407, 51850), (410, 51847), (417, 51817), (454, 51724), (466, 51688), (471, 51676), (524, 51562), (540, 51538), (542, 51535), (645, 51304), (682, 51235), (684, 51217), (689, 51199), (701, 51142), (725, 51034), (727, 51028), (730, 51019), (744, 50956), (760, 50920), (761, 50917), (766, 50902), (790, 50824), (794, 50812), (800, 50791), (802, 50785), (817, 50752), (834, 50722), (841, 50707), (846, 50686), (851, 50662), (858, 50638), (875, 50599), (876, 50587), (877, 50584), (878, 50581), (881, 50569), (890, 50545), (912, 50473),

Gene: 40AC\_46 Start: 33055, Stop: 30977, Start Num: 95

Candidate Starts for 40AC\_46:

(95, 33055), (130, 32941), (Start: 231 @32764 has 845 MA's), (329, 32560), (332, 32551), (350, 32521), (367, 32488), (369, 32485), (378, 32458), (390, 32431), (434, 32278), (487, 32185), (490, 32176), (513, 32128), (524, 32113), (562, 32047), (613, 31918), (616, 31912), (653, 31846), (700, 31693), (711, 31642), (720, 31606), (722, 31597), (733, 31540), (742, 31501), (755, 31480), (760, 31459), (796, 31342), (847, 31222), (873, 31144), (877, 31123), (896, 31066), (902, 31054), (906, 31045),

Gene: 40BC\_051 Start: 52288, Stop: 50447, Start Num: 183

Candidate Starts for 40BC\_051:

(80, 52552), (84, 52537), (Start: 183 @52288 has 3 MA's), (240, 52231), (246, 52216), (330, 52042), (355, 51991), (356, 51988), (367, 51967), (386, 51916), (389, 51910), (395, 51892), (407, 51850), (410, 51847), (417, 51817), (454, 51724), (466, 51688), (471, 51676), (524, 51562), (540, 51538), (542, 51535), (645, 51304), (682, 51235), (684, 51217), (689, 51199), (701, 51142), (725, 51034), (727, 51028), (730, 51019), (744, 50956), (760, 50920), (761, 50917), (766, 50902), (790, 50824), (794, 50812), (800, 50791), (802, 50785), (817, 50752), (834, 50722), (841, 50707), (846, 50686), (851, 50662), (858, 50638), (875, 50599), (876, 50587), (877, 50584), (878, 50581), (881, 50569), (890, 50545), (912, 50473),

Gene: 8UZL\_44 Start: 34273, Stop: 31928, Start Num: 60

Candidate Starts for 8UZL\_44:

(Start: 40 @34339 has 1 MA's), (46, 34330), (Start: 56 @34285 has 1 MA's), (Start: 60 @34273 has 1 MA's), (Start: 74 @34234 has 1 MA's), (94, 34177), (127, 34075), (137, 34045), (159, 34015), (263, 33847), (321, 33727), (370, 33625), (397, 33544), (418, 33484), (443, 33418), (490, 33286), (524, 33238), (567, 33166), (576, 33157), (582, 33145), (622, 33076), (693, 32863), (703, 32809), (721, 32728), (726, 32695), (741, 32629), (743, 32623), (745, 32617), (746, 32611), (753, 32587), (761, 32554), (766, 32539), (768, 32530), (815, 32371), (821, 32359), (885, 32131), (893, 32104), (912, 32035),

Gene: A3Wally\_117 Start: 81842, Stop: 79962, Start Num: 222

Candidate Starts for A3Wally\_117:

(Start: 182 @81905 has 24 MA's), (218, 81851), (Start: 222 @81842 has 57 MA's), (Start: 231 @81830 has 845 MA's), (319, 81632), (330, 81605), (355, 81566), (381, 81503), (391, 81485), (397, 81458), (400, 81452), (437, 81344), (490, 81266), (498, 81245), (515, 81212), (530, 81182), (549, 81155), (576, 81095), (621, 80990), (638, 80957), (673, 80888), (676, 80879), (700, 80768), (723, 80654), (739, 80570), (744, 80555), (772, 80444), (774, 80438), (777, 80426), (783, 80411), (824,

80300), (851, 80210), (868, 80171), (871, 80159), (877, 80132), (896, 80075), (906, 80051),

Gene: A6\_41 Start: 33551, Stop: 31725, Start Num: 231

Candidate Starts for A6\_41:

(Start: 231 @33551 has 845 MA's), (332, 33338), (337, 33323), (367, 33275), (378, 33245), (388, 33224), (390, 33218), (392, 33209), (413, 33125), (415, 33116), (425, 33092), (434, 33065), (487, 32972), (492, 32957), (501, 32936), (509, 32924), (541, 32873), (543, 32870), (570, 32816), (575, 32804), (589, 32774), (598, 32744), (616, 32699), (638, 32660), (700, 32480), (709, 32432), (720, 32393), (733, 32327), (742, 32288), (755, 32267), (760, 32246), (766, 32228), (786, 32162), (846, 32012), (847, 32009), (855, 31973), (868, 31949), (870, 31940), (874, 31928), (896, 31853), (906, 31832),

Gene: ABU\_61 Start: 54532, Stop: 52673, Start Num: 196

Candidate Starts for ABU\_61:

(Start: 175 @54556 has 1 MA's), (Start: 196 @54532 has 254 MA's), (Start: 221 @54508 has 2 MA's), (Start: 227 @54502 has 3 MA's), (246, 54460), (259, 54439), (307, 54325), (311, 54319), (326, 54289), (355, 54229), (366, 54208), (386, 54154), (391, 54142), (396, 54124), (398, 54112), (431, 54007), (454, 53950), (466, 53914), (471, 53902), (483, 53875), (491, 53848), (499, 53830), (509, 53812), (533, 53773), (540, 53764), (542, 53761), (668, 53503), (695, 53401), (701, 53368), (706, 53347), (727, 53254), (730, 53245), (744, 53182), (760, 53146), (761, 53143), (766, 53128), (790, 53050), (794, 53038), (800, 53017), (817, 52978), (851, 52888), (856, 52870), (858, 52864), (868, 52849), (875, 52825), (877, 52810), (878, 52807), (881, 52795), (890, 52771), (907, 52723), (912, 52699),

Gene: ACFishhook\_47 Start: 31825, Stop: 30011, Start Num: 231

Candidate Starts for ACFishhook\_47:

(Start: 231 @31825 has 845 MA's), (248, 31786), (256, 31774), (329, 31621), (333, 31606), (367, 31549), (390, 31492), (392, 31483), (403, 31441), (415, 31390), (434, 31339), (487, 31246), (509, 31198), (524, 31174), (549, 31135), (562, 31108), (575, 31078), (610, 30985), (616, 30973), (641, 30925), (652, 30910), (700, 30754), (711, 30703), (719, 30670), (720, 30667), (733, 30601), (742, 30562), (761, 30490), (772, 30451), (780, 30427), (786, 30409), (796, 30376), (834, 30295), (851, 30235), (856, 30217), (877, 30157), (880, 30148), (896, 30100), (902, 30088), (906, 30079),

Gene: AEgle\_37 Start: 28789, Stop: 30654, Start Num: 231

Candidate Starts for AEgle\_37:

(Start: 231 @28789 has 845 MA's), (254, 28837), (329, 28993), (388, 29107), (406, 29176), (489, 29383), (492, 29392), (542, 29482), (549, 29491), (558, 29506), (562, 29518), (576, 29551), (613, 29644), (643, 29701), (674, 29782), (700, 29902), (708, 29932), (720, 29989), (731, 30046), (733, 30055), (759, 30148), (780, 30220), (783, 30229), (820, 30328), (846, 30391), (890, 30526), (896, 30550), (901, 30559), (929, 30637),

Gene: AFIS\_43 Start: 34331, Stop: 32502, Start Num: 231

Candidate Starts for AFIS\_43:

(Start: 231 @34331 has 845 MA's), (332, 34118), (367, 34055), (378, 34025), (388, 34004), (390, 33998), (392, 33989), (425, 33872), (434, 33845), (487, 33752), (492, 33737), (509, 33704), (541, 33653), (543, 33650), (570, 33596), (575, 33584), (589, 33554), (598, 33524), (616, 33479), (638, 33440), (700, 33260), (709, 33212), (722, 33164), (730, 33125), (733, 33107), (742, 33068), (755, 33047), (760, 33026), (765, 33011), (803, 32888), (818, 32855), (871, 32717), (876, 32693), (893, 32645), (896, 32633), (906, 32612), (908, 32606), (921, 32558), (928, 32543),

Gene: AGrandiflora\_42 Start: 30069, Stop: 31934, Start Num: 231

Candidate Starts for AGrandiflora\_42:

(Start: 231 @30069 has 845 MA's), (254, 30117), (300, 30207), (302, 30213), (378, 30366), (406, 30456), (489, 30663), (492, 30672), (542, 30762), (549, 30771), (558, 30786), (576, 30831), (595, 30876), (613, 30924), (643, 30981), (674, 31062), (694, 31149), (700, 31182), (708, 31212), (720, 31269), (733, 31335), (738, 31359), (759, 31428), (780, 31500), (783, 31509), (820, 31608), (846, 31671), (851, 31695), (890, 31806), (896, 31830), (901, 31839),

Gene: AN3\_45 Start: 31646, Stop: 29859, Start Num: 231

Candidate Starts for AN3\_45:

(Start: 231 @31646 has 845 MA's), (329, 31442), (330, 31439), (332, 31433), (337, 31418), (350, 31403), (367, 31370), (369, 31367), (378, 31340), (390, 31313), (395, 31292), (403, 31262), (434, 31160), (487, 31067), (490, 31058), (509, 31019), (513, 31010), (524, 30995), (562, 30929), (595, 30848), (613, 30800), (616, 30794), (683, 30656), (700, 30575), (711, 30524), (719, 30491), (720, 30488), (733, 30422), (742, 30383), (755, 30362), (775, 30287), (782, 30269), (796, 30224), (806, 30197), (823, 30161), (834, 30143), (846, 30107), (851, 30083), (873, 30026), (896, 29948), (902, 29936), (906, 29927),

Gene: AN9\_48 Start: 31569, Stop: 29770, Start Num: 231

Candidate Starts for AN9\_48:

(Start: 231 @31569 has 845 MA's), (329, 31365), (367, 31290), (369, 31287), (378, 31260), (384, 31245), (390, 31233), (403, 31182), (434, 31080), (487, 30987), (490, 30978), (509, 30939), (513, 30930), (562, 30849), (576, 30816), (589, 30789), (638, 30675), (652, 30651), (700, 30486), (709, 30438), (720, 30399), (726, 30363), (733, 30333), (742, 30294), (755, 30273), (786, 30168), (796, 30135), (823, 30072), (846, 30018), (851, 29994), (896, 29859), (902, 29847), (906, 29838),

Gene: ANI8\_48 Start: 31569, Stop: 29770, Start Num: 231

Candidate Starts for ANI8\_48:

(Start: 231 @31569 has 845 MA's), (329, 31365), (367, 31290), (369, 31287), (378, 31260), (384, 31245), (390, 31233), (403, 31182), (434, 31080), (487, 30987), (490, 30978), (509, 30939), (513, 30930), (562, 30849), (576, 30816), (589, 30789), (638, 30675), (652, 30651), (700, 30486), (709, 30438), (720, 30399), (726, 30363), (733, 30333), (742, 30294), (755, 30273), (786, 30168), (796, 30135), (823, 30072), (846, 30018), (851, 29994), (896, 29859), (902, 29847), (906, 29838),

Gene: AbbeyMikolon\_44 Start: 30256, Stop: 32121, Start Num: 231

Candidate Starts for AbbeyMikolon\_44:

(Start: 231 @30256 has 845 MA's), (254, 30304), (Start: 266 @30325 has 4 MA's), (302, 30400), (351, 30502), (377, 30559), (378, 30562), (379, 30565), (400, 30628), (403, 30640), (501, 30868), (513, 30889), (524, 30910), (549, 30949), (558, 30964), (560, 30967), (561, 30970), (578, 31015), (589, 31036), (595, 31054), (598, 31063), (613, 31102), (628, 31132), (631, 31144), (655, 31207), (688, 31324), (700, 31384), (709, 31432), (720, 31471), (724, 31501), (733, 31537), (746, 31591), (761, 31639), (780, 31702), (816, 31801), (820, 31810), (843, 31861), (858, 31921), (869, 31939), (890, 32008), (896, 32032), (908, 32059),

Gene: AbbyPaige\_46 Start: 31676, Stop: 29889, Start Num: 231

Candidate Starts for AbbyPaige\_46:

(156, 31763), (Start: 231 @31676 has 845 MA's), (330, 31469), (332, 31463), (337, 31448), (350, 31433), (369, 31397), (378, 31370), (390, 31343), (395, 31322), (434, 31190), (487, 31097), (509, 31049), (513, 31040), (524, 31025), (562, 30959), (595, 30878), (613, 30830), (616, 30824), (652, 30761), (700, 30605), (711, 30554), (719, 30521), (720, 30518), (733, 30452), (742, 30413), (755, 30392), (775, 30317), (780, 30305), (796, 30254), (823, 30191), (834, 30173), (846, 30137), (851, 30113), (877, 30035), (896, 29978), (902, 29966), (906, 29957),

Gene: AbbysRanger\_44 Start: 31536, Stop: 29707, Start Num: 231

Candidate Starts for AbbysRanger\_44:



(Start: 231 @31536 has 845 MA's), (256, 31485), (274, 31455), (350, 31293), (360, 31275), (367, 31260), (390, 31203), (392, 31194), (426, 31074), (434, 31050), (468, 31008), (487, 30957), (511, 30909), (524, 30888), (549, 30849), (570, 30804), (573, 30798), (603, 30717), (613, 30696), (638, 30651), (697, 30486), (700, 30465), (733, 30312), (742, 30273), (761, 30201), (766, 30186), (772, 30162), (777, 30144), (780, 30138), (782, 30132), (851, 29931), (896, 29796), (902, 29784), (906, 29775),

Gene: Abbysshoes\_47 Start: 34766, Stop: 32937, Start Num: 231

Candidate Starts for Abbysshoes\_47:

(Start: 231 @34766 has 845 MA's), (332, 34553), (337, 34538), (367, 34490), (378, 34460), (388, 34439), (390, 34433), (392, 34424), (425, 34307), (434, 34280), (487, 34187), (492, 34172), (541, 34088), (543, 34085), (575, 34019), (589, 33989), (598, 33959), (616, 33914), (638, 33875), (700, 33695), (709, 33647), (722, 33599), (730, 33560), (733, 33542), (742, 33503), (755, 33482), (760, 33461), (765, 33446), (803, 33323), (871, 33152), (876, 33128), (893, 33080), (896, 33068), (906, 33047), (908, 33041), (921, 32993), (928, 32978),

Gene: Abdiel\_45 Start: 31571, Stop: 29745, Start Num: 231

Candidate Starts for Abdiel\_45:

(Start: 231 @31571 has 845 MA's), (240, 31550), (256, 31520), (274, 31490), (350, 31328), (360, 31310), (390, 31238), (392, 31229), (426, 31109), (434, 31085), (487, 30992), (511, 30944), (524, 30923), (549, 30884), (603, 30752), (613, 30731), (638, 30686), (643, 30674), (697, 30521), (700, 30500), (726, 30377), (733, 30347), (742, 30308), (760, 30242), (761, 30239), (766, 30224), (772, 30200), (780, 30176), (851, 29969), (896, 29834), (902, 29822), (906, 29813),

Gene: Abigail\_42 Start: 29285, Stop: 31159, Start Num: 222

Candidate Starts for Abigail\_42:

(Start: 220 @29282 has 7 MA's), (Start: 222 @29285 has 57 MA's), (Start: 266 @29354 has 4 MA's), (279, 29375), (392, 29621), (403, 29663), (549, 29957), (651, 30191), (688, 30314), (700, 30374), (702, 30380), (711, 30425), (716, 30440), (718, 30455), (724, 30491), (733, 30527), (759, 30620), (787, 30713), (816, 30791), (846, 30863), (847, 30866), (855, 30902), (873, 30944), (876, 30962), (890, 30998), (896, 31022), (906, 31043),

Gene: Abinghost\_58 Start: 53637, Stop: 51820, Start Num: 223

Candidate Starts for Abinghost\_58:

(123, 53820), (Start: 223 @53637 has 42 MA's), (240, 53607), (332, 53427), (395, 53274), (397, 53262), (407, 53232), (412, 53226), (431, 53163), (433, 53157), (454, 53106), (466, 53070), (486, 53022), (542, 52917), (589, 52821), (610, 52770), (681, 52626), (689, 52587), (696, 52557), (701, 52530), (704, 52518), (725, 52422), (727, 52416), (730, 52407), (732, 52395), (754, 52323), (760, 52293), (766, 52275), (768, 52266), (790, 52197), (794, 52185), (800, 52164), (834, 52095), (841, 52080), (847, 52056), (851, 52035), (856, 52017), (858, 52011), (873, 51978), (875, 51972), (878, 51954), (881, 51942), (886, 51930), (890, 51918), (904, 51876), (912, 51846),

Gene: Abrogate\_440 Start: 35018, Stop: 33189, Start Num: 231

Candidate Starts for Abrogate\_440:

(Start: 231 @35018 has 845 MA's), (332, 34805), (337, 34790), (378, 34712), (388, 34691), (390, 34685), (392, 34676), (413, 34592), (425, 34559), (434, 34532), (487, 34439), (492, 34424), (501, 34403), (509, 34391), (541, 34340), (543, 34337), (575, 34271), (589, 34241), (598, 34211), (616, 34166), (638, 34127), (700, 33947), (709, 33899), (722, 33851), (730, 33812), (733, 33794), (742, 33755), (755, 33734), (760, 33713), (765, 33698), (803, 33575), (871, 33404), (876, 33380), (893, 33332), (896, 33320), (906, 33299), (908, 33293), (921, 33245), (928, 33230),

Gene: AbsoluteMadLad\_61 Start: 54486, Stop: 52627, Start Num: 196

Candidate Starts for AbsoluteMadLad\_61:

(Start: 175 @54510 has 1 MA's), (Start: 196 @54486 has 254 MA's), (Start: 221 @54462 has 2 MA's), (Start: 227 @54456 has 3 MA's), (246, 54414), (259, 54393), (307, 54279), (311, 54273), (326, 54243), (355, 54183), (366, 54162), (386, 54108), (391, 54096), (396, 54078), (398, 54066), (431, 53961), (454, 53904), (466, 53868), (471, 53856), (482, 53832), (486, 53820), (491, 53802), (499, 53784), (509, 53766), (533, 53727), (540, 53718), (542, 53715), (544, 53712), (695, 53355), (701, 53322), (706, 53301), (727, 53208), (730, 53199), (744, 53136), (760, 53100), (761, 53097), (766, 53082), (790, 53004), (794, 52992), (800, 52971), (817, 52932), (851, 52842), (856, 52824), (858, 52818), (868, 52803), (875, 52779), (877, 52764), (878, 52761), (881, 52749), (890, 52725), (907, 52677), (912, 52653),

Gene: Acadian\_58 Start: 54470, Stop: 52644, Start Num: 182

Candidate Starts for Acadian\_58:

(Start: 182 @54470 has 24 MA's), (240, 54416), (282, 54356), (331, 54245), (355, 54197), (396, 54095), (410, 54053), (421, 54017), (431, 53987), (466, 53894), (471, 53882), (482, 53858), (486, 53846), (491, 53828), (526, 53765), (542, 53741), (593, 53636), (682, 53447), (684, 53429), (689, 53411), (696, 53381), (701, 53354), (725, 53246), (727, 53240), (730, 53231), (734, 53210), (754, 53147), (761, 53114), (766, 53099), (784, 53039), (790, 53021), (794, 53009), (800, 52988), (803, 52979), (805, 52976), (851, 52859), (858, 52835), (875, 52796), (877, 52781), (878, 52778), (886, 52754), (890, 52742), (891, 52739), (908, 52691), (912, 52670),

Gene: Achebe\_43 Start: 31519, Stop: 29690, Start Num: 231

Candidate Starts for Achebe\_43:

(Start: 231 @31519 has 845 MA's), (256, 31468), (274, 31438), (350, 31276), (360, 31258), (367, 31243), (390, 31186), (392, 31177), (426, 31057), (434, 31033), (468, 30991), (487, 30940), (511, 30892), (524, 30871), (549, 30832), (570, 30787), (573, 30781), (603, 30700), (613, 30679), (638, 30634), (697, 30469), (700, 30448), (733, 30295), (742, 30256), (761, 30184), (766, 30169), (772, 30145), (777, 30127), (780, 30121), (782, 30115), (851, 29914), (896, 29779), (902, 29767), (906, 29758),

Gene: Acme\_47 Start: 34868, Stop: 33042, Start Num: 231

Candidate Starts for Acme\_47:

(Start: 231 @34868 has 845 MA's), (332, 34655), (337, 34640), (367, 34592), (378, 34562), (388, 34541), (390, 34535), (392, 34526), (425, 34409), (434, 34382), (487, 34289), (492, 34274), (509, 34241), (541, 34190), (543, 34187), (575, 34121), (589, 34091), (598, 34061), (616, 34016), (638, 33977), (700, 33797), (708, 33767), (709, 33749), (720, 33710), (733, 33644), (760, 33563), (761, 33560), (786, 33479), (846, 33329), (847, 33326), (855, 33290), (868, 33266), (870, 33257), (874, 33245), (896, 33170), (906, 33149),

Gene: Acolyte\_41 Start: 30968, Stop: 29181, Start Num: 231

Candidate Starts for Acolyte\_41:

(Start: 231 @30968 has 845 MA's), (330, 30761), (332, 30755), (337, 30740), (350, 30725), (367, 30692), (369, 30689), (378, 30662), (390, 30635), (434, 30482), (487, 30389), (490, 30380), (509, 30341), (513, 30332), (524, 30317), (562, 30251), (582, 30206), (595, 30170), (613, 30122), (700, 29897), (708, 29867), (711, 29846), (733, 29744), (755, 29684), (760, 29663), (766, 29645), (834, 29465), (846, 29429), (851, 29405), (873, 29348), (896, 29270), (902, 29258), (906, 29249),

Gene: Acosta\_40 Start: 29335, Stop: 27470, Start Num: 267

Candidate Starts for Acosta\_40:

(Start: 214 @29422 has 4 MA's), (Start: 216 @29419 has 7 MA's), (Start: 267 @29335 has 137 MA's), (Start: 275 @29326 has 5 MA's), (395, 29059), (397, 29047), (400, 29041), (494, 28759), (498, 28747), (516, 28717), (525, 28702), (527, 28696), (534, 28684), (612, 28528), (620, 28513), (634, 28468), (726, 28153), (733, 28123), (743, 28081), (768, 27994), (777, 27949), (815, 27835), (828, 27796), (847, 27736), (852, 27712), (853, 27709), (854, 27706), (863, 27673), (875, 27640), (876,

27628),

Gene: Adahisdi\_44 Start: 34346, Stop: 32520, Start Num: 231

Candidate Starts for Adahisdi\_44:

(Start: 231 @34346 has 845 MA's), (332, 34133), (337, 34118), (378, 34040), (388, 34019), (390, 34013), (392, 34004), (425, 33887), (434, 33860), (487, 33767), (492, 33752), (541, 33668), (543, 33665), (575, 33599), (589, 33569), (598, 33539), (616, 33494), (638, 33455), (700, 33275), (708, 33245), (709, 33227), (711, 33224), (720, 33188), (733, 33122), (760, 33041), (761, 33038), (786, 32957), (846, 32807), (847, 32804), (855, 32768), (868, 32744), (870, 32735), (874, 32723), (880, 32696), (896, 32648), (906, 32627),

Gene: Adat\_36 Start: 31889, Stop: 30144, Start Num: 247

Candidate Starts for Adat\_36:

(237, 31916), (Start: 247 @31889 has 6 MA's), (249, 31886), (269, 31853), (272, 31847), (311, 31754), (327, 31721), (336, 31694), (399, 31559), (437, 31430), (439, 31424), (468, 31400), (473, 31385), (486, 31358), (495, 31328), (549, 31247), (556, 31238), (581, 31178), (593, 31157), (644, 31043), (650, 31025), (743, 30647), (755, 30629), (773, 30563), (777, 30548), (855, 30329), (871, 30287), (896, 30203), (908, 30170),

Gene: Adolin\_40 Start: 27791, Stop: 29701, Start Num: 231

Candidate Starts for Adolin\_40:

(Start: 231 @27791 has 845 MA's), (254, 27839), (378, 28088), (406, 28178), (489, 28430), (492, 28439), (549, 28538), (558, 28553), (588, 28622), (613, 28691), (674, 28829), (700, 28949), (708, 28979), (714, 29012), (720, 29036), (733, 29102), (771, 29237), (780, 29267), (846, 29438), (856, 29480), (871, 29513), (896, 29597), (901, 29606), (906, 29618),

Gene: Adriana\_62 Start: 55113, Stop: 53254, Start Num: 196

Candidate Starts for Adriana\_62:

(Start: 175 @55137 has 1 MA's), (Start: 196 @55113 has 254 MA's), (Start: 221 @55089 has 2 MA's), (Start: 227 @55083 has 3 MA's), (246, 55041), (259, 55020), (307, 54906), (311, 54900), (326, 54870), (355, 54810), (366, 54789), (386, 54735), (391, 54723), (396, 54705), (398, 54693), (431, 54588), (454, 54531), (466, 54495), (471, 54483), (483, 54456), (486, 54447), (499, 54411), (533, 54354), (540, 54345), (542, 54342), (544, 54339), (695, 53982), (701, 53949), (706, 53928), (727, 53835), (730, 53826), (744, 53763), (760, 53727), (761, 53724), (766, 53709), (790, 53631), (794, 53619), (800, 53598), (817, 53559), (851, 53469), (856, 53451), (858, 53445), (868, 53430), (875, 53406), (877, 53391), (878, 53388), (881, 53376), (890, 53352), (907, 53304), (912, 53280),

Gene: Adumb2043\_38 Start: 28808, Stop: 30673, Start Num: 231

Candidate Starts for Adumb2043\_38:

(Start: 231 @28808 has 845 MA's), (254, 28856), (329, 29012), (367, 29075), (388, 29126), (406, 29195), (489, 29402), (542, 29501), (549, 29510), (558, 29525), (562, 29537), (576, 29570), (613, 29663), (643, 29720), (674, 29801), (700, 29921), (708, 29951), (720, 30008), (731, 30065), (733, 30074), (759, 30167), (780, 30239), (783, 30248), (820, 30347), (846, 30410), (890, 30545), (896, 30569), (901, 30578), (929, 30656),

Gene: Adzzy\_46 Start: 30091, Stop: 28304, Start Num: 231

Candidate Starts for Adzzy\_46:

(Start: 231 @30091 has 845 MA's), (329, 29887), (332, 29878), (367, 29815), (369, 29812), (378, 29785), (390, 29758), (395, 29737), (434, 29605), (487, 29512), (509, 29464), (562, 29374), (583, 29326), (700, 29020), (719, 28936), (720, 28933), (726, 28897), (733, 28867), (742, 28828), (755, 28807), (760, 28786), (796, 28669), (806, 28642), (823, 28606), (834, 28588), (846, 28552), (851, 28528), (896, 28393), (902, 28381), (906, 28372),

Gene: Aelin\_60 Start: 54050, Stop: 52191, Start Num: 196

Candidate Starts for Aelin\_60:

(Start: 175 @54074 has 1 MA's), (Start: 196 @54050 has 254 MA's), (Start: 221 @54026 has 2 MA's), (Start: 227 @54020 has 3 MA's), (246, 53978), (259, 53957), (307, 53843), (311, 53837), (326, 53807), (355, 53747), (366, 53726), (386, 53672), (391, 53660), (396, 53642), (398, 53630), (431, 53525), (454, 53468), (466, 53432), (471, 53420), (482, 53396), (486, 53384), (491, 53366), (499, 53348), (509, 53330), (533, 53291), (540, 53282), (542, 53279), (544, 53276), (695, 52919), (701, 52886), (706, 52865), (727, 52772), (730, 52763), (744, 52700), (760, 52664), (761, 52661), (766, 52646), (790, 52568), (794, 52556), (800, 52535), (817, 52496), (851, 52406), (856, 52388), (858, 52382), (868, 52367), (875, 52343), (877, 52328), (878, 52325), (881, 52313), (890, 52289), (907, 52241), (912, 52217),

Gene: Aeneas\_47 Start: 34971, Stop: 33184, Start Num: 231

Candidate Starts for Aeneas\_47:

(Start: 231 @34971 has 845 MA's), (332, 34758), (337, 34743), (378, 34665), (388, 34644), (390, 34638), (392, 34629), (413, 34545), (425, 34512), (434, 34485), (487, 34392), (492, 34377), (501, 34356), (509, 34344), (541, 34293), (543, 34290), (575, 34224), (589, 34194), (598, 34164), (616, 34119), (638, 34080), (700, 33900), (709, 33852), (720, 33813), (733, 33747), (758, 33675), (760, 33666), (786, 33582), (818, 33495), (868, 33369), (871, 33357), (890, 33297), (896, 33273), (899, 33267),

Gene: Agaliana\_41 Start: 31606, Stop: 29780, Start Num: 231

Candidate Starts for Agaliana\_41:

(Start: 231 @31606 has 845 MA's), (332, 31393), (337, 31378), (378, 31300), (388, 31279), (390, 31273), (392, 31264), (425, 31147), (434, 31120), (487, 31027), (492, 31012), (509, 30979), (541, 30928), (543, 30925), (575, 30859), (589, 30829), (598, 30799), (616, 30754), (638, 30715), (700, 30535), (709, 30487), (720, 30448), (733, 30382), (760, 30301), (761, 30298), (786, 30217), (842, 30082), (846, 30067), (847, 30064), (855, 30028), (868, 30004), (870, 29995), (874, 29983), (880, 29956), (896, 29908), (906, 29887),

Gene: Agape74\_46 Start: 31661, Stop: 29874, Start Num: 231

Candidate Starts for Agape74\_46:

(156, 31748), (Start: 231 @31661 has 845 MA's), (330, 31454), (332, 31448), (337, 31433), (350, 31418), (369, 31382), (378, 31355), (390, 31328), (395, 31307), (434, 31175), (487, 31082), (509, 31034), (513, 31025), (524, 31010), (562, 30944), (595, 30863), (613, 30815), (616, 30809), (652, 30746), (700, 30590), (711, 30539), (719, 30506), (720, 30503), (733, 30437), (742, 30398), (755, 30377), (775, 30302), (780, 30290), (796, 30239), (823, 30176), (834, 30158), (846, 30122), (851, 30098), (877, 30020), (896, 29963), (902, 29951), (906, 29942),

Gene: Agatha\_43 Start: 32554, Stop: 30161, Start Num: 33

Candidate Starts for Agatha\_43:

(Start: 33 @32554 has 15 MA's), (45, 32548), (Start: 56 @32500 has 1 MA's), (71, 32458), (81, 32434), (119, 32308), (127, 32284), (159, 32239), (191, 32188), (201, 32173), (Start: 214 @32152 has 4 MA's), (243, 32104), (261, 32071), (Start: 267 @32062 has 137 MA's), (303, 31987), (308, 31975), (337, 31906), (354, 31879), (357, 31873), (365, 31858), (384, 31804), (386, 31801), (393, 31783), (397, 31762), (418, 31702), (463, 31579), (465, 31573), (490, 31504), (519, 31462), (576, 31375), (588, 31351), (596, 31345), (603, 31321), (607, 31312), (614, 31297), (622, 31285), (639, 31243), (640, 31240), (642, 31237), (660, 31201), (690, 31090), (705, 31021), (706, 31015), (714, 30979), (724, 30922), (733, 30886), (741, 30850), (743, 30844), (745, 30838), (746, 30832), (761, 30775), (768, 30751), (777, 30706), (893, 30325), (908, 30280), (910, 30271), (926, 30211), (934, 30193),

Gene: AgentM\_37 Start: 30104, Stop: 28245, Start Num: 231

Candidate Starts for AgentM\_37:

(Start: 231 @30104 has 845 MA's), (256, 30053), (291, 29993), (317, 29930), (329, 29900), (330, 29897), (363, 29840), (367, 29828), (378, 29798), (390, 29771), (415, 29669), (422, 29654), (434, 29618), (475, 29558), (487, 29522), (509, 29474), (561, 29390), (562, 29384), (594, 29312), (603, 29279), (610, 29264), (616, 29252), (668, 29153), (700, 29018), (708, 28988), (709, 28970), (716, 28952), (720, 28931), (722, 28922), (733, 28865), (742, 28826), (760, 28784), (766, 28766), (780, 28718), (796, 28667), (818, 28613), (823, 28604), (834, 28586), (851, 28526), (856, 28508), (890, 28415), (896, 28391), (902, 28379), (947, 28262), (948, 28259),

Gene: Agente005\_39 Start: 29167, Stop: 27299, Start Num: 267

Candidate Starts for Agente005\_39:

(165, 29332), (Start: 193 @29287 has 1 MA's), (Start: 221 @29242 has 2 MA's), (Start: 267 @29167 has 137 MA's), (Start: 275 @29158 has 5 MA's), (393, 28900), (394, 28894), (397, 28879), (400, 28873), (463, 28687), (490, 28600), (494, 28591), (498, 28579), (513, 28552), (516, 28549), (525, 28534), (527, 28528), (534, 28516), (551, 28492), (675, 28198), (726, 27985), (729, 27976), (733, 27955), (743, 27913), (768, 27823), (777, 27778), (815, 27664), (827, 27634), (847, 27565), (852, 27541), (863, 27502), (876, 27457),

Gene: Aglet\_49 Start: 31854, Stop: 30040, Start Num: 231

Candidate Starts for Aglet\_49:

(Start: 231 @31854 has 845 MA's), (248, 31815), (256, 31803), (329, 31650), (333, 31635), (367, 31578), (390, 31521), (392, 31512), (403, 31470), (415, 31419), (434, 31368), (487, 31275), (509, 31227), (513, 31218), (524, 31203), (549, 31164), (562, 31137), (575, 31107), (610, 31014), (641, 30954), (652, 30939), (700, 30783), (720, 30696), (730, 30648), (733, 30630), (742, 30591), (761, 30519), (772, 30480), (780, 30456), (786, 30438), (796, 30405), (806, 30378), (834, 30324), (851, 30264), (877, 30186), (896, 30129), (902, 30117), (906, 30108),

Gene: AgronaGT15\_47 Start: 31705, Stop: 29891, Start Num: 231

Candidate Starts for AgronaGT15\_47:

(Start: 231 @31705 has 845 MA's), (248, 31666), (256, 31654), (329, 31501), (333, 31486), (367, 31429), (390, 31372), (392, 31363), (403, 31321), (415, 31270), (434, 31219), (472, 31165), (487, 31126), (509, 31078), (524, 31054), (549, 31015), (562, 30988), (575, 30958), (610, 30865), (616, 30853), (641, 30805), (652, 30790), (700, 30634), (711, 30583), (719, 30550), (720, 30547), (733, 30481), (742, 30442), (761, 30370), (772, 30331), (780, 30307), (786, 30289), (796, 30256), (851, 30115), (880, 30028), (896, 29980), (902, 29968), (906, 29959), (907, 29956),

Gene: Ahwei\_52 Start: 52985, Stop: 51162, Start Num: 182

Candidate Starts for Ahwei\_52:

(Start: 169 @53003 has 3 MA's), (Start: 182 @52985 has 24 MA's), (Start: 227 @52961 has 3 MA's), (240, 52934), (246, 52919), (259, 52898), (301, 52811), (351, 52706), (371, 52664), (396, 52598), (405, 52568), (407, 52559), (410, 52556), (412, 52553), (417, 52526), (454, 52433), (461, 52415), (466, 52397), (471, 52385), (480, 52370), (483, 52358), (540, 52247), (542, 52244), (561, 52214), (575, 52178), (681, 51953), (682, 51950), (689, 51914), (695, 51890), (701, 51857), (725, 51749), (727, 51743), (729, 51737), (730, 51734), (760, 51635), (761, 51632), (766, 51617), (790, 51539), (794, 51527), (800, 51506), (803, 51497), (817, 51467), (832, 51443), (844, 51410), (851, 51377), (856, 51359), (858, 51353), (875, 51314), (878, 51296), (881, 51284), (890, 51260), (904, 51218), (907, 51212), (912, 51188),

Gene: AikoCarson\_44 Start: 32796, Stop: 30409, Start Num: 41

Candidate Starts for AikoCarson\_44:

(11, 32943), (12, 32901), (19, 32868), (21, 32853), (Start: 41 @32796 has 23 MA's), (46, 32787), (48, 32781), (71, 32700), (103, 32604), (109, 32580), (119, 32553), (127, 32529), (Start: 214 @32397 has 4 MA's), (235, 32370), (241, 32355), (Start: 267 @32307 has 137 MA's), (285, 32277), (303, 32232), (308, 32220), (337, 32154), (365, 32106), (384, 32052), (393, 32031), (397, 32010), (402, 31995),

(418, 31950), (463, 31827), (486, 31767), (490, 31752), (519, 31710), (576, 31623), (588, 31599), (596, 31593), (603, 31569), (607, 31560), (639, 31491), (640, 31488), (642, 31485), (679, 31389), (690, 31338), (705, 31269), (706, 31263), (733, 31134), (741, 31098), (743, 31092), (745, 31086), (746, 31080), (753, 31056), (761, 31023), (768, 30999), (777, 30954), (847, 30741), (851, 30720), (856, 30702), (857, 30699), (893, 30573), (908, 30528), (910, 30519),

Gene: AinMach\_42 Start: 30094, Stop: 31947, Start Num: 231

Candidate Starts for AinMach\_42:

(Start: 231 @30094 has 845 MA's), (292, 30211), (302, 30238), (317, 30268), (378, 30391), (388, 30412), (549, 30775), (558, 30790), (613, 30928), (647, 30991), (655, 31012), (700, 31186), (708, 31216), (711, 31237), (720, 31273), (724, 31303), (733, 31339), (759, 31432), (818, 31609), (834, 31639), (846, 31675), (851, 31699), (875, 31762), (896, 31834), (908, 31861), (931, 31930),

Gene: Airmid\_39 Start: 30159, Stop: 28294, Start Num: 231

Candidate Starts for Airmid\_39:

(Start: 231 @30159 has 845 MA's), (291, 30048), (329, 29955), (330, 29952), (367, 29883), (378, 29853), (390, 29826), (392, 29817), (415, 29724), (422, 29709), (434, 29673), (475, 29613), (487, 29577), (505, 29532), (509, 29529), (524, 29505), (561, 29445), (594, 29367), (610, 29319), (616, 29307), (641, 29259), (668, 29208), (700, 29073), (708, 29043), (709, 29025), (720, 28986), (722, 28977), (727, 28947), (733, 28920), (734, 28917), (755, 28860), (760, 28839), (780, 28773), (796, 28722), (818, 28668), (823, 28659), (834, 28641), (856, 28563), (890, 28470), (896, 28446), (902, 28434), (939, 28329),

Gene: Ajay\_45 Start: 34664, Stop: 32835, Start Num: 231

Candidate Starts for Ajay\_45:

(Start: 231 @34664 has 845 MA's), (332, 34451), (367, 34388), (378, 34358), (388, 34337), (390, 34331), (392, 34322), (425, 34205), (434, 34178), (487, 34085), (492, 34070), (509, 34037), (541, 33986), (543, 33983), (575, 33917), (589, 33887), (598, 33857), (616, 33812), (638, 33773), (700, 33593), (709, 33545), (722, 33497), (730, 33458), (733, 33440), (742, 33401), (755, 33380), (760, 33359), (765, 33344), (803, 33221), (871, 33050), (876, 33026), (893, 32978), (896, 32966), (906, 32945), (908, 32939), (921, 32891), (928, 32876),

Gene: Akoma\_58 Start: 53685, Stop: 51868, Start Num: 223

Candidate Starts for Akoma\_58:

(123, 53868), (Start: 223 @53685 has 42 MA's), (240, 53655), (332, 53475), (379, 53370), (395, 53322), (397, 53310), (407, 53280), (412, 53274), (431, 53211), (433, 53205), (454, 53154), (466, 53118), (486, 53070), (542, 52965), (589, 52869), (610, 52818), (681, 52674), (689, 52635), (696, 52605), (701, 52578), (704, 52566), (725, 52470), (727, 52464), (730, 52455), (732, 52443), (754, 52371), (760, 52341), (766, 52323), (768, 52314), (790, 52245), (794, 52233), (800, 52212), (834, 52143), (841, 52128), (847, 52104), (851, 52083), (856, 52065), (858, 52059), (873, 52026), (875, 52020), (878, 52002), (881, 51990), (886, 51978), (890, 51966), (904, 51924), (912, 51894),

Gene: Alakazam\_38 Start: 28696, Stop: 26795, Start Num: 267

Candidate Starts for Alakazam\_38:

(Start: 267 @28696 has 137 MA's), (314, 28597), (316, 28591), (340, 28540), (342, 28537), (370, 28486), (371, 28483), (398, 28405), (430, 28312), (467, 28201), (476, 28180), (490, 28126), (492, 28120), (494, 28117), (498, 28105), (516, 28075), (527, 28054), (534, 28042), (536, 28039), (551, 28018), (620, 27871), (659, 27772), (677, 27715), (733, 27448), (741, 27412), (743, 27406), (747, 27391), (766, 27328), (768, 27319), (828, 27121), (852, 27037), (853, 27034), (855, 27025), (863, 26998),

Gene: AlanGrant\_57 Start: 55116, Stop: 53290, Start Num: 182

Candidate Starts for AlanGrant\_57:

(Start: 182 @55116 has 24 MA's), (Start: 214 @55098 has 4 MA's), (246, 55047), (259, 55026), (326, 54888), (351, 54834), (375, 54780), (396, 54726), (405, 54696), (410, 54684), (412, 54681), (454, 54561), (466, 54525), (471, 54513), (483, 54486), (533, 54384), (542, 54372), (562, 54336), (575, 54306), (590, 54273), (610, 54225), (696, 54012), (701, 53985), (725, 53877), (727, 53871), (730, 53862), (732, 53850), (744, 53799), (758, 53772), (760, 53763), (761, 53760), (762, 53757), (766, 53745), (790, 53667), (794, 53655), (800, 53634), (803, 53625), (807, 53616), (851, 53505), (856, 53487), (858, 53481), (875, 53442), (877, 53427), (881, 53412), (886, 53400), (890, 53388), (907, 53340), (912, 53316),

Gene: Alatin\_36 Start: 28180, Stop: 26396, Start Num: 231

Candidate Starts for Alatin\_36:

(Start: 231 @28180 has 845 MA's), (345, 27946), (363, 27916), (366, 27907), (367, 27904), (384, 27859), (390, 27847), (403, 27796), (434, 27694), (450, 27673), (487, 27601), (505, 27556), (509, 27553), (535, 27511), (539, 27505), (549, 27490), (562, 27463), (603, 27358), (607, 27349), (616, 27331), (619, 27328), (638, 27292), (700, 27112), (709, 27064), (733, 26959), (734, 26956), (755, 26899), (760, 26878), (798, 26755), (834, 26680), (846, 26644), (851, 26620), (877, 26542), (896, 26485), (902, 26473), (913, 26434), (917, 26416),

Gene: Albedo\_43 Start: 29891, Stop: 31765, Start Num: 222

Candidate Starts for Albedo\_43:

(Start: 220 @29888 has 7 MA's), (Start: 222 @29891 has 57 MA's), (Start: 266 @29960 has 4 MA's), (279, 29981), (392, 30227), (403, 30269), (500, 30482), (549, 30563), (651, 30797), (688, 30920), (700, 30980), (702, 30986), (711, 31031), (716, 31046), (718, 31061), (724, 31097), (733, 31133), (759, 31226), (787, 31319), (816, 31397), (846, 31469), (855, 31508), (873, 31550), (876, 31568), (896, 31628), (906, 31649),

Gene: Albee\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Albee\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Alberto7\_46 Start: 31907, Stop: 30081, Start Num: 231

Candidate Starts for Alberto7\_46:

(Start: 231 @31907 has 845 MA's), (240, 31886), (256, 31856), (274, 31826), (350, 31664), (360, 31646), (390, 31574), (392, 31565), (426, 31445), (434, 31421), (487, 31328), (511, 31280), (524, 31259), (549, 31220), (603, 31088), (613, 31067), (638, 31022), (643, 31010), (697, 30857), (700, 30836), (726, 30713), (733, 30683), (742, 30644), (760, 30578), (761, 30575), (766, 30560), (772, 30536), (780, 30512), (851, 30305), (896, 30170), (902, 30158), (906, 30149),

Gene: Albright\_40 Start: 28818, Stop: 30692, Start Num: 222

Candidate Starts for Albright\_40:

(Start: 220 @28815 has 7 MA's), (Start: 222 @28818 has 57 MA's), (Start: 266 @28887 has 4 MA's), (279, 28908), (392, 29154), (403, 29196), (500, 29409), (549, 29490), (651, 29724), (688, 29847), (700, 29907), (702, 29913), (711, 29958), (716, 29973), (718, 29988), (724, 30024), (733, 30060), (759, 30153), (787, 30246), (816, 30324), (846, 30396), (855, 30435), (873, 30477), (876, 30495), (896, 30555), (906, 30576),

Gene: AlexAdler\_39 Start: 28925, Stop: 27060, Start Num: 267

Candidate Starts for AlexAdler\_39:

(Start: 214 @29012 has 4 MA's), (Start: 267 @28925 has 137 MA's), (Start: 275 @28916 has 5 MA's),  
(321, 28811), (325, 28802), (338, 28772), (340, 28769), (395, 28649), (397, 28637), (400, 28631),  
(436, 28526), (445, 28499), (490, 28358), (492, 28352), (494, 28349), (498, 28337), (513, 28310),  
(516, 28307), (525, 28292), (527, 28286), (530, 28280), (553, 28247), (634, 28058), (726, 27743),  
(729, 27734), (730, 27731), (733, 27713), (743, 27671), (745, 27665), (751, 27641), (768, 27584),  
(815, 27425), (827, 27395), (828, 27386), (847, 27326), (852, 27302), (863, 27263), (875, 27230),  
(876, 27218), (893, 27158),

Gene: Aliter\_45 Start: 31411, Stop: 29618, Start Num: 231

Candidate Starts for Aliter\_45:

(Start: 231 @31411 has 845 MA's), (236, 31402), (256, 31360), (316, 31240), (317, 31237), (334,  
31189), (369, 31129), (379, 31099), (384, 31087), (390, 31075), (434, 30922), (487, 30829), (562,  
30691), (575, 30661), (643, 30502), (652, 30490), (671, 30463), (697, 30355), (700, 30334), (730,  
30199), (733, 30181), (760, 30100), (772, 30058), (796, 29983), (832, 29908), (846, 29866), (877,  
29764), (896, 29707), (902, 29695), (906, 29686),

Gene: Allegro\_57 Start: 52477, Stop: 50648, Start Num: 188

Candidate Starts for Allegro\_57:

(Start: 188 @52477 has 31 MA's), (Start: 227 @52450 has 3 MA's), (242, 52420), (246, 52408), (264,  
52381), (Start: 266 @52378 has 4 MA's), (274, 52369), (291, 52351), (330, 52255), (355, 52204),  
(367, 52180), (375, 52156), (417, 52018), (427, 51994), (431, 51982), (454, 51925), (466, 51889),  
(471, 51877), (482, 51853), (522, 51769), (540, 51739), (542, 51736), (561, 51706), (624, 51562),  
(652, 51496), (678, 51457), (681, 51445), (684, 51424), (689, 51406), (701, 51349), (722, 51265),  
(727, 51235), (730, 51226), (744, 51160), (758, 51133), (760, 51124), (766, 51106), (772, 51082),  
(790, 51028), (794, 51016), (800, 50995), (834, 50926), (851, 50866), (856, 50848), (871, 50815),  
(875, 50803), (877, 50788), (878, 50785), (881, 50773), (890, 50749), (891, 50746), (907, 50698),  
(908, 50695), (912, 50674), (917, 50653),

Gene: Alma\_45 Start: 31495, Stop: 29702, Start Num: 231

Candidate Starts for Alma\_45:

(Start: 231 @31495 has 845 MA's), (236, 31486), (300, 31357), (317, 31321), (329, 31291), (332,  
31282), (350, 31249), (367, 31216), (369, 31213), (379, 31183), (384, 31171), (390, 31159), (434,  
31006), (487, 30913), (562, 30775), (575, 30745), (643, 30586), (652, 30574), (671, 30547), (697,  
30439), (700, 30418), (730, 30283), (733, 30265), (760, 30184), (796, 30067), (803, 30046), (832,  
29992), (846, 29950), (851, 29926), (877, 29848), (896, 29791), (902, 29779), (906, 29770),

Gene: Alpacados\_35 Start: 28085, Stop: 26301, Start Num: 231

Candidate Starts for Alpacados\_35:

(Start: 231 @28085 has 845 MA's), (316, 27914), (345, 27851), (363, 27821), (366, 27812), (367,  
27809), (384, 27764), (390, 27752), (392, 27743), (403, 27701), (434, 27599), (450, 27578), (487,  
27506), (505, 27461), (509, 27458), (535, 27416), (539, 27410), (549, 27395), (562, 27368), (603,  
27263), (616, 27236), (638, 27197), (700, 27017), (709, 26969), (733, 26864), (734, 26861), (755,  
26804), (760, 26783), (772, 26741), (774, 26735), (798, 26660), (832, 26591), (846, 26549), (851,  
26525), (877, 26447), (896, 26390), (902, 26378), (917, 26321),

Gene: Alsfro\_48 Start: 34937, Stop: 33111, Start Num: 231

Candidate Starts for Alsfro\_48:

(Start: 231 @34937 has 845 MA's), (332, 34724), (337, 34709), (378, 34631), (388, 34610), (390,  
34604), (392, 34595), (425, 34478), (434, 34451), (487, 34358), (492, 34343), (509, 34310), (541,  
34259), (543, 34256), (575, 34190), (598, 34130), (616, 34085), (638, 34046), (700, 33866), (709,  
33818), (720, 33779), (733, 33713), (742, 33674), (755, 33653), (760, 33632), (766, 33614), (786,  
33548), (846, 33398), (847, 33395), (855, 33359), (868, 33335), (870, 33326), (874, 33314), (896,  
33239), (906, 33218),



Gene: AltPhacts\_60 Start: 53599, Stop: 51740, Start Num: 196

Candidate Starts for AltPhacts\_60:

(Start: 175 @53623 has 1 MA's), (Start: 196 @53599 has 254 MA's), (Start: 221 @53575 has 2 MA's), (Start: 227 @53569 has 3 MA's), (240, 53542), (246, 53527), (259, 53506), (307, 53392), (311, 53386), (326, 53356), (355, 53296), (366, 53275), (386, 53221), (391, 53209), (396, 53191), (398, 53179), (431, 53074), (454, 53017), (466, 52981), (471, 52969), (482, 52945), (486, 52933), (499, 52897), (533, 52840), (540, 52831), (542, 52828), (544, 52825), (695, 52468), (701, 52435), (706, 52414), (727, 52321), (730, 52312), (744, 52249), (760, 52213), (761, 52210), (766, 52195), (790, 52117), (794, 52105), (800, 52084), (817, 52045), (851, 51955), (856, 51937), (858, 51931), (868, 51916), (875, 51892), (877, 51877), (878, 51874), (881, 51862), (890, 51838), (907, 51790), (912, 51766),

Gene: Altman\_46 Start: 35175, Stop: 33349, Start Num: 231

Candidate Starts for Altman\_46:

(Start: 231 @35175 has 845 MA's), (332, 34962), (367, 34899), (378, 34869), (388, 34848), (390, 34842), (392, 34833), (425, 34716), (434, 34689), (487, 34596), (492, 34581), (541, 34497), (543, 34494), (575, 34428), (589, 34398), (598, 34368), (616, 34323), (638, 34284), (700, 34104), (709, 34056), (720, 34017), (733, 33951), (742, 33912), (755, 33891), (760, 33870), (766, 33852), (786, 33786), (846, 33636), (847, 33633), (855, 33597), (868, 33573), (870, 33564), (874, 33552), (896, 33477), (906, 33456),

Gene: Altwerkus\_58 Start: 53696, Stop: 51837, Start Num: 196

Candidate Starts for Altwerkus\_58:

(Start: 175 @53720 has 1 MA's), (Start: 196 @53696 has 254 MA's), (Start: 221 @53672 has 2 MA's), (Start: 227 @53666 has 3 MA's), (246, 53624), (259, 53603), (307, 53489), (311, 53483), (326, 53453), (355, 53393), (366, 53372), (386, 53318), (391, 53306), (396, 53288), (398, 53276), (431, 53171), (454, 53114), (466, 53078), (471, 53066), (483, 53039), (491, 53012), (499, 52994), (509, 52976), (533, 52937), (540, 52928), (542, 52925), (668, 52667), (695, 52565), (701, 52532), (706, 52511), (727, 52418), (730, 52409), (744, 52346), (760, 52310), (761, 52307), (766, 52292), (790, 52214), (794, 52202), (800, 52181), (817, 52142), (851, 52052), (856, 52034), (858, 52028), (868, 52013), (875, 51989), (877, 51974), (878, 51971), (881, 51959), (890, 51935), (907, 51887), (912, 51863),

Gene: Alvin\_44 Start: 35187, Stop: 33358, Start Num: 231

Candidate Starts for Alvin\_44:

(Start: 231 @35187 has 845 MA's), (316, 35016), (332, 34974), (337, 34959), (367, 34911), (378, 34881), (388, 34860), (390, 34854), (392, 34845), (425, 34728), (434, 34701), (487, 34608), (492, 34593), (541, 34509), (543, 34506), (575, 34440), (589, 34410), (598, 34380), (616, 34335), (638, 34296), (700, 34116), (709, 34068), (722, 34020), (730, 33981), (733, 33963), (742, 33924), (755, 33903), (760, 33882), (765, 33867), (803, 33744), (818, 33711), (871, 33573), (876, 33549), (893, 33501), (896, 33489), (906, 33468), (908, 33462), (921, 33414), (928, 33399),

Gene: Alyxandracam\_39 Start: 28935, Stop: 27070, Start Num: 267

Candidate Starts for Alyxandracam\_39:

(Start: 214 @29022 has 4 MA's), (Start: 216 @29019 has 7 MA's), (Start: 267 @28935 has 137 MA's), (Start: 275 @28926 has 5 MA's), (321, 28821), (325, 28812), (338, 28782), (340, 28779), (394, 28662), (397, 28647), (400, 28641), (436, 28536), (445, 28509), (490, 28368), (494, 28359), (498, 28347), (513, 28320), (516, 28317), (525, 28302), (527, 28296), (530, 28290), (553, 28257), (634, 28068), (726, 27753), (729, 27744), (730, 27741), (733, 27723), (743, 27681), (745, 27675), (751, 27651), (768, 27594), (815, 27435), (827, 27405), (828, 27396), (847, 27336), (852, 27312), (863, 27273), (875, 27240), (876, 27228), (893, 27168),

Gene: Amavida\_53 Start: 36664, Stop: 34496, Start Num: 209

Candidate Starts for Amavida\_53:

(207, 36667), (Start: 209 @36664 has 11 MA's), (240, 36610), (286, 36526), (337, 36373), (343, 36364), (367, 36319), (393, 36241), (395, 36232), (398, 36217), (403, 36202), (404, 36199), (417, 36142), (446, 36049), (458, 36007), (506, 35812), (514, 35800), (521, 35794), (531, 35770), (545, 35749), (559, 35728), (564, 35713), (566, 35707), (592, 35644), (607, 35593), (638, 35506), (670, 35446), (683, 35398), (707, 35296), (708, 35290), (713, 35263), (714, 35260), (719, 35239), (727, 35197), (729, 35191), (734, 35167), (740, 35125), (741, 35122), (748, 35095), (756, 35062), (759, 35050), (769, 35014), (775, 34990), (777, 34984), (780, 34978), (797, 34924), (817, 34876), (818, 34873), (840, 34813), (846, 34789), (853, 34759), (872, 34705), (875, 34696), (890, 34636), (893, 34624), (907, 34585),

Gene: Amigo\_55 Start: 36879, Stop: 34711, Start Num: 209

Candidate Starts for Amigo\_55:

(207, 36882), (Start: 209 @36879 has 11 MA's), (240, 36825), (286, 36741), (337, 36588), (343, 36579), (367, 36534), (393, 36456), (395, 36447), (398, 36432), (403, 36417), (404, 36414), (417, 36357), (446, 36264), (458, 36222), (506, 36027), (514, 36015), (521, 36009), (531, 35985), (545, 35964), (559, 35943), (564, 35928), (566, 35922), (592, 35859), (607, 35808), (638, 35721), (670, 35661), (683, 35613), (707, 35511), (708, 35505), (713, 35478), (714, 35475), (719, 35454), (727, 35412), (729, 35406), (734, 35382), (740, 35340), (741, 35337), (748, 35310), (756, 35277), (759, 35265), (769, 35229), (775, 35205), (777, 35199), (780, 35193), (797, 35139), (817, 35091), (818, 35088), (840, 35028), (846, 35004), (853, 34974), (872, 34920), (890, 34851), (893, 34839), (907, 34800),

Gene: Amok\_44 Start: 32820, Stop: 30433, Start Num: 41

Candidate Starts for Amok\_44:

(12, 32925), (19, 32892), (21, 32877), (Start: 41 @32820 has 23 MA's), (46, 32811), (48, 32805), (71, 32724), (103, 32628), (109, 32604), (119, 32577), (127, 32553), (Start: 214 @32421 has 4 MA's), (235, 32394), (241, 32379), (Start: 267 @32331 has 137 MA's), (285, 32301), (303, 32256), (308, 32244), (337, 32178), (365, 32130), (384, 32076), (393, 32055), (397, 32034), (402, 32019), (418, 31974), (463, 31851), (486, 31791), (490, 31776), (519, 31734), (576, 31647), (588, 31623), (596, 31617), (603, 31593), (607, 31584), (639, 31515), (640, 31512), (642, 31509), (679, 31413), (690, 31362), (705, 31293), (706, 31287), (733, 31158), (741, 31122), (743, 31116), (745, 31110), (746, 31104), (753, 31080), (761, 31047), (768, 31023), (777, 30978), (847, 30765), (851, 30744), (856, 30726), (857, 30723), (893, 30597), (908, 30552), (910, 30543),

Gene: Amyev\_40 Start: 30363, Stop: 32228, Start Num: 231

Candidate Starts for Amyev\_40:

(Start: 173 @30285 has 1 MA's), (Start: 231 @30363 has 845 MA's), (254, 30411), (317, 30537), (329, 30567), (348, 30594), (351, 30600), (378, 30660), (406, 30750), (489, 30957), (492, 30966), (549, 31065), (558, 31080), (613, 31218), (674, 31356), (694, 31443), (700, 31476), (714, 31539), (720, 31563), (731, 31620), (733, 31629), (759, 31722), (780, 31794), (820, 31902), (846, 31965), (851, 31989), (896, 32124), (901, 32133),

Gene: AnClar\_50 Start: 47971, Stop: 46157, Start Num: 216

Candidate Starts for AnClar\_50:

(151, 48061), (154, 48055), (Start: 216 @47971 has 7 MA's), (Start: 227 @47962 has 3 MA's), (246, 47920), (307, 47794), (330, 47752), (350, 47710), (379, 47641), (395, 47602), (397, 47590), (398, 47587), (424, 47512), (431, 47491), (466, 47398), (524, 47272), (533, 47257), (542, 47245), (586, 47155), (684, 46933), (701, 46858), (727, 46744), (730, 46735), (744, 46672), (761, 46633), (766, 46618), (790, 46540), (794, 46528), (795, 46522), (800, 46507), (803, 46498), (807, 46489), (844, 46411), (851, 46378), (852, 46375), (873, 46321), (875, 46315), (882, 46279), (890, 46255), (912, 46183),

Gene: Anansi\_54 Start: 36486, Stop: 34318, Start Num: 209

Candidate Starts for Anansi\_54:

(207, 36489), (Start: 209 @36486 has 11 MA's), (240, 36432), (286, 36348), (337, 36195), (343, 36186), (367, 36141), (393, 36063), (395, 36054), (398, 36039), (403, 36024), (404, 36021), (417, 35964), (446, 35871), (458, 35829), (506, 35634), (514, 35622), (521, 35616), (531, 35592), (545, 35571), (559, 35550), (564, 35535), (566, 35529), (592, 35466), (607, 35415), (638, 35328), (670, 35268), (683, 35220), (707, 35118), (708, 35112), (713, 35085), (714, 35082), (719, 35061), (727, 35019), (729, 35013), (734, 34989), (740, 34947), (741, 34944), (748, 34917), (756, 34884), (759, 34872), (769, 34836), (775, 34812), (777, 34806), (780, 34800), (797, 34746), (817, 34698), (818, 34695), (840, 34635), (846, 34611), (853, 34581), (872, 34527), (890, 34458), (893, 34446), (907, 34407),

Gene: AnarQue\_54 Start: 48016, Stop: 46199, Start Num: 219

Candidate Starts for AnarQue\_54:

(Start: 219 @48016 has 12 MA's), (Start: 227 @48007 has 3 MA's), (240, 47980), (245, 47968), (259, 47944), (Start: 266 @47935 has 4 MA's), (330, 47797), (347, 47761), (379, 47686), (405, 47611), (431, 47533), (454, 47476), (466, 47440), (471, 47428), (482, 47404), (526, 47311), (542, 47287), (555, 47269), (681, 46996), (689, 46957), (696, 46927), (701, 46900), (725, 46792), (727, 46786), (730, 46777), (757, 46687), (760, 46678), (761, 46675), (766, 46660), (790, 46582), (794, 46570), (795, 46564), (800, 46549), (822, 46501), (844, 46453), (851, 46420), (858, 46396), (875, 46357), (877, 46342), (890, 46297), (912, 46225),

Gene: Anaysia\_47 Start: 29967, Stop: 28177, Start Num: 231

Candidate Starts for Anaysia\_47:

(Start: 231 @29967 has 845 MA's), (317, 29793), (367, 29688), (369, 29685), (378, 29658), (390, 29631), (403, 29580), (434, 29478), (487, 29385), (505, 29340), (509, 29337), (513, 29328), (595, 29166), (603, 29139), (613, 29118), (616, 29112), (674, 29013), (683, 28974), (695, 28923), (700, 28893), (711, 28842), (719, 28809), (724, 28776), (726, 28770), (733, 28740), (755, 28680), (760, 28659), (772, 28617), (781, 28590), (786, 28575), (818, 28488), (846, 28425), (847, 28422), (896, 28266), (902, 28254), (907, 28242),

Gene: AndPeggy\_40 Start: 32151, Stop: 29764, Start Num: 41

Candidate Starts for AndPeggy\_40:

(19, 32223), (21, 32208), (Start: 41 @32151 has 23 MA's), (46, 32142), (48, 32136), (71, 32055), (109, 31935), (127, 31884), (Start: 214 @31752 has 4 MA's), (235, 31725), (285, 31632), (303, 31587), (331, 31527), (337, 31509), (365, 31461), (384, 31407), (386, 31404), (393, 31386), (397, 31365), (415, 31314), (418, 31305), (419, 31302), (449, 31227), (463, 31182), (486, 31122), (490, 31107), (551, 31023), (576, 30978), (588, 30954), (596, 30948), (603, 30924), (639, 30846), (640, 30843), (642, 30840), (690, 30693), (705, 30624), (724, 30525), (733, 30489), (741, 30453), (743, 30447), (745, 30441), (746, 30435), (753, 30411), (761, 30378), (768, 30354), (777, 30309), (795, 30249), (847, 30096), (851, 30075), (856, 30057), (857, 30054), (893, 29928), (908, 29883), (910, 29874),

Gene: Anderson\_61 Start: 54268, Stop: 52409, Start Num: 196

Candidate Starts for Anderson\_61:

(Start: 175 @54292 has 1 MA's), (Start: 196 @54268 has 254 MA's), (Start: 221 @54244 has 2 MA's), (Start: 227 @54238 has 3 MA's), (246, 54196), (259, 54175), (307, 54061), (311, 54055), (326, 54025), (355, 53965), (366, 53944), (386, 53890), (391, 53878), (396, 53860), (398, 53848), (431, 53743), (454, 53686), (466, 53650), (471, 53638), (482, 53614), (486, 53602), (491, 53584), (499, 53566), (509, 53548), (533, 53509), (540, 53500), (542, 53497), (544, 53494), (668, 53239), (695, 53137), (701, 53104), (706, 53083), (727, 52990), (730, 52981), (744, 52918), (760, 52882), (761, 52879), (766, 52864), (790, 52786), (794, 52774), (800, 52753), (817, 52714), (851, 52624), (856, 52606), (858, 52600), (868, 52585), (875, 52561), (877, 52546), (878, 52543), (881, 52531), (890,

52507), (895, 52486), (907, 52459), (912, 52435),

Gene: Andre\_63 Start: 54444, Stop: 52585, Start Num: 196

Candidate Starts for Andre\_63:

(Start: 175 @54468 has 1 MA's), (Start: 196 @54444 has 254 MA's), (Start: 221 @54420 has 2 MA's), (Start: 227 @54414 has 3 MA's), (246, 54372), (259, 54351), (307, 54237), (311, 54231), (326, 54201), (355, 54141), (366, 54120), (386, 54066), (391, 54054), (396, 54036), (398, 54024), (431, 53919), (454, 53862), (466, 53826), (471, 53814), (483, 53787), (491, 53760), (499, 53742), (509, 53724), (533, 53685), (540, 53676), (542, 53673), (695, 53313), (701, 53280), (706, 53259), (727, 53166), (730, 53157), (744, 53094), (760, 53058), (761, 53055), (766, 53040), (790, 52962), (794, 52950), (800, 52929), (817, 52890), (851, 52800), (856, 52782), (858, 52776), (868, 52761), (875, 52737), (877, 52722), (878, 52719), (881, 52707), (890, 52683), (907, 52635), (912, 52611),

Gene: Andromedas\_38 Start: 28731, Stop: 26866, Start Num: 267

Candidate Starts for Andromedas\_38:

(Start: 267 @28731 has 137 MA's), (292, 28686), (314, 28632), (342, 28572), (370, 28521), (397, 28443), (400, 28437), (415, 28392), (416, 28389), (417, 28386), (430, 28347), (453, 28287), (490, 28164), (494, 28155), (498, 28143), (507, 28131), (516, 28113), (527, 28092), (534, 28080), (620, 27909), (681, 27741), (722, 27576), (729, 27540), (733, 27519), (743, 27477), (768, 27390), (777, 27345), (811, 27246), (827, 27201), (828, 27192), (847, 27132), (852, 27108), (862, 27075), (893, 26964),

Gene: Aneem\_45 Start: 30776, Stop: 28989, Start Num: 231

Candidate Starts for Aneem\_45:

(Start: 231 @30776 has 845 MA's), (329, 30572), (367, 30500), (378, 30470), (390, 30443), (489, 30191), (513, 30140), (562, 30059), (582, 30014), (643, 29873), (672, 29831), (683, 29786), (700, 29705), (711, 29654), (720, 29618), (733, 29552), (755, 29492), (758, 29480), (789, 29378), (796, 29354), (802, 29336), (834, 29273), (844, 29246), (846, 29237), (851, 29213), (896, 29078), (902, 29066), (906, 29057),

Gene: Anglerfish\_45 Start: 34722, Stop: 32896, Start Num: 231

Candidate Starts for Anglerfish\_45:

(Start: 231 @34722 has 845 MA's), (332, 34509), (337, 34494), (367, 34446), (378, 34416), (388, 34395), (390, 34389), (392, 34380), (425, 34263), (434, 34236), (487, 34143), (492, 34128), (509, 34095), (541, 34044), (543, 34041), (575, 33975), (589, 33945), (598, 33915), (616, 33870), (638, 33831), (700, 33651), (709, 33603), (720, 33564), (733, 33498), (742, 33459), (755, 33438), (760, 33417), (766, 33399), (786, 33333), (846, 33183), (847, 33180), (855, 33144), (868, 33120), (870, 33111), (874, 33099), (880, 33072), (896, 33024), (906, 33003),

Gene: AngryOrchard\_34 Start: 28044, Stop: 26260, Start Num: 231

Candidate Starts for AngryOrchard\_34:

(Start: 231 @28044 has 845 MA's), (316, 27873), (350, 27801), (366, 27771), (367, 27768), (384, 27723), (390, 27711), (392, 27702), (403, 27660), (434, 27558), (450, 27537), (471, 27507), (487, 27465), (509, 27417), (549, 27354), (562, 27327), (603, 27222), (607, 27213), (616, 27195), (638, 27156), (700, 26976), (709, 26928), (733, 26823), (734, 26820), (755, 26763), (760, 26742), (798, 26619), (832, 26550), (846, 26508), (847, 26505), (851, 26484), (877, 26406), (896, 26349), (902, 26337), (913, 26298), (917, 26280),

Gene: AnnaL29\_46 Start: 32316, Stop: 30529, Start Num: 231

Candidate Starts for AnnaL29\_46:

(Start: 231 @32316 has 845 MA's), (329, 32112), (330, 32109), (337, 32088), (350, 32073), (367, 32040), (378, 32010), (390, 31983), (395, 31962), (403, 31932), (434, 31830), (487, 31737), (509, 31689), (513, 31680), (524, 31665), (562, 31599), (595, 31518), (613, 31470), (653, 31398), (683,

31326), (700, 31245), (711, 31194), (719, 31161), (720, 31158), (733, 31092), (742, 31053), (755, 31032), (775, 30957), (806, 30867), (823, 30831), (834, 30813), (846, 30777), (851, 30753), (873, 30696), (877, 30675), (896, 30618), (902, 30606), (906, 30597),

Gene: AnnaLie\_43 Start: 29896, Stop: 31770, Start Num: 222

Candidate Starts for AnnaLie\_43:

(Start: 220 @29893 has 7 MA's), (Start: 222 @29896 has 57 MA's), (Start: 266 @29965 has 4 MA's), (279, 29986), (392, 30232), (403, 30274), (500, 30487), (549, 30568), (651, 30802), (688, 30925), (700, 30985), (702, 30991), (711, 31036), (716, 31051), (718, 31066), (724, 31102), (733, 31138), (759, 31231), (787, 31324), (816, 31402), (846, 31474), (855, 31513), (873, 31555), (876, 31573), (890, 31609), (896, 31633), (906, 31654),

Gene: Annyong\_45 Start: 31615, Stop: 29789, Start Num: 231

Candidate Starts for Annyong\_45:

(Start: 231 @31615 has 845 MA's), (240, 31594), (256, 31564), (274, 31534), (350, 31372), (360, 31354), (367, 31339), (390, 31282), (392, 31273), (426, 31153), (434, 31129), (487, 31036), (511, 30988), (524, 30967), (549, 30928), (603, 30796), (613, 30775), (638, 30730), (643, 30718), (697, 30565), (700, 30544), (726, 30421), (733, 30391), (742, 30352), (760, 30286), (761, 30283), (766, 30268), (772, 30244), (780, 30220), (851, 30013), (896, 29878), (902, 29866), (906, 29857),

Gene: Anon\_42 Start: 29008, Stop: 27218, Start Num: 231

Candidate Starts for Anon\_42:

(Start: 231 @29008 has 845 MA's), (367, 28729), (369, 28726), (390, 28672), (403, 28621), (434, 28519), (487, 28426), (505, 28381), (509, 28378), (513, 28369), (570, 28270), (595, 28207), (603, 28180), (638, 28114), (683, 28015), (697, 27955), (700, 27934), (711, 27883), (716, 27868), (720, 27847), (722, 27838), (730, 27799), (733, 27781), (760, 27700), (766, 27682), (834, 27502), (844, 27475), (877, 27364), (896, 27307), (902, 27295), (907, 27283),

Gene: Anselm\_45 Start: 31702, Stop: 29915, Start Num: 231

Candidate Starts for Anselm\_45:

(Start: 231 @31702 has 845 MA's), (329, 31498), (330, 31495), (337, 31474), (350, 31459), (363, 31438), (367, 31426), (369, 31423), (378, 31396), (390, 31369), (395, 31348), (434, 31216), (487, 31123), (509, 31075), (513, 31066), (524, 31051), (562, 30985), (595, 30904), (613, 30856), (652, 30787), (683, 30712), (700, 30631), (711, 30580), (720, 30544), (733, 30478), (742, 30439), (755, 30418), (775, 30343), (786, 30313), (796, 30280), (806, 30253), (823, 30217), (832, 30205), (834, 30199), (846, 30163), (851, 30139), (877, 30061), (896, 30004), (902, 29992), (906, 29983),

Gene: Anthony\_39 Start: 28917, Stop: 27130, Start Num: 231

Candidate Starts for Anthony\_39:

(Start: 231 @28917 has 845 MA's), (350, 28671), (384, 28593), (390, 28581), (392, 28572), (434, 28428), (487, 28335), (502, 28296), (505, 28290), (509, 28287), (524, 28263), (575, 28167), (587, 28143), (603, 28092), (610, 28077), (616, 28065), (685, 27915), (697, 27867), (700, 27846), (709, 27798), (719, 27762), (733, 27693), (796, 27495), (798, 27489), (818, 27441), (834, 27414), (844, 27387), (877, 27276), (896, 27219), (902, 27207), (906, 27198),

Gene: Antoinette\_39 Start: 28922, Stop: 27057, Start Num: 267

Candidate Starts for Antoinette\_39:

(Start: 214 @29009 has 4 MA's), (Start: 216 @29006 has 7 MA's), (Start: 267 @28922 has 137 MA's), (Start: 275 @28913 has 5 MA's), (321, 28808), (325, 28799), (338, 28769), (340, 28766), (395, 28646), (397, 28634), (400, 28628), (436, 28523), (445, 28496), (490, 28355), (492, 28349), (494, 28346), (498, 28334), (513, 28307), (516, 28304), (525, 28289), (527, 28283), (530, 28277), (553, 28244), (612, 28115), (634, 28055), (690, 27890), (726, 27740), (729, 27731), (730, 27728), (733, 27710), (743, 27668), (745, 27662), (747, 27653), (751, 27638), (768, 27581), (815, 27422), (827,

27392), (828, 27383), (847, 27323), (852, 27299), (863, 27260), (875, 27227), (876, 27215), (893, 27155),

Gene: Antonia\_60 Start: 54050, Stop: 52191, Start Num: 196

Candidate Starts for Antonia\_60:

(Start: 175 @54074 has 1 MA's), (Start: 196 @54050 has 254 MA's), (Start: 221 @54026 has 2 MA's), (Start: 227 @54020 has 3 MA's), (246, 53978), (259, 53957), (307, 53843), (311, 53837), (326, 53807), (355, 53747), (366, 53726), (386, 53672), (391, 53660), (396, 53642), (398, 53630), (431, 53525), (454, 53468), (466, 53432), (471, 53420), (482, 53396), (486, 53384), (491, 53366), (499, 53348), (509, 53330), (533, 53291), (540, 53282), (542, 53279), (544, 53276), (695, 52919), (701, 52886), (706, 52865), (727, 52772), (730, 52763), (744, 52700), (760, 52664), (761, 52661), (766, 52646), (790, 52568), (794, 52556), (800, 52535), (817, 52496), (851, 52406), (856, 52388), (858, 52382), (868, 52367), (875, 52343), (877, 52328), (878, 52325), (881, 52313), (890, 52289), (907, 52241), (912, 52217),

Gene: Anubis\_51 Start: 31739, Stop: 29925, Start Num: 231

Candidate Starts for Anubis\_51:

(Start: 231 @31739 has 845 MA's), (248, 31700), (256, 31688), (329, 31535), (333, 31520), (367, 31463), (390, 31406), (392, 31397), (403, 31355), (415, 31304), (434, 31253), (487, 31160), (509, 31112), (513, 31103), (524, 31088), (549, 31049), (562, 31022), (575, 30992), (610, 30899), (641, 30839), (652, 30824), (700, 30668), (720, 30581), (733, 30515), (742, 30476), (761, 30404), (772, 30365), (780, 30341), (786, 30323), (796, 30290), (806, 30263), (834, 30209), (851, 30149), (877, 30071), (896, 30014), (902, 30002), (906, 29993),

Gene: Apex\_54 Start: 54199, Stop: 52376, Start Num: 182

Candidate Starts for Apex\_54:

(Start: 169 @54217 has 3 MA's), (Start: 182 @54199 has 24 MA's), (Start: 227 @54175 has 3 MA's), (240, 54148), (246, 54133), (259, 54112), (301, 54025), (351, 53920), (371, 53878), (396, 53812), (405, 53782), (407, 53773), (410, 53770), (412, 53767), (417, 53740), (454, 53647), (461, 53629), (466, 53611), (471, 53599), (480, 53584), (483, 53572), (509, 53509), (533, 53470), (540, 53461), (542, 53458), (561, 53428), (575, 53392), (681, 53167), (682, 53164), (689, 53128), (695, 53104), (701, 53071), (725, 52963), (727, 52957), (730, 52948), (760, 52849), (761, 52846), (766, 52831), (790, 52753), (794, 52741), (800, 52720), (803, 52711), (817, 52681), (844, 52624), (851, 52591), (858, 52567), (875, 52528), (878, 52510), (881, 52498), (890, 52474), (904, 52432), (907, 52426), (912, 52402),

Gene: Apizium\_60 Start: 53711, Stop: 51852, Start Num: 196

Candidate Starts for Apizium\_60:

(Start: 175 @53735 has 1 MA's), (Start: 196 @53711 has 254 MA's), (Start: 221 @53687 has 2 MA's), (Start: 227 @53681 has 3 MA's), (246, 53639), (259, 53618), (307, 53504), (311, 53498), (326, 53468), (355, 53408), (366, 53387), (386, 53333), (391, 53321), (396, 53303), (398, 53291), (431, 53186), (454, 53129), (466, 53093), (471, 53081), (483, 53054), (486, 53045), (499, 53009), (533, 52952), (540, 52943), (542, 52940), (544, 52937), (668, 52682), (695, 52580), (701, 52547), (706, 52526), (727, 52433), (730, 52424), (744, 52361), (760, 52325), (761, 52322), (766, 52307), (790, 52229), (794, 52217), (800, 52196), (817, 52157), (851, 52067), (856, 52049), (858, 52043), (868, 52028), (875, 52004), (877, 51989), (878, 51986), (881, 51974), (890, 51950), (895, 51929), (907, 51902), (912, 51878),

Gene: AppleCloud\_34 Start: 28055, Stop: 26271, Start Num: 231

Candidate Starts for AppleCloud\_34:

(Start: 231 @28055 has 845 MA's), (316, 27884), (345, 27821), (366, 27782), (367, 27779), (384, 27734), (390, 27722), (392, 27713), (402, 27674), (434, 27569), (487, 27476), (509, 27428), (549, 27365), (562, 27338), (603, 27233), (616, 27206), (638, 27167), (700, 26987), (709, 26939), (733,

26834), (734, 26831), (755, 26774), (760, 26753), (774, 26705), (798, 26630), (832, 26561), (846, 26519), (847, 26516), (851, 26495), (855, 26480), (877, 26417), (896, 26360), (902, 26348), (913, 26309), (917, 26291),

Gene: Applejack\_40 Start: 31240, Stop: 29414, Start Num: 231

Candidate Starts for Applejack\_40:

(Start: 231 @31240 has 845 MA's), (332, 31027), (378, 30934), (388, 30913), (390, 30907), (392, 30898), (425, 30781), (434, 30754), (487, 30661), (492, 30646), (509, 30613), (541, 30562), (543, 30559), (575, 30493), (589, 30463), (598, 30433), (616, 30388), (638, 30349), (700, 30169), (709, 30121), (720, 30082), (733, 30016), (742, 29977), (755, 29956), (760, 29935), (766, 29917), (786, 29851), (846, 29701), (847, 29698), (855, 29662), (868, 29638), (870, 29629), (874, 29617), (880, 29590), (896, 29542), (906, 29521),

Gene: Aragog\_37 Start: 30134, Stop: 28275, Start Num: 231

Candidate Starts for Aragog\_37:

(Start: 231 @30134 has 845 MA's), (256, 30083), (291, 30023), (317, 29960), (329, 29930), (330, 29927), (363, 29870), (367, 29858), (378, 29828), (390, 29801), (434, 29648), (487, 29552), (509, 29504), (523, 29483), (561, 29420), (562, 29414), (594, 29342), (603, 29309), (610, 29294), (616, 29282), (668, 29183), (700, 29048), (708, 29018), (709, 29000), (716, 28982), (720, 28961), (722, 28952), (733, 28895), (742, 28856), (760, 28814), (766, 28796), (780, 28748), (796, 28697), (818, 28643), (823, 28634), (834, 28616), (851, 28556), (856, 28538), (890, 28445), (896, 28421), (902, 28409), (947, 28292), (948, 28289),

Gene: AranulaLuti\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for AranulaLuti\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: Arbiter\_56 Start: 52589, Stop: 50760, Start Num: 188

Candidate Starts for Arbiter\_56:

(Start: 188 @52589 has 31 MA's), (Start: 227 @52562 has 3 MA's), (242, 52532), (246, 52520), (264, 52493), (Start: 266 @52490 has 4 MA's), (274, 52481), (291, 52463), (330, 52367), (355, 52316), (367, 52292), (417, 52130), (427, 52106), (431, 52094), (454, 52037), (466, 52001), (471, 51989), (482, 51965), (522, 51881), (540, 51851), (542, 51848), (561, 51818), (624, 51674), (652, 51608), (681, 51557), (684, 51536), (689, 51518), (701, 51461), (717, 51404), (722, 51377), (727, 51347), (730, 51338), (744, 51272), (758, 51245), (760, 51236), (766, 51218), (772, 51194), (790, 51140), (794, 51128), (800, 51107), (834, 51038), (851, 50978), (856, 50960), (871, 50927), (875, 50915), (877, 50900), (878, 50897), (881, 50885), (890, 50861), (891, 50858), (907, 50810), (908, 50807), (912, 50786), (917, 50765),

Gene: Arcanine\_46 Start: 34538, Stop: 32751, Start Num: 231

Candidate Starts for Arcanine\_46:

(Start: 231 @34538 has 845 MA's), (332, 34325), (337, 34310), (378, 34232), (388, 34211), (390, 34205), (392, 34196), (425, 34079), (434, 34052), (487, 33959), (492, 33944), (509, 33911), (541, 33860), (543, 33857), (575, 33791), (589, 33761), (598, 33731), (616, 33686), (638, 33647), (700, 33467), (709, 33419), (720, 33380), (733, 33314), (758, 33242), (760, 33233), (786, 33149), (818, 33062), (868, 32936), (871, 32924), (896, 32840), (899, 32834),

Gene: ArcherNM\_42 Start: 31769, Stop: 29982, Start Num: 231

Candidate Starts for ArcherNM\_42:

(Start: 231 @31769 has 845 MA's), (329, 31565), (330, 31562), (332, 31556), (337, 31541), (350, 31526), (367, 31493), (369, 31490), (378, 31463), (390, 31436), (395, 31415), (403, 31385), (434, 31283), (487, 31190), (509, 31142), (513, 31133), (524, 31118), (562, 31052), (595, 30971), (613, 30923), (616, 30917), (683, 30779), (700, 30698), (711, 30647), (719, 30614), (720, 30611), (733, 30545), (742, 30506), (755, 30485), (775, 30410), (796, 30347), (806, 30320), (823, 30284), (834, 30266), (846, 30230), (851, 30206), (873, 30149), (877, 30128), (896, 30071), (902, 30059), (906, 30050),

Gene: Archetta\_38 Start: 30664, Stop: 28820, Start Num: 231

Candidate Starts for Archetta\_38:

(Start: 231 @30664 has 845 MA's), (256, 30613), (291, 30553), (317, 30490), (329, 30460), (330, 30457), (363, 30400), (367, 30388), (378, 30358), (390, 30331), (415, 30229), (422, 30214), (434, 30178), (475, 30118), (487, 30082), (509, 30034), (561, 29950), (562, 29944), (594, 29872), (603, 29839), (610, 29824), (616, 29812), (668, 29713), (700, 29578), (708, 29548), (709, 29530), (711, 29527), (720, 29491), (722, 29482), (724, 29461), (727, 29452), (733, 29425), (734, 29422), (755, 29365), (760, 29344), (796, 29227), (818, 29173), (823, 29164), (834, 29146), (856, 29068), (876, 29011), (890, 28975), (896, 28951), (902, 28939),

Gene: Ares\_57 Start: 52561, Stop: 50732, Start Num: 188

Candidate Starts for Ares\_57:

(Start: 188 @52561 has 31 MA's), (Start: 227 @52534 has 3 MA's), (242, 52504), (246, 52492), (264, 52465), (Start: 266 @52462 has 4 MA's), (274, 52453), (291, 52435), (330, 52339), (355, 52288), (367, 52264), (375, 52240), (417, 52102), (427, 52078), (431, 52066), (454, 52009), (466, 51973), (471, 51961), (482, 51937), (522, 51853), (540, 51823), (542, 51820), (561, 51790), (624, 51646), (652, 51580), (678, 51541), (681, 51529), (684, 51508), (689, 51490), (701, 51433), (717, 51376), (722, 51349), (727, 51319), (730, 51310), (744, 51244), (758, 51217), (760, 51208), (766, 51190), (772, 51166), (790, 51112), (794, 51100), (800, 51079), (834, 51010), (851, 50950), (856, 50932), (871, 50899), (875, 50887), (877, 50872), (878, 50869), (881, 50857), (890, 50833), (891, 50830), (907, 50782), (908, 50779), (912, 50758), (917, 50737),

Gene: Arissanae\_44 Start: 32041, Stop: 30248, Start Num: 231

Candidate Starts for Arissanae\_44:

(Start: 231 @32041 has 845 MA's), (236, 32032), (300, 31903), (329, 31837), (334, 31819), (350, 31795), (369, 31759), (378, 31732), (384, 31717), (390, 31705), (403, 31654), (433, 31555), (434, 31552), (487, 31459), (495, 31435), (575, 31291), (611, 31195), (643, 31132), (671, 31093), (673, 31087), (700, 30964), (726, 30841), (733, 30811), (742, 30772), (758, 30739), (760, 30730), (766, 30712), (796, 30613), (823, 30550), (832, 30538), (844, 30505), (846, 30496), (877, 30394), (896, 30337), (902, 30325), (906, 30316),

Gene: Arlo\_42 Start: 34069, Stop: 32243, Start Num: 231

Candidate Starts for Arlo\_42:

(Start: 231 @34069 has 845 MA's), (332, 33856), (367, 33793), (378, 33763), (388, 33742), (390, 33736), (392, 33727), (425, 33610), (434, 33583), (487, 33490), (492, 33475), (541, 33391), (543, 33388), (575, 33322), (589, 33292), (598, 33262), (616, 33217), (638, 33178), (700, 32998), (709, 32950), (720, 32911), (733, 32845), (742, 32806), (755, 32785), (760, 32764), (766, 32746), (786, 32680), (846, 32530), (847, 32527), (855, 32491), (868, 32467), (870, 32458), (874, 32446), (896, 32371), (906, 32350),

Gene: Armstrong\_40 Start: 27439, Stop: 29307, Start Num: 220

Candidate Starts for Armstrong\_40:



(Start: 220 @27439 has 7 MA's), (Start: 222 @27442 has 57 MA's), (225, 27445), (Start: 266 @27514 has 4 MA's), (396, 27796), (403, 27823), (422, 27877), (502, 28042), (549, 28117), (561, 28138), (688, 28492), (700, 28552), (711, 28603), (724, 28669), (733, 28705), (759, 28798), (816, 28969), (846, 29041), (873, 29122), (895, 29197), (896, 29200), (906, 29221), (930, 29290),

Gene: Arroyo\_43 Start: 30004, Stop: 31878, Start Num: 222

Candidate Starts for Arroyo\_43:

(Start: 222 @30004 has 57 MA's), (Start: 266 @30073 has 4 MA's), (279, 30094), (392, 30340), (396, 30355), (403, 30382), (549, 30676), (603, 30811), (651, 30910), (688, 31033), (700, 31093), (702, 31099), (711, 31144), (716, 31159), (718, 31174), (724, 31210), (733, 31246), (759, 31339), (787, 31432), (816, 31510), (846, 31582), (855, 31621), (873, 31663), (876, 31681), (890, 31717), (896, 31741), (906, 31762),

Gene: Artemis2UCLA\_45 Start: 29324, Stop: 27483, Start Num: 231

Candidate Starts for Artemis2UCLA\_45:

(Start: 210 @29354 has 1 MA's), (Start: 231 @29324 has 845 MA's), (329, 29120), (367, 29045), (369, 29042), (378, 29015), (384, 29000), (390, 28988), (403, 28937), (430, 28847), (434, 28835), (487, 28742), (502, 28703), (513, 28685), (524, 28670), (562, 28604), (576, 28571), (577, 28568), (619, 28466), (652, 28406), (683, 28322), (700, 28241), (719, 28157), (720, 28154), (722, 28145), (726, 28118), (733, 28088), (755, 28028), (766, 27989), (846, 27773), (847, 27770), (851, 27749), (896, 27614), (902, 27602), (906, 27593), (907, 27590), (939, 27497),

Gene: Arturo\_44 Start: 31826, Stop: 30000, Start Num: 231

Candidate Starts for Arturo\_44:

(Start: 231 @31826 has 845 MA's), (240, 31805), (256, 31775), (274, 31745), (350, 31583), (360, 31565), (390, 31493), (392, 31484), (426, 31364), (434, 31340), (487, 31247), (511, 31199), (549, 31139), (603, 31007), (613, 30986), (638, 30941), (643, 30929), (697, 30776), (700, 30755), (726, 30632), (733, 30602), (742, 30563), (760, 30497), (761, 30494), (766, 30479), (772, 30455), (780, 30431), (851, 30224), (896, 30089), (902, 30077), (906, 30068),

Gene: Asa16\_39 Start: 30354, Stop: 32219, Start Num: 231

Candidate Starts for Asa16\_39:

(Start: 231 @30354 has 845 MA's), (254, 30402), (348, 30585), (351, 30591), (378, 30651), (388, 30672), (406, 30741), (492, 30957), (542, 31047), (549, 31056), (558, 31071), (576, 31116), (613, 31209), (674, 31347), (700, 31467), (708, 31497), (720, 31554), (731, 31611), (733, 31620), (738, 31644), (759, 31713), (780, 31785), (783, 31794), (820, 31893), (846, 31956), (896, 32115), (901, 32124),

Gene: Ascela\_41 Start: 29607, Stop: 31472, Start Num: 231

Candidate Starts for Ascela\_41:

(Start: 231 @29607 has 845 MA's), (254, 29655), (332, 29820), (378, 29904), (406, 29994), (489, 30201), (492, 30210), (542, 30300), (549, 30309), (558, 30324), (613, 30462), (674, 30600), (700, 30720), (708, 30750), (720, 30807), (733, 30873), (759, 30966), (780, 31038), (896, 31368), (901, 31377),

Gene: Ashballer\_46 Start: 35324, Stop: 33498, Start Num: 231

Candidate Starts for Ashballer\_46:

(Start: 231 @35324 has 845 MA's), (332, 35111), (337, 35096), (378, 35018), (388, 34997), (390, 34991), (392, 34982), (425, 34865), (434, 34838), (487, 34745), (492, 34730), (509, 34697), (541, 34646), (543, 34643), (575, 34577), (589, 34547), (598, 34517), (616, 34472), (638, 34433), (700, 34253), (709, 34205), (720, 34166), (733, 34100), (742, 34061), (755, 34040), (760, 34019), (766, 34001), (786, 33935), (846, 33785), (847, 33782), (855, 33746), (868, 33722), (870, 33713), (874, 33701), (880, 33674), (896, 33626), (906, 33605),

Gene: Ashraf\_62 Start: 54257, Stop: 52398, Start Num: 196

Candidate Starts for Ashraf\_62:

(Start: 175 @54281 has 1 MA's), (Start: 196 @54257 has 254 MA's), (Start: 221 @54233 has 2 MA's), (Start: 227 @54227 has 3 MA's), (246, 54185), (259, 54164), (307, 54050), (311, 54044), (326, 54014), (355, 53954), (366, 53933), (386, 53879), (391, 53867), (396, 53849), (398, 53837), (431, 53732), (454, 53675), (466, 53639), (471, 53627), (482, 53603), (486, 53591), (491, 53573), (499, 53555), (509, 53537), (533, 53498), (540, 53489), (542, 53486), (544, 53483), (668, 53228), (695, 53126), (701, 53093), (706, 53072), (727, 52979), (730, 52970), (744, 52907), (760, 52871), (761, 52868), (766, 52853), (790, 52775), (794, 52763), (800, 52742), (817, 52703), (851, 52613), (856, 52595), (858, 52589), (868, 52574), (875, 52550), (877, 52535), (878, 52532), (881, 52520), (890, 52496), (895, 52475), (907, 52448), (912, 52424),

Gene: Asta\_38 Start: 28632, Stop: 26767, Start Num: 267

Candidate Starts for Asta\_38:

(Start: 214 @28719 has 4 MA's), (Start: 267 @28632 has 137 MA's), (Start: 275 @28623 has 5 MA's), (321, 28518), (325, 28509), (338, 28479), (340, 28476), (395, 28356), (397, 28344), (400, 28338), (436, 28233), (445, 28206), (490, 28065), (492, 28059), (494, 28056), (498, 28044), (513, 28017), (516, 28014), (525, 27999), (527, 27993), (530, 27987), (553, 27954), (612, 27825), (634, 27765), (726, 27450), (729, 27441), (730, 27438), (733, 27420), (743, 27378), (745, 27372), (751, 27348), (768, 27291), (815, 27132), (827, 27102), (828, 27093), (847, 27033), (852, 27009), (863, 26970), (875, 26937), (876, 26925), (893, 26865),

Gene: Astro\_42 Start: 30542, Stop: 28698, Start Num: 231

Candidate Starts for Astro\_42:

(134, 30707), (Start: 231 @30542 has 845 MA's), (256, 30491), (317, 30368), (329, 30338), (350, 30299), (367, 30266), (378, 30236), (388, 30215), (390, 30209), (392, 30200), (403, 30158), (415, 30107), (433, 30059), (434, 30056), (487, 29960), (497, 29933), (505, 29915), (509, 29912), (513, 29903), (549, 29849), (562, 29822), (583, 29774), (603, 29717), (616, 29690), (643, 29639), (653, 29624), (697, 29477), (700, 29456), (708, 29426), (709, 29408), (711, 29405), (716, 29390), (720, 29369), (722, 29360), (726, 29333), (730, 29321), (733, 29303), (760, 29222), (764, 29210), (780, 29156), (792, 29120), (803, 29084), (818, 29051), (832, 29030), (834, 29024), (847, 28985), (851, 28964), (856, 28946), (896, 28829), (902, 28817),

Gene: Athena\_60 Start: 54420, Stop: 52603, Start Num: 223

Candidate Starts for Athena\_60:

(123, 54603), (Start: 223 @54420 has 42 MA's), (240, 54390), (332, 54210), (395, 54057), (397, 54045), (407, 54015), (412, 54009), (431, 53946), (433, 53940), (454, 53889), (466, 53853), (486, 53805), (542, 53700), (589, 53604), (610, 53553), (681, 53409), (689, 53370), (696, 53340), (701, 53313), (704, 53301), (725, 53205), (727, 53199), (730, 53190), (732, 53178), (754, 53106), (760, 53076), (766, 53058), (768, 53049), (790, 52980), (794, 52968), (800, 52947), (834, 52878), (841, 52863), (847, 52839), (851, 52818), (858, 52794), (875, 52755), (878, 52737), (881, 52725), (886, 52713), (890, 52701), (904, 52659), (912, 52629),

Gene: Atkinbua\_46 Start: 34825, Stop: 32999, Start Num: 231

Candidate Starts for Atkinbua\_46:

(Start: 231 @34825 has 845 MA's), (332, 34612), (378, 34519), (388, 34498), (390, 34492), (392, 34483), (425, 34366), (434, 34339), (487, 34246), (492, 34231), (541, 34147), (543, 34144), (575, 34078), (589, 34048), (598, 34018), (616, 33973), (638, 33934), (700, 33754), (709, 33706), (720, 33667), (733, 33601), (742, 33562), (755, 33541), (760, 33520), (766, 33502), (786, 33436), (846, 33286), (847, 33283), (855, 33247), (870, 33214), (874, 33202), (896, 33127), (906, 33106),

Gene: Attoomi\_34 Start: 26889, Stop: 28748, Start Num: 231

Candidate Starts for Attoomi\_34:

(200, 26838), (Start: 231 @26889 has 845 MA's), (330, 27099), (337, 27120), (355, 27144), (386, 27216), (392, 27234), (395, 27246), (411, 27306), (422, 27342), (436, 27384), (489, 27474), (505, 27513), (524, 27546), (537, 27567), (549, 27585), (558, 27600), (562, 27612), (572, 27633), (589, 27672), (595, 27690), (598, 27699), (603, 27717), (604, 27720), (613, 27738), (638, 27783), (647, 27801), (649, 27807), (651, 27816), (668, 27861), (684, 27924), (685, 27927), (702, 28002), (718, 28077), (722, 28092), (723, 28107), (725, 28116), (733, 28149), (746, 28203), (780, 28314), (783, 28323), (832, 28443), (844, 28476), (852, 28512), (893, 28632), (896, 28644), (899, 28650), (935, 28740),

Gene: Atuin\_96 Start: 78424, Stop: 80142, Start Num: 274

Candidate Starts for Atuin\_96:

(234, 78349), (259, 78403), (Start: 266 @78412 has 4 MA's), (274, 78424), (381, 78643), (391, 78661), (397, 78688), (400, 78694), (437, 78799), (530, 78946), (549, 78973), (558, 78988), (579, 79042), (673, 79243), (680, 79270), (687, 79303), (697, 79342), (700, 79363), (702, 79369), (724, 79486), (741, 79570), (742, 79573), (759, 79636), (762, 79648), (772, 79684), (783, 79717), (800, 79771), (807, 79789), (846, 79894), (852, 79921), (856, 79936), (871, 79969), (873, 79975), (876, 79993), (880, 80005), (884, 80017), (885, 80020), (896, 80053), (914, 80104),

Gene: Aubergine\_38 Start: 28632, Stop: 26767, Start Num: 267

Candidate Starts for Aubergine\_38:

(Start: 214 @28719 has 4 MA's), (Start: 216 @28716 has 7 MA's), (Start: 267 @28632 has 137 MA's), (Start: 275 @28623 has 5 MA's), (321, 28518), (325, 28509), (338, 28479), (340, 28476), (395, 28356), (397, 28344), (400, 28338), (436, 28233), (445, 28206), (490, 28065), (492, 28059), (494, 28056), (498, 28044), (513, 28017), (516, 28014), (525, 27999), (527, 27993), (530, 27987), (553, 27954), (612, 27825), (634, 27765), (726, 27450), (729, 27441), (730, 27438), (733, 27420), (743, 27378), (745, 27372), (747, 27363), (751, 27348), (768, 27291), (815, 27132), (827, 27102), (828, 27093), (847, 27033), (852, 27009), (863, 26970), (875, 26937), (876, 26925), (893, 26865),

Gene: Audrey\_58 Start: 53676, Stop: 51859, Start Num: 223

Candidate Starts for Audrey\_58:

(123, 53859), (Start: 223 @53676 has 42 MA's), (240, 53646), (332, 53466), (395, 53313), (397, 53301), (407, 53271), (412, 53265), (431, 53202), (433, 53196), (454, 53145), (466, 53109), (486, 53061), (542, 52956), (589, 52860), (610, 52809), (681, 52665), (689, 52626), (696, 52596), (701, 52569), (704, 52557), (725, 52461), (727, 52455), (730, 52446), (732, 52434), (754, 52362), (760, 52332), (766, 52314), (768, 52305), (790, 52236), (794, 52224), (800, 52203), (834, 52134), (841, 52119), (847, 52095), (851, 52074), (858, 52050), (875, 52011), (878, 51993), (881, 51981), (886, 51969), (890, 51957), (904, 51915), (912, 51885),

Gene: AugsMagnumOpus\_51 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for AugsMagnumOpus\_51:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: Austelle\_54 Start: 54652, Stop: 52829, Start Num: 182

Candidate Starts for Austelle\_54:

(Start: 169 @54670 has 3 MA's), (Start: 182 @54652 has 24 MA's), (Start: 227 @54628 has 3 MA's), (240, 54601), (246, 54586), (259, 54565), (301, 54478), (351, 54373), (371, 54331), (396, 54265), (405, 54235), (407, 54226), (410, 54223), (412, 54220), (417, 54193), (454, 54100), (461, 54082),

(466, 54064), (471, 54052), (480, 54037), (483, 54025), (509, 53962), (533, 53923), (540, 53914), (542, 53911), (561, 53881), (575, 53845), (681, 53620), (682, 53617), (689, 53581), (695, 53557), (701, 53524), (725, 53416), (727, 53410), (730, 53401), (760, 53302), (761, 53299), (766, 53284), (790, 53206), (794, 53194), (800, 53173), (803, 53164), (817, 53134), (834, 53104), (844, 53077), (851, 53044), (858, 53020), (875, 52981), (878, 52963), (881, 52951), (890, 52927), (904, 52885), (907, 52879), (912, 52855),

Gene: AvGardian\_44 Start: 29897, Stop: 31789, Start Num: 222

Candidate Starts for AvGardian\_44:

(Start: 222 @29897 has 57 MA's), (Start: 266 @29966 has 4 MA's), (279, 29987), (382, 30209), (392, 30233), (395, 30245), (396, 30248), (509, 30503), (549, 30569), (651, 30821), (688, 30944), (695, 30974), (700, 31004), (702, 31010), (711, 31055), (718, 31085), (724, 31121), (727, 31130), (733, 31157), (759, 31250), (787, 31343), (816, 31421), (817, 31424), (846, 31493), (851, 31517), (855, 31532), (873, 31574), (896, 31652), (906, 31673), (907, 31676), (911, 31697),

Gene: AvatarAhPeg\_44 Start: 32048, Stop: 30219, Start Num: 231

Candidate Starts for AvatarAhPeg\_44:

(Start: 231 @32048 has 845 MA's), (256, 31997), (350, 31805), (360, 31787), (390, 31715), (392, 31706), (426, 31586), (434, 31562), (487, 31469), (511, 31421), (524, 31400), (549, 31361), (570, 31316), (573, 31310), (603, 31229), (607, 31220), (613, 31208), (638, 31163), (643, 31151), (700, 30977), (722, 30881), (726, 30854), (727, 30851), (733, 30824), (742, 30785), (760, 30716), (761, 30713), (766, 30698), (772, 30674), (780, 30650), (782, 30644), (851, 30443), (896, 30308), (902, 30296), (906, 30287),

Gene: Avle17\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Avle17\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Avocadoman\_41 Start: 29025, Stop: 30899, Start Num: 222

Candidate Starts for Avocadoman\_41:

(Start: 222 @29025 has 57 MA's), (279, 29115), (392, 29361), (396, 29376), (403, 29403), (549, 29697), (603, 29832), (651, 29931), (688, 30054), (700, 30114), (702, 30120), (711, 30165), (716, 30180), (718, 30195), (724, 30231), (733, 30267), (759, 30360), (787, 30453), (816, 30531), (846, 30603), (855, 30642), (873, 30684), (876, 30702), (890, 30738), (896, 30762), (906, 30783),

Gene: AxiPup\_39 Start: 28904, Stop: 27039, Start Num: 267

Candidate Starts for AxiPup\_39:

(Start: 214 @28991 has 4 MA's), (Start: 216 @28988 has 7 MA's), (Start: 267 @28904 has 137 MA's), (Start: 275 @28895 has 5 MA's), (321, 28790), (325, 28781), (338, 28751), (340, 28748), (395, 28628), (397, 28616), (400, 28610), (436, 28505), (445, 28478), (490, 28337), (492, 28331), (494, 28328), (498, 28316), (513, 28289), (516, 28286), (525, 28271), (527, 28265), (530, 28259), (553, 28226), (612, 28097), (634, 28037), (666, 27962), (726, 27722), (729, 27713), (730, 27710), (733, 27692), (743, 27650), (745, 27644), (747, 27635), (751, 27620), (768, 27563), (815, 27404), (827, 27374), (828, 27365), (847, 27305), (852, 27281), (863, 27242), (875, 27209), (876, 27197), (893, 27137),

Gene: Axumite\_51 Start: 45981, Stop: 44164, Start Num: 219

Candidate Starts for Axumite\_51:

(66, 46302), (75, 46278), (Start: 219 @45981 has 12 MA's), (240, 45945), (246, 45930), (Start: 266 @45900 has 4 MA's), (322, 45774), (379, 45651), (387, 45636), (398, 45594), (431, 45498), (466, 45405), (526, 45276), (542, 45252), (684, 44940), (689, 44922), (701, 44865), (727, 44751), (730, 44742), (744, 44679), (761, 44640), (766, 44625), (790, 44547), (794, 44535), (800, 44514), (803, 44505), (844, 44418), (852, 44382), (855, 44370), (872, 44331), (875, 44322), (877, 44307), (890, 44262), (907, 44214), (912, 44190),

Gene: Axym\_42 Start: 32451, Stop: 30058, Start Num: 33

Candidate Starts for Axym\_42:

(Start: 33 @32451 has 15 MA's), (45, 32445), (Start: 56 @32397 has 1 MA's), (71, 32355), (81, 32331), (119, 32205), (127, 32181), (159, 32136), (191, 32085), (201, 32070), (Start: 214 @32049 has 4 MA's), (243, 32001), (Start: 267 @31959 has 137 MA's), (303, 31884), (308, 31872), (337, 31803), (354, 31776), (357, 31770), (365, 31755), (384, 31701), (386, 31698), (393, 31680), (397, 31659), (418, 31599), (463, 31476), (465, 31470), (490, 31401), (519, 31359), (576, 31272), (588, 31248), (596, 31242), (603, 31218), (607, 31209), (614, 31194), (622, 31182), (639, 31140), (640, 31137), (642, 31134), (690, 30987), (705, 30918), (706, 30912), (714, 30876), (733, 30783), (741, 30747), (743, 30741), (745, 30735), (746, 30729), (761, 30672), (768, 30648), (777, 30603), (892, 30225), (893, 30222), (908, 30177), (910, 30168), (926, 30108),

Gene: Azira\_40 Start: 32021, Stop: 29664, Start Num: 41

Candidate Starts for Azira\_40:

(38, 32030), (Start: 41 @32021 has 23 MA's), (48, 32006), (55, 31970), (105, 31835), (127, 31772), (157, 31730), (166, 31718), (Start: 229 @31616 has 7 MA's), (237, 31613), (278, 31538), (293, 31499), (303, 31478), (329, 31427), (349, 31385), (365, 31355), (384, 31301), (393, 31280), (397, 31259), (419, 31196), (469, 31061), (474, 31046), (485, 31019), (490, 31001), (551, 30917), (567, 30881), (622, 30788), (639, 30746), (640, 30743), (642, 30740), (654, 30716), (660, 30704), (664, 30692), (698, 30551), (705, 30524), (733, 30389), (741, 30353), (743, 30347), (745, 30341), (746, 30335), (753, 30311), (761, 30278), (768, 30254), (777, 30209), (779, 30203), (797, 30143), (836, 30035), (854, 29966), (857, 29954), (865, 29930), (886, 29852), (893, 29828), (912, 29759),

Gene: B1\_42 Start: 30729, Stop: 28891, Start Num: 231

Candidate Starts for B1\_42:

(Start: 182 @30801 has 24 MA's), (Start: 231 @30729 has 845 MA's), (256, 30678), (329, 30525), (350, 30486), (367, 30453), (390, 30396), (392, 30387), (395, 30375), (426, 30267), (434, 30243), (487, 30147), (511, 30099), (549, 30039), (603, 29907), (613, 29886), (652, 29817), (673, 29772), (683, 29730), (700, 29649), (720, 29562), (726, 29526), (733, 29496), (761, 29385), (772, 29346), (780, 29322), (786, 29304), (832, 29181), (834, 29175), (851, 29115), (895, 28983), (896, 28980), (902, 28968), (906, 28959),

Gene: BABullseye\_43 Start: 29170, Stop: 27329, Start Num: 231

Candidate Starts for BABullseye\_43:

(Start: 231 @29170 has 845 MA's), (329, 28966), (367, 28891), (369, 28888), (378, 28861), (384, 28846), (390, 28834), (403, 28783), (430, 28693), (434, 28681), (487, 28588), (502, 28549), (513, 28531), (524, 28516), (562, 28450), (576, 28417), (577, 28414), (619, 28312), (652, 28252), (683, 28168), (700, 28087), (719, 28003), (720, 28000), (722, 27991), (726, 27964), (733, 27934), (755, 27874), (766, 27835), (846, 27619), (847, 27616), (851, 27595), (896, 27460), (902, 27448), (906, 27439), (907, 27436), (939, 27343),

Gene: BAjuniper\_43 Start: 30818, Stop: 32689, Start Num: 222

Candidate Starts for BAjuniper\_43:

(Start: 222 @30818 has 57 MA's), (279, 30908), (317, 30995), (329, 31025), (392, 31154), (522, 31445), (549, 31490), (558, 31505), (595, 31598), (688, 31844), (700, 31904), (711, 31955), (716, 31970), (724, 32021), (727, 32030), (733, 32057), (759, 32150), (780, 32222), (787, 32243), (816,

32321), (817, 32324), (846, 32393), (873, 32474), (875, 32480), (890, 32528), (896, 32552), (906, 32573), (911, 32597),

Gene: BFK20\_ORF44 Start: 37992, Stop: 36088, Start Num: 199

Candidate Starts for BFK20\_ORF44:

(199, 37992), (236, 37932), (246, 37905), (259, 37881), (264, 37875), (287, 37833), (296, 37800), (310, 37758), (315, 37743), (328, 37710), (330, 37704), (378, 37599), (386, 37581), (395, 37557), (398, 37542), (403, 37530), (424, 37461), (452, 37392), (460, 37374), (466, 37350), (480, 37323), (542, 37194), (544, 37191), (561, 37164), (601, 37068), (605, 37056), (608, 37050), (687, 36873), (701, 36807), (727, 36690), (762, 36576), (766, 36564), (777, 36522), (780, 36516), (786, 36498), (790, 36486), (794, 36474), (800, 36453), (818, 36411), (829, 36393), (840, 36357), (852, 36306), (875, 36246), (890, 36192), (895, 36171), (912, 36114),

Gene: BK1\_41 Start: 33551, Stop: 31725, Start Num: 231

Candidate Starts for BK1\_41:

(Start: 231 @33551 has 845 MA's), (332, 33338), (337, 33323), (367, 33275), (378, 33245), (388, 33224), (390, 33218), (392, 33209), (413, 33125), (415, 33116), (425, 33092), (434, 33065), (487, 32972), (492, 32957), (501, 32936), (509, 32924), (541, 32873), (543, 32870), (570, 32816), (575, 32804), (589, 32774), (598, 32744), (616, 32699), (638, 32660), (700, 32480), (709, 32432), (720, 32393), (733, 32327), (742, 32288), (755, 32267), (760, 32246), (766, 32228), (786, 32162), (846, 32012), (847, 32009), (855, 31973), (868, 31949), (870, 31940), (874, 31928), (896, 31853), (906, 31832),

Gene: BPBiebs31\_45 Start: 34673, Stop: 32844, Start Num: 231

Candidate Starts for BPBiebs31\_45:

(Start: 231 @34673 has 845 MA's), (332, 34460), (367, 34397), (378, 34367), (388, 34346), (390, 34340), (392, 34331), (425, 34214), (434, 34187), (487, 34094), (492, 34079), (541, 33995), (543, 33992), (575, 33926), (589, 33896), (598, 33866), (616, 33821), (638, 33782), (700, 33602), (709, 33554), (722, 33506), (730, 33467), (733, 33449), (742, 33410), (755, 33389), (760, 33368), (765, 33353), (803, 33230), (871, 33059), (876, 33035), (893, 32987), (896, 32975), (906, 32954), (908, 32948), (921, 32900), (928, 32885),

Gene: Baby16\_45 Start: 31581, Stop: 29755, Start Num: 231

Candidate Starts for Baby16\_45:

(Start: 231 @31581 has 845 MA's), (240, 31560), (256, 31530), (274, 31500), (350, 31338), (360, 31320), (390, 31248), (392, 31239), (426, 31119), (434, 31095), (487, 31002), (511, 30954), (524, 30933), (549, 30894), (603, 30762), (613, 30741), (638, 30696), (643, 30684), (697, 30531), (700, 30510), (726, 30387), (733, 30357), (742, 30318), (760, 30252), (761, 30249), (766, 30234), (772, 30210), (780, 30186), (851, 29979), (896, 29844), (902, 29832), (906, 29823),

Gene: BabyBack\_43 Start: 31842, Stop: 30049, Start Num: 231

Candidate Starts for BabyBack\_43:

(120, 32046), (Start: 231 @31842 has 845 MA's), (367, 31563), (369, 31560), (378, 31533), (384, 31518), (390, 31506), (392, 31497), (430, 31365), (434, 31353), (487, 31260), (509, 31212), (513, 31203), (524, 31188), (562, 31122), (582, 31077), (595, 31041), (700, 30765), (719, 30681), (726, 30642), (733, 30612), (742, 30573), (758, 30540), (760, 30531), (846, 30297), (877, 30195), (896, 30138), (902, 30126), (906, 30117),

Gene: BabyDaisy\_42 Start: 29859, Stop: 31733, Start Num: 222

Candidate Starts for BabyDaisy\_42:

(Start: 220 @29856 has 7 MA's), (Start: 222 @29859 has 57 MA's), (Start: 266 @29928 has 4 MA's), (279, 29949), (392, 30195), (422, 30291), (549, 30531), (651, 30765), (687, 30885), (688, 30888), (700, 30948), (702, 30954), (716, 31014), (718, 31029), (724, 31065), (733, 31101), (759, 31194),

(816, 31365), (817, 31368), (846, 31437), (855, 31476), (873, 31518), (876, 31536), (890, 31572), (896, 31596), (906, 31617),

Gene: BabyRay\_45 Start: 31465, Stop: 29627, Start Num: 231

Candidate Starts for BabyRay\_45:

(Start: 231 @31465 has 845 MA's), (256, 31414), (329, 31261), (332, 31252), (363, 31201), (367, 31189), (390, 31132), (392, 31123), (426, 31003), (430, 30991), (434, 30979), (487, 30883), (511, 30835), (549, 30775), (577, 30712), (603, 30643), (613, 30622), (652, 30553), (656, 30547), (673, 30508), (700, 30385), (720, 30298), (726, 30262), (733, 30232), (739, 30202), (761, 30121), (772, 30082), (780, 30058), (786, 30040), (834, 29911), (851, 29851), (896, 29716), (902, 29704), (906, 29695),

Gene: BabyYoda\_43 Start: 30631, Stop: 32505, Start Num: 222

Candidate Starts for BabyYoda\_43:

(Start: 222 @30631 has 57 MA's), (Start: 266 @30700 has 4 MA's), (279, 30721), (367, 30901), (392, 30967), (396, 30982), (403, 31009), (549, 31303), (651, 31537), (687, 31657), (688, 31660), (700, 31720), (702, 31726), (711, 31771), (716, 31786), (718, 31801), (724, 31837), (733, 31873), (759, 31966), (787, 32059), (816, 32137), (817, 32140), (846, 32209), (851, 32233), (855, 32248), (873, 32290), (876, 32308), (896, 32368), (906, 32389),

Gene: Bachaco\_41 Start: 30596, Stop: 32467, Start Num: 222

Candidate Starts for Bachaco\_41:

(Start: 222 @30596 has 57 MA's), (Start: 266 @30665 has 4 MA's), (319, 30779), (392, 30932), (422, 31028), (500, 31187), (522, 31223), (549, 31268), (558, 31283), (595, 31376), (638, 31466), (700, 31682), (711, 31733), (716, 31748), (724, 31799), (727, 31808), (733, 31835), (759, 31928), (780, 32000), (816, 32099), (846, 32171), (851, 32195), (873, 32252), (890, 32306), (896, 32330), (906, 32351),

Gene: Bachome\_46 Start: 30764, Stop: 28977, Start Num: 231

Candidate Starts for Bachome\_46:

(Start: 231 @30764 has 845 MA's), (329, 30560), (367, 30488), (378, 30458), (390, 30431), (489, 30179), (513, 30128), (562, 30047), (582, 30002), (583, 29999), (613, 29918), (643, 29861), (672, 29819), (683, 29774), (700, 29693), (711, 29642), (720, 29606), (733, 29540), (755, 29480), (758, 29468), (789, 29366), (796, 29342), (802, 29324), (834, 29261), (844, 29234), (846, 29225), (851, 29201), (896, 29066), (902, 29054), (906, 29045),

Gene: Backyardigan\_43 Start: 31552, Stop: 29723, Start Num: 231

Candidate Starts for Backyardigan\_43:

(Start: 231 @31552 has 845 MA's), (256, 31501), (274, 31471), (350, 31309), (360, 31291), (367, 31276), (390, 31219), (392, 31210), (426, 31090), (434, 31066), (468, 31024), (487, 30973), (511, 30925), (524, 30904), (549, 30865), (570, 30820), (573, 30814), (603, 30733), (613, 30712), (638, 30667), (697, 30502), (700, 30481), (733, 30328), (742, 30289), (761, 30217), (766, 30202), (772, 30178), (777, 30160), (780, 30154), (782, 30148), (851, 29947), (896, 29812), (902, 29800), (906, 29791),

Gene: BaconJack\_48 Start: 35612, Stop: 33786, Start Num: 231

Candidate Starts for BaconJack\_48:

(Start: 231 @35612 has 845 MA's), (332, 35399), (337, 35384), (367, 35336), (378, 35306), (388, 35285), (390, 35279), (392, 35270), (425, 35153), (434, 35126), (487, 35033), (492, 35018), (541, 34934), (543, 34931), (575, 34865), (598, 34805), (616, 34760), (638, 34721), (700, 34541), (708, 34511), (709, 34493), (711, 34490), (720, 34454), (733, 34388), (758, 34316), (760, 34307), (761, 34304), (786, 34223), (846, 34073), (847, 34070), (855, 34034), (868, 34010), (870, 34001), (874, 33989), (877, 33971), (896, 33914), (906, 33893),

Gene: Bactobuster\_43 Start: 32277, Stop: 30487, Start Num: 231

Candidate Starts for Bactobuster\_43:

(Start: 231 @32277 has 845 MA's), (329, 32073), (332, 32064), (369, 31995), (378, 31968), (390, 31941), (434, 31788), (487, 31695), (509, 31647), (513, 31638), (524, 31623), (562, 31557), (576, 31524), (607, 31440), (652, 31359), (672, 31329), (700, 31203), (708, 31173), (711, 31152), (726, 31080), (733, 31050), (742, 31011), (755, 30990), (760, 30969), (823, 30789), (832, 30777), (846, 30735), (851, 30711), (873, 30654), (877, 30633), (896, 30576), (902, 30564), (906, 30555),

Gene: Badfish\_61 Start: 54554, Stop: 52695, Start Num: 196

Candidate Starts for Badfish\_61:

(Start: 175 @54578 has 1 MA's), (Start: 196 @54554 has 254 MA's), (Start: 221 @54530 has 2 MA's), (Start: 227 @54524 has 3 MA's), (246, 54482), (259, 54461), (307, 54347), (311, 54341), (326, 54311), (355, 54251), (366, 54230), (386, 54176), (391, 54164), (396, 54146), (398, 54134), (431, 54029), (454, 53972), (466, 53936), (471, 53924), (483, 53897), (491, 53870), (499, 53852), (509, 53834), (533, 53795), (540, 53786), (542, 53783), (668, 53525), (695, 53423), (701, 53390), (706, 53369), (727, 53276), (730, 53267), (744, 53204), (760, 53168), (761, 53165), (766, 53150), (790, 53072), (794, 53060), (800, 53039), (817, 53000), (851, 52910), (856, 52892), (858, 52886), (868, 52871), (875, 52847), (877, 52832), (878, 52829), (881, 52817), (890, 52793), (907, 52745), (912, 52721),

Gene: Badger\_43 Start: 31520, Stop: 29691, Start Num: 231

Candidate Starts for Badger\_43:

(Start: 231 @31520 has 845 MA's), (256, 31469), (274, 31439), (350, 31277), (360, 31259), (367, 31244), (390, 31187), (392, 31178), (426, 31058), (434, 31034), (468, 30992), (487, 30941), (511, 30893), (524, 30872), (549, 30833), (570, 30788), (573, 30782), (603, 30701), (613, 30680), (638, 30635), (697, 30470), (700, 30449), (733, 30296), (742, 30257), (761, 30185), (766, 30170), (772, 30146), (777, 30128), (780, 30122), (782, 30116), (851, 29915), (896, 29780), (902, 29768), (906, 29759),

Gene: Bae\_59 Start: 55561, Stop: 53708, Start Num: 182

Candidate Starts for Bae\_59:

(108, 55720), (Start: 136 @55639 has 1 MA's), (Start: 182 @55561 has 24 MA's), (Start: 214 @55516 has 4 MA's), (240, 55480), (282, 55420), (396, 55159), (410, 55117), (421, 55081), (431, 55051), (466, 54958), (471, 54946), (482, 54922), (486, 54910), (491, 54892), (526, 54829), (542, 54805), (593, 54700), (682, 54511), (684, 54493), (696, 54445), (701, 54418), (706, 54397), (725, 54310), (727, 54304), (730, 54295), (734, 54274), (754, 54211), (761, 54178), (766, 54163), (784, 54103), (790, 54085), (794, 54073), (800, 54052), (803, 54043), (805, 54040), (851, 53923), (858, 53899), (875, 53860), (877, 53845), (878, 53842), (890, 53806), (891, 53803), (912, 53734),

Gene: Baehexic\_43 Start: 31482, Stop: 29695, Start Num: 231

Candidate Starts for Baehexic\_43:

(Start: 231 @31482 has 845 MA's), (329, 31278), (330, 31275), (332, 31269), (350, 31239), (367, 31206), (369, 31203), (378, 31176), (390, 31149), (403, 31098), (434, 30996), (487, 30903), (509, 30855), (513, 30846), (524, 30831), (562, 30765), (595, 30684), (613, 30636), (683, 30492), (700, 30411), (711, 30360), (719, 30327), (733, 30258), (742, 30219), (755, 30198), (760, 30177), (764, 30165), (832, 29985), (834, 29979), (846, 29943), (851, 29919), (877, 29841), (896, 29784), (902, 29772),

Gene: BaileyBlu\_41 Start: 29217, Stop: 31091, Start Num: 231

Candidate Starts for BaileyBlu\_41:

(114, 29007), (Start: 231 @29217 has 845 MA's), (234, 29223), (239, 29235), (348, 29448), (369, 29487), (489, 29811), (549, 29919), (558, 29934), (595, 30024), (613, 30072), (700, 30330), (708,



30360), (721, 30420), (724, 30447), (726, 30453), (793, 30687), (846, 30819), (851, 30843), (858, 30867), (870, 30891), (878, 30924), (896, 30978), (901, 30987), (909, 31008), (931, 31074),

Gene: Baines\_38 Start: 28622, Stop: 26757, Start Num: 267

Candidate Starts for Baines\_38:

(Start: 214 @28709 has 4 MA's), (Start: 267 @28622 has 137 MA's), (Start: 275 @28613 has 5 MA's), (321, 28508), (325, 28499), (338, 28469), (340, 28466), (395, 28346), (397, 28334), (400, 28328), (436, 28223), (445, 28196), (490, 28055), (492, 28049), (494, 28046), (498, 28034), (513, 28007), (516, 28004), (525, 27989), (527, 27983), (530, 27977), (553, 27944), (612, 27815), (634, 27755), (726, 27440), (729, 27431), (730, 27428), (733, 27410), (743, 27368), (745, 27362), (751, 27338), (768, 27281), (815, 27122), (827, 27092), (828, 27083), (847, 27023), (852, 26999), (863, 26960), (875, 26927), (876, 26915), (893, 26855),

Gene: Baloo\_58 Start: 53679, Stop: 51862, Start Num: 223

Candidate Starts for Baloo\_58:

(59, 54063), (123, 53862), (Start: 223 @53679 has 42 MA's), (240, 53649), (332, 53469), (395, 53316), (397, 53304), (407, 53274), (412, 53268), (431, 53205), (433, 53199), (454, 53148), (466, 53112), (486, 53064), (542, 52959), (589, 52863), (610, 52812), (681, 52668), (689, 52629), (696, 52599), (701, 52572), (704, 52560), (725, 52464), (727, 52458), (730, 52449), (732, 52437), (754, 52365), (760, 52335), (766, 52317), (768, 52308), (790, 52239), (794, 52227), (800, 52206), (834, 52137), (841, 52122), (847, 52098), (851, 52077), (858, 52053), (875, 52014), (878, 51996), (881, 51984), (886, 51972), (890, 51960), (904, 51918), (912, 51888),

Gene: Balsa\_38 Start: 29055, Stop: 27190, Start Num: 267

Candidate Starts for Balsa\_38:

(Start: 267 @29055 has 137 MA's), (Start: 275 @29046 has 5 MA's), (394, 28782), (397, 28767), (400, 28761), (445, 28629), (463, 28575), (490, 28488), (494, 28479), (498, 28467), (513, 28440), (516, 28437), (525, 28422), (527, 28416), (675, 28086), (726, 27873), (729, 27864), (730, 27861), (733, 27843), (743, 27801), (753, 27771), (768, 27714), (815, 27555), (827, 27525), (847, 27456), (852, 27432), (863, 27393), (875, 27360), (876, 27348),

Gene: Bananafish\_57 Start: 52489, Stop: 50660, Start Num: 188

Candidate Starts for Bananafish\_57:

(Start: 188 @52489 has 31 MA's), (Start: 227 @52462 has 3 MA's), (242, 52432), (246, 52420), (264, 52393), (Start: 266 @52390 has 4 MA's), (274, 52381), (291, 52363), (330, 52267), (355, 52216), (367, 52192), (417, 52030), (427, 52006), (431, 51994), (454, 51937), (466, 51901), (471, 51889), (482, 51865), (522, 51781), (540, 51751), (542, 51748), (561, 51718), (624, 51574), (652, 51508), (678, 51469), (681, 51457), (684, 51436), (689, 51418), (701, 51361), (722, 51277), (727, 51247), (730, 51238), (744, 51172), (758, 51145), (760, 51136), (766, 51118), (772, 51094), (790, 51040), (794, 51028), (800, 51007), (834, 50938), (851, 50878), (856, 50860), (871, 50827), (875, 50815), (877, 50800), (878, 50797), (881, 50785), (890, 50761), (891, 50758), (907, 50710), (908, 50707), (912, 50686), (917, 50665),

Gene: Bandik\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Bandik\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (675, 27961), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: BangNhom\_46 Start: 31992, Stop: 30166, Start Num: 231

Candidate Starts for BangNhom\_46:

(Start: 231 @31992 has 845 MA's), (254, 31944), (329, 31788), (367, 31716), (390, 31659), (392, 31650), (426, 31530), (434, 31506), (487, 31413), (511, 31365), (524, 31344), (549, 31305), (570, 31260), (603, 31173), (607, 31164), (613, 31152), (638, 31107), (643, 31095), (697, 30942), (700, 30921), (726, 30798), (733, 30768), (742, 30729), (760, 30663), (761, 30660), (772, 30621), (780, 30597), (851, 30390), (896, 30255), (902, 30243), (906, 30234),

Gene: Banjo\_59 Start: 54043, Stop: 52184, Start Num: 196

Candidate Starts for Banjo\_59:

(Start: 175 @54067 has 1 MA's), (Start: 196 @54043 has 254 MA's), (Start: 221 @54019 has 2 MA's), (Start: 227 @54013 has 3 MA's), (246, 53971), (259, 53950), (307, 53836), (311, 53830), (326, 53800), (355, 53740), (366, 53719), (386, 53665), (391, 53653), (396, 53635), (398, 53623), (431, 53518), (454, 53461), (466, 53425), (471, 53413), (483, 53386), (491, 53359), (499, 53341), (509, 53323), (533, 53284), (540, 53275), (542, 53272), (544, 53269), (695, 52912), (701, 52879), (706, 52858), (727, 52765), (730, 52756), (744, 52693), (760, 52657), (761, 52654), (766, 52639), (790, 52561), (794, 52549), (800, 52528), (817, 52489), (851, 52399), (856, 52381), (858, 52375), (868, 52360), (875, 52336), (877, 52321), (878, 52318), (881, 52306), (890, 52282), (907, 52234), (912, 52210),

Gene: Barnstormer\_47 Start: 31148, Stop: 33013, Start Num: 230

Candidate Starts for Barnstormer\_47:

(153, 31028), (165, 31046), (Start: 230 @31148 has 8 MA's), (290, 31256), (544, 31844), (549, 31850), (613, 32003), (647, 32066), (700, 32261), (714, 32324), (724, 32378), (726, 32384), (734, 32417), (787, 32600), (896, 32909), (923, 32987), (934, 33008),

Gene: Barriga\_45 Start: 34327, Stop: 32501, Start Num: 231

Candidate Starts for Barriga\_45:

(Start: 231 @34327 has 845 MA's), (332, 34114), (337, 34099), (367, 34051), (378, 34021), (388, 34000), (390, 33994), (392, 33985), (413, 33901), (425, 33868), (434, 33841), (487, 33748), (492, 33733), (541, 33649), (543, 33646), (575, 33580), (598, 33520), (616, 33475), (638, 33436), (700, 33256), (709, 33208), (720, 33169), (733, 33103), (742, 33064), (755, 33043), (760, 33022), (766, 33004), (786, 32938), (846, 32788), (847, 32785), (855, 32749), (868, 32725), (870, 32716), (874, 32704), (880, 32677), (896, 32629), (906, 32608),

Gene: Bartimeaus\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Bartimeaus\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Basato\_61 Start: 54317, Stop: 52458, Start Num: 196

Candidate Starts for Basato\_61:

(Start: 175 @54341 has 1 MA's), (Start: 196 @54317 has 254 MA's), (Start: 221 @54293 has 2 MA's), (Start: 227 @54287 has 3 MA's), (246, 54245), (259, 54224), (307, 54110), (311, 54104), (326, 54074), (355, 54014), (366, 53993), (386, 53939), (391, 53927), (396, 53909), (398, 53897), (431, 53792), (454, 53735), (466, 53699), (471, 53687), (483, 53660), (486, 53651), (499, 53615), (533, 53558), (540, 53549), (542, 53546), (544, 53543), (695, 53186), (701, 53153), (706, 53132), (727, 53039), (730, 53030), (744, 52967), (760, 52931), (761, 52928), (766, 52913), (790, 52835), (794, 52823), (800, 52802), (817, 52763), (851, 52673), (856, 52655), (858, 52649), (868, 52634), (875, 52610), (877, 52595), (878, 52592), (881, 52580), (890, 52556), (907, 52508), (912, 52484),

Gene: BatteryCK\_61 Start: 54193, Stop: 52334, Start Num: 196

Candidate Starts for BatteryCK\_61:

(Start: 175 @54217 has 1 MA's), (Start: 196 @54193 has 254 MA's), (Start: 221 @54169 has 2 MA's), (Start: 227 @54163 has 3 MA's), (246, 54121), (259, 54100), (307, 53986), (311, 53980), (326, 53950), (355, 53890), (366, 53869), (386, 53815), (391, 53803), (396, 53785), (398, 53773), (431, 53668), (454, 53611), (466, 53575), (471, 53563), (482, 53539), (486, 53527), (491, 53509), (499, 53491), (509, 53473), (533, 53434), (540, 53425), (542, 53422), (544, 53419), (695, 53062), (701, 53029), (706, 53008), (727, 52915), (730, 52906), (744, 52843), (760, 52807), (761, 52804), (766, 52789), (790, 52711), (794, 52699), (800, 52678), (817, 52639), (851, 52549), (856, 52531), (858, 52525), (868, 52510), (875, 52486), (877, 52471), (878, 52468), (881, 52456), (890, 52432), (907, 52384), (912, 52360),

Gene: Battleship\_48 Start: 29936, Stop: 28146, Start Num: 231

Candidate Starts for Battleship\_48:

(Start: 231 @29936 has 845 MA's), (317, 29762), (367, 29657), (369, 29654), (378, 29627), (390, 29600), (403, 29549), (434, 29447), (487, 29354), (505, 29309), (509, 29306), (513, 29297), (595, 29135), (603, 29108), (613, 29087), (616, 29081), (674, 28982), (683, 28943), (695, 28892), (700, 28862), (711, 28811), (719, 28778), (724, 28745), (726, 28739), (733, 28709), (755, 28649), (760, 28628), (772, 28586), (781, 28559), (786, 28544), (818, 28457), (846, 28394), (847, 28391), (896, 28235), (902, 28223), (907, 28211),

Gene: Beaglebox\_60 Start: 54107, Stop: 52248, Start Num: 196

Candidate Starts for Beaglebox\_60:

(Start: 175 @54131 has 1 MA's), (Start: 196 @54107 has 254 MA's), (Start: 221 @54083 has 2 MA's), (Start: 227 @54077 has 3 MA's), (246, 54035), (259, 54014), (307, 53900), (311, 53894), (326, 53864), (355, 53804), (366, 53783), (386, 53729), (391, 53717), (396, 53699), (398, 53687), (431, 53582), (454, 53525), (466, 53489), (471, 53477), (482, 53453), (486, 53441), (491, 53423), (499, 53405), (509, 53387), (533, 53348), (540, 53339), (542, 53336), (668, 53078), (695, 52976), (701, 52943), (706, 52922), (727, 52829), (730, 52820), (744, 52757), (760, 52721), (761, 52718), (766, 52703), (790, 52625), (794, 52613), (800, 52592), (817, 52553), (851, 52463), (856, 52445), (858, 52439), (868, 52424), (875, 52400), (877, 52385), (878, 52382), (881, 52370), (890, 52346), (907, 52298), (912, 52274),

Gene: Beatrix\_44 Start: 35941, Stop: 34154, Start Num: 231

Candidate Starts for Beatrix\_44:

(Start: 231 @35941 has 845 MA's), (332, 35728), (367, 35665), (378, 35635), (388, 35614), (390, 35608), (392, 35599), (425, 35482), (434, 35455), (487, 35362), (492, 35347), (541, 35263), (543, 35260), (575, 35194), (589, 35164), (598, 35134), (616, 35089), (638, 35050), (700, 34870), (709, 34822), (720, 34783), (733, 34717), (758, 34645), (760, 34636), (786, 34552), (818, 34465), (868, 34339), (871, 34327), (890, 34267), (896, 34243), (899, 34237),

Gene: BeautPeep30\_39 Start: 28936, Stop: 27071, Start Num: 267

Candidate Starts for BeautPeep30\_39:

(Start: 214 @29023 has 4 MA's), (Start: 216 @29020 has 7 MA's), (Start: 267 @28936 has 137 MA's), (Start: 275 @28927 has 5 MA's), (321, 28822), (325, 28813), (338, 28783), (340, 28780), (395, 28660), (397, 28648), (400, 28642), (436, 28537), (445, 28510), (490, 28369), (492, 28363), (494, 28360), (498, 28348), (513, 28321), (516, 28318), (525, 28303), (527, 28297), (530, 28291), (553, 28258), (634, 28069), (726, 27754), (729, 27745), (730, 27742), (733, 27724), (743, 27682), (745, 27676), (751, 27652), (768, 27595), (815, 27436), (827, 27406), (828, 27397), (847, 27337), (852, 27313), (863, 27274), (875, 27241), (876, 27229), (893, 27169),

Gene: Beauxregard13\_48 Start: 31856, Stop: 30042, Start Num: 231

Candidate Starts for Beauxregard13\_48:

(Start: 231 @31856 has 845 MA's), (248, 31817), (256, 31805), (329, 31652), (333, 31637), (367, 31580), (390, 31523), (392, 31514), (403, 31472), (415, 31421), (434, 31370), (487, 31277), (509, 31229), (513, 31220), (524, 31205), (549, 31166), (562, 31139), (575, 31109), (610, 31016), (641, 30956), (652, 30941), (700, 30785), (720, 30698), (733, 30632), (742, 30593), (761, 30521), (772, 30482), (780, 30458), (786, 30440), (796, 30407), (806, 30380), (834, 30326), (851, 30266), (877, 30188), (896, 30131), (902, 30119), (906, 30110),

Gene: BeeBee8\_39 Start: 29216, Stop: 27360, Start Num: 275

Candidate Starts for BeeBee8\_39:

(Start: 267 @29225 has 137 MA's), (Start: 275 @29216 has 5 MA's), (394, 28952), (397, 28937), (400, 28931), (445, 28799), (463, 28745), (490, 28658), (494, 28649), (498, 28637), (513, 28610), (516, 28607), (525, 28592), (527, 28586), (675, 28256), (726, 28043), (729, 28034), (730, 28031), (733, 28013), (743, 27971), (753, 27941), (768, 27884), (815, 27725), (827, 27695), (847, 27626), (852, 27602), (863, 27563), (875, 27530), (876, 27518),

Gene: Beemo\_45 Start: 31539, Stop: 29746, Start Num: 231

Candidate Starts for Beemo\_45:

(Start: 231 @31539 has 845 MA's), (236, 31530), (256, 31488), (316, 31368), (317, 31365), (334, 31317), (369, 31257), (379, 31227), (384, 31215), (390, 31203), (434, 31050), (487, 30957), (562, 30819), (575, 30789), (643, 30630), (652, 30618), (671, 30591), (697, 30483), (700, 30462), (730, 30327), (733, 30309), (760, 30228), (772, 30186), (796, 30111), (832, 30036), (846, 29994), (877, 29892), (896, 29835), (902, 29823), (906, 29814),

Gene: BeesKnees\_45 Start: 34407, Stop: 32581, Start Num: 231

Candidate Starts for BeesKnees\_45:

(Start: 231 @34407 has 845 MA's), (332, 34194), (367, 34131), (378, 34101), (388, 34080), (390, 34074), (392, 34065), (425, 33948), (434, 33921), (487, 33828), (492, 33813), (541, 33729), (543, 33726), (575, 33660), (589, 33630), (598, 33600), (616, 33555), (638, 33516), (700, 33336), (709, 33288), (720, 33249), (733, 33183), (742, 33144), (755, 33123), (760, 33102), (766, 33084), (786, 33018), (846, 32868), (847, 32865), (855, 32829), (870, 32796), (874, 32784), (880, 32757), (896, 32709), (906, 32688),

Gene: Belenaria\_36 Start: 28114, Stop: 26330, Start Num: 231

Candidate Starts for Belenaria\_36:

(Start: 231 @28114 has 845 MA's), (345, 27880), (363, 27850), (366, 27841), (367, 27838), (384, 27793), (390, 27781), (403, 27730), (434, 27628), (450, 27607), (487, 27535), (505, 27490), (509, 27487), (535, 27445), (539, 27439), (549, 27424), (562, 27397), (603, 27292), (607, 27283), (616, 27265), (638, 27226), (673, 27169), (700, 27046), (709, 26998), (733, 26893), (734, 26890), (755, 26833), (760, 26812), (774, 26764), (798, 26689), (832, 26620), (846, 26578), (851, 26554), (877, 26476), (896, 26419), (902, 26407), (906, 26398), (913, 26368), (917, 26350),

Gene: BellusTerra\_46 Start: 31571, Stop: 29745, Start Num: 231

Candidate Starts for BellusTerra\_46:

(Start: 231 @31571 has 845 MA's), (240, 31550), (256, 31520), (274, 31490), (350, 31328), (360, 31310), (390, 31238), (392, 31229), (426, 31109), (434, 31085), (487, 30992), (511, 30944), (524, 30923), (549, 30884), (603, 30752), (613, 30731), (638, 30686), (643, 30674), (697, 30521), (700, 30500), (726, 30377), (733, 30347), (742, 30308), (760, 30242), (761, 30239), (766, 30224), (772, 30200), (780, 30176), (851, 29969), (896, 29834), (902, 29822), (906, 29813),

Gene: BelmontSKP\_43 Start: 29896, Stop: 31770, Start Num: 222

Candidate Starts for BelmontSKP\_43:

(Start: 220 @29893 has 7 MA's), (Start: 222 @29896 has 57 MA's), (Start: 266 @29965 has 4 MA's), (279, 29986), (392, 30232), (403, 30274), (500, 30487), (549, 30568), (651, 30802), (688, 30925), (700, 30985), (702, 30991), (711, 31036), (716, 31051), (718, 31066), (724, 31102), (733, 31138), (759, 31231), (787, 31324), (816, 31402), (846, 31474), (855, 31513), (873, 31555), (876, 31573), (890, 31609), (896, 31633), (906, 31654),

Gene: Ben11\_58 Start: 53891, Stop: 52074, Start Num: 223

Candidate Starts for Ben11\_58:

(123, 54074), (Start: 223 @53891 has 42 MA's), (240, 53861), (332, 53681), (395, 53528), (397, 53516), (407, 53486), (412, 53480), (431, 53417), (433, 53411), (454, 53360), (464, 53333), (466, 53324), (486, 53276), (542, 53171), (589, 53075), (610, 53024), (681, 52880), (689, 52841), (696, 52811), (701, 52784), (704, 52772), (725, 52676), (727, 52670), (730, 52661), (732, 52649), (754, 52577), (760, 52547), (766, 52529), (768, 52520), (790, 52451), (794, 52439), (800, 52418), (834, 52349), (841, 52334), (847, 52310), (851, 52289), (856, 52271), (858, 52265), (873, 52232), (875, 52226), (878, 52208), (881, 52196), (886, 52184), (890, 52172), (904, 52130), (912, 52100),

Gene: Benedict\_39 Start: 30154, Stop: 28289, Start Num: 231

Candidate Starts for Benedict\_39:

(Start: 204 @30187 has 2 MA's), (Start: 231 @30154 has 845 MA's), (291, 30043), (329, 29950), (330, 29947), (367, 29878), (369, 29875), (378, 29848), (390, 29821), (392, 29812), (413, 29728), (415, 29719), (422, 29704), (434, 29668), (475, 29608), (487, 29572), (505, 29527), (509, 29524), (523, 29503), (524, 29500), (561, 29440), (594, 29362), (610, 29314), (616, 29302), (641, 29254), (668, 29203), (700, 29068), (709, 29020), (716, 29002), (720, 28981), (722, 28972), (727, 28942), (733, 28915), (734, 28912), (760, 28834), (780, 28768), (796, 28717), (818, 28663), (823, 28654), (834, 28636), (856, 28558), (890, 28465), (896, 28441), (902, 28429), (939, 28324),

Gene: BengiVuitton\_44 Start: 31228, Stop: 29441, Start Num: 231

Candidate Starts for BengiVuitton\_44:

(Start: 231 @31228 has 845 MA's), (329, 31024), (330, 31021), (332, 31015), (337, 31000), (350, 30985), (367, 30952), (369, 30949), (378, 30922), (390, 30895), (395, 30874), (403, 30844), (434, 30742), (487, 30649), (490, 30640), (509, 30601), (513, 30592), (524, 30577), (562, 30511), (595, 30430), (613, 30382), (616, 30376), (683, 30238), (700, 30157), (711, 30106), (719, 30073), (720, 30070), (733, 30004), (742, 29965), (755, 29944), (775, 29869), (782, 29851), (796, 29806), (806, 29779), (823, 29743), (834, 29725), (846, 29689), (851, 29665), (873, 29608), (877, 29587), (896, 29530), (902, 29518),

Gene: Benjalauren\_39 Start: 28635, Stop: 26770, Start Num: 267

Candidate Starts for Benjalauren\_39:

(Start: 214 @28722 has 4 MA's), (Start: 216 @28719 has 7 MA's), (Start: 267 @28635 has 137 MA's), (Start: 275 @28626 has 5 MA's), (321, 28521), (325, 28512), (338, 28482), (340, 28479), (395, 28359), (397, 28347), (400, 28341), (436, 28236), (445, 28209), (490, 28068), (492, 28062), (494, 28059), (498, 28047), (513, 28020), (516, 28017), (525, 28002), (527, 27996), (530, 27990), (553, 27957), (612, 27828), (634, 27768), (726, 27453), (729, 27444), (730, 27441), (733, 27423), (743, 27381), (745, 27375), (747, 27366), (751, 27351), (768, 27294), (815, 27135), (827, 27105), (828, 27096), (847, 27036), (852, 27012), (863, 26973), (875, 26940), (876, 26928), (893, 26868),

Gene: Benvolio\_41 Start: 30754, Stop: 28967, Start Num: 231

Candidate Starts for Benvolio\_41:

(Start: 231 @30754 has 845 MA's), (330, 30547), (332, 30541), (350, 30511), (367, 30478), (369, 30475), (378, 30448), (390, 30421), (395, 30400), (434, 30268), (487, 30175), (509, 30127), (513, 30118), (524, 30103), (562, 30037), (595, 29956), (613, 29908), (616, 29902), (652, 29839), (683, 29764), (700, 29683), (711, 29632), (719, 29599), (720, 29596), (733, 29530), (742, 29491), (755, 29470), (775, 29395), (782, 29377), (786, 29365), (796, 29332), (806, 29305), (823, 29269), (846,

29215), (851, 29191), (873, 29134), (877, 29113), (896, 29056), (902, 29044), (906, 29035),

Gene: Bernardo\_59 Start: 54028, Stop: 52211, Start Num: 223

Candidate Starts for Bernardo\_59:

(123, 54211), (Start: 223 @54028 has 42 MA's), (240, 53998), (332, 53818), (395, 53665), (397, 53653), (407, 53623), (412, 53617), (431, 53554), (433, 53548), (454, 53497), (466, 53461), (486, 53413), (542, 53308), (589, 53212), (610, 53161), (681, 53017), (689, 52978), (696, 52948), (701, 52921), (704, 52909), (725, 52813), (727, 52807), (730, 52798), (732, 52786), (754, 52714), (760, 52684), (766, 52666), (768, 52657), (790, 52588), (794, 52576), (800, 52555), (834, 52486), (841, 52471), (847, 52447), (851, 52426), (858, 52402), (875, 52363), (878, 52345), (881, 52333), (886, 52321), (890, 52309), (904, 52267), (912, 52237),

Gene: Bernstein\_40 Start: 27521, Stop: 29389, Start Num: 220

Candidate Starts for Bernstein\_40:

(Start: 220 @27521 has 7 MA's), (Start: 222 @27524 has 57 MA's), (225, 27527), (Start: 266 @27596 has 4 MA's), (396, 27878), (403, 27905), (422, 27959), (502, 28124), (549, 28199), (561, 28220), (688, 28574), (700, 28634), (711, 28685), (724, 28751), (733, 28787), (759, 28880), (816, 29051), (846, 29123), (873, 29204), (895, 29279), (896, 29282), (906, 29303), (930, 29372),

Gene: Berrie\_42 Start: 30512, Stop: 32377, Start Num: 231

Candidate Starts for Berrie\_42:

(Start: 231 @30512 has 845 MA's), (254, 30560), (329, 30716), (351, 30749), (388, 30830), (406, 30899), (489, 31106), (494, 31118), (542, 31205), (549, 31214), (558, 31229), (595, 31319), (613, 31367), (674, 31505), (700, 31625), (720, 31712), (733, 31778), (759, 31871), (780, 31943), (820, 32051), (846, 32114), (851, 32138), (896, 32273), (901, 32282), (929, 32360),

Gene: Bethlehem\_44 Start: 35080, Stop: 33254, Start Num: 231

Candidate Starts for Bethlehem\_44:

(Start: 231 @35080 has 845 MA's), (332, 34867), (367, 34804), (378, 34774), (388, 34753), (390, 34747), (392, 34738), (425, 34621), (434, 34594), (487, 34501), (492, 34486), (541, 34402), (543, 34399), (575, 34333), (589, 34303), (598, 34273), (616, 34228), (638, 34189), (700, 34009), (709, 33961), (720, 33922), (733, 33856), (742, 33817), (755, 33796), (760, 33775), (766, 33757), (786, 33691), (846, 33541), (847, 33538), (855, 33502), (870, 33469), (874, 33457), (880, 33430), (896, 33382), (906, 33361),

Gene: Bexan\_43 Start: 35619, Stop: 33832, Start Num: 231

Candidate Starts for Bexan\_43:

(Start: 231 @35619 has 845 MA's), (332, 35406), (367, 35343), (378, 35313), (388, 35292), (390, 35286), (392, 35277), (425, 35160), (434, 35133), (487, 35040), (492, 35025), (509, 34992), (541, 34941), (543, 34938), (575, 34872), (589, 34842), (598, 34812), (616, 34767), (638, 34728), (700, 34548), (709, 34500), (720, 34461), (733, 34395), (758, 34323), (760, 34314), (786, 34230), (818, 34143), (868, 34017), (871, 34005), (890, 33945), (896, 33921), (899, 33915),

Gene: BiancaTri92\_44 Start: 32044, Stop: 30257, Start Num: 231

Candidate Starts for BiancaTri92\_44:

(Start: 231 @32044 has 845 MA's), (330, 31837), (332, 31831), (337, 31816), (350, 31801), (378, 31738), (390, 31711), (395, 31690), (434, 31558), (487, 31465), (513, 31408), (524, 31393), (562, 31327), (595, 31246), (613, 31198), (616, 31192), (683, 31054), (700, 30973), (711, 30922), (719, 30889), (720, 30886), (722, 30877), (726, 30850), (733, 30820), (742, 30781), (755, 30760), (760, 30739), (834, 30541), (846, 30505), (851, 30481), (873, 30424), (877, 30403), (896, 30346), (902, 30334), (906, 30325),

Gene: Big3\_43 Start: 34644, Stop: 32818, Start Num: 231

Candidate Starts for Big3\_43:

(Start: 231 @34644 has 845 MA's), (332, 34431), (337, 34416), (367, 34368), (378, 34338), (388, 34317), (390, 34311), (392, 34302), (425, 34185), (434, 34158), (487, 34065), (492, 34050), (509, 34017), (541, 33966), (543, 33963), (575, 33897), (589, 33867), (598, 33837), (616, 33792), (638, 33753), (700, 33573), (709, 33525), (720, 33486), (733, 33420), (742, 33381), (755, 33360), (760, 33339), (766, 33321), (786, 33255), (846, 33105), (847, 33102), (855, 33066), (868, 33042), (870, 33033), (874, 33021), (896, 32946), (906, 32925),

Gene: Big4\_105 Start: 80746, Stop: 78878, Start Num: 222

Candidate Starts for Big4\_105:

(Start: 209 @80767 has 11 MA's), (215, 80758), (218, 80755), (Start: 222 @80746 has 57 MA's), (316, 80548), (339, 80488), (355, 80473), (397, 80365), (400, 80359), (432, 80266), (438, 80248), (490, 80173), (530, 80089), (549, 80062), (561, 80041), (576, 80002), (591, 79969), (604, 79927), (623, 79894), (638, 79864), (653, 79837), (700, 79675), (723, 79561), (739, 79477), (744, 79462), (746, 79453), (770, 79366), (772, 79357), (783, 79324), (841, 79168), (871, 79072), (877, 79045), (896, 78988), (906, 78964),

Gene: BigChungus\_44 Start: 33868, Stop: 31490, Start Num: 43

Candidate Starts for BigChungus\_44:

(Start: 43 @33868 has 11 MA's), (58, 33808), (79, 33766), (91, 33727), (117, 33637), (127, 33607), (135, 33586), (159, 33562), (Start: 208 @33484 has 3 MA's), (Start: 212 @33478 has 1 MA's), (Start: 214 @33475 has 4 MA's), (237, 33445), (243, 33427), (253, 33409), (278, 33370), (280, 33367), (303, 33310), (314, 33286), (321, 33271), (352, 33208), (365, 33184), (369, 33175), (370, 33169), (371, 33163), (384, 33130), (393, 33109), (397, 33088), (463, 32905), (490, 32830), (519, 32788), (576, 32701), (596, 32677), (603, 32653), (607, 32644), (617, 32623), (640, 32572), (642, 32569), (649, 32554), (659, 32533), (693, 32407), (703, 32359), (705, 32350), (714, 32308), (733, 32215), (741, 32179), (743, 32173), (745, 32167), (746, 32161), (761, 32104), (768, 32080), (795, 31975), (796, 31972), (830, 31879), (836, 31861), (847, 31822), (857, 31780), (865, 31756), (875, 31726), (886, 31678), (893, 31654), (901, 31630), (908, 31609), (936, 31522), (944, 31510),

Gene: BigMau\_45 Start: 34189, Stop: 32360, Start Num: 231

Candidate Starts for BigMau\_45:

(Start: 231 @34189 has 845 MA's), (332, 33976), (337, 33961), (367, 33913), (378, 33883), (388, 33862), (390, 33856), (392, 33847), (425, 33730), (434, 33703), (487, 33610), (492, 33595), (501, 33574), (541, 33511), (543, 33508), (570, 33454), (575, 33442), (589, 33412), (598, 33382), (616, 33337), (638, 33298), (700, 33118), (709, 33070), (722, 33022), (730, 32983), (733, 32965), (742, 32926), (755, 32905), (760, 32884), (803, 32746), (871, 32575), (876, 32551), (889, 32518), (893, 32503), (896, 32491), (906, 32470), (908, 32464), (921, 32416), (928, 32401),

Gene: BigPaolini\_45 Start: 33608, Stop: 31821, Start Num: 231

Candidate Starts for BigPaolini\_45:

(Start: 231 @33608 has 845 MA's), (332, 33395), (337, 33380), (378, 33302), (388, 33281), (390, 33275), (392, 33266), (425, 33149), (434, 33122), (487, 33029), (492, 33014), (509, 32981), (541, 32930), (543, 32927), (570, 32873), (575, 32861), (589, 32831), (598, 32801), (616, 32756), (638, 32717), (700, 32537), (709, 32489), (720, 32450), (733, 32384), (758, 32312), (760, 32303), (786, 32219), (818, 32132), (868, 32006), (871, 31994), (896, 31910), (899, 31904),

Gene: BigRedClifford\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for BigRedClifford\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612,

28127), (634, 28067), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (747, 27665), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Bigfoot\_41 Start: 33829, Stop: 32003, Start Num: 231

Candidate Starts for Bigfoot\_41:

(Start: 231 @33829 has 845 MA's), (332, 33616), (337, 33601), (367, 33553), (378, 33523), (388, 33502), (390, 33496), (392, 33487), (425, 33370), (434, 33343), (487, 33250), (492, 33235), (509, 33202), (541, 33151), (543, 33148), (575, 33082), (598, 33022), (616, 32977), (638, 32938), (700, 32758), (709, 32710), (720, 32671), (733, 32605), (742, 32566), (755, 32545), (760, 32524), (766, 32506), (786, 32440), (846, 32290), (847, 32287), (855, 32251), (868, 32227), (870, 32218), (874, 32206), (880, 32179), (896, 32131), (906, 32110),

Gene: BiggityBass\_49 Start: 47333, Stop: 45519, Start Num: 216

Candidate Starts for BiggityBass\_49:

(151, 47423), (Start: 216 @47333 has 7 MA's), (Start: 227 @47324 has 3 MA's), (246, 47282), (330, 47114), (350, 47072), (379, 47003), (395, 46964), (398, 46949), (424, 46874), (431, 46853), (466, 46760), (524, 46634), (526, 46631), (540, 46610), (542, 46607), (586, 46517), (643, 46379), (684, 46295), (689, 46277), (701, 46220), (725, 46112), (727, 46106), (730, 46097), (744, 46034), (761, 45995), (766, 45980), (790, 45902), (794, 45890), (795, 45884), (800, 45869), (803, 45860), (844, 45773), (851, 45740), (852, 45737), (872, 45686), (875, 45677), (890, 45617), (912, 45545),

Gene: BillDoor\_43 Start: 31825, Stop: 29438, Start Num: 33

Candidate Starts for BillDoor\_43:

(Start: 33 @31825 has 15 MA's), (58, 31762), (81, 31705), (119, 31582), (127, 31558), (Start: 214 @31426 has 4 MA's), (235, 31399), (285, 31306), (303, 31261), (331, 31201), (337, 31183), (365, 31135), (384, 31081), (386, 31078), (393, 31060), (397, 31039), (415, 30988), (418, 30979), (419, 30976), (463, 30856), (486, 30796), (490, 30781), (551, 30697), (576, 30652), (588, 30628), (596, 30622), (603, 30598), (639, 30520), (640, 30517), (642, 30514), (654, 30490), (690, 30367), (705, 30298), (706, 30292), (724, 30199), (733, 30163), (741, 30127), (743, 30121), (745, 30115), (746, 30109), (753, 30085), (761, 30052), (768, 30028), (777, 29983), (795, 29923), (847, 29770), (856, 29731), (857, 29728), (893, 29602), (908, 29557), (910, 29548), (926, 29488),

Gene: BillKnuckles\_45 Start: 35369, Stop: 33540, Start Num: 231

Candidate Starts for BillKnuckles\_45:

(Start: 231 @35369 has 845 MA's), (332, 35156), (337, 35141), (367, 35093), (378, 35063), (388, 35042), (390, 35036), (392, 35027), (425, 34910), (434, 34883), (487, 34790), (492, 34775), (509, 34742), (541, 34691), (543, 34688), (575, 34622), (589, 34592), (598, 34562), (616, 34517), (638, 34478), (700, 34298), (709, 34250), (722, 34202), (730, 34163), (733, 34145), (742, 34106), (755, 34085), (760, 34064), (765, 34049), (803, 33926), (871, 33755), (876, 33731), (893, 33683), (896, 33671), (906, 33650), (908, 33644), (921, 33596), (928, 33581),

Gene: Bircsak\_44 Start: 35182, Stop: 33353, Start Num: 231

Candidate Starts for Bircsak\_44:

(Start: 231 @35182 has 845 MA's), (332, 34969), (337, 34954), (367, 34906), (378, 34876), (382, 34864), (388, 34855), (390, 34849), (392, 34840), (425, 34723), (434, 34696), (487, 34603), (492, 34588), (501, 34567), (509, 34555), (541, 34504), (543, 34501), (575, 34435), (589, 34405), (598, 34375), (616, 34330), (638, 34291), (700, 34111), (709, 34063), (722, 34015), (730, 33976), (733, 33958), (742, 33919), (755, 33898), (760, 33877), (765, 33862), (803, 33739), (871, 33568), (876, 33544), (893, 33496), (896, 33484), (906, 33463), (908, 33457), (921, 33409), (928, 33394),

Gene: BirdsNest\_61 Start: 54182, Stop: 52338, Start Num: 216

Candidate Starts for BirdsNest\_61:



(Start: 216 @54182 has 7 MA's), (246, 54125), (264, 54098), (311, 53996), (355, 53909), (377, 53855), (386, 53834), (395, 53810), (398, 53795), (431, 53690), (466, 53597), (471, 53585), (486, 53549), (542, 53444), (610, 53297), (645, 53213), (648, 53207), (681, 53147), (682, 53144), (689, 53108), (701, 53051), (725, 52943), (727, 52937), (730, 52928), (760, 52814), (766, 52796), (790, 52718), (794, 52706), (800, 52685), (834, 52616), (841, 52601), (851, 52556), (858, 52532), (875, 52493), (877, 52478), (881, 52463), (890, 52439), (904, 52394), (907, 52388), (912, 52364),

Gene: Bishoperium\_60 Start: 54582, Stop: 52723, Start Num: 196

Candidate Starts for Bishoperium\_60:

(Start: 175 @54606 has 1 MA's), (Start: 196 @54582 has 254 MA's), (Start: 221 @54558 has 2 MA's), (Start: 227 @54552 has 3 MA's), (246, 54510), (259, 54489), (307, 54375), (311, 54369), (326, 54339), (355, 54279), (366, 54258), (386, 54204), (391, 54192), (396, 54174), (398, 54162), (431, 54057), (454, 54000), (466, 53964), (471, 53952), (483, 53925), (491, 53898), (499, 53880), (509, 53862), (533, 53823), (540, 53814), (542, 53811), (544, 53808), (695, 53451), (701, 53418), (706, 53397), (727, 53304), (730, 53295), (744, 53232), (760, 53196), (761, 53193), (766, 53178), (790, 53100), (794, 53088), (800, 53067), (817, 53028), (851, 52938), (856, 52920), (858, 52914), (868, 52899), (875, 52875), (877, 52860), (878, 52857), (881, 52845), (890, 52821), (907, 52773), (912, 52749),

Gene: Biskit\_45 Start: 32515, Stop: 30125, Start Num: 33

Candidate Starts for Biskit\_45:

(Start: 33 @32515 has 15 MA's), (58, 32452), (65, 32434), (71, 32419), (91, 32365), (94, 32353), (98, 32332), (109, 32299), (119, 32272), (127, 32248), (147, 32221), (Start: 214 @32116 has 4 MA's), (243, 32068), (303, 31951), (337, 31870), (354, 31843), (365, 31822), (384, 31768), (386, 31765), (393, 31747), (397, 31726), (418, 31666), (490, 31468), (519, 31426), (576, 31339), (588, 31315), (596, 31309), (617, 31255), (622, 31249), (639, 31207), (640, 31204), (642, 31201), (690, 31054), (698, 31012), (705, 30985), (714, 30943), (733, 30850), (741, 30814), (743, 30808), (745, 30802), (746, 30796), (753, 30772), (761, 30739), (768, 30715), (777, 30670), (795, 30610), (847, 30457), (893, 30289), (908, 30244), (910, 30235), (911, 30226),

Gene: BlackStallion\_62 Start: 54311, Stop: 52452, Start Num: 196

Candidate Starts for BlackStallion\_62:

(Start: 175 @54335 has 1 MA's), (Start: 196 @54311 has 254 MA's), (Start: 221 @54287 has 2 MA's), (Start: 227 @54281 has 3 MA's), (246, 54239), (259, 54218), (307, 54104), (311, 54098), (326, 54068), (355, 54008), (366, 53987), (386, 53933), (391, 53921), (396, 53903), (398, 53891), (431, 53786), (454, 53729), (466, 53693), (471, 53681), (482, 53657), (486, 53645), (491, 53627), (499, 53609), (509, 53591), (533, 53552), (540, 53543), (542, 53540), (544, 53537), (695, 53180), (701, 53147), (706, 53126), (727, 53033), (730, 53024), (744, 52961), (760, 52925), (761, 52922), (766, 52907), (790, 52829), (794, 52817), (800, 52796), (817, 52757), (851, 52667), (856, 52649), (858, 52643), (868, 52628), (875, 52604), (877, 52589), (878, 52586), (881, 52574), (890, 52550), (907, 52502), (912, 52478),

Gene: Blackmoor\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Blackmoor\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Blage\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for Blage\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612, 28127), (634, 28067), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (747, 27665), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Blinn1\_48 Start: 30144, Stop: 28303, Start Num: 231

Candidate Starts for Blinn1\_48:

(Start: 231 @30144 has 845 MA's), (329, 29940), (367, 29865), (369, 29862), (384, 29820), (390, 29808), (403, 29757), (434, 29655), (487, 29562), (502, 29523), (513, 29505), (524, 29490), (562, 29424), (576, 29391), (577, 29388), (619, 29286), (652, 29226), (683, 29142), (700, 29061), (719, 28977), (720, 28974), (722, 28965), (726, 28938), (730, 28926), (733, 28908), (755, 28848), (766, 28809), (772, 28785), (846, 28593), (847, 28590), (851, 28569), (896, 28434), (902, 28422), (906, 28413), (907, 28410), (939, 28317),

Gene: Blocker23\_57 Start: 52599, Stop: 50770, Start Num: 188

Candidate Starts for Blocker23\_57:

(Start: 188 @52599 has 31 MA's), (Start: 227 @52572 has 3 MA's), (242, 52542), (246, 52530), (264, 52503), (Start: 266 @52500 has 4 MA's), (274, 52491), (291, 52473), (330, 52377), (355, 52326), (367, 52302), (375, 52278), (417, 52140), (427, 52116), (431, 52104), (454, 52047), (466, 52011), (471, 51999), (482, 51975), (522, 51891), (540, 51861), (542, 51858), (561, 51828), (624, 51684), (652, 51618), (678, 51579), (681, 51567), (684, 51546), (689, 51528), (701, 51471), (722, 51387), (727, 51357), (730, 51348), (744, 51282), (758, 51255), (760, 51246), (766, 51228), (772, 51204), (790, 51150), (794, 51138), (800, 51117), (834, 51048), (851, 50988), (856, 50970), (871, 50937), (875, 50925), (877, 50910), (878, 50907), (881, 50895), (890, 50871), (891, 50868), (907, 50820), (908, 50817), (912, 50796), (917, 50775),

Gene: Bloom\_103 Start: 78450, Stop: 80246, Start Num: 233

Candidate Starts for Bloom\_103:

(Start: 233 @78450 has 1 MA's), (291, 78546), (391, 78762), (397, 78789), (400, 78795), (425, 78864), (437, 78900), (530, 79047), (534, 79053), (549, 79074), (558, 79089), (638, 79278), (662, 79323), (676, 79356), (680, 79374), (687, 79407), (697, 79446), (700, 79467), (702, 79473), (724, 79587), (741, 79671), (743, 79677), (746, 79689), (759, 79737), (762, 79749), (772, 79785), (783, 79818), (786, 79827), (800, 79872), (807, 79890), (841, 79974), (846, 79995), (852, 80022), (856, 80037), (871, 80070), (876, 80094), (884, 80118), (896, 80154), (907, 80181),

Gene: BluSpix\_43 Start: 30791, Stop: 28962, Start Num: 231

Candidate Starts for BluSpix\_43:

(Start: 231 @30791 has 845 MA's), (332, 30578), (367, 30515), (378, 30485), (388, 30464), (390, 30458), (392, 30449), (425, 30332), (434, 30305), (487, 30212), (492, 30197), (509, 30164), (541, 30113), (543, 30110), (575, 30044), (598, 29984), (616, 29939), (638, 29900), (700, 29720), (709, 29672), (722, 29624), (730, 29585), (733, 29567), (742, 29528), (755, 29507), (760, 29486), (765, 29471), (803, 29348), (871, 29177), (876, 29153), (893, 29105), (896, 29093), (906, 29072), (908, 29066), (921, 29018), (928, 29003),

Gene: Blue\_44 Start: 34966, Stop: 33140, Start Num: 231

Candidate Starts for Blue\_44:

(Start: 231 @34966 has 845 MA's), (332, 34753), (337, 34738), (378, 34660), (388, 34639), (390, 34633), (392, 34624), (425, 34507), (434, 34480), (487, 34387), (492, 34372), (541, 34288), (543, 34285), (575, 34219), (589, 34189), (598, 34159), (616, 34114), (638, 34075), (700, 33895), (709, 33847), (711, 33844), (720, 33808), (733, 33742), (742, 33703), (755, 33682), (760, 33661), (766,

33643), (786, 33577), (846, 33427), (847, 33424), (855, 33388), (868, 33364), (874, 33343), (877, 33325), (880, 33316), (896, 33268), (906, 33247),

Gene: Blue7\_48 Start: 29980, Stop: 28181, Start Num: 231

Candidate Starts for Blue7\_48:

(Start: 231 @29980 has 845 MA's), (329, 29776), (332, 29767), (367, 29701), (369, 29698), (378, 29671), (384, 29656), (390, 29644), (403, 29593), (430, 29503), (434, 29491), (487, 29398), (509, 29350), (513, 29341), (601, 29158), (678, 29008), (700, 28903), (711, 28846), (720, 28810), (722, 28801), (726, 28774), (733, 28744), (742, 28705), (755, 28684), (764, 28651), (766, 28645), (796, 28546), (823, 28483), (846, 28429), (851, 28405), (873, 28348), (896, 28270), (902, 28258), (906, 28249), (907, 28246),

Gene: BlueBird\_47 Start: 31555, Stop: 29717, Start Num: 231

Candidate Starts for BlueBird\_47:

(Start: 231 @31555 has 845 MA's), (256, 31504), (292, 31438), (329, 31351), (363, 31291), (367, 31279), (390, 31222), (392, 31213), (426, 31093), (434, 31069), (487, 30973), (511, 30925), (549, 30865), (577, 30802), (603, 30733), (613, 30712), (653, 30640), (673, 30598), (683, 30556), (700, 30475), (709, 30427), (726, 30352), (733, 30322), (739, 30292), (761, 30211), (772, 30172), (780, 30148), (786, 30130), (834, 30001), (851, 29941), (896, 29806), (902, 29794), (906, 29785),

Gene: BlueHusk\_62 Start: 54066, Stop: 52207, Start Num: 196

Candidate Starts for BlueHusk\_62:

(Start: 175 @54090 has 1 MA's), (Start: 196 @54066 has 254 MA's), (Start: 221 @54042 has 2 MA's), (Start: 227 @54036 has 3 MA's), (240, 54009), (246, 53994), (259, 53973), (307, 53859), (311, 53853), (326, 53823), (355, 53763), (366, 53742), (386, 53688), (391, 53676), (396, 53658), (398, 53646), (431, 53541), (454, 53484), (466, 53448), (471, 53436), (483, 53409), (486, 53400), (499, 53364), (533, 53307), (540, 53298), (542, 53295), (544, 53292), (695, 52935), (701, 52902), (706, 52881), (727, 52788), (730, 52779), (744, 52716), (760, 52680), (761, 52677), (766, 52662), (790, 52584), (794, 52572), (800, 52551), (817, 52512), (851, 52422), (856, 52404), (858, 52398), (868, 52383), (875, 52359), (877, 52344), (878, 52341), (881, 52329), (890, 52305), (907, 52257), (912, 52233),

Gene: BlueNGold\_170 Start: 99709, Stop: 97928, Start Num: 228

Candidate Starts for BlueNGold\_170:

(Start: 228 @99709 has 4 MA's), (250, 99664), (Start: 266 @99637 has 4 MA's), (316, 99544), (339, 99484), (348, 99481), (353, 99472), (366, 99448), (381, 99406), (383, 99403), (397, 99358), (413, 99316), (432, 99262), (487, 99178), (530, 99094), (549, 99067), (558, 99052), (626, 98893), (638, 98869), (645, 98854), (652, 98845), (685, 98758), (692, 98731), (693, 98728), (697, 98707), (700, 98686), (710, 98635), (730, 98551), (735, 98524), (739, 98491), (749, 98449), (783, 98338), (792, 98311), (804, 98275), (808, 98266), (810, 98263), (813, 98254), (852, 98134), (858, 98113), (860, 98107), (875, 98074), (878, 98056), (880, 98050), (892, 98017), (896, 98002), (907, 97978), (908, 97975), (916, 97951),

Gene: Bluefalcon\_37 Start: 30628, Stop: 28769, Start Num: 231

Candidate Starts for Bluefalcon\_37:

(Start: 231 @30628 has 845 MA's), (256, 30577), (291, 30517), (317, 30454), (329, 30424), (330, 30421), (363, 30364), (378, 30322), (390, 30295), (434, 30142), (487, 30046), (500, 30013), (509, 29998), (561, 29914), (562, 29908), (576, 29875), (610, 29788), (616, 29776), (638, 29737), (668, 29677), (700, 29542), (708, 29512), (709, 29494), (719, 29458), (720, 29455), (733, 29389), (742, 29350), (760, 29308), (766, 29290), (780, 29242), (782, 29236), (796, 29191), (818, 29137), (823, 29128), (834, 29110), (856, 29032), (876, 28975), (890, 28939), (896, 28915), (902, 28903), (945, 28786), (947, 28783),

Gene: Bluephacebaby\_60 Start: 54585, Stop: 52726, Start Num: 196

Candidate Starts for Bluephacebaby\_60:

(Start: 175 @54609 has 1 MA's), (Start: 196 @54585 has 254 MA's), (Start: 221 @54561 has 2 MA's), (Start: 227 @54555 has 3 MA's), (246, 54513), (259, 54492), (307, 54378), (311, 54372), (326, 54342), (355, 54282), (366, 54261), (386, 54207), (391, 54195), (396, 54177), (398, 54165), (431, 54060), (454, 54003), (466, 53967), (471, 53955), (483, 53928), (499, 53883), (533, 53826), (540, 53817), (542, 53814), (695, 53454), (701, 53421), (706, 53400), (727, 53307), (730, 53298), (744, 53235), (760, 53199), (761, 53196), (766, 53181), (790, 53103), (794, 53091), (800, 53070), (817, 53031), (851, 52941), (856, 52923), (858, 52917), (868, 52902), (875, 52878), (877, 52863), (878, 52860), (881, 52848), (890, 52824), (907, 52776), (912, 52752),

Gene: Bob3\_42 Start: 33539, Stop: 31710, Start Num: 231

Candidate Starts for Bob3\_42:

(Start: 231 @33539 has 845 MA's), (332, 33326), (337, 33311), (367, 33263), (378, 33233), (388, 33212), (390, 33206), (392, 33197), (425, 33080), (434, 33053), (487, 32960), (492, 32945), (501, 32924), (541, 32861), (543, 32858), (575, 32792), (589, 32762), (598, 32732), (616, 32687), (638, 32648), (700, 32468), (709, 32420), (722, 32372), (730, 32333), (733, 32315), (742, 32276), (755, 32255), (760, 32234), (803, 32096), (871, 31925), (876, 31901), (889, 31868), (893, 31853), (896, 31841), (906, 31820), (908, 31814), (921, 31766), (928, 31751),

Gene: BobSwaget\_44 Start: 31390, Stop: 29603, Start Num: 231

Candidate Starts for BobSwaget\_44:

(Start: 231 @31390 has 845 MA's), (330, 31183), (332, 31177), (350, 31147), (367, 31114), (369, 31111), (384, 31069), (390, 31057), (434, 30904), (487, 30811), (509, 30763), (513, 30754), (524, 30739), (562, 30673), (613, 30544), (683, 30400), (700, 30319), (711, 30268), (719, 30235), (720, 30232), (733, 30166), (742, 30127), (755, 30106), (775, 30031), (780, 30019), (806, 29941), (823, 29905), (834, 29887), (846, 29851), (851, 29827), (877, 29749), (896, 29692), (902, 29680), (906, 29671),

Gene: BobbyDazzler\_36 Start: 28159, Stop: 26375, Start Num: 231

Candidate Starts for BobbyDazzler\_36:

(Start: 231 @28159 has 845 MA's), (345, 27925), (363, 27895), (366, 27886), (367, 27883), (384, 27838), (390, 27826), (392, 27817), (403, 27775), (434, 27673), (450, 27652), (487, 27580), (505, 27535), (509, 27532), (535, 27490), (539, 27484), (549, 27469), (562, 27442), (603, 27337), (616, 27310), (638, 27271), (700, 27091), (709, 27043), (733, 26938), (734, 26935), (755, 26878), (760, 26857), (774, 26809), (798, 26734), (832, 26665), (846, 26623), (851, 26599), (877, 26521), (896, 26464), (902, 26452), (917, 26395),

Gene: BobbyK\_54 Start: 53968, Stop: 52145, Start Num: 182

Candidate Starts for BobbyK\_54:

(Start: 169 @53986 has 3 MA's), (Start: 182 @53968 has 24 MA's), (Start: 227 @53944 has 3 MA's), (240, 53917), (246, 53902), (259, 53881), (301, 53794), (351, 53689), (371, 53647), (396, 53581), (405, 53551), (407, 53542), (410, 53539), (412, 53536), (417, 53509), (454, 53416), (461, 53398), (466, 53380), (471, 53368), (483, 53341), (509, 53278), (533, 53239), (540, 53230), (542, 53227), (561, 53197), (575, 53161), (681, 52936), (682, 52933), (689, 52897), (695, 52873), (701, 52840), (725, 52732), (727, 52726), (730, 52717), (760, 52618), (761, 52615), (766, 52600), (790, 52522), (794, 52510), (800, 52489), (803, 52480), (817, 52450), (834, 52420), (844, 52393), (851, 52360), (858, 52336), (875, 52297), (878, 52279), (881, 52267), (890, 52243), (904, 52201), (907, 52195), (912, 52171),

Gene: Boehler\_60 Start: 54229, Stop: 52370, Start Num: 196

Candidate Starts for Boehler\_60:

(Start: 175 @54253 has 1 MA's), (Start: 196 @54229 has 254 MA's), (Start: 221 @54205 has 2 MA's), (Start: 227 @54199 has 3 MA's), (246, 54157), (259, 54136), (307, 54022), (311, 54016), (326, 53986), (355, 53926), (366, 53905), (386, 53851), (391, 53839), (396, 53821), (398, 53809), (431, 53704), (454, 53647), (466, 53611), (471, 53599), (482, 53575), (486, 53563), (491, 53545), (499, 53527), (509, 53509), (533, 53470), (540, 53461), (542, 53458), (544, 53455), (695, 53098), (701, 53065), (706, 53044), (727, 52951), (730, 52942), (744, 52879), (760, 52843), (761, 52840), (766, 52825), (790, 52747), (794, 52735), (800, 52714), (817, 52675), (851, 52585), (856, 52567), (858, 52561), (868, 52546), (875, 52522), (877, 52507), (878, 52504), (881, 52492), (890, 52468), (907, 52420), (912, 52396),

Gene: Boersma\_57 Start: 36879, Stop: 34711, Start Num: 209

Candidate Starts for Boersma\_57:

(207, 36882), (Start: 209 @36879 has 11 MA's), (240, 36825), (286, 36741), (337, 36588), (343, 36579), (367, 36534), (393, 36456), (395, 36447), (398, 36432), (403, 36417), (404, 36414), (417, 36357), (446, 36264), (458, 36222), (506, 36027), (514, 36015), (521, 36009), (531, 35985), (545, 35964), (559, 35943), (564, 35928), (566, 35922), (592, 35859), (607, 35808), (638, 35721), (670, 35661), (683, 35613), (707, 35511), (708, 35505), (713, 35478), (714, 35475), (719, 35454), (727, 35412), (729, 35406), (734, 35382), (740, 35340), (741, 35337), (748, 35310), (756, 35277), (759, 35265), (769, 35229), (775, 35205), (777, 35199), (780, 35193), (797, 35139), (817, 35091), (818, 35088), (840, 35028), (846, 35004), (853, 34974), (872, 34920), (890, 34851), (893, 34839), (907, 34800),

Gene: BogosyJay\_44 Start: 31342, Stop: 29549, Start Num: 231

Candidate Starts for BogosyJay\_44:

(Start: 231 @31342 has 845 MA's), (236, 31333), (291, 31231), (316, 31171), (317, 31168), (329, 31138), (332, 31129), (350, 31096), (367, 31063), (369, 31060), (378, 31033), (384, 31018), (390, 31006), (434, 30853), (487, 30760), (562, 30622), (575, 30592), (652, 30421), (671, 30394), (673, 30388), (700, 30265), (730, 30130), (733, 30112), (760, 30031), (796, 29914), (846, 29797), (851, 29773), (877, 29695), (896, 29638), (902, 29626), (906, 29617),

Gene: Bombshell\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Bombshell\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Bonamassa\_39 Start: 30653, Stop: 28809, Start Num: 231

Candidate Starts for Bonamassa\_39:

(Start: 231 @30653 has 845 MA's), (256, 30602), (291, 30542), (317, 30479), (329, 30449), (330, 30446), (363, 30389), (367, 30377), (378, 30347), (390, 30320), (434, 30167), (487, 30071), (509, 30023), (561, 29939), (562, 29933), (594, 29861), (603, 29828), (610, 29813), (616, 29801), (668, 29702), (700, 29567), (708, 29537), (709, 29519), (711, 29516), (720, 29480), (722, 29471), (724, 29450), (727, 29441), (733, 29414), (734, 29411), (755, 29354), (760, 29333), (796, 29216), (818, 29162), (823, 29153), (834, 29135), (851, 29075), (856, 29057), (876, 29000), (890, 28964), (896, 28940), (902, 28928),

Gene: Bonanza\_36 Start: 28087, Stop: 26303, Start Num: 231

Candidate Starts for Bonanza\_36:

(Start: 231 @28087 has 845 MA's), (345, 27853), (363, 27823), (366, 27814), (367, 27811), (384, 27766), (390, 27754), (392, 27745), (403, 27703), (434, 27601), (450, 27580), (487, 27508), (505, 27463), (509, 27460), (535, 27418), (539, 27412), (549, 27397), (562, 27370), (603, 27265), (616,

27238), (638, 27199), (700, 27019), (709, 26971), (733, 26866), (734, 26863), (755, 26806), (760, 26785), (774, 26737), (798, 26662), (832, 26593), (846, 26551), (851, 26527), (877, 26449), (896, 26392), (902, 26380), (917, 26323),

Gene: Bones\_45 Start: 35104, Stop: 33317, Start Num: 231

Candidate Starts for Bones\_45:

(Start: 231 @35104 has 845 MA's), (332, 34891), (337, 34876), (378, 34798), (388, 34777), (390, 34771), (392, 34762), (425, 34645), (434, 34618), (487, 34525), (492, 34510), (541, 34426), (543, 34423), (575, 34357), (589, 34327), (598, 34297), (616, 34252), (638, 34213), (700, 34033), (709, 33985), (720, 33946), (733, 33880), (758, 33808), (760, 33799), (786, 33715), (818, 33628), (868, 33502), (871, 33490), (896, 33406), (899, 33400),

Gene: BonesMcCoy\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for BonesMcCoy\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (394, 28661), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (634, 28067), (659, 28013), (666, 27992), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Bonino\_38 Start: 28608, Stop: 26743, Start Num: 267

Candidate Starts for Bonino\_38:

(Start: 214 @28695 has 4 MA's), (Start: 267 @28608 has 137 MA's), (Start: 275 @28599 has 5 MA's), (321, 28494), (325, 28485), (338, 28455), (340, 28452), (395, 28332), (397, 28320), (400, 28314), (436, 28209), (445, 28182), (490, 28041), (492, 28035), (494, 28032), (498, 28020), (513, 27993), (516, 27990), (525, 27975), (527, 27969), (530, 27963), (553, 27930), (612, 27801), (634, 27741), (726, 27426), (729, 27417), (730, 27414), (733, 27396), (743, 27354), (745, 27348), (751, 27324), (768, 27267), (815, 27108), (827, 27078), (828, 27069), (847, 27009), (852, 26985), (863, 26946), (875, 26913), (876, 26901), (893, 26841),

Gene: Boohoo\_47 Start: 29967, Stop: 28177, Start Num: 231

Candidate Starts for Boohoo\_47:

(Start: 231 @29967 has 845 MA's), (317, 29793), (367, 29688), (369, 29685), (378, 29658), (390, 29631), (403, 29580), (434, 29478), (487, 29385), (505, 29340), (509, 29337), (513, 29328), (595, 29166), (603, 29139), (613, 29118), (616, 29112), (674, 29013), (683, 28974), (695, 28923), (700, 28893), (711, 28842), (719, 28809), (724, 28776), (726, 28770), (733, 28740), (755, 28680), (760, 28659), (772, 28617), (781, 28590), (786, 28575), (818, 28488), (846, 28425), (847, 28422), (896, 28266), (902, 28254), (907, 28242),

Gene: Boopy\_173 Start: 99720, Stop: 97939, Start Num: 228

Candidate Starts for Boopy\_173:

(Start: 228 @99720 has 4 MA's), (250, 99675), (Start: 266 @99648 has 4 MA's), (316, 99555), (339, 99495), (348, 99492), (353, 99483), (366, 99459), (381, 99417), (383, 99414), (397, 99369), (413, 99327), (432, 99273), (487, 99189), (530, 99105), (549, 99078), (558, 99063), (626, 98904), (638, 98880), (645, 98865), (652, 98856), (685, 98769), (692, 98742), (693, 98739), (697, 98718), (700, 98697), (710, 98646), (730, 98562), (735, 98535), (739, 98502), (749, 98460), (783, 98349), (792, 98322), (804, 98286), (808, 98277), (810, 98274), (813, 98265), (852, 98145), (858, 98124), (860, 98118), (875, 98085), (878, 98067), (880, 98061), (892, 98028), (896, 98013), (907, 97989), (908, 97986), (916, 97962),

Gene: BouleyBill\_37 Start: 28490, Stop: 26640, Start Num: 265

Candidate Starts for BouleyBill\_37:

(Start: 265 @28490 has 17 MA's), (325, 28367), (340, 28334), (393, 28223), (397, 28202), (400, 28196), (402, 28187), (417, 28145), (476, 27989), (490, 27935), (492, 27929), (494, 27926), (498, 27914), (516, 27884), (551, 27827), (620, 27680), (675, 27533), (726, 27323), (730, 27311), (733, 27293), (743, 27251), (747, 27236), (768, 27164), (827, 26975), (828, 26966), (847, 26906), (852, 26882), (862, 26849), (893, 26738),

Gene: Bowtie\_45 Start: 30783, Stop: 28996, Start Num: 231

Candidate Starts for Bowtie\_45:

(Start: 231 @30783 has 845 MA's), (329, 30579), (367, 30507), (378, 30477), (390, 30450), (489, 30198), (513, 30147), (562, 30066), (582, 30021), (613, 29937), (643, 29880), (672, 29838), (683, 29793), (700, 29712), (711, 29661), (720, 29625), (733, 29559), (755, 29499), (758, 29487), (789, 29385), (796, 29361), (802, 29343), (834, 29280), (844, 29253), (846, 29244), (851, 29220), (896, 29085), (902, 29073), (906, 29064),

Gene: Boyle\_57 Start: 52628, Stop: 50799, Start Num: 188

Candidate Starts for Boyle\_57:

(Start: 188 @52628 has 31 MA's), (Start: 227 @52601 has 3 MA's), (242, 52571), (246, 52559), (264, 52532), (Start: 266 @52529 has 4 MA's), (274, 52520), (291, 52502), (330, 52406), (355, 52355), (367, 52331), (375, 52307), (417, 52169), (427, 52145), (431, 52133), (454, 52076), (466, 52040), (471, 52028), (482, 52004), (522, 51920), (540, 51890), (542, 51887), (561, 51857), (624, 51713), (652, 51647), (678, 51608), (681, 51596), (684, 51575), (689, 51557), (701, 51500), (722, 51416), (727, 51386), (730, 51377), (744, 51311), (758, 51284), (760, 51275), (766, 51257), (772, 51233), (790, 51179), (794, 51167), (800, 51146), (834, 51077), (851, 51017), (856, 50999), (871, 50966), (875, 50954), (877, 50939), (878, 50936), (881, 50924), (890, 50900), (891, 50897), (907, 50849), (908, 50846), (912, 50825), (917, 50804),

Gene: Brad\_36 Start: 31887, Stop: 30142, Start Num: 247

Candidate Starts for Brad\_36:

(237, 31914), (Start: 247 @31887 has 6 MA's), (249, 31884), (269, 31851), (272, 31845), (311, 31752), (327, 31719), (336, 31692), (399, 31557), (437, 31428), (439, 31422), (468, 31398), (473, 31383), (486, 31356), (495, 31326), (549, 31245), (556, 31236), (581, 31176), (593, 31155), (644, 31041), (650, 31023), (743, 30645), (755, 30627), (773, 30561), (777, 30546), (855, 30327), (871, 30285), (896, 30201), (908, 30168),

Gene: Bradshaw\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for Bradshaw\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (913, 26367), (917, 26349),

Gene: Brahms\_40 Start: 27441, Stop: 29309, Start Num: 220

Candidate Starts for Brahms\_40:

(Start: 220 @27441 has 7 MA's), (Start: 222 @27444 has 57 MA's), (225, 27447), (Start: 266 @27516 has 4 MA's), (403, 27825), (422, 27879), (502, 28044), (549, 28119), (561, 28140), (688, 28494), (700, 28554), (711, 28605), (724, 28671), (733, 28707), (759, 28800), (816, 28971), (846, 29043), (873, 29124), (895, 29199), (896, 29202), (906, 29223), (930, 29292),

Gene: BreSam8\_48 Start: 31846, Stop: 30032, Start Num: 231

Candidate Starts for BreSam8\_48:

(Start: 231 @31846 has 845 MA's), (248, 31807), (256, 31795), (329, 31642), (333, 31627), (367, 31570), (390, 31513), (392, 31504), (403, 31462), (415, 31411), (434, 31360), (487, 31267), (509, 31219), (513, 31210), (524, 31195), (549, 31156), (562, 31129), (575, 31099), (610, 31006), (641, 30946), (652, 30931), (700, 30775), (720, 30688), (733, 30622), (742, 30583), (761, 30511), (772, 30472), (780, 30448), (786, 30430), (796, 30397), (806, 30370), (834, 30316), (851, 30256), (877, 30178), (896, 30121), (902, 30109), (906, 30100),

Gene: Briakila\_57 Start: 53649, Stop: 51832, Start Num: 223

Candidate Starts for Briakila\_57:

(123, 53832), (Start: 223 @53649 has 42 MA's), (240, 53619), (332, 53439), (395, 53286), (397, 53274), (407, 53244), (412, 53238), (431, 53175), (433, 53169), (454, 53118), (464, 53091), (466, 53082), (486, 53034), (542, 52929), (589, 52833), (610, 52782), (681, 52638), (689, 52599), (696, 52569), (701, 52542), (704, 52530), (725, 52434), (727, 52428), (730, 52419), (732, 52407), (754, 52335), (760, 52305), (766, 52287), (768, 52278), (790, 52209), (794, 52197), (800, 52176), (834, 52107), (841, 52092), (847, 52068), (851, 52047), (856, 52029), (858, 52023), (873, 51990), (875, 51984), (878, 51966), (881, 51954), (886, 51942), (890, 51930), (904, 51888), (912, 51858),

Gene: Brilliant\_63 Start: 54544, Stop: 52685, Start Num: 196

Candidate Starts for Brilliant\_63:

(Start: 175 @54568 has 1 MA's), (Start: 196 @54544 has 254 MA's), (Start: 221 @54520 has 2 MA's), (Start: 227 @54514 has 3 MA's), (246, 54472), (259, 54451), (307, 54337), (311, 54331), (326, 54301), (355, 54241), (366, 54220), (386, 54166), (391, 54154), (396, 54136), (398, 54124), (431, 54019), (454, 53962), (466, 53926), (471, 53914), (482, 53890), (486, 53878), (491, 53860), (499, 53842), (509, 53824), (533, 53785), (540, 53776), (542, 53773), (544, 53770), (695, 53413), (701, 53380), (706, 53359), (727, 53266), (730, 53257), (744, 53194), (760, 53158), (761, 53155), (766, 53140), (790, 53062), (794, 53050), (800, 53029), (817, 52990), (851, 52900), (856, 52882), (858, 52876), (868, 52861), (875, 52837), (877, 52822), (878, 52819), (881, 52807), (890, 52783), (907, 52735), (912, 52711),

Gene: Briton15\_46 Start: 34660, Stop: 32834, Start Num: 231

Candidate Starts for Briton15\_46:

(Start: 231 @34660 has 845 MA's), (332, 34447), (337, 34432), (367, 34384), (378, 34354), (388, 34333), (390, 34327), (392, 34318), (425, 34201), (434, 34174), (487, 34081), (492, 34066), (509, 34033), (541, 33982), (543, 33979), (575, 33913), (589, 33883), (598, 33853), (616, 33808), (638, 33769), (700, 33589), (708, 33559), (709, 33541), (720, 33502), (733, 33436), (742, 33397), (755, 33376), (760, 33355), (766, 33337), (786, 33271), (846, 33121), (847, 33118), (855, 33082), (868, 33058), (870, 33049), (874, 33037), (896, 32962), (906, 32941),

Gene: Broseidon\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Broseidon\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: BrownCNA\_55 Start: 54328, Stop: 52487, Start Num: 169

Candidate Starts for BrownCNA\_55:

(Start: 169 @54328 has 3 MA's), (Start: 182 @54310 has 24 MA's), (Start: 227 @54286 has 3 MA's), (240, 54259), (246, 54244), (259, 54223), (301, 54136), (351, 54031), (366, 54004), (371, 53989), (396, 53923), (405, 53893), (407, 53884), (410, 53881), (412, 53878), (417, 53851), (454, 53758), (461, 53740), (466, 53722), (471, 53710), (483, 53683), (509, 53620), (533, 53581), (540, 53572), (542, 53569), (561, 53539), (575, 53503), (681, 53278), (682, 53275), (689, 53239), (695, 53215),



(701, 53182), (725, 53074), (727, 53068), (730, 53059), (760, 52960), (761, 52957), (766, 52942), (790, 52864), (794, 52852), (800, 52831), (803, 52822), (817, 52792), (844, 52735), (851, 52702), (858, 52678), (875, 52639), (878, 52621), (881, 52609), (890, 52585), (904, 52543), (907, 52537), (912, 52513),

Gene: Brownie5\_57 Start: 52641, Stop: 50812, Start Num: 188

Candidate Starts for Brownie5\_57:

(Start: 188 @52641 has 31 MA's), (Start: 227 @52614 has 3 MA's), (242, 52584), (246, 52572), (264, 52545), (Start: 266 @52542 has 4 MA's), (274, 52533), (291, 52515), (330, 52419), (355, 52368), (367, 52344), (417, 52182), (424, 52167), (427, 52158), (431, 52146), (454, 52089), (466, 52053), (471, 52041), (482, 52017), (522, 51933), (540, 51903), (542, 51900), (561, 51870), (624, 51726), (652, 51660), (678, 51621), (681, 51609), (684, 51588), (689, 51570), (701, 51513), (717, 51456), (722, 51429), (727, 51399), (730, 51390), (744, 51324), (758, 51297), (760, 51288), (766, 51270), (772, 51246), (790, 51192), (794, 51180), (800, 51159), (834, 51090), (851, 51030), (856, 51012), (871, 50979), (875, 50967), (877, 50952), (878, 50949), (881, 50937), (890, 50913), (891, 50910), (907, 50862), (908, 50859), (912, 50838), (917, 50817),

Gene: Bruiser\_44 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Bruiser\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Bruns\_43 Start: 34261, Stop: 32435, Start Num: 231

Candidate Starts for Bruns\_43:

(Start: 231 @34261 has 845 MA's), (332, 34048), (337, 34033), (378, 33955), (388, 33934), (390, 33928), (392, 33919), (425, 33802), (434, 33775), (487, 33682), (492, 33667), (501, 33646), (509, 33634), (541, 33583), (543, 33580), (575, 33514), (589, 33484), (598, 33454), (616, 33409), (638, 33370), (700, 33190), (709, 33142), (720, 33103), (733, 33037), (742, 32998), (755, 32977), (760, 32956), (766, 32938), (786, 32872), (846, 32722), (847, 32719), (855, 32683), (868, 32659), (870, 32650), (874, 32638), (896, 32563), (906, 32542),

Gene: Bryce\_36 Start: 28088, Stop: 26304, Start Num: 231

Candidate Starts for Bryce\_36:

(Start: 231 @28088 has 845 MA's), (345, 27854), (363, 27824), (366, 27815), (367, 27812), (384, 27767), (390, 27755), (403, 27704), (434, 27602), (450, 27581), (487, 27509), (509, 27461), (549, 27398), (562, 27371), (603, 27266), (616, 27239), (638, 27200), (700, 27020), (709, 26972), (733, 26867), (734, 26864), (755, 26807), (760, 26786), (798, 26663), (832, 26594), (846, 26552), (851, 26528), (877, 26450), (896, 26393), (902, 26381), (917, 26324),

Gene: BubbaBear\_41 Start: 29478, Stop: 31352, Start Num: 222

Candidate Starts for BubbaBear\_41:

(Start: 222 @29478 has 57 MA's), (Start: 266 @29547 has 4 MA's), (279, 29568), (392, 29814), (396, 29829), (403, 29856), (549, 30150), (651, 30384), (688, 30507), (700, 30567), (702, 30573), (711, 30618), (716, 30633), (718, 30648), (724, 30684), (733, 30720), (759, 30813), (787, 30906), (816, 30984), (846, 31056), (855, 31095), (873, 31137), (876, 31155), (896, 31215), (906, 31236),

Gene: BubbleTrouble\_44 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for BubbleTrouble\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524,

30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Buckeye\_61 Start: 54843, Stop: 52984, Start Num: 196

Candidate Starts for Buckeye\_61:

(Start: 175 @54867 has 1 MA's), (Start: 196 @54843 has 254 MA's), (Start: 221 @54819 has 2 MA's), (Start: 227 @54813 has 3 MA's), (246, 54771), (259, 54750), (307, 54636), (311, 54630), (326, 54600), (355, 54540), (366, 54519), (386, 54465), (391, 54453), (396, 54435), (398, 54423), (431, 54318), (454, 54261), (466, 54225), (471, 54213), (483, 54186), (491, 54159), (499, 54141), (509, 54123), (533, 54084), (540, 54075), (542, 54072), (668, 53814), (695, 53712), (701, 53679), (706, 53658), (727, 53565), (730, 53556), (744, 53493), (760, 53457), (761, 53454), (766, 53439), (790, 53361), (794, 53349), (800, 53328), (817, 53289), (851, 53199), (856, 53181), (858, 53175), (868, 53160), (875, 53136), (877, 53121), (878, 53118), (881, 53106), (890, 53082), (907, 53034), (912, 53010),

Gene: Bud\_44 Start: 30338, Stop: 28551, Start Num: 231

Candidate Starts for Bud\_44:

(Start: 231 @30338 has 845 MA's), (329, 30134), (367, 30062), (378, 30032), (390, 30005), (489, 29753), (513, 29702), (562, 29621), (582, 29576), (613, 29492), (643, 29435), (672, 29393), (683, 29348), (700, 29267), (711, 29216), (720, 29180), (733, 29114), (755, 29054), (789, 28940), (796, 28916), (802, 28898), (834, 28835), (844, 28808), (846, 28799), (851, 28775), (896, 28640), (902, 28628), (906, 28619),

Gene: Bugatti\_46 Start: 31555, Stop: 29717, Start Num: 231

Candidate Starts for Bugatti\_46:

(Start: 231 @31555 has 845 MA's), (256, 31504), (292, 31438), (329, 31351), (363, 31291), (367, 31279), (390, 31222), (392, 31213), (426, 31093), (434, 31069), (487, 30973), (511, 30925), (549, 30865), (577, 30802), (603, 30733), (613, 30712), (653, 30640), (673, 30598), (683, 30556), (700, 30475), (709, 30427), (726, 30352), (733, 30322), (739, 30292), (761, 30211), (772, 30172), (780, 30148), (786, 30130), (834, 30001), (851, 29941), (896, 29806), (902, 29794), (906, 29785),

Gene: Buggy\_46 Start: 31852, Stop: 30065, Start Num: 231

Candidate Starts for Buggy\_46:

(Start: 231 @31852 has 845 MA's), (329, 31648), (330, 31645), (332, 31639), (350, 31609), (367, 31576), (369, 31573), (378, 31546), (390, 31519), (403, 31468), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (562, 31135), (595, 31054), (613, 31006), (683, 30862), (700, 30781), (711, 30730), (719, 30697), (733, 30628), (742, 30589), (755, 30568), (760, 30547), (764, 30535), (832, 30355), (834, 30349), (846, 30313), (851, 30289), (877, 30211), (896, 30154), (902, 30142),

Gene: Buldak\_40 Start: 28039, Stop: 29922, Start Num: 224

Candidate Starts for Buldak\_40:

(132, 27883), (224, 28039), (239, 28057), (Start: 266 @28108 has 4 MA's), (279, 28129), (292, 28159), (329, 28246), (367, 28309), (378, 28339), (388, 28360), (392, 28375), (395, 28387), (518, 28669), (549, 28720), (561, 28741), (700, 29137), (702, 29143), (720, 29224), (724, 29254), (727, 29263), (733, 29290), (759, 29383), (786, 29473), (816, 29554), (818, 29560), (841, 29605), (851, 29650), (858, 29674), (873, 29707), (875, 29713), (876, 29725), (877, 29728), (896, 29785), (903, 29800), (906, 29806), (911, 29830),

Gene: Bumblebee11\_43 Start: 31522, Stop: 29693, Start Num: 231

Candidate Starts for Bumblebee11\_43:

(Start: 231 @31522 has 845 MA's), (256, 31471), (274, 31441), (350, 31279), (360, 31261), (367, 31246), (390, 31189), (392, 31180), (426, 31060), (434, 31036), (468, 30994), (487, 30943), (511, 30895), (524, 30874), (549, 30835), (570, 30790), (573, 30784), (603, 30703), (613, 30682), (638, 30637), (697, 30472), (700, 30451), (733, 30298), (742, 30259), (761, 30187), (766, 30172), (772, 30148), (777, 30130), (780, 30124), (782, 30118), (851, 29917), (896, 29782), (902, 29770), (906, 29761),

Gene: Burger\_43 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Burger\_43:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Burnsey\_43 Start: 32545, Stop: 30152, Start Num: 33

Candidate Starts for Burnsey\_43:

(Start: 33 @32545 has 15 MA's), (45, 32539), (Start: 56 @32491 has 1 MA's), (71, 32449), (81, 32425), (119, 32299), (127, 32275), (159, 32230), (191, 32179), (201, 32164), (Start: 214 @32143 has 4 MA's), (243, 32095), (Start: 267 @32053 has 137 MA's), (303, 31978), (308, 31966), (337, 31897), (357, 31864), (365, 31849), (384, 31795), (386, 31792), (393, 31774), (397, 31753), (418, 31693), (463, 31570), (465, 31564), (490, 31495), (519, 31453), (576, 31366), (588, 31342), (596, 31336), (603, 31312), (607, 31303), (614, 31288), (622, 31276), (639, 31234), (640, 31231), (642, 31228), (690, 31081), (705, 31012), (706, 31006), (714, 30970), (733, 30877), (741, 30841), (743, 30835), (745, 30829), (746, 30823), (761, 30766), (768, 30742), (777, 30697), (893, 30316), (908, 30271), (910, 30262), (926, 30202),

Gene: Burr\_60 Start: 54018, Stop: 52159, Start Num: 196

Candidate Starts for Burr\_60:

(Start: 175 @54042 has 1 MA's), (Start: 196 @54018 has 254 MA's), (Start: 221 @53994 has 2 MA's), (Start: 227 @53988 has 3 MA's), (246, 53946), (259, 53925), (307, 53811), (311, 53805), (326, 53775), (355, 53715), (366, 53694), (386, 53640), (391, 53628), (396, 53610), (398, 53598), (431, 53493), (454, 53436), (466, 53400), (471, 53388), (483, 53361), (499, 53316), (509, 53298), (533, 53259), (540, 53250), (542, 53247), (695, 52887), (701, 52854), (706, 52833), (727, 52740), (730, 52731), (744, 52668), (760, 52632), (761, 52629), (766, 52614), (790, 52536), (794, 52524), (800, 52503), (817, 52464), (851, 52374), (856, 52356), (858, 52350), (868, 52335), (875, 52311), (877, 52296), (878, 52293), (881, 52281), (890, 52257), (907, 52209), (912, 52185),

Gene: Burritobowl\_42 Start: 29479, Stop: 31353, Start Num: 222

Candidate Starts for Burritobowl\_42:

(Start: 222 @29479 has 57 MA's), (Start: 266 @29548 has 4 MA's), (279, 29569), (392, 29815), (396, 29830), (403, 29857), (549, 30151), (603, 30286), (651, 30385), (688, 30508), (700, 30568), (702, 30574), (711, 30619), (716, 30634), (718, 30649), (724, 30685), (733, 30721), (759, 30814), (816, 30985), (846, 31057), (855, 31096), (873, 31138), (876, 31156), (890, 31192), (896, 31216), (906, 31237),

Gene: Burton\_44 Start: 34084, Stop: 32258, Start Num: 231

Candidate Starts for Burton\_44:

(Start: 231 @34084 has 845 MA's), (332, 33871), (337, 33856), (367, 33808), (378, 33778), (388, 33757), (390, 33751), (392, 33742), (425, 33625), (434, 33598), (487, 33505), (492, 33490), (509, 33457), (541, 33406), (543, 33403), (575, 33337), (589, 33307), (598, 33277), (616, 33232), (638, 33193), (700, 33013), (709, 32965), (720, 32926), (733, 32860), (742, 32821), (755, 32800), (760, 32779), (766, 32761), (786, 32695), (846, 32545), (847, 32542), (855, 32506), (868, 32482), (870,

32473), (874, 32461), (896, 32386), (906, 32365),

Gene: Bustleton\_37 Start: 28493, Stop: 26643, Start Num: 265

Candidate Starts for Bustleton\_37:

(Start: 265 @28493 has 17 MA's), (325, 28370), (340, 28337), (393, 28226), (397, 28205), (400, 28199), (417, 28148), (476, 27992), (490, 27938), (492, 27932), (494, 27929), (498, 27917), (516, 27887), (551, 27830), (620, 27683), (675, 27536), (726, 27326), (730, 27314), (733, 27296), (743, 27254), (747, 27239), (758, 27203), (768, 27167), (827, 26978), (828, 26969), (847, 26909), (852, 26885), (858, 26864), (862, 26852), (893, 26741),

Gene: Button\_46 Start: 32802, Stop: 30418, Start Num: 41

Candidate Starts for Button\_46:

(Start: 41 @32802 has 23 MA's), (81, 32688), (91, 32658), (127, 32550), (135, 32529), (235, 32391), (241, 32376), (Start: 267 @32328 has 137 MA's), (303, 32253), (306, 32247), (308, 32241), (312, 32235), (337, 32166), (352, 32142), (364, 32121), (365, 32118), (369, 32109), (393, 32043), (397, 32022), (455, 31875), (490, 31761), (524, 31713), (528, 31704), (546, 31683), (551, 31677), (603, 31584), (608, 31572), (640, 31500), (660, 31458), (664, 31446), (698, 31305), (703, 31281), (706, 31266), (714, 31230), (733, 31137), (741, 31101), (743, 31095), (745, 31089), (746, 31083), (761, 31026), (766, 31011), (768, 31002), (815, 30843), (825, 30822), (836, 30783), (847, 30744), (851, 30723), (857, 30702), (861, 30690), (868, 30672), (883, 30609), (885, 30603), (893, 30576), (901, 30552), (908, 30531), (934, 30444),

Gene: Buttons\_43 Start: 33067, Stop: 31241, Start Num: 231

Candidate Starts for Buttons\_43:

(Start: 231 @33067 has 845 MA's), (332, 32854), (363, 32803), (378, 32761), (388, 32740), (390, 32734), (392, 32725), (425, 32608), (434, 32581), (487, 32488), (492, 32473), (541, 32389), (543, 32386), (575, 32320), (589, 32290), (598, 32260), (616, 32215), (638, 32176), (700, 31996), (709, 31948), (720, 31909), (733, 31843), (742, 31804), (755, 31783), (760, 31762), (766, 31744), (786, 31678), (846, 31528), (847, 31525), (855, 31489), (868, 31465), (870, 31456), (874, 31444), (896, 31369), (906, 31348),

Gene: Buttrmlkdreams\_45 Start: 32962, Stop: 30572, Start Num: 33

Candidate Starts for Buttrmlkdreams\_45:

(Start: 33 @32962 has 15 MA's), (58, 32899), (65, 32881), (71, 32866), (91, 32812), (94, 32800), (98, 32779), (109, 32746), (119, 32719), (127, 32695), (147, 32668), (Start: 214 @32563 has 4 MA's), (243, 32515), (303, 32398), (337, 32317), (354, 32290), (365, 32269), (386, 32212), (393, 32194), (397, 32173), (418, 32113), (463, 31990), (465, 31984), (490, 31915), (519, 31873), (576, 31786), (588, 31762), (596, 31756), (603, 31732), (607, 31723), (614, 31708), (622, 31696), (639, 31654), (640, 31651), (642, 31648), (690, 31501), (705, 31432), (706, 31426), (714, 31390), (733, 31297), (741, 31261), (743, 31255), (745, 31249), (746, 31243), (761, 31186), (768, 31162), (777, 31117), (893, 30736), (908, 30691), (910, 30682), (926, 30622),

Gene: BuzzBuzz\_46 Start: 31884, Stop: 30070, Start Num: 231

Candidate Starts for BuzzBuzz\_46:

(Start: 231 @31884 has 845 MA's), (248, 31845), (256, 31833), (329, 31680), (333, 31665), (367, 31608), (390, 31551), (392, 31542), (403, 31500), (415, 31449), (434, 31398), (472, 31344), (487, 31305), (509, 31257), (524, 31233), (549, 31194), (562, 31167), (575, 31137), (610, 31044), (616, 31032), (641, 30984), (652, 30969), (700, 30813), (711, 30762), (719, 30729), (720, 30726), (733, 30660), (742, 30621), (761, 30549), (772, 30510), (780, 30486), (786, 30468), (796, 30435), (834, 30354), (851, 30294), (880, 30207), (896, 30159), (902, 30147), (906, 30138), (907, 30135),

Gene: Bxb1\_41 Start: 34132, Stop: 32306, Start Num: 231

Candidate Starts for Bxb1\_41:

(Start: 231 @34132 has 845 MA's), (316, 33961), (332, 33919), (337, 33904), (367, 33856), (378, 33826), (388, 33805), (390, 33799), (392, 33790), (425, 33673), (434, 33646), (487, 33553), (492, 33538), (501, 33517), (509, 33505), (541, 33454), (543, 33451), (570, 33397), (575, 33385), (589, 33355), (598, 33325), (616, 33280), (638, 33241), (700, 33061), (708, 33031), (709, 33013), (720, 32974), (733, 32908), (760, 32827), (761, 32824), (786, 32743), (846, 32593), (847, 32590), (855, 32554), (868, 32530), (870, 32521), (874, 32509), (880, 32482), (896, 32434), (906, 32413),

Gene: Bxz2\_44 Start: 31891, Stop: 30077, Start Num: 231

Candidate Starts for Bxz2\_44:

(Start: 231 @31891 has 845 MA's), (248, 31852), (256, 31840), (329, 31687), (333, 31672), (367, 31615), (390, 31558), (392, 31549), (403, 31507), (415, 31456), (434, 31405), (472, 31351), (487, 31312), (509, 31264), (524, 31240), (549, 31201), (562, 31174), (575, 31144), (610, 31051), (616, 31039), (641, 30991), (652, 30976), (700, 30820), (711, 30769), (719, 30736), (720, 30733), (733, 30667), (742, 30628), (761, 30556), (772, 30517), (780, 30493), (786, 30475), (796, 30442), (851, 30301), (880, 30214), (896, 30166), (902, 30154), (906, 30145), (907, 30142),

Gene: Byron23\_39 Start: 28933, Stop: 27068, Start Num: 267

Candidate Starts for Byron23\_39:

(Start: 214 @29020 has 4 MA's), (Start: 216 @29017 has 7 MA's), (Start: 267 @28933 has 137 MA's), (Start: 275 @28924 has 5 MA's), (321, 28819), (325, 28810), (338, 28780), (340, 28777), (395, 28657), (397, 28645), (400, 28639), (436, 28534), (445, 28507), (490, 28366), (492, 28360), (494, 28357), (498, 28345), (513, 28318), (516, 28315), (525, 28300), (527, 28294), (530, 28288), (553, 28255), (634, 28066), (726, 27751), (729, 27742), (730, 27739), (733, 27721), (743, 27679), (745, 27673), (747, 27664), (751, 27649), (768, 27592), (815, 27433), (827, 27403), (828, 27394), (847, 27334), (852, 27310), (863, 27271), (875, 27238), (876, 27226), (893, 27166),

Gene: C3\_43 Start: 31569, Stop: 29770, Start Num: 231

Candidate Starts for C3\_43:

(Start: 231 @31569 has 845 MA's), (329, 31365), (367, 31290), (369, 31287), (378, 31260), (384, 31245), (390, 31233), (403, 31182), (434, 31080), (487, 30987), (490, 30978), (509, 30939), (513, 30930), (562, 30849), (576, 30816), (589, 30789), (638, 30675), (652, 30651), (700, 30486), (709, 30438), (720, 30399), (726, 30363), (733, 30333), (742, 30294), (755, 30273), (786, 30168), (796, 30135), (823, 30072), (846, 30018), (851, 29994), (896, 29859), (902, 29847), (906, 29838),

Gene: CRB1\_46 Start: 31778, Stop: 29991, Start Num: 231

Candidate Starts for CRB1\_46:

(Start: 231 @31778 has 845 MA's), (329, 31574), (330, 31571), (332, 31565), (337, 31550), (350, 31535), (367, 31502), (369, 31499), (378, 31472), (390, 31445), (395, 31424), (403, 31394), (434, 31292), (487, 31199), (509, 31151), (513, 31142), (524, 31127), (562, 31061), (576, 31028), (595, 30980), (613, 30932), (616, 30926), (652, 30863), (683, 30788), (700, 30707), (719, 30623), (720, 30620), (733, 30554), (742, 30515), (755, 30494), (775, 30419), (782, 30401), (786, 30389), (796, 30356), (823, 30293), (834, 30275), (846, 30239), (851, 30215), (873, 30158), (896, 30080), (902, 30068), (906, 30059),

Gene: CRB2\_57 Start: 55662, Stop: 53833, Start Num: 208

Candidate Starts for CRB2\_57:

(Start: 208 @55662 has 3 MA's), (Start: 227 @55635 has 3 MA's), (240, 55608), (Start: 266 @55563 has 4 MA's), (281, 55554), (291, 55536), (326, 55452), (330, 55443), (375, 55344), (391, 55305), (397, 55281), (431, 55173), (454, 55116), (466, 55080), (471, 55068), (482, 55044), (483, 55041), (486, 55032), (540, 54924), (542, 54921), (544, 54918), (555, 54903), (561, 54891), (575, 54855), (645, 54690), (681, 54624), (682, 54621), (684, 54603), (689, 54585), (695, 54561), (696, 54555), (701, 54528), (725, 54420), (727, 54414), (730, 54405), (760, 54306), (761, 54303), (766, 54288), (790, 54210), (794, 54198), (800, 54177), (807, 54159), (822, 54129), (841, 54093), (851, 54048), (856,

54030), (858, 54024), (875, 53985), (876, 53973), (877, 53970), (890, 53931), (896, 53907), (907, 53883), (912, 53859),

Gene: CactusRose\_42 Start: 33957, Stop: 32131, Start Num: 231

Candidate Starts for CactusRose\_42:

(Start: 231 @33957 has 845 MA's), (332, 33744), (337, 33729), (367, 33681), (378, 33651), (388, 33630), (390, 33624), (392, 33615), (425, 33498), (434, 33471), (487, 33378), (492, 33363), (509, 33330), (541, 33279), (543, 33276), (575, 33210), (589, 33180), (598, 33150), (616, 33105), (638, 33066), (700, 32886), (709, 32838), (720, 32799), (733, 32733), (742, 32694), (755, 32673), (760, 32652), (766, 32634), (786, 32568), (846, 32418), (847, 32415), (855, 32379), (868, 32355), (870, 32346), (874, 32334), (896, 32259), (906, 32238),

Gene: Caelakin\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Caelakin\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: CaiB\_54 Start: 48539, Stop: 46722, Start Num: 219

Candidate Starts for CaiB\_54:

(150, 48632), (163, 48611), (Start: 219 @48539 has 12 MA's), (Start: 227 @48530 has 3 MA's), (240, 48503), (246, 48488), (259, 48467), (Start: 266 @48458 has 4 MA's), (330, 48320), (347, 48284), (431, 48056), (454, 47999), (466, 47963), (471, 47951), (478, 47939), (482, 47927), (526, 47834), (533, 47822), (542, 47810), (555, 47792), (624, 47636), (681, 47519), (696, 47450), (701, 47423), (725, 47315), (727, 47309), (730, 47300), (757, 47210), (760, 47201), (761, 47198), (766, 47183), (790, 47105), (794, 47093), (795, 47087), (800, 47072), (822, 47024), (851, 46943), (858, 46919), (875, 46880), (877, 46865), (890, 46820), (912, 46748),

Gene: Calamitous\_57 Start: 52488, Stop: 50659, Start Num: 188

Candidate Starts for Calamitous\_57:

(Start: 188 @52488 has 31 MA's), (Start: 227 @52461 has 3 MA's), (242, 52431), (246, 52419), (264, 52392), (Start: 266 @52389 has 4 MA's), (274, 52380), (291, 52362), (330, 52266), (355, 52215), (367, 52191), (417, 52029), (424, 52014), (427, 52005), (431, 51993), (454, 51936), (466, 51900), (471, 51888), (482, 51864), (522, 51780), (540, 51750), (542, 51747), (561, 51717), (624, 51573), (652, 51507), (681, 51456), (684, 51435), (689, 51417), (701, 51360), (717, 51303), (722, 51276), (727, 51246), (730, 51237), (744, 51171), (758, 51144), (760, 51135), (766, 51117), (772, 51093), (790, 51039), (794, 51027), (800, 51006), (834, 50937), (851, 50877), (856, 50859), (871, 50826), (875, 50814), (877, 50799), (878, 50796), (881, 50784), (890, 50760), (891, 50757), (907, 50709), (908, 50706), (912, 50685), (917, 50664),

Gene: Calix\_38 Start: 28615, Stop: 26750, Start Num: 267

Candidate Starts for Calix\_38:

(Start: 214 @28702 has 4 MA's), (Start: 267 @28615 has 137 MA's), (Start: 275 @28606 has 5 MA's), (321, 28501), (325, 28492), (338, 28462), (340, 28459), (395, 28339), (397, 28327), (400, 28321), (436, 28216), (445, 28189), (490, 28048), (492, 28042), (494, 28039), (498, 28027), (513, 28000), (516, 27997), (525, 27982), (527, 27976), (530, 27970), (553, 27937), (612, 27808), (634, 27748), (726, 27433), (729, 27424), (730, 27421), (733, 27403), (743, 27361), (745, 27355), (751, 27331), (768, 27274), (815, 27115), (827, 27085), (828, 27076), (847, 27016), (852, 26992), (863, 26953), (875, 26920), (876, 26908), (893, 26848),

Gene: CallinAllBarbz\_41 Start: 29407, Stop: 31281, Start Num: 231

Candidate Starts for CallinAllBarbz\_41:

(Start: 231 @29407 has 845 MA's), (239, 29425), (348, 29638), (355, 29650), (369, 29677), (378, 29704), (388, 29725), (395, 29752), (489, 30001), (549, 30109), (558, 30124), (595, 30214), (613, 30262), (700, 30520), (708, 30550), (724, 30637), (726, 30643), (731, 30664), (793, 30877), (820, 30946), (823, 30952), (851, 31033), (858, 31057), (870, 31081), (878, 31114), (890, 31144), (896, 31168), (901, 31177), (909, 31198),

Gene: CamL\_60 Start: 54350, Stop: 52491, Start Num: 196

Candidate Starts for CamL\_60:

(Start: 175 @54374 has 1 MA's), (Start: 196 @54350 has 254 MA's), (Start: 221 @54326 has 2 MA's), (Start: 227 @54320 has 3 MA's), (246, 54278), (259, 54257), (307, 54143), (311, 54137), (326, 54107), (355, 54047), (366, 54026), (386, 53972), (391, 53960), (396, 53942), (398, 53930), (431, 53825), (454, 53768), (466, 53732), (471, 53720), (483, 53693), (499, 53648), (533, 53591), (540, 53582), (542, 53579), (695, 53219), (701, 53186), (706, 53165), (727, 53072), (730, 53063), (744, 53000), (760, 52964), (761, 52961), (766, 52946), (790, 52868), (794, 52856), (800, 52835), (817, 52796), (851, 52706), (856, 52688), (858, 52682), (868, 52667), (875, 52643), (877, 52628), (878, 52625), (881, 52613), (890, 52589), (907, 52541), (912, 52517),

Gene: CampRoach\_62 Start: 54448, Stop: 52589, Start Num: 196

Candidate Starts for CampRoach\_62:

(Start: 175 @54472 has 1 MA's), (Start: 196 @54448 has 254 MA's), (Start: 221 @54424 has 2 MA's), (Start: 227 @54418 has 3 MA's), (246, 54376), (259, 54355), (307, 54241), (311, 54235), (326, 54205), (355, 54145), (366, 54124), (386, 54070), (391, 54058), (396, 54040), (398, 54028), (431, 53923), (454, 53866), (466, 53830), (471, 53818), (483, 53791), (491, 53764), (499, 53746), (509, 53728), (533, 53689), (540, 53680), (542, 53677), (544, 53674), (695, 53317), (701, 53284), (706, 53263), (727, 53170), (730, 53161), (744, 53098), (760, 53062), (761, 53059), (766, 53044), (790, 52966), (794, 52954), (800, 52933), (817, 52894), (851, 52804), (856, 52786), (858, 52780), (868, 52765), (875, 52741), (877, 52726), (878, 52723), (881, 52711), (890, 52687), (907, 52639), (912, 52615),

Gene: Camperdownii\_43 Start: 31243, Stop: 29417, Start Num: 231

Candidate Starts for Camperdownii\_43:

(Start: 231 @31243 has 845 MA's), (240, 31222), (256, 31192), (274, 31162), (350, 31000), (360, 30982), (390, 30910), (392, 30901), (426, 30781), (434, 30757), (487, 30664), (511, 30616), (524, 30595), (549, 30556), (603, 30424), (613, 30403), (638, 30358), (643, 30346), (697, 30193), (700, 30172), (726, 30049), (733, 30019), (742, 29980), (760, 29914), (761, 29911), (766, 29896), (772, 29872), (780, 29848), (851, 29641), (896, 29506), (902, 29494), (906, 29485),

Gene: Candra\_45 Start: 29663, Stop: 27822, Start Num: 231

Candidate Starts for Candra\_45:

(Start: 231 @29663 has 845 MA's), (329, 29459), (367, 29384), (369, 29381), (378, 29354), (384, 29339), (390, 29327), (403, 29276), (430, 29186), (434, 29174), (487, 29081), (502, 29042), (513, 29024), (524, 29009), (562, 28943), (576, 28910), (577, 28907), (619, 28805), (652, 28745), (683, 28661), (700, 28580), (719, 28496), (720, 28493), (722, 28484), (726, 28457), (733, 28427), (755, 28367), (766, 28328), (846, 28112), (847, 28109), (851, 28088), (896, 27953), (902, 27941), (906, 27932), (907, 27929), (939, 27836),

Gene: Cannibal\_60 Start: 54292, Stop: 52433, Start Num: 196

Candidate Starts for Cannibal\_60:

(Start: 175 @54316 has 1 MA's), (Start: 196 @54292 has 254 MA's), (Start: 221 @54268 has 2 MA's), (Start: 227 @54262 has 3 MA's), (246, 54220), (259, 54199), (307, 54085), (311, 54079), (326, 54049), (355, 53989), (366, 53968), (386, 53914), (391, 53902), (396, 53884), (398, 53872), (431, 53767), (454, 53710), (466, 53674), (471, 53662), (483, 53635), (499, 53590), (533, 53533), (540,

53524), (542, 53521), (695, 53161), (701, 53128), (706, 53107), (727, 53014), (730, 53005), (744, 52942), (760, 52906), (761, 52903), (766, 52888), (790, 52810), (794, 52798), (800, 52777), (817, 52738), (851, 52648), (856, 52630), (858, 52624), (868, 52609), (875, 52585), (877, 52570), (878, 52567), (881, 52555), (890, 52531), (907, 52483), (912, 52459),

Gene: CaptainRex\_37 Start: 26990, Stop: 25125, Start Num: 267

Candidate Starts for CaptainRex\_37:

(Start: 267 @26990 has 137 MA's), (272, 26984), (316, 26885), (321, 26876), (332, 26852), (338, 26837), (342, 26831), (370, 26780), (371, 26777), (400, 26696), (453, 26546), (456, 26543), (484, 26444), (492, 26417), (494, 26414), (498, 26402), (516, 26372), (527, 26351), (551, 26315), (620, 26168), (660, 26066), (683, 25988), (726, 25808), (733, 25778), (746, 25724), (751, 25706), (768, 25649), (775, 25622), (784, 25580), (796, 25541), (827, 25460), (828, 25451), (847, 25391), (852, 25367), (855, 25355), (858, 25346), (863, 25328), (875, 25295), (893, 25223),

Gene: Caraxes\_45 Start: 30012, Stop: 28183, Start Num: 231

Candidate Starts for Caraxes\_45:

(Start: 231 @30012 has 845 MA's), (329, 29808), (332, 29799), (350, 29769), (367, 29736), (369, 29733), (378, 29706), (390, 29679), (395, 29658), (434, 29526), (487, 29433), (509, 29385), (562, 29295), (583, 29247), (613, 29166), (700, 28941), (720, 28854), (726, 28818), (733, 28788), (742, 28749), (755, 28728), (760, 28707), (766, 28689), (796, 28590), (806, 28563), (823, 28527), (834, 28509), (846, 28473), (896, 28314), (902, 28302), (906, 28293), (917, 28245), (932, 28215),

Gene: Carlyle\_44 Start: 32803, Stop: 30974, Start Num: 231

Candidate Starts for Carlyle\_44:

(Start: 231 @32803 has 845 MA's), (332, 32590), (337, 32575), (378, 32497), (388, 32476), (390, 32470), (392, 32461), (415, 32368), (425, 32344), (434, 32317), (487, 32224), (492, 32209), (509, 32176), (541, 32125), (543, 32122), (575, 32056), (589, 32026), (598, 31996), (616, 31951), (638, 31912), (700, 31732), (709, 31684), (722, 31636), (730, 31597), (733, 31579), (742, 31540), (755, 31519), (760, 31498), (765, 31483), (803, 31360), (871, 31189), (876, 31165), (893, 31117), (896, 31105), (906, 31084), (908, 31078), (921, 31030), (928, 31015),

Gene: Caron\_50 Start: 32142, Stop: 34007, Start Num: 230

Candidate Starts for Caron\_50:

(Start: 230 @32142 has 8 MA's), (290, 32250), (483, 32715), (544, 32838), (549, 32844), (613, 32997), (647, 33060), (700, 33255), (714, 33318), (723, 33366), (724, 33372), (734, 33411), (787, 33594), (896, 33903), (923, 33981), (934, 34002),

Gene: Carostasia\_37 Start: 28508, Stop: 26607, Start Num: 267

Candidate Starts for Carostasia\_37:

(Start: 267 @28508 has 137 MA's), (325, 28385), (332, 28370), (338, 28355), (359, 28322), (365, 28313), (370, 28298), (384, 28262), (391, 28247), (397, 28220), (400, 28214), (417, 28163), (430, 28124), (453, 28064), (490, 27938), (494, 27929), (498, 27917), (516, 27887), (527, 27866), (551, 27830), (620, 27683), (634, 27638), (677, 27527), (718, 27332), (726, 27290), (733, 27260), (743, 27218), (751, 27188), (758, 27167), (768, 27131), (847, 26873), (852, 26849), (862, 26816), (863, 26810), (893, 26705),

Gene: Carthage\_59 Start: 53529, Stop: 51670, Start Num: 196

Candidate Starts for Carthage\_59:

(42, 53925), (69, 53838), (73, 53823), (76, 53817), (82, 53802), (86, 53784), (Start: 175 @53553 has 1 MA's), (Start: 196 @53529 has 254 MA's), (Start: 221 @53505 has 2 MA's), (Start: 227 @53499 has 3 MA's), (246, 53457), (259, 53436), (307, 53322), (311, 53316), (326, 53286), (355, 53226), (366, 53205), (386, 53151), (391, 53139), (398, 53109), (431, 53004), (454, 52947), (466, 52911), (471, 52899), (483, 52872), (486, 52863), (499, 52827), (509, 52809), (533, 52770), (540, 52761), (542,



52758), (695, 52398), (701, 52365), (706, 52344), (727, 52251), (730, 52242), (744, 52179), (760, 52143), (761, 52140), (766, 52125), (790, 52047), (794, 52035), (800, 52014), (817, 51975), (851, 51885), (856, 51867), (858, 51861), (868, 51846), (875, 51822), (877, 51807), (878, 51804), (881, 51792), (890, 51768), (907, 51720), (912, 51696),

Gene: Casbah\_58 Start: 53994, Stop: 52177, Start Num: 223

Candidate Starts for Casbah\_58:

(123, 54177), (Start: 223 @53994 has 42 MA's), (240, 53964), (332, 53784), (395, 53631), (397, 53619), (407, 53589), (412, 53583), (431, 53520), (433, 53514), (454, 53463), (466, 53427), (486, 53379), (542, 53274), (589, 53178), (610, 53127), (681, 52983), (689, 52944), (696, 52914), (701, 52887), (704, 52875), (725, 52779), (727, 52773), (730, 52764), (732, 52752), (754, 52680), (760, 52650), (766, 52632), (768, 52623), (790, 52554), (794, 52542), (800, 52521), (834, 52452), (841, 52437), (847, 52413), (851, 52392), (856, 52374), (858, 52368), (873, 52335), (875, 52329), (878, 52311), (881, 52299), (886, 52287), (890, 52275), (904, 52233), (912, 52203),

Gene: Casey\_35 Start: 27722, Stop: 25905, Start Num: 266

Candidate Starts for Casey\_35:

(Start: 266 @27722 has 4 MA's), (277, 27707), (397, 27431), (400, 27425), (463, 27290), (469, 27275), (492, 27197), (494, 27194), (498, 27182), (516, 27152), (551, 27095), (620, 26948), (683, 26768), (718, 26630), (729, 26579), (730, 26576), (733, 26558), (734, 26555), (743, 26516), (768, 26429), (775, 26402), (815, 26270), (852, 26147), (862, 26114), (863, 26108), (868, 26099), (893, 26003), (894, 25997),

Gene: Cashington\_40 Start: 28858, Stop: 30732, Start Num: 222

Candidate Starts for Cashington\_40:

(Start: 220 @28855 has 7 MA's), (Start: 222 @28858 has 57 MA's), (Start: 266 @28927 has 4 MA's), (279, 28948), (329, 29065), (367, 29128), (392, 29194), (403, 29236), (549, 29530), (651, 29764), (688, 29887), (700, 29947), (702, 29953), (711, 29998), (716, 30013), (718, 30028), (724, 30064), (733, 30100), (759, 30193), (787, 30286), (816, 30364), (846, 30436), (855, 30475), (873, 30517), (876, 30535), (896, 30595), (906, 30616),

Gene: Casserole\_35 Start: 32865, Stop: 31120, Start Num: 247

Candidate Starts for Casserole\_35:

(237, 32892), (Start: 247 @32865 has 6 MA's), (249, 32862), (269, 32829), (272, 32823), (311, 32730), (327, 32697), (336, 32670), (399, 32535), (437, 32406), (439, 32400), (468, 32376), (473, 32361), (486, 32334), (495, 32304), (549, 32223), (556, 32214), (581, 32154), (593, 32133), (644, 32019), (650, 32001), (743, 31623), (755, 31605), (773, 31539), (777, 31524), (855, 31305), (871, 31263), (896, 31179),

Gene: Cassia\_40 Start: 29351, Stop: 31216, Start Num: 231

Candidate Starts for Cassia\_40:

(Start: 231 @29351 has 845 MA's), (254, 29399), (378, 29648), (413, 29768), (489, 29945), (492, 29954), (549, 30053), (558, 30068), (562, 30080), (613, 30206), (674, 30344), (700, 30464), (720, 30551), (733, 30617), (759, 30710), (846, 30953), (896, 31112), (901, 31121),

Gene: Catalina\_46 Start: 31484, Stop: 29691, Start Num: 231

Candidate Starts for Catalina\_46:

(Start: 231 @31484 has 845 MA's), (236, 31475), (256, 31433), (316, 31313), (317, 31310), (334, 31262), (369, 31202), (379, 31172), (384, 31160), (390, 31148), (434, 30995), (487, 30902), (562, 30764), (575, 30734), (643, 30575), (652, 30563), (671, 30536), (697, 30428), (700, 30407), (730, 30272), (733, 30254), (760, 30173), (772, 30131), (796, 30056), (832, 29981), (846, 29939), (877, 29837), (896, 29780), (902, 29768), (906, 29759),

Gene: Caviar\_44 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for Caviar\_44:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Cece\_99 Start: 83690, Stop: 81819, Start Num: 222

Candidate Starts for Cece\_99:

(Start: 222 @83690 has 57 MA's), (319, 83480), (355, 83414), (366, 83393), (397, 83306), (400, 83300), (432, 83207), (437, 83192), (490, 83114), (530, 83030), (549, 83003), (561, 82982), (576, 82943), (589, 82916), (591, 82910), (638, 82805), (663, 82757), (673, 82736), (676, 82727), (700, 82616), (716, 82550), (723, 82502), (739, 82418), (744, 82403), (762, 82334), (770, 82307), (772, 82298), (783, 82265), (871, 82013), (877, 81986), (896, 81929),

Gene: Celaena\_40 Start: 30338, Stop: 32209, Start Num: 222

Candidate Starts for Celaena\_40:

(Start: 222 @30338 has 57 MA's), (Start: 266 @30407 has 4 MA's), (329, 30545), (392, 30674), (422, 30770), (549, 31010), (558, 31025), (595, 31118), (638, 31208), (700, 31424), (711, 31475), (716, 31490), (724, 31541), (727, 31550), (733, 31577), (759, 31670), (780, 31742), (816, 31841), (846, 31913), (851, 31937), (873, 31994), (890, 32048), (896, 32072), (906, 32093),

Gene: Cen1621\_44 Start: 29694, Stop: 31556, Start Num: 231

Candidate Starts for Cen1621\_44:

(146, 29562), (158, 29580), (203, 29649), (207, 29658), (Start: 231 @29694 has 845 MA's), (290, 29802), (312, 29859), (329, 29898), (388, 30012), (509, 30330), (549, 30396), (552, 30399), (558, 30411), (562, 30423), (589, 30483), (613, 30549), (643, 30606), (665, 30657), (700, 30807), (733, 30960), (783, 31134), (786, 31143), (876, 31395), (893, 31443), (896, 31455),

Gene: Centaur\_45 Start: 31699, Stop: 29912, Start Num: 231

Candidate Starts for Centaur\_45:

(Start: 231 @31699 has 845 MA's), (329, 31495), (330, 31492), (332, 31486), (350, 31456), (367, 31423), (369, 31420), (378, 31393), (390, 31366), (403, 31315), (434, 31213), (487, 31120), (509, 31072), (513, 31063), (524, 31048), (562, 30982), (595, 30901), (613, 30853), (683, 30709), (700, 30628), (711, 30577), (719, 30544), (733, 30475), (742, 30436), (755, 30415), (758, 30403), (760, 30394), (764, 30382), (832, 30202), (834, 30196), (846, 30160), (851, 30136), (877, 30058), (896, 30001), (902, 29989),

Gene: CentreCat\_45 Start: 31573, Stop: 29747, Start Num: 231

Candidate Starts for CentreCat\_45:

(Start: 231 @31573 has 845 MA's), (240, 31552), (256, 31522), (274, 31492), (350, 31330), (360, 31312), (390, 31240), (392, 31231), (426, 31111), (434, 31087), (487, 30994), (511, 30946), (524, 30925), (549, 30886), (603, 30754), (613, 30733), (638, 30688), (643, 30676), (697, 30523), (700, 30502), (726, 30379), (733, 30349), (742, 30310), (760, 30244), (761, 30241), (766, 30226), (772, 30202), (780, 30178), (851, 29971), (896, 29836), (902, 29824), (906, 29815),

Gene: Cerulean\_46 Start: 31993, Stop: 30167, Start Num: 231

Candidate Starts for Cerulean\_46:

(Start: 231 @31993 has 845 MA's), (254, 31945), (329, 31789), (367, 31717), (390, 31660), (392, 31651), (426, 31531), (434, 31507), (487, 31414), (511, 31366), (524, 31345), (549, 31306), (570, 31261), (603, 31174), (607, 31165), (613, 31153), (638, 31108), (643, 31096), (697, 30943), (700,

30922), (726, 30799), (733, 30769), (742, 30730), (760, 30664), (761, 30661), (772, 30622), (780, 30598), (851, 30391), (896, 30256), (902, 30244), (906, 30235),

Gene: ChaChing\_58 Start: 53696, Stop: 51879, Start Num: 223

Candidate Starts for ChaChing\_58:

(123, 53879), (Start: 223 @53696 has 42 MA's), (240, 53666), (332, 53486), (395, 53333), (397, 53321), (407, 53291), (412, 53285), (431, 53222), (433, 53216), (454, 53165), (466, 53129), (486, 53081), (542, 52976), (589, 52880), (610, 52829), (681, 52685), (689, 52646), (696, 52616), (701, 52589), (704, 52577), (725, 52481), (727, 52475), (730, 52466), (732, 52454), (754, 52382), (760, 52352), (766, 52334), (768, 52325), (790, 52256), (794, 52244), (800, 52223), (834, 52154), (841, 52139), (847, 52115), (851, 52094), (858, 52070), (875, 52031), (878, 52013), (881, 52001), (886, 51989), (890, 51977), (904, 51935), (912, 51905),

Gene: Chadwick\_40 Start: 30056, Stop: 28191, Start Num: 231

Candidate Starts for Chadwick\_40:

(Start: 204 @30089 has 2 MA's), (Start: 231 @30056 has 845 MA's), (291, 29945), (330, 29849), (367, 29780), (369, 29777), (378, 29750), (390, 29723), (392, 29714), (413, 29630), (415, 29621), (422, 29606), (434, 29570), (475, 29510), (487, 29474), (509, 29426), (523, 29405), (524, 29402), (561, 29342), (594, 29264), (610, 29216), (616, 29204), (641, 29156), (668, 29105), (700, 28970), (709, 28922), (716, 28904), (720, 28883), (722, 28874), (727, 28844), (733, 28817), (734, 28814), (760, 28736), (766, 28718), (780, 28670), (796, 28619), (818, 28565), (823, 28556), (834, 28538), (856, 28460), (896, 28343), (902, 28331), (939, 28226),

Gene: Chaelin\_61 Start: 54580, Stop: 52721, Start Num: 196

Candidate Starts for Chaelin\_61:

(Start: 175 @54604 has 1 MA's), (Start: 196 @54580 has 254 MA's), (Start: 221 @54556 has 2 MA's), (Start: 227 @54550 has 3 MA's), (246, 54508), (259, 54487), (307, 54373), (311, 54367), (326, 54337), (355, 54277), (366, 54256), (386, 54202), (391, 54190), (396, 54172), (398, 54160), (431, 54055), (454, 53998), (466, 53962), (471, 53950), (482, 53926), (486, 53914), (491, 53896), (499, 53878), (509, 53860), (533, 53821), (540, 53812), (542, 53809), (544, 53806), (695, 53449), (701, 53416), (706, 53395), (727, 53302), (730, 53293), (744, 53230), (760, 53194), (761, 53191), (766, 53176), (790, 53098), (794, 53086), (800, 53065), (817, 53026), (851, 52936), (856, 52918), (858, 52912), (868, 52897), (875, 52873), (877, 52858), (878, 52855), (881, 52843), (890, 52819), (907, 52771), (912, 52747),

Gene: Chah\_62 Start: 53995, Stop: 52136, Start Num: 196

Candidate Starts for Chah\_62:

(Start: 175 @54019 has 1 MA's), (Start: 196 @53995 has 254 MA's), (Start: 221 @53971 has 2 MA's), (Start: 227 @53965 has 3 MA's), (246, 53923), (259, 53902), (307, 53788), (311, 53782), (326, 53752), (355, 53692), (366, 53671), (386, 53617), (391, 53605), (396, 53587), (398, 53575), (431, 53470), (454, 53413), (466, 53377), (471, 53365), (483, 53338), (491, 53311), (499, 53293), (509, 53275), (533, 53236), (540, 53227), (542, 53224), (668, 52966), (695, 52864), (701, 52831), (706, 52810), (727, 52717), (730, 52708), (744, 52645), (760, 52609), (761, 52606), (766, 52591), (790, 52513), (794, 52501), (800, 52480), (817, 52441), (851, 52351), (856, 52333), (858, 52327), (868, 52312), (875, 52288), (877, 52273), (878, 52270), (881, 52258), (890, 52234), (907, 52186), (912, 52162),

Gene: Chako\_38 Start: 28706, Stop: 26754, Start Num: 214

Candidate Starts for Chako\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553,

27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: ChampagnePapi\_47 Start: 31992, Stop: 30166, Start Num: 231

Candidate Starts for ChampagnePapi\_47:

(Start: 231 @31992 has 845 MA's), (254, 31944), (329, 31788), (367, 31716), (390, 31659), (392, 31650), (426, 31530), (434, 31506), (487, 31413), (511, 31365), (524, 31344), (549, 31305), (570, 31260), (603, 31173), (607, 31164), (613, 31152), (638, 31107), (643, 31095), (697, 30942), (700, 30921), (726, 30798), (733, 30768), (742, 30729), (760, 30663), (761, 30660), (772, 30621), (780, 30597), (851, 30390), (896, 30255), (902, 30243), (906, 30234),

Gene: Chamuel\_38 Start: 28695, Stop: 26743, Start Num: 214

Candidate Starts for Chamuel\_38:

(Start: 214 @28695 has 4 MA's), (Start: 267 @28608 has 137 MA's), (Start: 275 @28599 has 5 MA's), (321, 28494), (325, 28485), (338, 28455), (340, 28452), (395, 28332), (397, 28320), (400, 28314), (436, 28209), (445, 28182), (490, 28041), (492, 28035), (494, 28032), (498, 28020), (513, 27993), (516, 27990), (525, 27975), (527, 27969), (530, 27963), (553, 27930), (612, 27801), (634, 27741), (726, 27426), (729, 27417), (730, 27414), (733, 27396), (743, 27354), (745, 27348), (751, 27324), (768, 27267), (815, 27108), (827, 27078), (828, 27069), (847, 27009), (852, 26985), (863, 26946), (875, 26913), (876, 26901), (893, 26841),

Gene: Chanagan\_42 Start: 33624, Stop: 31837, Start Num: 231

Candidate Starts for Chanagan\_42:

(Start: 231 @33624 has 845 MA's), (332, 33411), (337, 33396), (367, 33348), (378, 33318), (388, 33297), (390, 33291), (392, 33282), (425, 33165), (434, 33138), (487, 33045), (492, 33030), (541, 32946), (543, 32943), (575, 32877), (589, 32847), (598, 32817), (616, 32772), (638, 32733), (700, 32553), (709, 32505), (720, 32466), (733, 32400), (758, 32328), (760, 32319), (786, 32235), (818, 32148), (868, 32022), (871, 32010), (890, 31950), (896, 31926), (899, 31920),

Gene: Chandler\_58 Start: 54464, Stop: 52647, Start Num: 223

Candidate Starts for Chandler\_58:

(123, 54647), (Start: 223 @54464 has 42 MA's), (240, 54434), (332, 54254), (379, 54149), (395, 54101), (397, 54089), (407, 54059), (412, 54053), (431, 53990), (433, 53984), (454, 53933), (466, 53897), (486, 53849), (542, 53744), (589, 53648), (610, 53597), (681, 53453), (689, 53414), (696, 53384), (701, 53357), (704, 53345), (725, 53249), (727, 53243), (730, 53234), (732, 53222), (754, 53150), (760, 53120), (766, 53102), (768, 53093), (790, 53024), (794, 53012), (800, 52991), (834, 52922), (841, 52907), (847, 52883), (851, 52862), (856, 52844), (858, 52838), (873, 52805), (875, 52799), (878, 52781), (881, 52769), (886, 52757), (890, 52745), (904, 52703), (912, 52673),

Gene: Changeling\_45 Start: 32303, Stop: 30516, Start Num: 231

Candidate Starts for Changeling\_45:

(Start: 231 @32303 has 845 MA's), (329, 32099), (330, 32096), (332, 32090), (337, 32075), (350, 32060), (369, 32024), (378, 31997), (390, 31970), (395, 31949), (434, 31817), (487, 31724), (509, 31676), (513, 31667), (524, 31652), (562, 31586), (595, 31505), (613, 31457), (683, 31313), (700, 31232), (711, 31181), (719, 31148), (720, 31145), (726, 31109), (733, 31079), (742, 31040), (755, 31019), (775, 30944), (780, 30932), (796, 30881), (806, 30854), (823, 30818), (834, 30800), (846, 30764), (851, 30740), (873, 30683), (877, 30662), (896, 30605), (902, 30593), (906, 30584),

Gene: Chaph\_45 Start: 31581, Stop: 29755, Start Num: 231

Candidate Starts for Chaph\_45:

(Start: 231 @31581 has 845 MA's), (240, 31560), (256, 31530), (274, 31500), (350, 31338), (360, 31320), (390, 31248), (392, 31239), (426, 31119), (434, 31095), (487, 31002), (511, 30954), (524,

30933), (549, 30894), (603, 30762), (613, 30741), (638, 30696), (643, 30684), (697, 30531), (700, 30510), (726, 30387), (733, 30357), (742, 30318), (760, 30252), (761, 30249), (766, 30234), (772, 30210), (780, 30186), (851, 29979), (896, 29844), (902, 29832), (906, 29823),

Gene: Chargerpower\_44 Start: 30403, Stop: 28610, Start Num: 231

Candidate Starts for Chargerpower\_44:

(172, 30496), (Start: 231 @30403 has 845 MA's), (236, 30394), (291, 30292), (292, 30286), (329, 30199), (334, 30181), (369, 30121), (378, 30094), (390, 30067), (416, 29962), (434, 29914), (487, 29821), (505, 29776), (575, 29653), (671, 29455), (695, 29356), (697, 29347), (700, 29326), (733, 29173), (755, 29113), (758, 29101), (760, 29092), (823, 28912), (846, 28858), (877, 28756), (880, 28747), (896, 28699), (902, 28687), (906, 28678),

Gene: Charles1\_61 Start: 54304, Stop: 52445, Start Num: 196

Candidate Starts for Charles1\_61:

(Start: 175 @54328 has 1 MA's), (Start: 196 @54304 has 254 MA's), (Start: 221 @54280 has 2 MA's), (Start: 227 @54274 has 3 MA's), (246, 54232), (259, 54211), (307, 54097), (311, 54091), (326, 54061), (355, 54001), (366, 53980), (386, 53926), (391, 53914), (396, 53896), (398, 53884), (431, 53779), (454, 53722), (466, 53686), (471, 53674), (483, 53647), (491, 53620), (499, 53602), (509, 53584), (533, 53545), (540, 53536), (542, 53533), (695, 53173), (701, 53140), (706, 53119), (727, 53026), (730, 53017), (744, 52954), (760, 52918), (761, 52915), (766, 52900), (790, 52822), (794, 52810), (800, 52789), (817, 52750), (851, 52660), (856, 52642), (858, 52636), (868, 52621), (875, 52597), (877, 52582), (878, 52579), (881, 52567), (890, 52543), (907, 52495), (912, 52471),

Gene: CharlieGBrown\_61 Start: 54143, Stop: 52284, Start Num: 196

Candidate Starts for CharlieGBrown\_61:

(Start: 175 @54167 has 1 MA's), (Start: 196 @54143 has 254 MA's), (Start: 221 @54119 has 2 MA's), (Start: 227 @54113 has 3 MA's), (246, 54071), (259, 54050), (307, 53936), (311, 53930), (326, 53900), (355, 53840), (366, 53819), (386, 53765), (391, 53753), (396, 53735), (398, 53723), (431, 53618), (454, 53561), (466, 53525), (471, 53513), (482, 53489), (486, 53477), (491, 53459), (499, 53441), (509, 53423), (533, 53384), (540, 53375), (542, 53372), (544, 53369), (668, 53114), (695, 53012), (701, 52979), (706, 52958), (727, 52865), (730, 52856), (744, 52793), (760, 52757), (761, 52754), (766, 52739), (790, 52661), (794, 52649), (800, 52628), (817, 52589), (851, 52499), (856, 52481), (858, 52475), (868, 52460), (875, 52436), (877, 52421), (878, 52418), (881, 52406), (890, 52382), (895, 52361), (907, 52334), (912, 52310), (915, 52295),

Gene: CharlottesWeb\_50 Start: 45347, Stop: 43530, Start Num: 219

Candidate Starts for CharlottesWeb\_50:

(78, 45662), (89, 45626), (92, 45620), (99, 45587), (Start: 219 @45347 has 12 MA's), (240, 45311), (245, 45299), (246, 45296), (Start: 266 @45266 has 4 MA's), (322, 45140), (347, 45092), (379, 45017), (398, 44960), (424, 44885), (431, 44864), (466, 44771), (526, 44642), (542, 44618), (681, 44327), (684, 44306), (689, 44288), (701, 44231), (727, 44117), (730, 44108), (761, 44006), (766, 43991), (790, 43913), (794, 43901), (800, 43880), (803, 43871), (832, 43817), (844, 43784), (851, 43751), (852, 43748), (868, 43712), (875, 43688), (890, 43628), (912, 43556),

Gene: Charm\_42 Start: 30834, Stop: 29041, Start Num: 231

Candidate Starts for Charm\_42:

(Start: 231 @30834 has 845 MA's), (236, 30825), (291, 30723), (316, 30663), (317, 30660), (329, 30630), (351, 30585), (369, 30552), (378, 30525), (384, 30510), (390, 30498), (392, 30489), (403, 30447), (434, 30345), (487, 30252), (495, 30228), (505, 30207), (575, 30084), (643, 29925), (645, 29922), (671, 29886), (673, 29880), (700, 29757), (716, 29691), (730, 29622), (733, 29604), (755, 29544), (760, 29523), (772, 29481), (796, 29406), (832, 29331), (846, 29289), (877, 29187), (896, 29130), (902, 29118), (906, 29109),

Gene: Chartreuse\_45 Start: 29574, Stop: 27733, Start Num: 231

Candidate Starts for Chartreuse\_45:

(Start: 231 @29574 has 845 MA's), (329, 29370), (367, 29295), (369, 29292), (378, 29265), (384, 29250), (390, 29238), (403, 29187), (430, 29097), (434, 29085), (487, 28992), (502, 28953), (513, 28935), (524, 28920), (562, 28854), (576, 28821), (577, 28818), (619, 28716), (652, 28656), (683, 28572), (700, 28491), (719, 28407), (720, 28404), (722, 28395), (726, 28368), (733, 28338), (755, 28278), (766, 28239), (846, 28023), (847, 28020), (851, 27999), (896, 27864), (902, 27852), (906, 27843), (907, 27840), (939, 27747),

Gene: Che12\_47 Start: 30450, Stop: 28663, Start Num: 231

Candidate Starts for Che12\_47:

(Start: 231 @30450 has 845 MA's), (329, 30246), (332, 30237), (367, 30174), (369, 30171), (378, 30144), (390, 30117), (395, 30096), (402, 30069), (434, 29964), (487, 29871), (509, 29823), (570, 29715), (583, 29685), (613, 29604), (700, 29379), (719, 29295), (720, 29292), (726, 29256), (733, 29226), (742, 29187), (755, 29166), (760, 29145), (766, 29127), (796, 29028), (806, 29001), (823, 28965), (834, 28947), (846, 28911), (851, 28887), (895, 28755), (896, 28752), (902, 28740), (906, 28731),

Gene: CheetO\_60 Start: 54266, Stop: 52407, Start Num: 196

Candidate Starts for CheetO\_60:

(Start: 175 @54290 has 1 MA's), (Start: 196 @54266 has 254 MA's), (Start: 221 @54242 has 2 MA's), (Start: 227 @54236 has 3 MA's), (246, 54194), (259, 54173), (307, 54059), (311, 54053), (326, 54023), (355, 53963), (366, 53942), (386, 53888), (391, 53876), (396, 53858), (398, 53846), (431, 53741), (454, 53684), (466, 53648), (471, 53636), (482, 53612), (486, 53600), (491, 53582), (499, 53564), (509, 53546), (533, 53507), (540, 53498), (542, 53495), (544, 53492), (695, 53135), (701, 53102), (706, 53081), (727, 52988), (730, 52979), (744, 52916), (760, 52880), (761, 52877), (766, 52862), (790, 52784), (794, 52772), (800, 52751), (817, 52712), (851, 52622), (856, 52604), (858, 52598), (868, 52583), (875, 52559), (877, 52544), (878, 52541), (881, 52529), (890, 52505), (907, 52457), (912, 52433),

Gene: Cheeto1\_39 Start: 29061, Stop: 27196, Start Num: 265

Candidate Starts for Cheeto1\_39:

(Start: 265 @29061 has 17 MA's), (283, 29037), (340, 28905), (371, 28848), (393, 28794), (397, 28773), (400, 28767), (467, 28566), (494, 28482), (498, 28470), (516, 28440), (527, 28419), (534, 28407), (551, 28383), (576, 28338), (596, 28293), (612, 28251), (633, 28206), (634, 28191), (661, 28131), (675, 28089), (722, 27906), (730, 27867), (733, 27849), (743, 27807), (768, 27720), (847, 27462), (852, 27438), (862, 27405), (893, 27294),

Gene: Chepli\_40 Start: 28352, Stop: 26460, Start Num: 267

Candidate Starts for Chepli\_40:

(202, 28460), (213, 28442), (Start: 267 @28352 has 137 MA's), (Start: 275 @28343 has 5 MA's), (297, 28286), (314, 28256), (332, 28217), (338, 28202), (342, 28196), (354, 28178), (370, 28145), (397, 28067), (400, 28061), (417, 28010), (430, 27971), (467, 27860), (494, 27776), (498, 27764), (516, 27734), (525, 27719), (527, 27713), (530, 27707), (534, 27701), (538, 27695), (677, 27380), (718, 27185), (733, 27113), (743, 27071), (751, 27041), (758, 27020), (768, 26984), (785, 26912), (827, 26795), (828, 26786), (847, 26726), (852, 26702), (855, 26690), (868, 26654), (893, 26558),

Gene: Cher\_60 Start: 54560, Stop: 52701, Start Num: 196

Candidate Starts for Cher\_60:

(Start: 175 @54584 has 1 MA's), (Start: 196 @54560 has 254 MA's), (Start: 221 @54536 has 2 MA's), (Start: 227 @54530 has 3 MA's), (246, 54488), (259, 54467), (307, 54353), (311, 54347), (326, 54317), (355, 54257), (366, 54236), (386, 54182), (391, 54170), (396, 54152), (398, 54140), (431, 54035), (454, 53978), (466, 53942), (471, 53930), (483, 53903), (499, 53858), (533, 53801), (540,

53792), (542, 53789), (695, 53429), (701, 53396), (706, 53375), (727, 53282), (730, 53273), (744, 53210), (760, 53174), (761, 53171), (766, 53156), (790, 53078), (794, 53066), (800, 53045), (817, 53006), (851, 52916), (856, 52898), (858, 52892), (868, 52877), (875, 52853), (877, 52838), (878, 52835), (881, 52823), (890, 52799), (907, 52751), (912, 52727),

Gene: CherryonLim\_46 Start: 35452, Stop: 33086, Start Num: 43

Candidate Starts for CherryonLim\_46:

(Start: 43 @35452 has 11 MA's), (58, 35392), (71, 35365), (79, 35350), (91, 35311), (127, 35206), (159, 35161), (Start: 208 @35083 has 3 MA's), (Start: 212 @35077 has 1 MA's), (Start: 214 @35074 has 4 MA's), (235, 35047), (237, 35044), (253, 35008), (255, 35005), (258, 34996), (278, 34969), (280, 34966), (303, 34909), (321, 34870), (352, 34807), (365, 34783), (371, 34762), (384, 34729), (386, 34726), (393, 34708), (397, 34687), (418, 34627), (463, 34504), (490, 34429), (498, 34408), (519, 34387), (576, 34300), (603, 34252), (617, 34222), (622, 34216), (640, 34171), (642, 34168), (649, 34153), (659, 34132), (664, 34117), (679, 34069), (683, 34048), (703, 33958), (705, 33949), (708, 33934), (711, 33919), (714, 33907), (733, 33814), (741, 33778), (743, 33772), (745, 33766), (746, 33760), (761, 33703), (768, 33679), (795, 33574), (796, 33571), (830, 33478), (836, 33460), (857, 33379), (865, 33355), (875, 33325), (886, 33277), (889, 33268), (893, 33253), (901, 33229), (908, 33208), (925, 33142), (934, 33121), (936, 33115), (940, 33109),

Gene: ChickenKing\_38 Start: 28974, Stop: 27109, Start Num: 265

Candidate Starts for ChickenKing\_38:

(Start: 265 @28974 has 17 MA's), (283, 28950), (340, 28818), (371, 28761), (393, 28707), (397, 28686), (400, 28680), (467, 28479), (494, 28395), (498, 28383), (516, 28353), (527, 28332), (534, 28320), (551, 28296), (576, 28251), (612, 28164), (633, 28119), (634, 28104), (675, 28002), (722, 27819), (730, 27780), (733, 27762), (743, 27720), (747, 27705), (768, 27633), (847, 27375), (852, 27351), (862, 27318), (893, 27207),

Gene: ChikPic\_38 Start: 28741, Stop: 26876, Start Num: 267

Candidate Starts for ChikPic\_38:

(Start: 267 @28741 has 137 MA's), (292, 28696), (314, 28642), (342, 28582), (370, 28531), (397, 28453), (400, 28447), (415, 28402), (416, 28399), (417, 28396), (430, 28357), (453, 28297), (490, 28174), (494, 28165), (498, 28153), (507, 28141), (516, 28123), (527, 28102), (534, 28090), (620, 27919), (681, 27751), (722, 27586), (729, 27550), (733, 27529), (743, 27487), (768, 27400), (777, 27355), (811, 27256), (827, 27211), (828, 27202), (847, 27142), (852, 27118), (862, 27085), (893, 26974),

Gene: Childish\_60 Start: 54571, Stop: 52712, Start Num: 196

Candidate Starts for Childish\_60:

(Start: 175 @54595 has 1 MA's), (Start: 196 @54571 has 254 MA's), (Start: 221 @54547 has 2 MA's), (Start: 227 @54541 has 3 MA's), (246, 54499), (259, 54478), (307, 54364), (311, 54358), (326, 54328), (355, 54268), (366, 54247), (386, 54193), (391, 54181), (396, 54163), (398, 54151), (431, 54046), (454, 53989), (466, 53953), (471, 53941), (483, 53914), (491, 53887), (499, 53869), (509, 53851), (533, 53812), (540, 53803), (542, 53800), (668, 53542), (695, 53440), (701, 53407), (706, 53386), (727, 53293), (730, 53284), (744, 53221), (760, 53185), (761, 53182), (766, 53167), (790, 53089), (794, 53077), (800, 53056), (817, 53017), (851, 52927), (856, 52909), (858, 52903), (868, 52888), (875, 52864), (877, 52849), (878, 52846), (881, 52834), (890, 52810), (895, 52789), (907, 52762), (912, 52738),

Gene: ChiliPepper\_40 Start: 29968, Stop: 31839, Start Num: 222

Candidate Starts for ChiliPepper\_40:

(Start: 222 @29968 has 57 MA's), (319, 30151), (337, 30190), (351, 30208), (382, 30280), (392, 30304), (395, 30316), (396, 30319), (422, 30400), (520, 30592), (549, 30640), (590, 30730), (651, 30871), (688, 30994), (700, 31054), (716, 31120), (718, 31135), (724, 31171), (727, 31180), (733,

31207), (759, 31300), (787, 31393), (816, 31471), (846, 31543), (855, 31582), (873, 31624), (890, 31678), (896, 31702), (906, 31723), (911, 31747),

Gene: ChipMunk\_47 Start: 33204, Stop: 31417, Start Num: 231

Candidate Starts for ChipMunk\_47:

(Start: 231 @33204 has 845 MA's), (330, 32997), (332, 32991), (337, 32976), (350, 32961), (369, 32925), (378, 32898), (390, 32871), (395, 32850), (415, 32769), (434, 32718), (487, 32625), (509, 32577), (513, 32568), (524, 32553), (562, 32487), (613, 32358), (616, 32352), (700, 32133), (711, 32082), (719, 32049), (720, 32046), (733, 31980), (742, 31941), (755, 31920), (775, 31845), (780, 31833), (796, 31782), (823, 31719), (834, 31701), (846, 31665), (851, 31641), (877, 31563), (896, 31506), (902, 31494), (906, 31485),

Gene: Chorkpop\_60 Start: 54047, Stop: 52188, Start Num: 196

Candidate Starts for Chorkpop\_60:

(Start: 175 @54071 has 1 MA's), (Start: 196 @54047 has 254 MA's), (Start: 221 @54023 has 2 MA's), (Start: 227 @54017 has 3 MA's), (246, 53975), (259, 53954), (307, 53840), (311, 53834), (326, 53804), (355, 53744), (366, 53723), (386, 53669), (391, 53657), (396, 53639), (398, 53627), (431, 53522), (454, 53465), (466, 53429), (471, 53417), (483, 53390), (491, 53363), (499, 53345), (509, 53327), (533, 53288), (540, 53279), (542, 53276), (668, 53018), (695, 52916), (701, 52883), (706, 52862), (727, 52769), (730, 52760), (744, 52697), (760, 52661), (761, 52658), (766, 52643), (790, 52565), (794, 52553), (800, 52532), (817, 52493), (851, 52403), (856, 52385), (858, 52379), (868, 52364), (875, 52340), (877, 52325), (878, 52322), (881, 52310), (890, 52286), (907, 52238), (912, 52214),

Gene: ChrisnMich\_53 Start: 52982, Stop: 51141, Start Num: 169

Candidate Starts for ChrisnMich\_53:

(Start: 169 @52982 has 3 MA's), (Start: 182 @52964 has 24 MA's), (Start: 227 @52940 has 3 MA's), (240, 52913), (246, 52898), (259, 52877), (301, 52790), (351, 52685), (371, 52643), (396, 52577), (405, 52547), (407, 52538), (410, 52535), (412, 52532), (454, 52412), (461, 52394), (466, 52376), (471, 52364), (480, 52349), (483, 52337), (540, 52226), (542, 52223), (561, 52193), (575, 52157), (681, 51932), (682, 51929), (689, 51893), (695, 51869), (701, 51836), (725, 51728), (727, 51722), (730, 51713), (760, 51614), (761, 51611), (766, 51596), (790, 51518), (794, 51506), (800, 51485), (803, 51476), (817, 51446), (844, 51389), (851, 51356), (856, 51338), (858, 51332), (875, 51293), (878, 51275), (881, 51263), (890, 51239), (904, 51197), (907, 51191), (912, 51167),

Gene: Christoph\_38 Start: 28630, Stop: 26765, Start Num: 267

Candidate Starts for Christoph\_38:

(Start: 267 @28630 has 137 MA's), (Start: 275 @28621 has 5 MA's), (321, 28516), (325, 28507), (338, 28477), (340, 28474), (395, 28354), (397, 28342), (400, 28336), (436, 28231), (445, 28204), (490, 28063), (492, 28057), (494, 28054), (498, 28042), (513, 28015), (516, 28012), (525, 27997), (527, 27991), (530, 27985), (553, 27952), (612, 27823), (634, 27763), (726, 27448), (729, 27439), (730, 27436), (733, 27418), (743, 27376), (745, 27370), (747, 27361), (751, 27346), (768, 27289), (815, 27130), (827, 27100), (828, 27091), (847, 27031), (852, 27007), (863, 26968), (875, 26935), (876, 26923), (893, 26863),

Gene: Chunky\_59 Start: 53596, Stop: 51737, Start Num: 196

Candidate Starts for Chunky\_59:

(Start: 175 @53620 has 1 MA's), (Start: 196 @53596 has 254 MA's), (Start: 221 @53572 has 2 MA's), (Start: 227 @53566 has 3 MA's), (246, 53524), (259, 53503), (307, 53389), (311, 53383), (326, 53353), (355, 53293), (366, 53272), (386, 53218), (391, 53206), (396, 53188), (398, 53176), (431, 53071), (454, 53014), (466, 52978), (471, 52966), (483, 52939), (486, 52930), (499, 52894), (533, 52837), (540, 52828), (542, 52825), (544, 52822), (695, 52465), (701, 52432), (706, 52411), (727, 52318), (730, 52309), (744, 52246), (760, 52210), (761, 52207), (766, 52192), (790, 52114), (794,



52102), (800, 52081), (817, 52042), (851, 51952), (856, 51934), (858, 51928), (868, 51913), (875, 51889), (877, 51874), (878, 51871), (881, 51859), (890, 51835), (907, 51787), (912, 51763),

Gene: Chupacabra\_43 Start: 31120, Stop: 29285, Start Num: 231

Candidate Starts for Chupacabra\_43:

(Start: 231 @31120 has 845 MA's), (256, 31069), (329, 30916), (337, 30892), (363, 30856), (367, 30844), (388, 30793), (390, 30787), (392, 30778), (413, 30694), (426, 30658), (430, 30646), (433, 30637), (434, 30634), (487, 30541), (511, 30493), (549, 30433), (562, 30406), (573, 30382), (602, 30304), (603, 30301), (613, 30280), (616, 30274), (653, 30208), (673, 30166), (700, 30043), (709, 29995), (726, 29920), (733, 29890), (742, 29851), (761, 29779), (772, 29740), (780, 29716), (782, 29710), (786, 29698), (826, 29590), (851, 29509), (858, 29485), (880, 29422), (896, 29374), (902, 29362), (906, 29353),

Gene: Chute\_62 Start: 54608, Stop: 52749, Start Num: 196

Candidate Starts for Chute\_62:

(Start: 175 @54632 has 1 MA's), (Start: 196 @54608 has 254 MA's), (Start: 221 @54584 has 2 MA's), (Start: 227 @54578 has 3 MA's), (246, 54536), (259, 54515), (307, 54401), (311, 54395), (326, 54365), (355, 54305), (366, 54284), (386, 54230), (391, 54218), (396, 54200), (398, 54188), (431, 54083), (454, 54026), (466, 53990), (471, 53978), (482, 53954), (486, 53942), (491, 53924), (499, 53906), (509, 53888), (533, 53849), (540, 53840), (542, 53837), (544, 53834), (695, 53477), (701, 53444), (706, 53423), (727, 53330), (730, 53321), (744, 53258), (760, 53222), (761, 53219), (766, 53204), (790, 53126), (794, 53114), (800, 53093), (817, 53054), (851, 52964), (856, 52946), (858, 52940), (868, 52925), (875, 52901), (877, 52886), (878, 52883), (881, 52871), (890, 52847), (907, 52799), (912, 52775),

Gene: Ciao\_45 Start: 34751, Stop: 32964, Start Num: 231

Candidate Starts for Ciao\_45:

(Start: 231 @34751 has 845 MA's), (332, 34538), (337, 34523), (367, 34475), (378, 34445), (388, 34424), (390, 34418), (392, 34409), (425, 34292), (434, 34265), (487, 34172), (492, 34157), (509, 34124), (541, 34073), (543, 34070), (575, 34004), (589, 33974), (598, 33944), (616, 33899), (638, 33860), (700, 33680), (709, 33632), (720, 33593), (733, 33527), (758, 33455), (760, 33446), (786, 33362), (818, 33275), (868, 33149), (871, 33137), (896, 33053), (899, 33047),

Gene: Cici\_44 Start: 31537, Stop: 29708, Start Num: 231

Candidate Starts for Cici\_44:

(Start: 231 @31537 has 845 MA's), (256, 31486), (274, 31456), (350, 31294), (360, 31276), (367, 31261), (390, 31204), (392, 31195), (426, 31075), (434, 31051), (468, 31009), (487, 30958), (511, 30910), (524, 30889), (549, 30850), (570, 30805), (573, 30799), (603, 30718), (613, 30697), (638, 30652), (697, 30487), (700, 30466), (733, 30313), (742, 30274), (761, 30202), (766, 30187), (772, 30163), (777, 30145), (780, 30139), (782, 30133), (851, 29932), (896, 29797), (902, 29785), (906, 29776),

Gene: Cindaradix\_42 Start: 31162, Stop: 29333, Start Num: 231

Candidate Starts for Cindaradix\_42:

(Start: 231 @31162 has 845 MA's), (254, 31114), (329, 30958), (367, 30886), (390, 30829), (392, 30820), (426, 30700), (434, 30676), (487, 30583), (511, 30535), (524, 30514), (549, 30475), (570, 30430), (603, 30343), (607, 30334), (613, 30322), (638, 30277), (643, 30265), (700, 30091), (722, 29995), (726, 29968), (727, 29965), (733, 29938), (742, 29899), (760, 29830), (761, 29827), (766, 29812), (772, 29788), (780, 29764), (782, 29758), (851, 29557), (896, 29422), (902, 29410), (906, 29401),

Gene: Cintron\_44 Start: 31550, Stop: 29724, Start Num: 231

Candidate Starts for Cintron\_44:

(Start: 231 @31550 has 845 MA's), (254, 31502), (329, 31346), (367, 31274), (390, 31217), (392, 31208), (426, 31088), (434, 31064), (472, 31010), (487, 30971), (511, 30923), (524, 30902), (549, 30863), (570, 30818), (603, 30731), (607, 30722), (613, 30710), (638, 30665), (643, 30653), (697, 30500), (700, 30479), (726, 30356), (733, 30326), (742, 30287), (760, 30221), (761, 30218), (766, 30203), (772, 30179), (780, 30155), (851, 29948), (896, 29813), (902, 29801), (906, 29792),

Gene: Citius\_45 Start: 31591, Stop: 29765, Start Num: 231

Candidate Starts for Citius\_45:

(Start: 231 @31591 has 845 MA's), (240, 31570), (256, 31540), (274, 31510), (350, 31348), (360, 31330), (390, 31258), (392, 31249), (426, 31129), (434, 31105), (487, 31012), (511, 30964), (524, 30943), (549, 30904), (603, 30772), (613, 30751), (638, 30706), (643, 30694), (697, 30541), (700, 30520), (726, 30397), (733, 30367), (742, 30328), (760, 30262), (761, 30259), (766, 30244), (772, 30220), (780, 30196), (851, 29989), (896, 29854), (902, 29842), (906, 29833),

Gene: Clancy\_38 Start: 28664, Stop: 26799, Start Num: 267

Candidate Starts for Clancy\_38:

(Start: 214 @28751 has 4 MA's), (Start: 216 @28748 has 7 MA's), (Start: 267 @28664 has 137 MA's), (Start: 275 @28655 has 5 MA's), (321, 28550), (325, 28541), (338, 28511), (340, 28508), (395, 28388), (397, 28376), (400, 28370), (436, 28265), (445, 28238), (490, 28097), (492, 28091), (494, 28088), (498, 28076), (513, 28049), (516, 28046), (525, 28031), (527, 28025), (530, 28019), (553, 27986), (612, 27857), (634, 27797), (726, 27482), (729, 27473), (730, 27470), (733, 27452), (743, 27410), (745, 27404), (747, 27395), (751, 27380), (768, 27323), (815, 27164), (827, 27134), (828, 27125), (847, 27065), (852, 27041), (863, 27002), (875, 26969), (876, 26957), (893, 26897),

Gene: Clarenza\_44 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Clarenza\_44:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Clayda5\_41 Start: 27431, Stop: 29296, Start Num: 222

Candidate Starts for Clayda5\_41:

(Start: 220 @27428 has 7 MA's), (Start: 222 @27431 has 57 MA's), (225, 27434), (Start: 266 @27503 has 4 MA's), (396, 27785), (403, 27812), (422, 27866), (502, 28031), (549, 28106), (561, 28127), (688, 28481), (700, 28541), (711, 28592), (724, 28658), (733, 28694), (759, 28787), (816, 28958), (846, 29030), (873, 29111), (895, 29186), (896, 29189), (906, 29210), (930, 29279),

Gene: Cleo\_38 Start: 31604, Stop: 29244, Start Num: 41

Candidate Starts for Cleo\_38:

(32, 31628), (Start: 41 @31604 has 23 MA's), (48, 31589), (55, 31553), (105, 31421), (119, 31382), (127, 31358), (157, 31316), (Start: 267 @31139 has 137 MA's), (280, 31121), (303, 31064), (321, 31025), (365, 30938), (384, 30884), (393, 30863), (397, 30842), (469, 30644), (485, 30602), (490, 30584), (551, 30500), (567, 30464), (622, 30371), (640, 30326), (654, 30299), (660, 30287), (664, 30275), (698, 30134), (714, 30065), (723, 30014), (730, 29990), (733, 29972), (741, 29936), (743, 29930), (745, 29924), (746, 29918), (753, 29894), (761, 29861), (768, 29837), (777, 29792), (778, 29789), (797, 29726), (807, 29699), (836, 29618), (854, 29549), (857, 29537), (865, 29513), (885, 29438), (886, 29435), (893, 29411), (901, 29387), (908, 29366), (912, 29342), (926, 29297), (934, 29279),

Gene: Clock\_37 Start: 29844, Stop: 27952, Start Num: 267

Candidate Starts for Clock\_37:

(Start: 267 @29844 has 137 MA's), (292, 29799), (314, 29745), (316, 29739), (325, 29721), (340, 29688), (342, 29685), (370, 29634), (371, 29631), (398, 29553), (400, 29550), (416, 29502), (430, 29460), (467, 29358), (477, 29325), (490, 29283), (492, 29277), (494, 29274), (498, 29262), (516, 29232), (534, 29199), (536, 29196), (551, 29175), (620, 29028), (677, 28872), (733, 28605), (741, 28569), (743, 28563), (747, 28548), (766, 28485), (768, 28476), (852, 28194), (853, 28191), (863, 28155), (893, 28050),

Gene: CloudWang3\_45 Start: 29424, Stop: 27583, Start Num: 231

Candidate Starts for CloudWang3\_45:

(Start: 210 @29454 has 1 MA's), (Start: 231 @29424 has 845 MA's), (329, 29220), (367, 29145), (369, 29142), (378, 29115), (384, 29100), (390, 29088), (403, 29037), (430, 28947), (434, 28935), (487, 28842), (502, 28803), (513, 28785), (524, 28770), (562, 28704), (576, 28671), (577, 28668), (619, 28566), (652, 28506), (683, 28422), (700, 28341), (719, 28257), (720, 28254), (722, 28245), (726, 28218), (733, 28188), (755, 28128), (766, 28089), (846, 27873), (847, 27870), (851, 27849), (896, 27714), (902, 27702), (906, 27693), (907, 27690), (939, 27597),

Gene: CloverMinnie\_53 Start: 47593, Stop: 45776, Start Num: 219

Candidate Starts for CloverMinnie\_53:

(Start: 219 @47593 has 12 MA's), (Start: 227 @47584 has 3 MA's), (240, 47557), (245, 47545), (259, 47521), (Start: 266 @47512 has 4 MA's), (307, 47416), (330, 47374), (347, 47338), (379, 47263), (405, 47188), (431, 47110), (454, 47053), (466, 47017), (471, 47005), (482, 46981), (526, 46888), (542, 46864), (555, 46846), (681, 46573), (689, 46534), (696, 46504), (701, 46477), (725, 46369), (727, 46363), (730, 46354), (757, 46264), (760, 46255), (761, 46252), (766, 46237), (790, 46159), (794, 46147), (795, 46141), (800, 46126), (822, 46078), (844, 46030), (851, 45997), (858, 45973), (875, 45934), (877, 45919), (890, 45874), (912, 45802),

Gene: Cobra\_62 Start: 54586, Stop: 52727, Start Num: 196

Candidate Starts for Cobra\_62:

(Start: 175 @54610 has 1 MA's), (Start: 196 @54586 has 254 MA's), (Start: 221 @54562 has 2 MA's), (Start: 227 @54556 has 3 MA's), (246, 54514), (259, 54493), (307, 54379), (311, 54373), (326, 54343), (355, 54283), (366, 54262), (386, 54208), (391, 54196), (396, 54178), (398, 54166), (431, 54061), (454, 54004), (466, 53968), (482, 53932), (486, 53920), (491, 53902), (499, 53884), (509, 53866), (533, 53827), (540, 53818), (542, 53815), (544, 53812), (668, 53557), (695, 53455), (701, 53422), (706, 53401), (727, 53308), (730, 53299), (744, 53236), (760, 53200), (761, 53197), (766, 53182), (790, 53104), (794, 53092), (800, 53071), (817, 53032), (851, 52942), (856, 52924), (858, 52918), (868, 52903), (875, 52879), (877, 52864), (878, 52861), (881, 52849), (890, 52825), (907, 52777), (912, 52753),

Gene: Cocoaberry\_45 Start: 31574, Stop: 29748, Start Num: 231

Candidate Starts for Cocoaberry\_45:

(Start: 231 @31574 has 845 MA's), (240, 31553), (256, 31523), (274, 31493), (350, 31331), (360, 31313), (390, 31241), (392, 31232), (426, 31112), (434, 31088), (487, 30995), (511, 30947), (524, 30926), (549, 30887), (603, 30755), (613, 30734), (638, 30689), (643, 30677), (697, 30524), (700, 30503), (726, 30380), (733, 30350), (742, 30311), (760, 30245), (761, 30242), (766, 30227), (772, 30203), (780, 30179), (851, 29972), (896, 29837), (902, 29825), (906, 29816),

Gene: Coffee\_57 Start: 52600, Stop: 50771, Start Num: 188

Candidate Starts for Coffee\_57:

(Start: 188 @52600 has 31 MA's), (Start: 227 @52573 has 3 MA's), (242, 52543), (246, 52531), (264, 52504), (Start: 266 @52501 has 4 MA's), (274, 52492), (291, 52474), (330, 52378), (355, 52327), (367, 52303), (375, 52279), (417, 52141), (427, 52117), (431, 52105), (454, 52048), (466, 52012), (471, 52000), (482, 51976), (522, 51892), (540, 51862), (542, 51859), (561, 51829), (624, 51685), (652, 51619), (678, 51580), (681, 51568), (684, 51547), (689, 51529), (701, 51472), (717, 51415),

(722, 51388), (727, 51358), (730, 51349), (744, 51283), (758, 51256), (760, 51247), (766, 51229), (772, 51205), (790, 51151), (794, 51139), (800, 51118), (834, 51049), (851, 50989), (856, 50971), (871, 50938), (875, 50926), (877, 50911), (878, 50908), (881, 50896), (890, 50872), (891, 50869), (907, 50821), (908, 50818), (912, 50797), (917, 50776),

Gene: ColaCorta\_38 Start: 28731, Stop: 26866, Start Num: 267

Candidate Starts for ColaCorta\_38:

(Start: 267 @28731 has 137 MA's), (292, 28686), (314, 28632), (342, 28572), (370, 28521), (397, 28443), (400, 28437), (415, 28392), (416, 28389), (417, 28386), (430, 28347), (453, 28287), (490, 28164), (494, 28155), (498, 28143), (507, 28131), (516, 28113), (527, 28092), (534, 28080), (620, 27909), (681, 27741), (722, 27576), (729, 27540), (733, 27519), (743, 27477), (768, 27390), (777, 27345), (811, 27246), (827, 27201), (828, 27192), (847, 27132), (852, 27108), (862, 27075), (893, 26964),

Gene: Colbert\_59 Start: 53606, Stop: 51747, Start Num: 196

Candidate Starts for Colbert\_59:

(Start: 175 @53630 has 1 MA's), (Start: 196 @53606 has 254 MA's), (Start: 221 @53582 has 2 MA's), (Start: 227 @53576 has 3 MA's), (246, 53534), (259, 53513), (307, 53399), (311, 53393), (326, 53363), (355, 53303), (366, 53282), (386, 53228), (391, 53216), (396, 53198), (398, 53186), (431, 53081), (454, 53024), (466, 52988), (471, 52976), (483, 52949), (491, 52922), (499, 52904), (509, 52886), (533, 52847), (540, 52838), (542, 52835), (544, 52832), (695, 52475), (701, 52442), (706, 52421), (727, 52328), (730, 52319), (744, 52256), (760, 52220), (761, 52217), (766, 52202), (790, 52124), (794, 52112), (800, 52091), (817, 52052), (851, 51962), (856, 51944), (858, 51938), (868, 51923), (875, 51899), (877, 51884), (878, 51881), (881, 51869), (890, 51845), (907, 51797), (912, 51773),

Gene: Colbster\_48 Start: 31856, Stop: 30042, Start Num: 231

Candidate Starts for Colbster\_48:

(Start: 231 @31856 has 845 MA's), (248, 31817), (256, 31805), (329, 31652), (333, 31637), (367, 31580), (390, 31523), (392, 31514), (403, 31472), (415, 31421), (434, 31370), (487, 31277), (509, 31229), (513, 31220), (524, 31205), (549, 31166), (562, 31139), (575, 31109), (610, 31016), (641, 30956), (652, 30941), (700, 30785), (720, 30698), (733, 30632), (742, 30593), (761, 30521), (772, 30482), (780, 30458), (786, 30440), (796, 30407), (806, 30380), (834, 30326), (851, 30266), (877, 30188), (896, 30131), (902, 30119), (906, 30110),

Gene: Coletti\_63 Start: 55108, Stop: 53249, Start Num: 196

Candidate Starts for Coletti\_63:

(Start: 175 @55132 has 1 MA's), (Start: 196 @55108 has 254 MA's), (Start: 221 @55084 has 2 MA's), (Start: 227 @55078 has 3 MA's), (246, 55036), (259, 55015), (307, 54901), (311, 54895), (326, 54865), (355, 54805), (366, 54784), (386, 54730), (391, 54718), (396, 54700), (398, 54688), (431, 54583), (454, 54526), (466, 54490), (471, 54478), (482, 54454), (486, 54442), (491, 54424), (499, 54406), (509, 54388), (533, 54349), (540, 54340), (542, 54337), (544, 54334), (695, 53977), (701, 53944), (706, 53923), (727, 53830), (730, 53821), (744, 53758), (760, 53722), (761, 53719), (766, 53704), (790, 53626), (794, 53614), (800, 53593), (817, 53554), (851, 53464), (856, 53446), (858, 53440), (868, 53425), (875, 53401), (877, 53386), (878, 53383), (881, 53371), (890, 53347), (907, 53299), (912, 53275),

Gene: Colin\_46 Start: 32075, Stop: 30288, Start Num: 231

Candidate Starts for Colin\_46:

(Start: 231 @32075 has 845 MA's), (330, 31868), (332, 31862), (350, 31832), (369, 31796), (378, 31769), (390, 31742), (395, 31721), (434, 31589), (487, 31496), (509, 31448), (513, 31439), (524, 31424), (562, 31358), (595, 31277), (613, 31229), (700, 31004), (711, 30953), (719, 30920), (720, 30917), (733, 30851), (742, 30812), (755, 30791), (775, 30716), (780, 30704), (823, 30590), (844,

30545), (846, 30536), (851, 30512), (873, 30455), (877, 30434), (896, 30377), (902, 30365),

Gene: Coltrane\_40 Start: 27441, Stop: 29309, Start Num: 220

Candidate Starts for Coltrane\_40:

(Start: 220 @27441 has 7 MA's), (Start: 222 @27444 has 57 MA's), (225, 27447), (Start: 266 @27516 has 4 MA's), (403, 27825), (422, 27879), (502, 28044), (549, 28119), (561, 28140), (688, 28494), (700, 28554), (711, 28605), (724, 28671), (733, 28707), (759, 28800), (816, 28971), (846, 29043), (873, 29124), (895, 29199), (896, 29202), (906, 29223), (930, 29292),

Gene: Commander\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Commander\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: Community\_43 Start: 31334, Stop: 33199, Start Num: 231

Candidate Starts for Community\_43:

(Start: 231 @31334 has 845 MA's), (254, 31382), (351, 31571), (378, 31631), (406, 31721), (489, 31928), (542, 32027), (549, 32036), (558, 32051), (562, 32063), (595, 32141), (613, 32189), (643, 32246), (674, 32327), (700, 32447), (708, 32477), (720, 32534), (733, 32600), (759, 32693), (780, 32765), (820, 32873), (846, 32936), (896, 33095), (901, 33104), (929, 33182),

Gene: Compostia\_58 Start: 54083, Stop: 52266, Start Num: 223

Candidate Starts for Compostia\_58:

(123, 54266), (Start: 223 @54083 has 42 MA's), (240, 54053), (332, 53873), (395, 53720), (397, 53708), (407, 53678), (412, 53672), (431, 53609), (433, 53603), (454, 53552), (464, 53525), (466, 53516), (486, 53468), (542, 53363), (589, 53267), (610, 53216), (681, 53072), (689, 53033), (696, 53003), (701, 52976), (704, 52964), (725, 52868), (727, 52862), (730, 52853), (732, 52841), (754, 52769), (760, 52739), (766, 52721), (768, 52712), (790, 52643), (794, 52631), (800, 52610), (834, 52541), (841, 52526), (847, 52502), (851, 52481), (856, 52463), (858, 52457), (873, 52424), (875, 52418), (878, 52400), (881, 52388), (886, 52376), (890, 52364), (904, 52322), (912, 52292),

Gene: ConceptII\_46 Start: 35338, Stop: 33512, Start Num: 231

Candidate Starts for ConceptII\_46:

(Start: 231 @35338 has 845 MA's), (332, 35125), (367, 35062), (378, 35032), (388, 35011), (390, 35005), (392, 34996), (425, 34879), (434, 34852), (487, 34759), (492, 34744), (509, 34711), (541, 34660), (543, 34657), (575, 34591), (589, 34561), (598, 34531), (616, 34486), (638, 34447), (700, 34267), (709, 34219), (720, 34180), (733, 34114), (742, 34075), (755, 34054), (760, 34033), (766, 34015), (786, 33949), (846, 33799), (847, 33796), (855, 33760), (868, 33736), (870, 33727), (874, 33715), (896, 33640), (906, 33619),

Gene: Connomayer\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Connomayer\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Conquerage\_45 Start: 31513, Stop: 29720, Start Num: 231

Candidate Starts for Conquerage\_45:

(Start: 231 @31513 has 845 MA's), (236, 31504), (256, 31462), (316, 31342), (317, 31339), (334, 31291), (369, 31231), (379, 31201), (384, 31189), (390, 31177), (434, 31024), (487, 30931), (562, 30793), (575, 30763), (643, 30604), (652, 30592), (671, 30565), (697, 30457), (700, 30436), (730, 30301), (733, 30283), (760, 30202), (772, 30160), (796, 30085), (803, 30064), (832, 30010), (846, 29968), (877, 29866), (896, 29809), (902, 29797), (906, 29788),

Gene: Conspiracy\_38 Start: 30346, Stop: 28502, Start Num: 231

Candidate Starts for Conspiracy\_38:

(Start: 231 @30346 has 845 MA's), (256, 30295), (291, 30235), (317, 30172), (329, 30142), (330, 30139), (363, 30082), (367, 30070), (378, 30040), (390, 30013), (415, 29911), (422, 29896), (434, 29860), (475, 29800), (487, 29764), (509, 29716), (561, 29632), (562, 29626), (594, 29554), (603, 29521), (610, 29506), (616, 29494), (668, 29395), (700, 29260), (708, 29230), (709, 29212), (711, 29209), (720, 29173), (722, 29164), (724, 29143), (727, 29134), (733, 29107), (734, 29104), (755, 29047), (760, 29026), (796, 28909), (818, 28855), (823, 28846), (834, 28828), (856, 28750), (876, 28693), (890, 28657), (896, 28633), (902, 28621),

Gene: Convict\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for Convict\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (394, 28661), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (634, 28067), (659, 28013), (666, 27992), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Coog\_38 Start: 30444, Stop: 28579, Start Num: 231

Candidate Starts for Coog\_38:

(Start: 231 @30444 has 845 MA's), (256, 30393), (291, 30333), (317, 30270), (329, 30240), (330, 30237), (363, 30180), (367, 30168), (378, 30138), (390, 30111), (434, 29958), (487, 29862), (509, 29814), (561, 29730), (562, 29724), (576, 29691), (594, 29652), (603, 29619), (610, 29604), (616, 29592), (668, 29493), (700, 29358), (708, 29328), (709, 29310), (711, 29307), (720, 29271), (722, 29262), (726, 29235), (733, 29205), (742, 29166), (760, 29124), (766, 29106), (780, 29058), (796, 29007), (818, 28953), (823, 28944), (834, 28926), (851, 28866), (856, 28848), (890, 28755), (896, 28731), (902, 28719), (939, 28614),

Gene: Cookiedough\_45 Start: 29639, Stop: 27798, Start Num: 231

Candidate Starts for Cookiedough\_45:

(Start: 231 @29639 has 845 MA's), (329, 29435), (367, 29360), (369, 29357), (378, 29330), (384, 29315), (390, 29303), (403, 29252), (430, 29162), (434, 29150), (487, 29057), (502, 29018), (513, 29000), (524, 28985), (562, 28919), (576, 28886), (577, 28883), (619, 28781), (652, 28721), (683, 28637), (700, 28556), (719, 28472), (720, 28469), (722, 28460), (726, 28433), (733, 28403), (755, 28343), (766, 28304), (846, 28088), (847, 28085), (851, 28064), (896, 27929), (902, 27917), (906, 27908), (907, 27905), (939, 27812),

Gene: Cooper\_54 Start: 53229, Stop: 51376, Start Num: 182

Candidate Starts for Cooper\_54:

(53, 53559), (96, 53439), (Start: 169 @53247 has 3 MA's), (Start: 182 @53229 has 24 MA's), (Start: 214 @53184 has 4 MA's), (Start: 227 @53175 has 3 MA's), (240, 53148), (246, 53133), (259, 53112), (301, 53025), (307, 53007), (351, 52920), (366, 52893), (371, 52878), (396, 52812), (405, 52782), (407, 52773), (410, 52770), (412, 52767), (417, 52740), (454, 52647), (461, 52629), (466, 52611), (471, 52599), (483, 52572), (533, 52470), (540, 52461), (542, 52458), (561, 52428), (681, 52167), (682, 52164), (689, 52128), (695, 52104), (701, 52071), (725, 51963), (727, 51957), (730, 51948),

(760, 51849), (766, 51831), (790, 51753), (794, 51741), (800, 51720), (803, 51711), (834, 51651), (844, 51624), (851, 51591), (856, 51573), (858, 51567), (875, 51528), (877, 51513), (878, 51510), (881, 51498), (890, 51474), (904, 51432), (907, 51426), (912, 51402), (917, 51381),

Gene: Cornobble\_60 Start: 54040, Stop: 52181, Start Num: 196

Candidate Starts for Cornobble\_60:

(Start: 175 @54064 has 1 MA's), (Start: 196 @54040 has 254 MA's), (Start: 221 @54016 has 2 MA's), (Start: 227 @54010 has 3 MA's), (246, 53968), (259, 53947), (307, 53833), (311, 53827), (326, 53797), (355, 53737), (366, 53716), (386, 53662), (391, 53650), (396, 53632), (398, 53620), (431, 53515), (454, 53458), (466, 53422), (471, 53410), (482, 53386), (486, 53374), (491, 53356), (499, 53338), (509, 53320), (533, 53281), (540, 53272), (542, 53269), (544, 53266), (695, 52909), (701, 52876), (706, 52855), (727, 52762), (730, 52753), (744, 52690), (760, 52654), (761, 52651), (766, 52636), (790, 52558), (794, 52546), (800, 52525), (817, 52486), (851, 52396), (856, 52378), (858, 52372), (868, 52357), (875, 52333), (877, 52318), (878, 52315), (881, 52303), (890, 52279), (907, 52231), (912, 52207),

Gene: Corofin\_58 Start: 53707, Stop: 51890, Start Num: 223

Candidate Starts for Corofin\_58:

(123, 53890), (Start: 223 @53707 has 42 MA's), (240, 53677), (332, 53497), (395, 53344), (397, 53332), (407, 53302), (412, 53296), (431, 53233), (433, 53227), (454, 53176), (466, 53140), (486, 53092), (542, 52987), (589, 52891), (610, 52840), (681, 52696), (689, 52657), (696, 52627), (701, 52600), (704, 52588), (725, 52492), (727, 52486), (730, 52477), (732, 52465), (754, 52393), (760, 52363), (766, 52345), (768, 52336), (790, 52267), (794, 52255), (800, 52234), (834, 52165), (841, 52150), (847, 52126), (851, 52105), (856, 52087), (858, 52081), (873, 52048), (875, 52042), (878, 52024), (881, 52012), (886, 52000), (890, 51988), (904, 51946), (912, 51916),

Gene: Corvo\_45 Start: 35201, Stop: 33375, Start Num: 231

Candidate Starts for Corvo\_45:

(Start: 231 @35201 has 845 MA's), (332, 34988), (337, 34973), (378, 34895), (388, 34874), (390, 34868), (392, 34859), (425, 34742), (434, 34715), (487, 34622), (492, 34607), (501, 34586), (509, 34574), (541, 34523), (543, 34520), (575, 34454), (589, 34424), (598, 34394), (616, 34349), (638, 34310), (700, 34130), (709, 34082), (720, 34043), (733, 33977), (742, 33938), (755, 33917), (760, 33896), (766, 33878), (786, 33812), (846, 33662), (847, 33659), (855, 33623), (868, 33599), (870, 33590), (874, 33578), (896, 33503), (906, 33482),

Gene: CosmicSans\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for CosmicSans\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: Cosmolli16\_61 Start: 54750, Stop: 52891, Start Num: 196

Candidate Starts for Cosmolli16\_61:

(Start: 175 @54774 has 1 MA's), (Start: 196 @54750 has 254 MA's), (Start: 221 @54726 has 2 MA's), (Start: 227 @54720 has 3 MA's), (246, 54678), (259, 54657), (307, 54543), (311, 54537), (326, 54507), (355, 54447), (366, 54426), (386, 54372), (391, 54360), (396, 54342), (398, 54330), (431, 54225), (454, 54168), (466, 54132), (471, 54120), (483, 54093), (499, 54048), (509, 54030), (533, 53991), (540, 53982), (542, 53979), (544, 53976), (695, 53619), (701, 53586), (706, 53565), (727, 53472), (730, 53463), (744, 53400), (760, 53364), (761, 53361), (766, 53346), (790, 53268), (794, 53256), (800, 53235), (817, 53196), (851, 53106), (856, 53088), (858, 53082), (868, 53067), (875,

53043), (877, 53028), (878, 53025), (881, 53013), (890, 52989), (907, 52941), (912, 52917),

Gene: Cozz\_41 Start: 32142, Stop: 29749, Start Num: 33

Candidate Starts for Cozz\_41:

(Start: 33 @32142 has 15 MA's), (45, 32136), (Start: 56 @32088 has 1 MA's), (71, 32046), (81, 32022), (119, 31896), (127, 31872), (159, 31827), (191, 31776), (201, 31761), (Start: 214 @31740 has 4 MA's), (243, 31692), (261, 31659), (Start: 267 @31650 has 137 MA's), (303, 31575), (308, 31563), (337, 31494), (354, 31467), (357, 31461), (365, 31446), (384, 31392), (386, 31389), (393, 31371), (397, 31350), (418, 31290), (463, 31167), (465, 31161), (490, 31092), (519, 31050), (576, 30963), (588, 30939), (596, 30933), (603, 30909), (607, 30900), (614, 30885), (622, 30873), (639, 30831), (640, 30828), (642, 30825), (660, 30789), (690, 30678), (705, 30609), (706, 30603), (714, 30567), (724, 30510), (733, 30474), (741, 30438), (743, 30432), (745, 30426), (746, 30420), (761, 30363), (768, 30339), (777, 30294), (893, 29913), (908, 29868), (910, 29859), (926, 29799), (934, 29781),

Gene: Craff\_63 Start: 54995, Stop: 53136, Start Num: 196

Candidate Starts for Craff\_63:

(Start: 175 @55019 has 1 MA's), (Start: 196 @54995 has 254 MA's), (Start: 221 @54971 has 2 MA's), (Start: 227 @54965 has 3 MA's), (246, 54923), (259, 54902), (307, 54788), (311, 54782), (326, 54752), (355, 54692), (366, 54671), (386, 54617), (391, 54605), (396, 54587), (398, 54575), (431, 54470), (454, 54413), (466, 54377), (471, 54365), (483, 54338), (491, 54311), (499, 54293), (509, 54275), (533, 54236), (540, 54227), (542, 54224), (695, 53864), (701, 53831), (706, 53810), (727, 53717), (730, 53708), (744, 53645), (761, 53606), (766, 53591), (790, 53513), (794, 53501), (800, 53480), (817, 53441), (847, 53372), (851, 53351), (856, 53333), (858, 53327), (868, 53312), (875, 53288), (877, 53273), (878, 53270), (881, 53258), (890, 53234), (907, 53186), (912, 53162),

Gene: Crewmate\_46 Start: 30025, Stop: 31890, Start Num: 231

Candidate Starts for Crewmate\_46:

(Start: 231 @30025 has 845 MA's), (254, 30073), (332, 30238), (348, 30256), (378, 30322), (388, 30343), (492, 30628), (549, 30727), (558, 30742), (562, 30754), (595, 30832), (613, 30880), (643, 30937), (674, 31018), (700, 31138), (720, 31225), (731, 31282), (733, 31291), (820, 31564), (896, 31786),

Gene: Crispicous1\_43 Start: 33950, Stop: 32124, Start Num: 231

Candidate Starts for Crispicous1\_43:

(Start: 231 @33950 has 845 MA's), (332, 33737), (337, 33722), (367, 33674), (378, 33644), (388, 33623), (390, 33617), (392, 33608), (425, 33491), (434, 33464), (487, 33371), (492, 33356), (509, 33323), (541, 33272), (543, 33269), (575, 33203), (589, 33173), (598, 33143), (616, 33098), (638, 33059), (700, 32879), (709, 32831), (720, 32792), (733, 32726), (742, 32687), (755, 32666), (760, 32645), (766, 32627), (786, 32561), (846, 32411), (847, 32408), (855, 32372), (868, 32348), (870, 32339), (874, 32327), (880, 32300), (896, 32252), (906, 32231),

Gene: CroZenni\_42 Start: 29399, Stop: 31273, Start Num: 222

Candidate Starts for CroZenni\_42:

(Start: 222 @29399 has 57 MA's), (Start: 266 @29468 has 4 MA's), (279, 29489), (337, 29621), (392, 29735), (396, 29750), (403, 29777), (549, 30071), (651, 30305), (688, 30428), (700, 30488), (702, 30494), (711, 30539), (716, 30554), (718, 30569), (724, 30605), (733, 30641), (759, 30734), (787, 30827), (816, 30905), (846, 30977), (855, 31016), (873, 31058), (876, 31076), (890, 31112), (896, 31136), (906, 31157),

Gene: Crownjwl\_60 Start: 54069, Stop: 52210, Start Num: 196

Candidate Starts for Crownjwl\_60:

(Start: 175 @54093 has 1 MA's), (Start: 196 @54069 has 254 MA's), (Start: 221 @54045 has 2 MA's), (Start: 227 @54039 has 3 MA's), (246, 53997), (259, 53976), (307, 53862), (311, 53856), (326,



53826), (355, 53766), (366, 53745), (386, 53691), (391, 53679), (396, 53661), (398, 53649), (431, 53544), (454, 53487), (466, 53451), (471, 53439), (482, 53415), (486, 53403), (491, 53385), (499, 53367), (533, 53310), (540, 53301), (542, 53298), (544, 53295), (668, 53040), (695, 52938), (701, 52905), (706, 52884), (727, 52791), (730, 52782), (744, 52719), (760, 52683), (761, 52680), (766, 52665), (790, 52587), (794, 52575), (800, 52554), (817, 52515), (851, 52425), (856, 52407), (858, 52401), (868, 52386), (875, 52362), (877, 52347), (878, 52344), (881, 52332), (890, 52308), (907, 52260), (912, 52236),

Gene: Crucio\_44 Start: 31285, Stop: 29498, Start Num: 231

Candidate Starts for Crucio\_44:

(102, 31540), (Start: 231 @31285 has 845 MA's), (329, 31081), (330, 31078), (332, 31072), (337, 31057), (350, 31042), (367, 31009), (369, 31006), (378, 30979), (390, 30952), (395, 30931), (403, 30901), (434, 30799), (487, 30706), (509, 30658), (513, 30649), (524, 30634), (562, 30568), (595, 30487), (613, 30439), (616, 30433), (652, 30370), (683, 30295), (700, 30214), (711, 30163), (719, 30130), (720, 30127), (733, 30061), (742, 30022), (755, 30001), (775, 29926), (782, 29908), (796, 29863), (806, 29836), (823, 29800), (832, 29788), (834, 29782), (846, 29746), (851, 29722), (877, 29644), (896, 29587), (902, 29575), (906, 29566),

Gene: Cuco\_38 Start: 30397, Stop: 28532, Start Num: 231

Candidate Starts for Cuco\_38:

(Start: 231 @30397 has 845 MA's), (256, 30346), (291, 30286), (317, 30223), (329, 30193), (330, 30190), (363, 30133), (367, 30121), (378, 30091), (390, 30064), (434, 29911), (487, 29815), (509, 29767), (561, 29683), (562, 29677), (576, 29644), (594, 29605), (610, 29557), (616, 29545), (668, 29446), (700, 29311), (708, 29281), (709, 29263), (716, 29245), (720, 29224), (722, 29215), (726, 29188), (733, 29158), (742, 29119), (760, 29077), (766, 29059), (780, 29011), (796, 28960), (818, 28906), (823, 28897), (834, 28879), (851, 28819), (856, 28801), (890, 28708), (896, 28684), (902, 28672), (939, 28567),

Gene: Cueyllyss\_46 Start: 36237, Stop: 34411, Start Num: 231

Candidate Starts for Cueyllyss\_46:

(Start: 231 @36237 has 845 MA's), (332, 36024), (337, 36009), (378, 35931), (388, 35910), (390, 35904), (392, 35895), (425, 35778), (434, 35751), (487, 35658), (492, 35643), (541, 35559), (543, 35556), (575, 35490), (589, 35460), (598, 35430), (616, 35385), (638, 35346), (700, 35166), (708, 35136), (709, 35118), (711, 35115), (720, 35079), (733, 35013), (760, 34932), (761, 34929), (786, 34848), (846, 34698), (847, 34695), (855, 34659), (868, 34635), (870, 34626), (874, 34614), (877, 34596), (880, 34587), (896, 34539), (906, 34518),

Gene: Cullens\_48 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for Cullens\_48:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (641, 30952), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772, 30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Cyan\_40 Start: 29677, Stop: 31542, Start Num: 231

Candidate Starts for Cyan\_40:

(Start: 231 @29677 has 845 MA's), (254, 29725), (378, 29974), (406, 30064), (489, 30271), (492, 30280), (542, 30370), (549, 30379), (558, 30394), (576, 30439), (595, 30484), (613, 30532), (643, 30589), (674, 30670), (694, 30757), (700, 30790), (708, 30820), (720, 30877), (733, 30943), (759, 31036), (780, 31108), (820, 31216), (846, 31279), (851, 31303), (890, 31414), (896, 31438), (901, 31447),

Gene: D29\_44 Start: 31153, Stop: 29330, Start Num: 231

Candidate Starts for D29\_44:

(Start: 231 @31153 has 845 MA's), (329, 30949), (337, 30925), (350, 30907), (360, 30889), (367, 30874), (369, 30871), (378, 30844), (390, 30817), (403, 30766), (434, 30664), (487, 30571), (509, 30523), (513, 30514), (523, 30502), (524, 30499), (562, 30433), (589, 30373), (638, 30259), (652, 30235), (672, 30196), (700, 30070), (711, 30019), (720, 29983), (733, 29917), (742, 29878), (761, 29809), (772, 29770), (787, 29725), (796, 29695), (823, 29632), (834, 29614), (851, 29554), (896, 29419), (902, 29407), (906, 29398),

Gene: D32\_47 Start: 31153, Stop: 29330, Start Num: 231

Candidate Starts for D32\_47:

(Start: 231 @31153 has 845 MA's), (329, 30949), (337, 30925), (350, 30907), (360, 30889), (367, 30874), (369, 30871), (378, 30844), (390, 30817), (403, 30766), (434, 30664), (487, 30571), (509, 30523), (513, 30514), (523, 30502), (524, 30499), (562, 30433), (589, 30373), (638, 30259), (652, 30235), (672, 30196), (700, 30070), (711, 30019), (720, 29983), (733, 29917), (742, 29878), (761, 29809), (772, 29770), (787, 29725), (796, 29695), (823, 29632), (834, 29614), (851, 29554), (896, 29419), (902, 29407), (906, 29398),

Gene: DBQu4n\_47 Start: 31153, Stop: 29330, Start Num: 231

Candidate Starts for DBQu4n\_47:

(Start: 231 @31153 has 845 MA's), (329, 30949), (337, 30925), (350, 30907), (360, 30889), (367, 30874), (369, 30871), (378, 30844), (390, 30817), (403, 30766), (434, 30664), (487, 30571), (509, 30523), (513, 30514), (523, 30502), (524, 30499), (562, 30433), (589, 30373), (638, 30259), (652, 30235), (672, 30196), (700, 30070), (711, 30019), (720, 29983), (733, 29917), (742, 29878), (761, 29809), (772, 29770), (787, 29725), (796, 29695), (823, 29632), (832, 29620), (834, 29614), (851, 29554), (896, 29419), (902, 29407), (906, 29398),

Gene: DD5\_44 Start: 35207, Stop: 33381, Start Num: 231

Candidate Starts for DD5\_44:

(Start: 231 @35207 has 845 MA's), (332, 34994), (367, 34931), (378, 34901), (390, 34874), (392, 34865), (425, 34748), (434, 34721), (487, 34628), (492, 34613), (541, 34529), (543, 34526), (575, 34460), (589, 34430), (598, 34400), (616, 34355), (638, 34316), (700, 34136), (709, 34088), (720, 34049), (733, 33983), (742, 33944), (755, 33923), (760, 33902), (766, 33884), (786, 33818), (846, 33668), (847, 33665), (855, 33629), (870, 33596), (874, 33584), (896, 33509), (906, 33488),

Gene: DaHudson\_48 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for DaHudson\_48:

(149, 31971), (Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: DaVinci\_45 Start: 29628, Stop: 27787, Start Num: 231

Candidate Starts for DaVinci\_45:

(Start: 231 @29628 has 845 MA's), (329, 29424), (367, 29349), (369, 29346), (378, 29319), (384, 29304), (390, 29292), (403, 29241), (430, 29151), (434, 29139), (487, 29046), (502, 29007), (513, 28989), (524, 28974), (562, 28908), (576, 28875), (577, 28872), (619, 28770), (652, 28710), (683, 28626), (700, 28545), (719, 28461), (720, 28458), (722, 28449), (726, 28422), (733, 28392), (755, 28332), (766, 28293), (846, 28077), (847, 28074), (851, 28053), (896, 27918), (902, 27906), (906, 27897), (907, 27894), (939, 27801),

Gene: DaddyDaniels\_62 Start: 54528, Stop: 52669, Start Num: 196

Candidate Starts for DaddyDaniels\_62:

(Start: 175 @54552 has 1 MA's), (Start: 196 @54528 has 254 MA's), (Start: 221 @54504 has 2 MA's), (Start: 227 @54498 has 3 MA's), (246, 54456), (259, 54435), (307, 54321), (311, 54315), (326, 54285), (355, 54225), (366, 54204), (386, 54150), (391, 54138), (396, 54120), (398, 54108), (431, 54003), (454, 53946), (466, 53910), (471, 53898), (483, 53871), (491, 53844), (499, 53826), (509, 53808), (533, 53769), (540, 53760), (542, 53757), (668, 53499), (695, 53397), (701, 53364), (706, 53343), (727, 53250), (730, 53241), (744, 53178), (760, 53142), (761, 53139), (766, 53124), (790, 53046), (794, 53034), (800, 53013), (817, 52974), (851, 52884), (856, 52866), (858, 52860), (868, 52845), (875, 52821), (877, 52806), (878, 52803), (881, 52791), (890, 52767), (907, 52719), (912, 52695),

Gene: Daffy\_60 Start: 54033, Stop: 52174, Start Num: 196

Candidate Starts for Daffy\_60:

(Start: 175 @54057 has 1 MA's), (Start: 196 @54033 has 254 MA's), (Start: 221 @54009 has 2 MA's), (Start: 227 @54003 has 3 MA's), (246, 53961), (259, 53940), (307, 53826), (311, 53820), (326, 53790), (355, 53730), (366, 53709), (386, 53655), (391, 53643), (396, 53625), (398, 53613), (431, 53508), (454, 53451), (466, 53415), (471, 53403), (483, 53376), (499, 53331), (533, 53274), (540, 53265), (542, 53262), (695, 52902), (701, 52869), (706, 52848), (727, 52755), (730, 52746), (744, 52683), (760, 52647), (761, 52644), (766, 52629), (790, 52551), (794, 52539), (800, 52518), (817, 52479), (851, 52389), (856, 52371), (858, 52365), (868, 52350), (875, 52326), (877, 52311), (878, 52308), (881, 52296), (890, 52272), (907, 52224), (912, 52200),

Gene: Daishi\_47 Start: 30725, Stop: 28911, Start Num: 231

Candidate Starts for Daishi\_47:

(Start: 231 @30725 has 845 MA's), (248, 30686), (256, 30674), (329, 30521), (333, 30506), (367, 30449), (390, 30392), (392, 30383), (403, 30341), (415, 30290), (434, 30239), (472, 30185), (487, 30146), (509, 30098), (524, 30074), (549, 30035), (562, 30008), (575, 29978), (610, 29885), (616, 29873), (641, 29825), (652, 29810), (700, 29654), (711, 29603), (719, 29570), (720, 29567), (733, 29501), (742, 29462), (761, 29390), (772, 29351), (780, 29327), (786, 29309), (796, 29276), (834, 29195), (851, 29135), (880, 29048), (896, 29000), (902, 28988), (906, 28979), (907, 28976),

Gene: Daisy\_57 Start: 53240, Stop: 51423, Start Num: 223

Candidate Starts for Daisy\_57:

(123, 53423), (Start: 223 @53240 has 42 MA's), (240, 53210), (332, 53030), (395, 52877), (397, 52865), (407, 52835), (412, 52829), (431, 52766), (433, 52760), (454, 52709), (464, 52682), (466, 52673), (486, 52625), (542, 52520), (589, 52424), (610, 52373), (681, 52229), (689, 52190), (696, 52160), (701, 52133), (704, 52121), (725, 52025), (727, 52019), (730, 52010), (732, 51998), (754, 51926), (760, 51896), (766, 51878), (768, 51869), (790, 51800), (794, 51788), (800, 51767), (834, 51698), (841, 51683), (847, 51659), (851, 51638), (858, 51614), (873, 51581), (875, 51575), (878, 51557), (881, 51545), (886, 51533), (890, 51521), (904, 51479), (912, 51449),

Gene: Daka\_63 Start: 54549, Stop: 52690, Start Num: 196

Candidate Starts for Daka\_63:

(Start: 175 @54573 has 1 MA's), (Start: 196 @54549 has 254 MA's), (Start: 221 @54525 has 2 MA's), (Start: 227 @54519 has 3 MA's), (246, 54477), (259, 54456), (307, 54342), (311, 54336), (326, 54306), (355, 54246), (366, 54225), (386, 54171), (391, 54159), (396, 54141), (398, 54129), (431, 54024), (454, 53967), (466, 53931), (471, 53919), (483, 53892), (499, 53847), (533, 53790), (540, 53781), (542, 53778), (544, 53775), (695, 53418), (701, 53385), (706, 53364), (727, 53271), (730, 53262), (744, 53199), (760, 53163), (761, 53160), (766, 53145), (790, 53067), (794, 53055), (800, 53034), (817, 52995), (851, 52905), (856, 52887), (858, 52881), (868, 52866), (875, 52842), (877, 52827), (878, 52824), (881, 52812), (890, 52788), (895, 52767), (907, 52740), (912, 52716), (915,

52701),

Gene: Dalmatian\_45 Start: 31678, Stop: 29891, Start Num: 231

Candidate Starts for Dalmatian\_45:

(Start: 231 @31678 has 845 MA's), (329, 31474), (330, 31471), (332, 31465), (337, 31450), (350, 31435), (367, 31402), (369, 31399), (378, 31372), (390, 31345), (395, 31324), (434, 31192), (487, 31099), (501, 31063), (509, 31051), (513, 31042), (524, 31027), (562, 30961), (595, 30880), (613, 30832), (616, 30826), (652, 30763), (700, 30607), (711, 30556), (719, 30523), (720, 30520), (733, 30454), (742, 30415), (755, 30394), (775, 30319), (780, 30307), (823, 30193), (834, 30175), (846, 30139), (851, 30115), (877, 30037), (896, 29980), (902, 29968), (906, 29959),

Gene: Danforth\_42 Start: 30571, Stop: 28727, Start Num: 231

Candidate Starts for Danforth\_42:

(134, 30736), (Start: 231 @30571 has 845 MA's), (256, 30520), (317, 30397), (329, 30367), (350, 30328), (367, 30295), (378, 30265), (388, 30244), (390, 30238), (392, 30229), (415, 30136), (426, 30109), (434, 30085), (487, 29989), (491, 29977), (497, 29962), (509, 29941), (513, 29932), (549, 29878), (562, 29851), (583, 29803), (603, 29746), (616, 29719), (643, 29668), (653, 29653), (697, 29506), (700, 29485), (708, 29455), (709, 29437), (711, 29434), (716, 29419), (720, 29398), (722, 29389), (726, 29362), (730, 29350), (733, 29332), (760, 29251), (764, 29239), (780, 29185), (792, 29149), (818, 29080), (832, 29059), (834, 29053), (847, 29014), (851, 28993), (856, 28975), (896, 28858), (902, 28846),

Gene: Darrell\_45 Start: 31850, Stop: 30057, Start Num: 231

Candidate Starts for Darrell\_45:

(Start: 231 @31850 has 845 MA's), (236, 31841), (256, 31799), (291, 31739), (300, 31712), (316, 31679), (317, 31676), (329, 31646), (332, 31637), (335, 31628), (369, 31568), (379, 31538), (384, 31526), (390, 31514), (403, 31463), (434, 31361), (487, 31268), (561, 31136), (575, 31100), (652, 30929), (671, 30902), (673, 30896), (700, 30773), (722, 30677), (726, 30650), (733, 30620), (742, 30581), (758, 30548), (760, 30539), (772, 30497), (796, 30422), (803, 30401), (846, 30305), (873, 30224), (896, 30146), (902, 30134), (906, 30125),

Gene: DARTHPhader\_42 Start: 32266, Stop: 30422, Start Num: 231

Candidate Starts for DARTHPhader\_42:

(142, 32410), (153, 32383), (Start: 231 @32266 has 845 MA's), (291, 32155), (317, 32092), (329, 32062), (332, 32053), (350, 32020), (367, 31987), (378, 31957), (390, 31930), (395, 31909), (434, 31777), (487, 31684), (513, 31627), (524, 31612), (562, 31546), (583, 31498), (607, 31429), (652, 31348), (672, 31306), (683, 31261), (687, 31243), (700, 31180), (711, 31129), (720, 31093), (733, 31027), (742, 30988), (755, 30967), (760, 30946), (823, 30766), (846, 30712), (847, 30709), (851, 30688), (873, 30631), (877, 30610), (896, 30553), (902, 30541), (917, 30484),

Gene: Dati\_60 Start: 54564, Stop: 52705, Start Num: 196

Candidate Starts for Dati\_60:

(Start: 175 @54588 has 1 MA's), (Start: 196 @54564 has 254 MA's), (Start: 221 @54540 has 2 MA's), (Start: 227 @54534 has 3 MA's), (246, 54492), (259, 54471), (307, 54357), (311, 54351), (326, 54321), (355, 54261), (366, 54240), (386, 54186), (391, 54174), (396, 54156), (398, 54144), (431, 54039), (454, 53982), (466, 53946), (471, 53934), (482, 53910), (486, 53898), (491, 53880), (499, 53862), (509, 53844), (533, 53805), (540, 53796), (542, 53793), (544, 53790), (695, 53433), (701, 53400), (706, 53379), (727, 53286), (730, 53277), (744, 53214), (760, 53178), (761, 53175), (766, 53160), (790, 53082), (794, 53070), (800, 53049), (817, 53010), (851, 52920), (856, 52902), (858, 52896), (868, 52881), (875, 52857), (877, 52842), (878, 52839), (881, 52827), (890, 52803), (907, 52755), (912, 52731),

Gene: Datway\_44 Start: 31508, Stop: 29679, Start Num: 231

Candidate Starts for Datway\_44:

(Start: 231 @31508 has 845 MA's), (256, 31457), (274, 31427), (350, 31265), (360, 31247), (367, 31232), (390, 31175), (392, 31166), (426, 31046), (434, 31022), (468, 30980), (487, 30929), (511, 30881), (524, 30860), (549, 30821), (570, 30776), (573, 30770), (603, 30689), (613, 30668), (638, 30623), (697, 30458), (700, 30437), (733, 30284), (742, 30245), (761, 30173), (766, 30158), (772, 30134), (777, 30116), (780, 30110), (782, 30104), (851, 29903), (896, 29768), (902, 29756), (906, 29747),

Gene: Dave\_39 Start: 28922, Stop: 27057, Start Num: 267

Candidate Starts for Dave\_39:

(Start: 214 @29009 has 4 MA's), (Start: 216 @29006 has 7 MA's), (Start: 267 @28922 has 137 MA's), (Start: 275 @28913 has 5 MA's), (321, 28808), (325, 28799), (338, 28769), (340, 28766), (395, 28646), (397, 28634), (400, 28628), (436, 28523), (445, 28496), (490, 28355), (492, 28349), (494, 28346), (498, 28334), (513, 28307), (516, 28304), (525, 28289), (527, 28283), (530, 28277), (553, 28244), (612, 28115), (634, 28055), (690, 27890), (726, 27740), (729, 27731), (730, 27728), (733, 27710), (743, 27668), (745, 27662), (747, 27653), (751, 27638), (768, 27581), (815, 27422), (827, 27392), (828, 27383), (847, 27323), (852, 27299), (863, 27260), (875, 27227), (876, 27215), (893, 27155),

Gene: Deano\_44 Start: 31578, Stop: 29752, Start Num: 231

Candidate Starts for Deano\_44:

(Start: 231 @31578 has 845 MA's), (240, 31557), (256, 31527), (274, 31497), (350, 31335), (360, 31317), (390, 31245), (392, 31236), (426, 31116), (434, 31092), (487, 30999), (511, 30951), (524, 30930), (549, 30891), (603, 30759), (613, 30738), (638, 30693), (643, 30681), (697, 30528), (700, 30507), (726, 30384), (733, 30354), (742, 30315), (760, 30249), (761, 30246), (766, 30231), (772, 30207), (780, 30183), (851, 29976), (896, 29841), (902, 29829), (906, 29820),

Gene: Deenasa\_58 Start: 54545, Stop: 52728, Start Num: 223

Candidate Starts for Deenasa\_58:

(123, 54728), (Start: 223 @54545 has 42 MA's), (240, 54515), (332, 54335), (395, 54182), (397, 54170), (407, 54140), (412, 54134), (431, 54071), (433, 54065), (454, 54014), (464, 53987), (466, 53978), (486, 53930), (542, 53825), (589, 53729), (610, 53678), (681, 53534), (689, 53495), (696, 53465), (701, 53438), (704, 53426), (725, 53330), (727, 53324), (730, 53315), (732, 53303), (754, 53231), (760, 53201), (766, 53183), (768, 53174), (790, 53105), (794, 53093), (800, 53072), (834, 53003), (841, 52988), (847, 52964), (856, 52925), (858, 52919), (875, 52880), (878, 52862), (881, 52850), (890, 52826), (912, 52754),

Gene: DekHockey33\_47 Start: 30182, Stop: 28392, Start Num: 231

Candidate Starts for DekHockey33\_47:

(Start: 231 @30182 has 845 MA's), (317, 30008), (367, 29903), (369, 29900), (378, 29873), (390, 29846), (403, 29795), (434, 29693), (487, 29600), (505, 29555), (509, 29552), (513, 29543), (595, 29381), (603, 29354), (613, 29333), (616, 29327), (674, 29228), (683, 29189), (695, 29138), (700, 29108), (711, 29057), (719, 29024), (724, 28991), (726, 28985), (733, 28955), (755, 28895), (760, 28874), (772, 28832), (781, 28805), (786, 28790), (818, 28703), (846, 28640), (847, 28637), (896, 28481), (902, 28469), (907, 28457),

Gene: DelRivs\_59 Start: 54011, Stop: 52152, Start Num: 196

Candidate Starts for DelRivs\_59:

(Start: 175 @54035 has 1 MA's), (Start: 196 @54011 has 254 MA's), (Start: 221 @53987 has 2 MA's), (Start: 227 @53981 has 3 MA's), (246, 53939), (259, 53918), (307, 53804), (311, 53798), (326, 53768), (355, 53708), (366, 53687), (386, 53633), (391, 53621), (396, 53603), (398, 53591), (431, 53486), (454, 53429), (466, 53393), (471, 53381), (482, 53357), (486, 53345), (491, 53327), (499, 53309), (509, 53291), (533, 53252), (540, 53243), (542, 53240), (544, 53237), (695, 52880), (701,

52847), (706, 52826), (727, 52733), (730, 52724), (744, 52661), (760, 52625), (761, 52622), (766, 52607), (790, 52529), (794, 52517), (800, 52496), (817, 52457), (851, 52367), (856, 52349), (858, 52343), (868, 52328), (875, 52304), (877, 52289), (878, 52286), (881, 52274), (890, 52250), (907, 52202), (912, 52178),

Gene: Deloris\_43 Start: 30897, Stop: 29110, Start Num: 231

Candidate Starts for Deloris\_43:

(Start: 231 @30897 has 845 MA's), (329, 30693), (330, 30690), (332, 30684), (337, 30669), (350, 30654), (367, 30621), (369, 30618), (378, 30591), (390, 30564), (395, 30543), (403, 30513), (434, 30411), (487, 30318), (490, 30309), (509, 30270), (513, 30261), (524, 30246), (562, 30180), (595, 30099), (613, 30051), (616, 30045), (683, 29907), (700, 29826), (711, 29775), (719, 29742), (720, 29739), (733, 29673), (742, 29634), (755, 29613), (775, 29538), (782, 29520), (796, 29475), (806, 29448), (823, 29412), (834, 29394), (846, 29358), (851, 29334), (873, 29277), (896, 29199), (902, 29187),

Gene: Delphidian\_40 Start: 28933, Stop: 27068, Start Num: 267

Candidate Starts for Delphidian\_40:

(Start: 214 @29020 has 4 MA's), (Start: 267 @28933 has 137 MA's), (Start: 275 @28924 has 5 MA's), (321, 28819), (325, 28810), (338, 28780), (340, 28777), (395, 28657), (397, 28645), (400, 28639), (436, 28534), (445, 28507), (490, 28366), (492, 28360), (494, 28357), (498, 28345), (513, 28318), (516, 28315), (525, 28300), (527, 28294), (530, 28288), (553, 28255), (612, 28126), (634, 28066), (726, 27751), (729, 27742), (730, 27739), (733, 27721), (743, 27679), (745, 27673), (747, 27664), (751, 27649), (768, 27592), (815, 27433), (827, 27403), (828, 27394), (847, 27334), (852, 27310), (863, 27271), (875, 27238), (876, 27226), (893, 27166),

Gene: Den3\_39 Start: 28939, Stop: 27074, Start Num: 267

Candidate Starts for Den3\_39:

(Start: 214 @29026 has 4 MA's), (Start: 216 @29023 has 7 MA's), (256, 28954), (Start: 267 @28939 has 137 MA's), (Start: 275 @28930 has 5 MA's), (321, 28825), (325, 28816), (338, 28786), (340, 28783), (395, 28663), (397, 28651), (400, 28645), (436, 28540), (445, 28513), (490, 28372), (494, 28363), (498, 28351), (513, 28324), (516, 28321), (525, 28306), (527, 28300), (530, 28294), (553, 28261), (634, 28072), (726, 27757), (729, 27748), (730, 27745), (733, 27727), (743, 27685), (745, 27679), (751, 27655), (768, 27598), (815, 27439), (827, 27409), (828, 27400), (847, 27340), (852, 27316), (863, 27277), (875, 27244), (876, 27232), (893, 27172),

Gene: Derpp\_60 Start: 54131, Stop: 52272, Start Num: 196

Candidate Starts for Derpp\_60:

(Start: 175 @54155 has 1 MA's), (Start: 196 @54131 has 254 MA's), (Start: 221 @54107 has 2 MA's), (Start: 227 @54101 has 3 MA's), (246, 54059), (259, 54038), (307, 53924), (311, 53918), (326, 53888), (355, 53828), (366, 53807), (386, 53753), (391, 53741), (396, 53723), (398, 53711), (431, 53606), (454, 53549), (466, 53513), (471, 53501), (482, 53477), (486, 53465), (491, 53447), (499, 53429), (509, 53411), (533, 53372), (540, 53363), (542, 53360), (544, 53357), (668, 53102), (695, 53000), (701, 52967), (706, 52946), (727, 52853), (730, 52844), (744, 52781), (760, 52745), (761, 52742), (766, 52727), (790, 52649), (794, 52637), (800, 52616), (817, 52577), (851, 52487), (856, 52469), (858, 52463), (868, 52448), (875, 52424), (877, 52409), (878, 52406), (881, 52394), (890, 52370), (895, 52349), (907, 52322), (912, 52298), (915, 52283),

Gene: Devonte\_57 Start: 53319, Stop: 51502, Start Num: 223

Candidate Starts for Devonte\_57:

(123, 53502), (Start: 223 @53319 has 42 MA's), (240, 53289), (332, 53109), (395, 52956), (397, 52944), (407, 52914), (412, 52908), (431, 52845), (433, 52839), (454, 52788), (464, 52761), (466, 52752), (486, 52704), (542, 52599), (589, 52503), (610, 52452), (681, 52308), (689, 52269), (696, 52239), (701, 52212), (704, 52200), (725, 52104), (727, 52098), (730, 52089), (732, 52077), (754,

52005), (760, 51975), (766, 51957), (768, 51948), (790, 51879), (794, 51867), (800, 51846), (834, 51777), (841, 51762), (847, 51738), (851, 51717), (856, 51699), (858, 51693), (873, 51660), (875, 51654), (878, 51636), (881, 51624), (886, 51612), (890, 51600), (904, 51558), (912, 51528),

Gene: Dewdrop\_95 Start: 58518, Stop: 60557, Start Num: 197

Candidate Starts for Dewdrop\_95:

(Start: 197 @58518 has 4 MA's), (257, 58629), (259, 58632), (277, 58659), (298, 58716), (313, 58752), (328, 58791), (354, 58845), (361, 58857), (365, 58866), (376, 58902), (395, 58962), (398, 58977), (402, 58989), (418, 59034), (428, 59064), (467, 59178), (497, 59271), (498, 59274), (504, 59283), (513, 59301), (571, 59409), (600, 59463), (606, 59475), (632, 59541), (658, 59610), (708, 59763), (726, 59847), (733, 59877), (767, 60009), (768, 60012), (776, 60048), (784, 60081), (796, 60120), (847, 60270), (852, 60294), (854, 60300), (858, 60315), (867, 60345), (887, 60423), (893, 60444), (902, 60474), (912, 60516), (924, 60552),

Gene: Dexes\_45 Start: 35367, Stop: 33580, Start Num: 231

Candidate Starts for Dexes\_45:

(Start: 231 @35367 has 845 MA's), (332, 35154), (337, 35139), (367, 35091), (378, 35061), (388, 35040), (390, 35034), (392, 35025), (425, 34908), (434, 34881), (487, 34788), (492, 34773), (509, 34740), (541, 34689), (543, 34686), (575, 34620), (589, 34590), (598, 34560), (616, 34515), (638, 34476), (700, 34296), (709, 34248), (711, 34245), (720, 34209), (733, 34143), (758, 34071), (760, 34062), (786, 33978), (818, 33891), (868, 33765), (871, 33753), (896, 33669), (899, 33663),

Gene: Dhanush\_45 Start: 31573, Stop: 29747, Start Num: 231

Candidate Starts for Dhanush\_45:

(Start: 231 @31573 has 845 MA's), (240, 31552), (256, 31522), (274, 31492), (350, 31330), (360, 31312), (390, 31240), (392, 31231), (426, 31111), (434, 31087), (487, 30994), (511, 30946), (524, 30925), (549, 30886), (603, 30754), (613, 30733), (638, 30688), (643, 30676), (697, 30523), (700, 30502), (726, 30379), (733, 30349), (742, 30310), (760, 30244), (761, 30241), (766, 30226), (772, 30202), (780, 30178), (851, 29971), (896, 29836), (902, 29824), (906, 29815),

Gene: Dice\_62 Start: 54016, Stop: 52157, Start Num: 196

Candidate Starts for Dice\_62:

(Start: 175 @54040 has 1 MA's), (Start: 196 @54016 has 254 MA's), (Start: 221 @53992 has 2 MA's), (Start: 227 @53986 has 3 MA's), (246, 53944), (259, 53923), (307, 53809), (311, 53803), (326, 53773), (355, 53713), (366, 53692), (386, 53638), (391, 53626), (396, 53608), (398, 53596), (431, 53491), (454, 53434), (466, 53398), (471, 53386), (483, 53359), (491, 53332), (499, 53314), (509, 53296), (533, 53257), (540, 53248), (542, 53245), (695, 52885), (701, 52852), (706, 52831), (727, 52738), (730, 52729), (744, 52666), (760, 52630), (761, 52627), (766, 52612), (790, 52534), (794, 52522), (800, 52501), (817, 52462), (851, 52372), (856, 52354), (858, 52348), (868, 52333), (875, 52309), (877, 52294), (878, 52291), (881, 52279), (890, 52255), (907, 52207), (912, 52183),

Gene: DickRichards\_41 Start: 29838, Stop: 31712, Start Num: 222

Candidate Starts for DickRichards\_41:

(Start: 222 @29838 has 57 MA's), (Start: 266 @29907 has 4 MA's), (279, 29928), (392, 30174), (396, 30189), (403, 30216), (549, 30510), (603, 30645), (651, 30744), (688, 30867), (700, 30927), (702, 30933), (711, 30978), (716, 30993), (718, 31008), (724, 31044), (733, 31080), (759, 31173), (787, 31266), (816, 31344), (846, 31416), (855, 31455), (873, 31497), (876, 31515), (890, 31551), (896, 31575), (906, 31596),

Gene: Didgeridoo\_45 Start: 30205, Stop: 32079, Start Num: 222

Candidate Starts for Didgeridoo\_45:

(Start: 222 @30205 has 57 MA's), (Start: 266 @30274 has 4 MA's), (279, 30295), (392, 30541), (396, 30556), (422, 30637), (549, 30877), (651, 31111), (687, 31231), (688, 31234), (700, 31294), (716,

31360), (718, 31375), (724, 31411), (733, 31447), (759, 31540), (816, 31711), (817, 31714), (846, 31783), (855, 31822), (873, 31864), (876, 31882), (890, 31918), (896, 31942), (906, 31963),

Gene: Dieselweasel\_49 Start: 31855, Stop: 30041, Start Num: 231

Candidate Starts for Dieselweasel\_49:

(Start: 231 @31855 has 845 MA's), (248, 31816), (256, 31804), (329, 31651), (333, 31636), (367, 31579), (390, 31522), (392, 31513), (403, 31471), (415, 31420), (434, 31369), (487, 31276), (509, 31228), (513, 31219), (524, 31204), (549, 31165), (562, 31138), (575, 31108), (610, 31015), (641, 30955), (652, 30940), (700, 30784), (720, 30697), (733, 30631), (742, 30592), (761, 30520), (772, 30481), (780, 30457), (786, 30439), (796, 30406), (806, 30379), (834, 30325), (851, 30265), (877, 30187), (896, 30130), (902, 30118), (906, 30109),

Gene: DigitDog\_58 Start: 54425, Stop: 52578, Start Num: 176

Candidate Starts for DigitDog\_58:

(15, 54914), (16, 54908), (26, 54857), (30, 54839), (67, 54701), (Start: 136 @54491 has 1 MA's), (176, 54425), (224, 54377), (240, 54350), (273, 54299), (331, 54179), (355, 54131), (396, 54029), (410, 53987), (421, 53951), (431, 53921), (466, 53828), (482, 53792), (486, 53780), (491, 53762), (542, 53675), (593, 53570), (643, 53447), (682, 53381), (684, 53363), (696, 53315), (701, 53288), (725, 53180), (727, 53174), (730, 53165), (734, 53144), (754, 53081), (761, 53048), (766, 53033), (784, 52973), (790, 52955), (794, 52943), (800, 52922), (803, 52913), (805, 52910), (811, 52898), (851, 52793), (856, 52775), (858, 52769), (875, 52730), (877, 52715), (878, 52712), (886, 52688), (890, 52676), (891, 52673), (912, 52604),

Gene: Dignity\_46 Start: 31741, Stop: 29954, Start Num: 231

Candidate Starts for Dignity\_46:

(Start: 231 @31741 has 845 MA's), (330, 31534), (332, 31528), (337, 31513), (350, 31498), (369, 31462), (378, 31435), (390, 31408), (395, 31387), (434, 31255), (487, 31162), (509, 31114), (513, 31105), (524, 31090), (562, 31024), (595, 30943), (613, 30895), (616, 30889), (700, 30670), (711, 30619), (719, 30586), (720, 30583), (733, 30517), (742, 30478), (755, 30457), (775, 30382), (780, 30370), (796, 30319), (823, 30256), (834, 30238), (846, 30202), (851, 30178), (877, 30100), (896, 30043), (902, 30031), (906, 30022),

Gene: Dinger\_36 Start: 28097, Stop: 26313, Start Num: 231

Candidate Starts for Dinger\_36:

(Start: 231 @28097 has 845 MA's), (316, 27926), (345, 27863), (366, 27824), (367, 27821), (384, 27776), (390, 27764), (392, 27755), (434, 27611), (487, 27518), (549, 27407), (562, 27380), (603, 27275), (616, 27248), (638, 27209), (700, 27029), (709, 26981), (733, 26876), (734, 26873), (755, 26816), (760, 26795), (774, 26747), (798, 26672), (832, 26603), (846, 26561), (847, 26558), (851, 26537), (855, 26522), (877, 26459), (896, 26402), (902, 26390), (913, 26351), (917, 26333),

Gene: Dingo\_59 Start: 53575, Stop: 51716, Start Num: 196

Candidate Starts for Dingo\_59:

(Start: 175 @53599 has 1 MA's), (Start: 196 @53575 has 254 MA's), (Start: 221 @53551 has 2 MA's), (Start: 227 @53545 has 3 MA's), (240, 53518), (246, 53503), (259, 53482), (307, 53368), (311, 53362), (326, 53332), (355, 53272), (366, 53251), (386, 53197), (391, 53185), (396, 53167), (398, 53155), (431, 53050), (454, 52993), (466, 52957), (471, 52945), (483, 52918), (486, 52909), (499, 52873), (533, 52816), (540, 52807), (542, 52804), (544, 52801), (695, 52444), (701, 52411), (706, 52390), (727, 52297), (730, 52288), (744, 52225), (760, 52189), (761, 52186), (766, 52171), (790, 52093), (794, 52081), (800, 52060), (817, 52021), (851, 51931), (856, 51913), (858, 51907), (868, 51892), (875, 51868), (877, 51853), (878, 51850), (881, 51838), (890, 51814), (907, 51766), (912, 51742),

Gene: Dione\_58 Start: 53747, Stop: 51888, Start Num: 196



Candidate Starts for Dione\_58:

(Start: 175 @53771 has 1 MA's), (Start: 196 @53747 has 254 MA's), (Start: 221 @53723 has 2 MA's), (Start: 227 @53717 has 3 MA's), (246, 53675), (259, 53654), (307, 53540), (311, 53534), (326, 53504), (355, 53444), (366, 53423), (386, 53369), (391, 53357), (396, 53339), (398, 53327), (431, 53222), (454, 53165), (466, 53129), (471, 53117), (482, 53093), (486, 53081), (491, 53063), (499, 53045), (509, 53027), (533, 52988), (540, 52979), (542, 52976), (544, 52973), (695, 52616), (701, 52583), (706, 52562), (727, 52469), (730, 52460), (744, 52397), (760, 52361), (761, 52358), (766, 52343), (790, 52265), (794, 52253), (800, 52232), (817, 52193), (851, 52103), (856, 52085), (858, 52079), (868, 52064), (875, 52040), (877, 52025), (878, 52022), (881, 52010), (890, 51986), (907, 51938), (912, 51914),

Gene: DirtJuice\_61 Start: 54337, Stop: 52478, Start Num: 196

Candidate Starts for DirtJuice\_61:

(Start: 175 @54361 has 1 MA's), (Start: 196 @54337 has 254 MA's), (Start: 221 @54313 has 2 MA's), (Start: 227 @54307 has 3 MA's), (246, 54265), (259, 54244), (307, 54130), (311, 54124), (326, 54094), (355, 54034), (366, 54013), (386, 53959), (391, 53947), (396, 53929), (398, 53917), (431, 53812), (454, 53755), (466, 53719), (471, 53707), (482, 53683), (486, 53671), (491, 53653), (499, 53635), (509, 53617), (533, 53578), (540, 53569), (542, 53566), (544, 53563), (668, 53308), (695, 53206), (701, 53173), (706, 53152), (727, 53059), (730, 53050), (744, 52987), (761, 52948), (766, 52933), (790, 52855), (794, 52843), (800, 52822), (817, 52783), (851, 52693), (856, 52675), (858, 52669), (868, 52654), (875, 52630), (877, 52615), (878, 52612), (881, 52600), (890, 52576), (907, 52528), (912, 52504),

Gene: DirtyBubble\_42 Start: 30299, Stop: 32173, Start Num: 222

Candidate Starts for DirtyBubble\_42:

(Start: 222 @30299 has 57 MA's), (Start: 266 @30368 has 4 MA's), (279, 30389), (392, 30635), (396, 30650), (403, 30677), (500, 30890), (509, 30905), (549, 30971), (651, 31205), (687, 31325), (688, 31328), (700, 31388), (702, 31394), (711, 31439), (718, 31469), (724, 31505), (733, 31541), (759, 31634), (787, 31727), (816, 31805), (817, 31808), (846, 31877), (851, 31901), (855, 31916), (873, 31958), (876, 31976), (896, 32036), (906, 32057),

Gene: DirtyDunning\_44 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for DirtyDunning\_44:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Discoknowium\_37 Start: 30143, Stop: 28284, Start Num: 231

Candidate Starts for Discoknowium\_37:

(Start: 231 @30143 has 845 MA's), (256, 30092), (291, 30032), (317, 29969), (329, 29939), (330, 29936), (363, 29879), (367, 29867), (378, 29837), (390, 29810), (434, 29657), (487, 29561), (509, 29513), (523, 29492), (561, 29429), (562, 29423), (594, 29351), (603, 29318), (610, 29303), (616, 29291), (668, 29192), (700, 29057), (708, 29027), (709, 29009), (716, 28991), (720, 28970), (722, 28961), (733, 28904), (742, 28865), (760, 28823), (766, 28805), (780, 28757), (796, 28706), (818, 28652), (823, 28643), (834, 28625), (851, 28565), (856, 28547), (890, 28454), (896, 28430), (902, 28418), (947, 28301), (948, 28298),

Gene: Dismas\_40 Start: 29921, Stop: 31792, Start Num: 222

Candidate Starts for Dismas\_40:

(Start: 222 @29921 has 57 MA's), (319, 30104), (337, 30143), (351, 30161), (382, 30233), (392, 30257), (395, 30269), (396, 30272), (422, 30353), (520, 30545), (549, 30593), (590, 30683), (651,

30824), (688, 30947), (700, 31007), (716, 31073), (718, 31088), (724, 31124), (727, 31133), (733, 31160), (759, 31253), (787, 31346), (816, 31424), (846, 31496), (855, 31535), (873, 31577), (890, 31631), (896, 31655), (906, 31676), (911, 31700),

Gene: Dixon\_43 Start: 30751, Stop: 28907, Start Num: 231

Candidate Starts for Dixon\_43:

(Start: 231 @30751 has 845 MA's), (256, 30700), (329, 30547), (350, 30508), (367, 30475), (378, 30445), (388, 30424), (390, 30418), (392, 30409), (415, 30316), (434, 30265), (487, 30169), (497, 30142), (505, 30124), (509, 30121), (513, 30112), (549, 30058), (562, 30031), (583, 29983), (603, 29926), (616, 29899), (643, 29848), (653, 29833), (697, 29686), (700, 29665), (708, 29635), (709, 29617), (711, 29614), (716, 29599), (720, 29578), (722, 29569), (726, 29542), (730, 29530), (733, 29512), (760, 29431), (764, 29419), (780, 29365), (792, 29329), (818, 29260), (832, 29239), (834, 29233), (847, 29194), (851, 29173), (856, 29155), (896, 29038), (902, 29026),

Gene: Doddsville\_61 Start: 54283, Stop: 52424, Start Num: 196

Candidate Starts for Doddsville\_61:

(Start: 175 @54307 has 1 MA's), (Start: 196 @54283 has 254 MA's), (Start: 221 @54259 has 2 MA's), (Start: 227 @54253 has 3 MA's), (246, 54211), (259, 54190), (307, 54076), (311, 54070), (326, 54040), (355, 53980), (366, 53959), (386, 53905), (391, 53893), (396, 53875), (398, 53863), (431, 53758), (454, 53701), (466, 53665), (471, 53653), (482, 53629), (486, 53617), (491, 53599), (499, 53581), (509, 53563), (533, 53524), (540, 53515), (542, 53512), (544, 53509), (695, 53152), (701, 53119), (706, 53098), (727, 53005), (730, 52996), (744, 52933), (760, 52897), (761, 52894), (766, 52879), (790, 52801), (794, 52789), (800, 52768), (817, 52729), (851, 52639), (856, 52621), (858, 52615), (868, 52600), (875, 52576), (877, 52561), (878, 52558), (881, 52546), (890, 52522), (907, 52474), (912, 52450),

Gene: DoesntMatter\_58 Start: 54040, Stop: 52181, Start Num: 196

Candidate Starts for DoesntMatter\_58:

(Start: 175 @54064 has 1 MA's), (Start: 196 @54040 has 254 MA's), (Start: 221 @54016 has 2 MA's), (Start: 227 @54010 has 3 MA's), (246, 53968), (259, 53947), (307, 53833), (311, 53827), (326, 53797), (355, 53737), (366, 53716), (386, 53662), (391, 53650), (396, 53632), (398, 53620), (431, 53515), (454, 53458), (466, 53422), (471, 53410), (483, 53383), (491, 53356), (499, 53338), (509, 53320), (533, 53281), (540, 53272), (542, 53269), (544, 53266), (695, 52909), (701, 52876), (706, 52855), (727, 52762), (730, 52753), (744, 52690), (760, 52654), (761, 52651), (766, 52636), (790, 52558), (794, 52546), (800, 52525), (817, 52486), (851, 52396), (856, 52378), (858, 52372), (868, 52357), (875, 52333), (877, 52318), (878, 52315), (881, 52303), (890, 52279), (907, 52231), (912, 52207),

Gene: DonSanchon\_58 Start: 53730, Stop: 51871, Start Num: 196

Candidate Starts for DonSanchon\_58:

(Start: 175 @53754 has 1 MA's), (Start: 196 @53730 has 254 MA's), (Start: 221 @53706 has 2 MA's), (Start: 227 @53700 has 3 MA's), (246, 53658), (259, 53637), (307, 53523), (311, 53517), (326, 53487), (355, 53427), (366, 53406), (386, 53352), (391, 53340), (396, 53322), (398, 53310), (431, 53205), (454, 53148), (466, 53112), (471, 53100), (483, 53073), (499, 53028), (533, 52971), (540, 52962), (542, 52959), (695, 52599), (701, 52566), (706, 52545), (727, 52452), (730, 52443), (744, 52380), (760, 52344), (761, 52341), (766, 52326), (790, 52248), (794, 52236), (800, 52215), (817, 52176), (851, 52086), (856, 52068), (858, 52062), (868, 52047), (875, 52023), (877, 52008), (878, 52005), (881, 51993), (890, 51969), (907, 51921), (912, 51897),

Gene: Donny\_59 Start: 54516, Stop: 52690, Start Num: 182

Candidate Starts for Donny\_59:

(Start: 182 @54516 has 24 MA's), (240, 54462), (282, 54402), (331, 54291), (355, 54243), (396, 54141), (405, 54111), (410, 54099), (421, 54063), (431, 54033), (466, 53940), (471, 53928), (482,

53904), (486, 53892), (491, 53874), (526, 53811), (542, 53787), (544, 53784), (593, 53682), (682, 53493), (684, 53475), (689, 53457), (696, 53427), (701, 53400), (725, 53292), (727, 53286), (730, 53277), (734, 53256), (754, 53193), (761, 53160), (766, 53145), (784, 53085), (790, 53067), (794, 53055), (800, 53034), (803, 53025), (805, 53022), (851, 52905), (858, 52881), (875, 52842), (877, 52827), (878, 52824), (886, 52800), (890, 52788), (891, 52785), (895, 52767), (908, 52737), (912, 52716), (917, 52695),

Gene: Doobus\_41 Start: 29222, Stop: 31096, Start Num: 222

Candidate Starts for Doobus\_41:

(Start: 220 @29219 has 7 MA's), (Start: 222 @29222 has 57 MA's), (Start: 266 @29291 has 4 MA's), (279, 29312), (392, 29558), (403, 29600), (500, 29813), (549, 29894), (651, 30128), (688, 30251), (700, 30311), (702, 30317), (711, 30362), (716, 30377), (718, 30392), (724, 30428), (733, 30464), (759, 30557), (787, 30650), (816, 30728), (846, 30800), (855, 30839), (873, 30881), (876, 30899), (890, 30935), (896, 30959), (906, 30980),

Gene: Doom\_45 Start: 35111, Stop: 33285, Start Num: 231

Candidate Starts for Doom\_45:

(Start: 231 @35111 has 845 MA's), (332, 34898), (378, 34805), (388, 34784), (390, 34778), (392, 34769), (425, 34652), (434, 34625), (487, 34532), (492, 34517), (541, 34433), (543, 34430), (575, 34364), (589, 34334), (598, 34304), (616, 34259), (638, 34220), (700, 34040), (708, 34010), (709, 33992), (711, 33989), (720, 33953), (733, 33887), (760, 33806), (761, 33803), (786, 33722), (846, 33572), (847, 33569), (855, 33533), (868, 33509), (870, 33500), (874, 33488), (880, 33461), (896, 33413), (906, 33392),

Gene: Dorothea\_44 Start: 29646, Stop: 27805, Start Num: 231

Candidate Starts for Dorothea\_44:

(Start: 231 @29646 has 845 MA's), (329, 29442), (367, 29367), (369, 29364), (378, 29337), (384, 29322), (390, 29310), (403, 29259), (430, 29169), (434, 29157), (487, 29064), (502, 29025), (513, 29007), (524, 28992), (562, 28926), (576, 28893), (577, 28890), (619, 28788), (652, 28728), (683, 28644), (700, 28563), (719, 28479), (720, 28476), (722, 28467), (726, 28440), (733, 28410), (755, 28350), (766, 28311), (846, 28095), (847, 28092), (851, 28071), (896, 27936), (902, 27924), (906, 27915), (907, 27912), (939, 27819),

Gene: Dothraki\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Dothraki\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: DrFeelGood\_43 Start: 34795, Stop: 32969, Start Num: 231

Candidate Starts for DrFeelGood\_43:

(Start: 231 @34795 has 845 MA's), (332, 34582), (337, 34567), (378, 34489), (388, 34468), (390, 34462), (392, 34453), (425, 34336), (434, 34309), (437, 34300), (487, 34216), (492, 34201), (509, 34168), (541, 34117), (543, 34114), (575, 34048), (589, 34018), (598, 33988), (616, 33943), (638, 33904), (700, 33724), (708, 33694), (709, 33676), (711, 33673), (720, 33637), (733, 33571), (760, 33490), (761, 33487), (786, 33406), (846, 33256), (847, 33253), (855, 33217), (868, 33193), (870, 33184), (874, 33172), (880, 33145), (896, 33097), (906, 33076),

Gene: DrManhattan\_40 Start: 27782, Stop: 29692, Start Num: 231

Candidate Starts for DrManhattan\_40:

(141, 27644), (Start: 231 @27782 has 845 MA's), (254, 27830), (378, 28079), (406, 28169), (489, 28421), (492, 28430), (549, 28529), (558, 28544), (588, 28613), (613, 28682), (674, 28820), (700, 28940), (708, 28970), (714, 29003), (720, 29027), (733, 29093), (771, 29228), (780, 29258), (846, 29429), (856, 29471), (871, 29504), (896, 29588), (901, 29597), (906, 29609),

Gene: DrSierra\_39 Start: 27819, Stop: 29663, Start Num: 231

Candidate Starts for DrSierra\_39:

(Start: 231 @27819 has 845 MA's), (329, 28023), (348, 28050), (378, 28116), (406, 28206), (489, 28392), (492, 28401), (505, 28431), (549, 28500), (558, 28515), (613, 28653), (674, 28791), (700, 28911), (708, 28941), (720, 28998), (733, 29064), (780, 29229), (846, 29400), (896, 29559), (901, 29568), (929, 29646),

Gene: Drake55\_46 Start: 31661, Stop: 29874, Start Num: 231

Candidate Starts for Drake55\_46:

(Start: 231 @31661 has 845 MA's), (329, 31457), (330, 31454), (332, 31448), (350, 31418), (367, 31385), (369, 31382), (378, 31355), (390, 31328), (403, 31277), (434, 31175), (487, 31082), (509, 31034), (513, 31025), (524, 31010), (562, 30944), (595, 30863), (613, 30815), (683, 30671), (700, 30590), (711, 30539), (719, 30506), (733, 30437), (742, 30398), (755, 30377), (760, 30356), (764, 30344), (832, 30164), (834, 30158), (846, 30122), (851, 30098), (877, 30020), (896, 29963), (902, 29951),

Gene: Drake94\_42 Start: 30378, Stop: 28546, Start Num: 231

Candidate Starts for Drake94\_42:

(Start: 231 @30378 has 845 MA's), (256, 30327), (292, 30261), (329, 30174), (332, 30165), (363, 30114), (367, 30102), (390, 30045), (411, 29964), (413, 29952), (415, 29943), (426, 29916), (434, 29892), (487, 29799), (502, 29760), (549, 29691), (562, 29664), (616, 29532), (700, 29304), (716, 29238), (726, 29181), (733, 29151), (742, 29112), (761, 29040), (766, 29025), (772, 29001), (786, 28959), (796, 28926), (851, 28770), (858, 28746), (880, 28683), (896, 28635), (902, 28623), (906, 28614),

Gene: Dre3\_38 Start: 31347, Stop: 28987, Start Num: 41

Candidate Starts for Dre3\_38:

(32, 31371), (Start: 41 @31347 has 23 MA's), (48, 31332), (55, 31296), (119, 31125), (127, 31101), (280, 30864), (303, 30807), (321, 30768), (331, 30747), (365, 30681), (384, 30627), (393, 30606), (397, 30585), (469, 30387), (485, 30345), (490, 30327), (497, 30309), (532, 30264), (548, 30246), (551, 30243), (567, 30207), (622, 30114), (640, 30069), (654, 30042), (660, 30030), (664, 30018), (698, 29877), (714, 29808), (723, 29757), (730, 29733), (733, 29715), (735, 29706), (741, 29679), (743, 29673), (745, 29667), (746, 29661), (761, 29604), (768, 29580), (777, 29535), (778, 29532), (797, 29469), (836, 29361), (854, 29292), (857, 29280), (865, 29256), (885, 29181), (886, 29178), (893, 29154), (901, 29130), (908, 29109), (912, 29085), (926, 29040), (934, 29022),

Gene: DreamCatcher\_47 Start: 35708, Stop: 33882, Start Num: 231

Candidate Starts for DreamCatcher\_47:

(Start: 231 @35708 has 845 MA's), (332, 35495), (337, 35480), (367, 35432), (378, 35402), (388, 35381), (390, 35375), (392, 35366), (403, 35324), (425, 35249), (434, 35222), (487, 35129), (492, 35114), (509, 35081), (541, 35030), (543, 35027), (575, 34961), (589, 34931), (598, 34901), (616, 34856), (638, 34817), (700, 34637), (708, 34607), (709, 34589), (720, 34550), (733, 34484), (742, 34445), (755, 34424), (760, 34403), (766, 34385), (786, 34319), (846, 34169), (847, 34166), (855, 34130), (868, 34106), (870, 34097), (874, 34085), (896, 34010), (906, 33989),

Gene: DreamTeam1\_42 Start: 30708, Stop: 28915, Start Num: 231

Candidate Starts for DreamTeam1\_42:

(Start: 231 @30708 has 845 MA's), (236, 30699), (316, 30537), (317, 30534), (329, 30504), (351, 30459), (369, 30426), (378, 30399), (384, 30384), (390, 30372), (392, 30363), (403, 30321), (426, 30243), (434, 30219), (487, 30126), (495, 30102), (505, 30081), (575, 29958), (643, 29799), (645, 29796), (671, 29760), (673, 29754), (700, 29631), (716, 29565), (730, 29496), (733, 29478), (755, 29418), (760, 29397), (796, 29280), (832, 29205), (846, 29163), (877, 29061), (896, 29004), (902, 28992), (906, 28983),

Gene: Dreamboat\_46 Start: 34398, Stop: 32569, Start Num: 231

Candidate Starts for Dreamboat\_46:

(Start: 231 @34398 has 845 MA's), (332, 34185), (337, 34170), (367, 34122), (378, 34092), (388, 34071), (390, 34065), (392, 34056), (425, 33939), (434, 33912), (487, 33819), (492, 33804), (501, 33783), (509, 33771), (541, 33720), (543, 33717), (575, 33651), (589, 33621), (598, 33591), (616, 33546), (638, 33507), (700, 33327), (709, 33279), (722, 33231), (730, 33192), (733, 33174), (742, 33135), (755, 33114), (760, 33093), (765, 33078), (803, 32955), (871, 32784), (876, 32760), (893, 32712), (896, 32700), (906, 32679), (908, 32673), (921, 32625), (928, 32610),

Gene: DroogsArmy\_41 Start: 33073, Stop: 31238, Start Num: 231

Candidate Starts for DroogsArmy\_41:

(Start: 231 @33073 has 845 MA's), (291, 32962), (332, 32860), (366, 32800), (388, 32746), (390, 32740), (395, 32719), (415, 32638), (434, 32587), (483, 32506), (487, 32491), (497, 32464), (505, 32446), (511, 32443), (524, 32422), (549, 32383), (577, 32320), (602, 32254), (603, 32251), (613, 32230), (662, 32140), (673, 32119), (683, 32077), (700, 31996), (709, 31948), (722, 31900), (726, 31873), (733, 31843), (742, 31804), (760, 31735), (761, 31732), (766, 31717), (772, 31693), (786, 31651), (834, 31522), (844, 31495), (851, 31462), (856, 31444), (871, 31411), (896, 31327), (902, 31315), (906, 31306),

Gene: Druantia\_45 Start: 31573, Stop: 29747, Start Num: 231

Candidate Starts for Druantia\_45:

(Start: 231 @31573 has 845 MA's), (240, 31552), (256, 31522), (274, 31492), (350, 31330), (360, 31312), (390, 31240), (392, 31231), (426, 31111), (434, 31087), (487, 30994), (511, 30946), (524, 30925), (549, 30886), (603, 30754), (613, 30733), (638, 30688), (643, 30676), (697, 30523), (700, 30502), (726, 30379), (733, 30349), (742, 30310), (760, 30244), (761, 30241), (766, 30226), (772, 30202), (780, 30178), (851, 29971), (896, 29836), (902, 29824), (906, 29815),

Gene: Dublin\_37 Start: 30165, Stop: 28306, Start Num: 231

Candidate Starts for Dublin\_37:

(Start: 231 @30165 has 845 MA's), (256, 30114), (291, 30054), (317, 29991), (329, 29961), (330, 29958), (363, 29901), (378, 29859), (390, 29832), (434, 29679), (487, 29583), (509, 29535), (561, 29451), (562, 29445), (594, 29373), (603, 29340), (610, 29325), (616, 29313), (668, 29214), (700, 29079), (708, 29049), (709, 29031), (711, 29028), (720, 28992), (722, 28983), (724, 28962), (727, 28953), (733, 28926), (734, 28923), (755, 28866), (760, 28845), (796, 28728), (818, 28674), (823, 28665), (834, 28647), (856, 28569), (890, 28476), (896, 28452), (902, 28440), (947, 28323), (948, 28320),

Gene: Dubu\_35 Start: 27275, Stop: 29131, Start Num: 231

Candidate Starts for Dubu\_35:

(Start: 231 @27275 has 845 MA's), (254, 27323), (291, 27395), (378, 27596), (409, 27692), (433, 27773), (478, 27833), (535, 27962), (549, 27983), (558, 27998), (595, 28088), (598, 28097), (613, 28136), (638, 28181), (647, 28199), (697, 28373), (700, 28394), (702, 28400), (709, 28442), (720, 28481), (721, 28484), (723, 28505), (731, 28538), (733, 28547), (746, 28601), (772, 28688), (787, 28733), (793, 28751), (796, 28763), (816, 28811), (817, 28814), (858, 28931), (880, 28994), (896, 29042), (903, 29057), (911, 29087),

Gene: DuchessDung\_62 Start: 53800, Stop: 51941, Start Num: 196

Candidate Starts for DuchessDung\_62:

(Start: 175 @53824 has 1 MA's), (Start: 196 @53800 has 254 MA's), (Start: 221 @53776 has 2 MA's), (Start: 227 @53770 has 3 MA's), (246, 53728), (259, 53707), (307, 53593), (311, 53587), (326, 53557), (355, 53497), (366, 53476), (386, 53422), (391, 53410), (396, 53392), (398, 53380), (431, 53275), (454, 53218), (466, 53182), (471, 53170), (483, 53143), (499, 53098), (533, 53041), (540, 53032), (542, 53029), (695, 52669), (701, 52636), (706, 52615), (727, 52522), (730, 52513), (744, 52450), (760, 52414), (761, 52411), (766, 52396), (790, 52318), (794, 52306), (800, 52285), (817, 52246), (851, 52156), (856, 52138), (858, 52132), (868, 52117), (875, 52093), (877, 52078), (878, 52075), (881, 52063), (890, 52039), (907, 51991), (912, 51967),

Gene: DudeLittle\_43 Start: 31344, Stop: 29557, Start Num: 231

Candidate Starts for DudeLittle\_43:

(Start: 231 @31344 has 845 MA's), (329, 31140), (330, 31137), (337, 31116), (350, 31101), (367, 31068), (369, 31065), (378, 31038), (390, 31011), (395, 30990), (434, 30858), (487, 30765), (501, 30729), (509, 30717), (513, 30708), (524, 30693), (562, 30627), (595, 30546), (613, 30498), (616, 30492), (652, 30429), (700, 30273), (711, 30222), (719, 30189), (720, 30186), (733, 30120), (742, 30081), (755, 30060), (775, 29985), (780, 29973), (823, 29859), (834, 29841), (846, 29805), (851, 29781), (877, 29703), (896, 29646), (902, 29634), (906, 29625),

Gene: Duggie\_61 Start: 54284, Stop: 52425, Start Num: 196

Candidate Starts for Duggie\_61:

(Start: 175 @54308 has 1 MA's), (Start: 196 @54284 has 254 MA's), (Start: 221 @54260 has 2 MA's), (Start: 227 @54254 has 3 MA's), (246, 54212), (259, 54191), (307, 54077), (311, 54071), (326, 54041), (355, 53981), (366, 53960), (386, 53906), (391, 53894), (396, 53876), (398, 53864), (431, 53759), (454, 53702), (466, 53666), (471, 53654), (482, 53630), (486, 53618), (491, 53600), (499, 53582), (509, 53564), (533, 53525), (540, 53516), (542, 53513), (544, 53510), (695, 53153), (701, 53120), (706, 53099), (727, 53006), (730, 52997), (744, 52934), (760, 52898), (761, 52895), (766, 52880), (790, 52802), (794, 52790), (800, 52769), (817, 52730), (851, 52640), (856, 52622), (858, 52616), (868, 52601), (875, 52577), (877, 52562), (878, 52559), (881, 52547), (890, 52523), (895, 52502), (907, 52475), (912, 52451), (915, 52436),

Gene: Dulcie\_45 Start: 34631, Stop: 32805, Start Num: 231

Candidate Starts for Dulcie\_45:

(Start: 231 @34631 has 845 MA's), (332, 34418), (337, 34403), (367, 34355), (378, 34325), (388, 34304), (390, 34298), (392, 34289), (425, 34172), (434, 34145), (487, 34052), (492, 34037), (509, 34004), (541, 33953), (543, 33950), (575, 33884), (589, 33854), (598, 33824), (616, 33779), (638, 33740), (700, 33560), (709, 33512), (720, 33473), (733, 33407), (742, 33368), (755, 33347), (760, 33326), (766, 33308), (786, 33242), (846, 33092), (847, 33089), (855, 33053), (868, 33029), (870, 33020), (874, 33008), (880, 32981), (896, 32933), (906, 32912),

Gene: DunneganBoMo\_92 Start: 74359, Stop: 76077, Start Num: 274

Candidate Starts for DunneganBoMo\_92:

(234, 74284), (248, 74317), (259, 74338), (Start: 266 @74347 has 4 MA's), (274, 74359), (391, 74596), (397, 74623), (400, 74629), (472, 74764), (530, 74881), (549, 74908), (554, 74914), (558, 74923), (579, 74977), (638, 75109), (648, 75130), (663, 75157), (680, 75205), (687, 75238), (697, 75277), (700, 75298), (702, 75304), (724, 75421), (741, 75505), (742, 75508), (759, 75571), (762, 75583), (772, 75619), (783, 75652), (800, 75706), (807, 75724), (841, 75808), (846, 75829), (852, 75856), (871, 75904), (873, 75910), (876, 75928), (880, 75940), (884, 75952), (885, 75955), (896, 75988), (907, 76015), (914, 76039),

Gene: Duocatuli\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for Duocatuli\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: Duplo\_47 Start: 31191, Stop: 29368, Start Num: 231

Candidate Starts for Duplo\_47:

(Start: 231 @31191 has 845 MA's), (329, 30987), (337, 30963), (350, 30945), (360, 30927), (367, 30912), (369, 30909), (378, 30882), (390, 30855), (403, 30804), (434, 30702), (487, 30609), (509, 30561), (513, 30552), (523, 30540), (524, 30537), (562, 30471), (589, 30411), (638, 30297), (652, 30273), (672, 30234), (700, 30108), (711, 30057), (720, 30021), (733, 29955), (742, 29916), (761, 29847), (772, 29808), (787, 29763), (796, 29733), (823, 29670), (832, 29658), (834, 29652), (851, 29592), (896, 29457), (902, 29445), (906, 29436),

Gene: Durga\_63 Start: 54780, Stop: 52921, Start Num: 196

Candidate Starts for Durga\_63:

(Start: 175 @54804 has 1 MA's), (Start: 196 @54780 has 254 MA's), (Start: 221 @54756 has 2 MA's), (Start: 227 @54750 has 3 MA's), (246, 54708), (259, 54687), (307, 54573), (311, 54567), (326, 54537), (355, 54477), (366, 54456), (386, 54402), (391, 54390), (396, 54372), (398, 54360), (431, 54255), (454, 54198), (466, 54162), (471, 54150), (482, 54126), (486, 54114), (491, 54096), (499, 54078), (509, 54060), (533, 54021), (540, 54012), (542, 54009), (544, 54006), (668, 53751), (695, 53649), (701, 53616), (706, 53595), (727, 53502), (730, 53493), (744, 53430), (760, 53394), (761, 53391), (766, 53376), (790, 53298), (794, 53286), (800, 53265), (817, 53226), (851, 53136), (856, 53118), (858, 53112), (868, 53097), (875, 53073), (877, 53058), (878, 53055), (881, 53043), (890, 53019), (895, 52998), (907, 52971), (912, 52947),

Gene: Dussy\_46 Start: 34786, Stop: 32957, Start Num: 231

Candidate Starts for Dussy\_46:

(Start: 231 @34786 has 845 MA's), (332, 34573), (337, 34558), (367, 34510), (378, 34480), (388, 34459), (390, 34453), (392, 34444), (425, 34327), (434, 34300), (487, 34207), (492, 34192), (541, 34108), (543, 34105), (575, 34039), (589, 34009), (598, 33979), (616, 33934), (638, 33895), (700, 33715), (709, 33667), (722, 33619), (730, 33580), (733, 33562), (742, 33523), (755, 33502), (760, 33481), (765, 33466), (803, 33343), (871, 33172), (876, 33148), (893, 33100), (896, 33088), (906, 33067), (908, 33061), (921, 33013), (928, 32998),

Gene: Dynamix\_45 Start: 34393, Stop: 32567, Start Num: 231

Candidate Starts for Dynamix\_45:

(Start: 231 @34393 has 845 MA's), (332, 34180), (367, 34117), (378, 34087), (388, 34066), (390, 34060), (392, 34051), (425, 33934), (434, 33907), (487, 33814), (492, 33799), (541, 33715), (543, 33712), (575, 33646), (589, 33616), (598, 33586), (616, 33541), (638, 33502), (700, 33322), (709, 33274), (720, 33235), (733, 33169), (742, 33130), (755, 33109), (760, 33088), (766, 33070), (786, 33004), (846, 32854), (847, 32851), (855, 32815), (870, 32782), (874, 32770), (880, 32743), (896, 32695), (906, 32674),

Gene: EZMoney23\_43 Start: 31302, Stop: 29515, Start Num: 230

Candidate Starts for EZMoney23\_43:

(Start: 230 @31302 has 8 MA's), (329, 31098), (330, 31095), (332, 31089), (337, 31074), (350, 31059), (367, 31026), (369, 31023), (378, 30996), (390, 30969), (395, 30948), (403, 30918), (434, 30816), (487, 30723), (509, 30675), (513, 30666), (524, 30651), (562, 30585), (595, 30504), (613, 30456), (616, 30450), (683, 30312), (700, 30231), (711, 30180), (719, 30147), (720, 30144), (733,

30078), (742, 30039), (755, 30018), (775, 29943), (796, 29880), (806, 29853), (823, 29817), (834, 29799), (846, 29763), (851, 29739), (873, 29682), (877, 29661), (896, 29604), (902, 29592), (906, 29583),

Gene: Eagle\_45 Start: 31595, Stop: 29769, Start Num: 231

Candidate Starts for Eagle\_45:

(Start: 231 @31595 has 845 MA's), (240, 31574), (256, 31544), (274, 31514), (350, 31352), (360, 31334), (390, 31262), (392, 31253), (426, 31133), (434, 31109), (487, 31016), (511, 30968), (524, 30947), (549, 30908), (603, 30776), (613, 30755), (638, 30710), (643, 30698), (697, 30545), (700, 30524), (726, 30401), (733, 30371), (742, 30332), (760, 30266), (761, 30263), (766, 30248), (772, 30224), (780, 30200), (851, 29993), (896, 29858), (902, 29846), (906, 29837),

Gene: EagleEye\_46 Start: 30777, Stop: 28945, Start Num: 231

Candidate Starts for EagleEye\_46:

(Start: 231 @30777 has 845 MA's), (329, 30573), (330, 30570), (367, 30501), (369, 30498), (378, 30471), (388, 30450), (390, 30444), (392, 30435), (403, 30393), (426, 30315), (434, 30291), (487, 30198), (575, 30030), (671, 29832), (700, 29703), (722, 29607), (730, 29568), (733, 29550), (758, 29478), (760, 29469), (803, 29331), (844, 29244), (846, 29235), (877, 29133), (896, 29076), (902, 29064), (939, 28959),

Gene: Eaglehorse\_57 Start: 52538, Stop: 50709, Start Num: 188

Candidate Starts for Eaglehorse\_57:

(Start: 188 @52538 has 31 MA's), (Start: 227 @52511 has 3 MA's), (242, 52481), (246, 52469), (264, 52442), (Start: 266 @52439 has 4 MA's), (274, 52430), (291, 52412), (330, 52316), (355, 52265), (367, 52241), (417, 52079), (427, 52055), (431, 52043), (454, 51986), (466, 51950), (471, 51938), (482, 51914), (522, 51830), (540, 51800), (542, 51797), (561, 51767), (624, 51623), (652, 51557), (678, 51518), (681, 51506), (684, 51485), (689, 51467), (701, 51410), (722, 51326), (727, 51296), (730, 51287), (744, 51221), (758, 51194), (760, 51185), (766, 51167), (772, 51143), (790, 51089), (794, 51077), (800, 51056), (834, 50987), (851, 50927), (856, 50909), (871, 50876), (875, 50864), (877, 50849), (878, 50846), (881, 50834), (890, 50810), (891, 50807), (907, 50759), (908, 50756), (912, 50735), (917, 50714),

Gene: Eaglepride\_45 Start: 31205, Stop: 29382, Start Num: 231

Candidate Starts for Eaglepride\_45:

(Start: 231 @31205 has 845 MA's), (256, 31154), (274, 31124), (350, 30962), (360, 30944), (367, 30929), (390, 30872), (392, 30863), (411, 30791), (415, 30770), (426, 30743), (434, 30719), (487, 30626), (502, 30587), (511, 30578), (549, 30518), (562, 30491), (598, 30404), (616, 30359), (638, 30320), (673, 30263), (683, 30221), (700, 30140), (716, 30074), (726, 30017), (730, 30005), (733, 29987), (742, 29948), (761, 29876), (766, 29861), (772, 29837), (786, 29795), (834, 29666), (851, 29606), (855, 29591), (858, 29582), (896, 29471), (902, 29459), (906, 29450),

Gene: Eapen\_45 Start: 31565, Stop: 29739, Start Num: 231

Candidate Starts for Eapen\_45:

(Start: 231 @31565 has 845 MA's), (240, 31544), (256, 31514), (274, 31484), (350, 31322), (360, 31304), (390, 31232), (392, 31223), (426, 31103), (434, 31079), (487, 30986), (511, 30938), (524, 30917), (549, 30878), (603, 30746), (613, 30725), (638, 30680), (643, 30668), (697, 30515), (700, 30494), (726, 30371), (733, 30341), (742, 30302), (760, 30236), (761, 30233), (766, 30218), (772, 30194), (780, 30170), (851, 29963), (896, 29828), (902, 29816), (906, 29807),

Gene: EastView9101\_59 Start: 54337, Stop: 52511, Start Num: 182

Candidate Starts for EastView9101\_59:

(108, 54496), (Start: 136 @54415 has 1 MA's), (Start: 182 @54337 has 24 MA's), (240, 54283), (282, 54223), (331, 54112), (355, 54064), (396, 53962), (410, 53920), (421, 53884), (431, 53854), (466,



53761), (471, 53749), (482, 53725), (486, 53713), (491, 53695), (526, 53632), (542, 53608), (593, 53503), (682, 53314), (684, 53296), (696, 53248), (701, 53221), (725, 53113), (727, 53107), (730, 53098), (734, 53077), (754, 53014), (761, 52981), (766, 52966), (784, 52906), (790, 52888), (794, 52876), (800, 52855), (803, 52846), (805, 52843), (851, 52726), (858, 52702), (875, 52663), (877, 52648), (878, 52645), (886, 52621), (890, 52609), (891, 52606), (908, 52558), (912, 52537), (917, 52516),

Gene: Ebony\_45 Start: 30738, Stop: 28951, Start Num: 231

Candidate Starts for Ebony\_45:

(Start: 231 @30738 has 845 MA's), (329, 30534), (367, 30462), (378, 30432), (390, 30405), (489, 30153), (513, 30102), (562, 30021), (582, 29976), (613, 29892), (643, 29835), (672, 29793), (683, 29748), (700, 29667), (711, 29616), (720, 29580), (733, 29514), (755, 29454), (758, 29442), (789, 29340), (796, 29316), (802, 29298), (834, 29235), (844, 29208), (846, 29199), (851, 29175), (896, 29040), (902, 29028), (906, 29019),

Gene: Echild\_44 Start: 30778, Stop: 28991, Start Num: 231

Candidate Starts for Echild\_44:

(Start: 231 @30778 has 845 MA's), (330, 30571), (332, 30565), (350, 30535), (367, 30502), (369, 30499), (378, 30472), (390, 30445), (395, 30424), (434, 30292), (487, 30199), (509, 30151), (513, 30142), (524, 30127), (562, 30061), (595, 29980), (613, 29932), (616, 29926), (652, 29863), (683, 29788), (700, 29707), (711, 29656), (719, 29623), (720, 29620), (733, 29554), (742, 29515), (755, 29494), (775, 29419), (782, 29401), (786, 29389), (796, 29356), (806, 29329), (823, 29293), (846, 29239), (851, 29215), (873, 29158), (877, 29137), (896, 29080), (902, 29068), (906, 29059),

Gene: Eden\_40 Start: 28150, Stop: 30027, Start Num: 222

Candidate Starts for Eden\_40:

(Start: 222 @28150 has 57 MA's), (Start: 266 @28219 has 4 MA's), (329, 28357), (382, 28462), (395, 28498), (396, 28501), (425, 28591), (489, 28714), (549, 28822), (558, 28837), (570, 28867), (667, 29131), (673, 29146), (688, 29209), (700, 29269), (716, 29335), (727, 29398), (733, 29425), (759, 29518), (780, 29590), (816, 29689), (817, 29692), (818, 29695), (851, 29785), (873, 29842), (896, 29920), (906, 29941), (930, 30010),

Gene: Edison31\_43 Start: 31140, Stop: 29305, Start Num: 231

Candidate Starts for Edison31\_43:

(Start: 231 @31140 has 845 MA's), (256, 31089), (292, 31023), (329, 30936), (337, 30912), (350, 30897), (363, 30876), (367, 30864), (390, 30807), (392, 30798), (413, 30714), (426, 30678), (430, 30666), (434, 30654), (487, 30561), (511, 30513), (549, 30453), (562, 30426), (602, 30324), (603, 30321), (613, 30300), (616, 30294), (673, 30186), (700, 30063), (709, 30015), (726, 29940), (733, 29910), (742, 29871), (760, 29802), (761, 29799), (772, 29760), (780, 29736), (782, 29730), (786, 29718), (851, 29529), (858, 29505), (880, 29442), (896, 29394), (902, 29382), (906, 29373),

Gene: Edtherson\_45 Start: 35275, Stop: 33449, Start Num: 231

Candidate Starts for Edtherson\_45:

(Start: 231 @35275 has 845 MA's), (332, 35062), (337, 35047), (367, 34999), (378, 34969), (388, 34948), (390, 34942), (392, 34933), (425, 34816), (434, 34789), (487, 34696), (492, 34681), (541, 34597), (543, 34594), (575, 34528), (589, 34498), (598, 34468), (616, 34423), (638, 34384), (700, 34204), (708, 34174), (709, 34156), (720, 34117), (733, 34051), (760, 33970), (761, 33967), (786, 33886), (846, 33736), (847, 33733), (855, 33697), (868, 33673), (870, 33664), (874, 33652), (896, 33577), (906, 33556),

Gene: Eidsmoe\_45 Start: 31547, Stop: 29754, Start Num: 231

Candidate Starts for Eidsmoe\_45:

(Start: 231 @31547 has 845 MA's), (236, 31538), (256, 31496), (316, 31376), (317, 31373), (334, 31325), (369, 31265), (379, 31235), (384, 31223), (390, 31211), (434, 31058), (487, 30965), (562, 30827), (575, 30797), (643, 30638), (652, 30626), (671, 30599), (697, 30491), (700, 30470), (730, 30335), (733, 30317), (760, 30236), (772, 30194), (796, 30119), (832, 30044), (846, 30002), (877, 29900), (896, 29843), (902, 29831), (906, 29822),

Gene: EITiger69\_39 Start: 30184, Stop: 28286, Start Num: 204

Candidate Starts for EITiger69\_39:

(Start: 204 @30184 has 2 MA's), (Start: 231 @30151 has 845 MA's), (291, 30040), (329, 29947), (330, 29944), (367, 29875), (369, 29872), (378, 29845), (390, 29818), (392, 29809), (413, 29725), (422, 29701), (434, 29665), (475, 29605), (487, 29569), (505, 29524), (509, 29521), (523, 29500), (524, 29497), (561, 29437), (594, 29359), (610, 29311), (616, 29299), (641, 29251), (668, 29200), (700, 29065), (709, 29017), (716, 28999), (720, 28978), (722, 28969), (727, 28939), (733, 28912), (734, 28909), (760, 28831), (766, 28813), (780, 28765), (796, 28714), (818, 28660), (823, 28651), (834, 28633), (856, 28555), (858, 28549), (890, 28462), (896, 28438), (902, 28426), (939, 28321),

Gene: Elephantoon\_44 Start: 30830, Stop: 29037, Start Num: 231

Candidate Starts for Elephantoon\_44:

(Start: 231 @30830 has 845 MA's), (236, 30821), (256, 30779), (300, 30692), (316, 30659), (317, 30656), (329, 30626), (334, 30608), (369, 30548), (378, 30521), (384, 30506), (390, 30494), (433, 30344), (434, 30341), (437, 30332), (483, 30263), (487, 30248), (575, 30080), (643, 29921), (652, 29909), (671, 29882), (697, 29774), (700, 29753), (726, 29630), (733, 29600), (742, 29561), (758, 29528), (760, 29519), (796, 29402), (803, 29381), (832, 29327), (846, 29285), (851, 29261), (877, 29183), (896, 29126), (902, 29114), (906, 29105),

Gene: Eleri\_38 Start: 28732, Stop: 26867, Start Num: 267

Candidate Starts for Eleri\_38:

(Start: 267 @28732 has 137 MA's), (292, 28687), (314, 28633), (342, 28573), (370, 28522), (397, 28444), (400, 28438), (415, 28393), (416, 28390), (417, 28387), (430, 28348), (453, 28288), (490, 28165), (494, 28156), (498, 28144), (507, 28132), (516, 28114), (527, 28093), (534, 28081), (551, 28057), (620, 27910), (681, 27742), (722, 27577), (729, 27541), (733, 27520), (743, 27478), (768, 27391), (777, 27346), (811, 27247), (827, 27202), (828, 27193), (847, 27133), (852, 27109), (862, 27076), (893, 26965),

Gene: Elezi\_39 Start: 30351, Stop: 32216, Start Num: 231

Candidate Starts for Elezi\_39:

(Start: 231 @30351 has 845 MA's), (254, 30399), (348, 30582), (351, 30588), (378, 30648), (388, 30669), (406, 30738), (492, 30954), (542, 31044), (549, 31053), (558, 31068), (576, 31113), (613, 31206), (674, 31344), (700, 31464), (708, 31494), (720, 31551), (731, 31608), (733, 31617), (738, 31641), (759, 31710), (780, 31782), (783, 31791), (820, 31890), (846, 31953), (896, 32112), (901, 32121),

Gene: Elinal\_48 Start: 34208, Stop: 31833, Start Num: 43

Candidate Starts for Elinal\_48:

(Start: 43 @34208 has 11 MA's), (58, 34148), (79, 34106), (91, 34067), (127, 33947), (135, 33926), (159, 33902), (Start: 208 @33824 has 3 MA's), (Start: 212 @33818 has 1 MA's), (Start: 214 @33815 has 4 MA's), (237, 33785), (243, 33767), (253, 33749), (278, 33710), (280, 33707), (303, 33650), (314, 33626), (321, 33611), (352, 33548), (365, 33524), (369, 33515), (370, 33509), (371, 33503), (384, 33470), (393, 33449), (397, 33428), (463, 33245), (490, 33170), (519, 33128), (596, 33017), (603, 32993), (617, 32963), (640, 32912), (642, 32909), (649, 32894), (659, 32873), (703, 32699), (705, 32690), (711, 32660), (733, 32555), (741, 32519), (743, 32513), (745, 32507), (746, 32501), (761, 32444), (768, 32420), (795, 32315), (796, 32312), (830, 32219), (836, 32201), (847, 32162), (857, 32120), (865, 32096), (875, 32066), (886, 32018), (893, 31994), (908, 31949), (936, 31862),

Gene: Elliott\_43 Start: 32440, Stop: 30047, Start Num: 33

Candidate Starts for Elliott\_43:

(Start: 33 @32440 has 15 MA's), (45, 32434), (Start: 56 @32386 has 1 MA's), (71, 32344), (81, 32320), (119, 32194), (127, 32170), (159, 32125), (191, 32074), (201, 32059), (Start: 214 @32038 has 4 MA's), (243, 31990), (261, 31957), (Start: 267 @31948 has 137 MA's), (303, 31873), (308, 31861), (337, 31792), (354, 31765), (357, 31759), (365, 31744), (384, 31690), (386, 31687), (393, 31669), (397, 31648), (418, 31588), (463, 31465), (465, 31459), (490, 31390), (519, 31348), (576, 31261), (588, 31237), (596, 31231), (603, 31207), (607, 31198), (614, 31183), (622, 31171), (639, 31129), (640, 31126), (642, 31123), (690, 30976), (698, 30934), (705, 30907), (706, 30901), (733, 30772), (741, 30736), (743, 30730), (745, 30724), (746, 30718), (761, 30661), (768, 30637), (777, 30592), (892, 30214), (893, 30211), (908, 30166), (910, 30157), (926, 30097),

Gene: Elva\_44 Start: 30530, Stop: 32404, Start Num: 222

Candidate Starts for Elva\_44:

(Start: 220 @30527 has 7 MA's), (Start: 222 @30530 has 57 MA's), (Start: 266 @30599 has 4 MA's), (279, 30620), (367, 30800), (392, 30866), (403, 30908), (498, 31118), (509, 31136), (549, 31202), (589, 31289), (651, 31436), (687, 31556), (688, 31559), (700, 31619), (702, 31625), (711, 31670), (716, 31685), (718, 31700), (724, 31736), (733, 31772), (759, 31865), (787, 31958), (816, 32036), (817, 32039), (832, 32066), (846, 32108), (855, 32147), (857, 32153), (873, 32189), (876, 32207), (890, 32243), (896, 32267), (906, 32288),

Gene: Emalyn\_42 Start: 31612, Stop: 29225, Start Num: 41

Candidate Starts for Emalyn\_42:

(11, 31759), (12, 31717), (19, 31684), (21, 31669), (Start: 41 @31612 has 23 MA's), (46, 31603), (48, 31597), (71, 31516), (103, 31420), (109, 31396), (119, 31369), (127, 31345), (Start: 214 @31213 has 4 MA's), (235, 31186), (241, 31171), (Start: 267 @31123 has 137 MA's), (285, 31093), (303, 31048), (308, 31036), (337, 30970), (365, 30922), (384, 30868), (393, 30847), (397, 30826), (402, 30811), (418, 30766), (463, 30643), (486, 30583), (490, 30568), (519, 30526), (576, 30439), (588, 30415), (596, 30409), (603, 30385), (607, 30376), (639, 30307), (640, 30304), (642, 30301), (679, 30205), (690, 30154), (705, 30085), (706, 30079), (733, 29950), (741, 29914), (743, 29908), (745, 29902), (746, 29896), (761, 29839), (768, 29815), (777, 29770), (795, 29710), (847, 29557), (856, 29518), (857, 29515), (893, 29389), (908, 29344), (910, 29335),

Gene: EmiRose\_34 Start: 30392, Stop: 28503, Start Num: 193

Candidate Starts for EmiRose\_34:

(Start: 193 @30392 has 1 MA's), (259, 30284), (262, 30281), (264, 30278), (292, 30221), (331, 30110), (379, 30005), (393, 29975), (400, 29948), (403, 29939), (424, 29870), (431, 29849), (454, 29792), (466, 29756), (471, 29744), (482, 29720), (490, 29693), (499, 29669), (542, 29612), (603, 29477), (624, 29435), (630, 29417), (645, 29378), (679, 29324), (693, 29264), (701, 29219), (703, 29213), (716, 29162), (744, 29027), (761, 28988), (762, 28985), (766, 28973), (790, 28895), (794, 28883), (818, 28820), (851, 28718), (875, 28655), (886, 28613), (890, 28601), (900, 28571), (908, 28550), (917, 28508),

Gene: Emiris\_63 Start: 54747, Stop: 52888, Start Num: 196

Candidate Starts for Emiris\_63:

(Start: 175 @54771 has 1 MA's), (Start: 196 @54747 has 254 MA's), (Start: 221 @54723 has 2 MA's), (Start: 227 @54717 has 3 MA's), (246, 54675), (259, 54654), (307, 54540), (311, 54534), (326, 54504), (355, 54444), (366, 54423), (386, 54369), (391, 54357), (396, 54339), (398, 54327), (431, 54222), (454, 54165), (466, 54129), (471, 54117), (483, 54090), (491, 54063), (499, 54045), (509, 54027), (533, 53988), (540, 53979), (542, 53976), (668, 53718), (695, 53616), (701, 53583), (706, 53562), (727, 53469), (730, 53460), (744, 53397), (760, 53361), (761, 53358), (766, 53343), (790, 53265), (794, 53253), (800, 53232), (817, 53193), (851, 53103), (856, 53085), (858, 53079), (868,

53064), (875, 53040), (877, 53025), (878, 53022), (881, 53010), (890, 52986), (907, 52938), (912, 52914),

Gene: Emotion\_46 Start: 31321, Stop: 33183, Start Num: 231

Candidate Starts for Emotion\_46:

(179, 31249), (Start: 231 @31321 has 845 MA's), (369, 31591), (549, 32020), (610, 32167), (613, 32173), (674, 32311), (700, 32431), (711, 32482), (724, 32548), (759, 32677), (761, 32686), (766, 32701), (793, 32788), (818, 32854), (820, 32857), (877, 33022), (896, 33079),

Gene: EmpTee\_60 Start: 54256, Stop: 52397, Start Num: 196

Candidate Starts for EmpTee\_60:

(Start: 175 @54280 has 1 MA's), (Start: 196 @54256 has 254 MA's), (Start: 221 @54232 has 2 MA's), (Start: 227 @54226 has 3 MA's), (246, 54184), (259, 54163), (307, 54049), (311, 54043), (326, 54013), (355, 53953), (366, 53932), (386, 53878), (391, 53866), (396, 53848), (398, 53836), (431, 53731), (454, 53674), (466, 53638), (471, 53626), (482, 53602), (486, 53590), (491, 53572), (499, 53554), (509, 53536), (533, 53497), (540, 53488), (542, 53485), (544, 53482), (695, 53125), (701, 53092), (706, 53071), (727, 52978), (730, 52969), (744, 52906), (760, 52870), (761, 52867), (766, 52852), (790, 52774), (794, 52762), (800, 52741), (817, 52702), (851, 52612), (856, 52594), (858, 52588), (868, 52573), (875, 52549), (877, 52534), (878, 52531), (881, 52519), (890, 52495), (907, 52447), (912, 52423),

Gene: EmyBug\_44 Start: 31549, Stop: 29756, Start Num: 231

Candidate Starts for EmyBug\_44:

(Start: 231 @31549 has 845 MA's), (236, 31540), (256, 31498), (316, 31378), (317, 31375), (334, 31327), (369, 31267), (379, 31237), (384, 31225), (390, 31213), (434, 31060), (487, 30967), (562, 30829), (575, 30799), (643, 30640), (652, 30628), (671, 30601), (697, 30493), (700, 30472), (730, 30337), (733, 30319), (760, 30238), (772, 30196), (796, 30121), (832, 30046), (846, 30004), (877, 29902), (896, 29845), (902, 29833), (906, 29824),

Gene: Endor\_39 Start: 29287, Stop: 27419, Start Num: 267

Candidate Starts for Endor\_39:

(213, 29374), (Start: 267 @29287 has 137 MA's), (Start: 275 @29278 has 5 MA's), (394, 29014), (395, 29011), (397, 28999), (400, 28993), (463, 28807), (490, 28720), (494, 28711), (498, 28699), (513, 28672), (516, 28669), (525, 28654), (527, 28648), (534, 28636), (675, 28318), (726, 28105), (729, 28096), (733, 28075), (743, 28033), (768, 27943), (815, 27784), (827, 27754), (847, 27685), (852, 27661), (863, 27622), (875, 27589), (876, 27577),

Gene: EpicPhail\_49 Start: 31856, Stop: 30042, Start Num: 231

Candidate Starts for EpicPhail\_49:

(Start: 231 @31856 has 845 MA's), (248, 31817), (256, 31805), (329, 31652), (333, 31637), (367, 31580), (390, 31523), (392, 31514), (403, 31472), (415, 31421), (434, 31370), (487, 31277), (509, 31229), (513, 31220), (524, 31205), (549, 31166), (562, 31139), (575, 31109), (610, 31016), (641, 30956), (652, 30941), (700, 30785), (720, 30698), (733, 30632), (742, 30593), (761, 30521), (772, 30482), (780, 30458), (786, 30440), (796, 30407), (806, 30380), (834, 30326), (851, 30266), (877, 30188), (896, 30131), (902, 30119), (906, 30110),

Gene: Epsocamisio\_46 Start: 29741, Stop: 27951, Start Num: 231

Candidate Starts for Epsocamisio\_46:

(Start: 231 @29741 has 845 MA's), (317, 29567), (367, 29462), (369, 29459), (378, 29432), (390, 29405), (403, 29354), (434, 29252), (487, 29159), (505, 29114), (509, 29111), (513, 29102), (595, 28940), (603, 28913), (613, 28892), (616, 28886), (674, 28787), (683, 28748), (695, 28697), (700, 28667), (711, 28616), (719, 28583), (724, 28550), (726, 28544), (733, 28514), (755, 28454), (760, 28433), (772, 28391), (781, 28364), (786, 28349), (818, 28262), (846, 28199), (847, 28196), (896,

28040), (902, 28028), (907, 28016),

Gene: Equemioh13\_45 Start: 31601, Stop: 29814, Start Num: 231

Candidate Starts for Equemioh13\_45:

(Start: 231 @31601 has 845 MA's), (329, 31397), (330, 31394), (332, 31388), (350, 31358), (367, 31325), (369, 31322), (378, 31295), (390, 31268), (403, 31217), (434, 31115), (487, 31022), (509, 30974), (513, 30965), (524, 30950), (562, 30884), (595, 30803), (613, 30755), (683, 30611), (700, 30530), (711, 30479), (719, 30446), (733, 30377), (742, 30338), (755, 30317), (760, 30296), (764, 30284), (832, 30104), (834, 30098), (846, 30062), (851, 30038), (877, 29960), (896, 29903), (902, 29891),

Gene: Eraser\_39 Start: 30361, Stop: 32226, Start Num: 231

Candidate Starts for Eraser\_39:

(Start: 231 @30361 has 845 MA's), (254, 30409), (348, 30592), (351, 30598), (378, 30658), (388, 30679), (406, 30748), (492, 30964), (542, 31054), (549, 31063), (558, 31078), (576, 31123), (613, 31216), (674, 31354), (700, 31474), (708, 31504), (720, 31561), (731, 31618), (733, 31627), (738, 31651), (759, 31720), (780, 31792), (783, 31801), (820, 31900), (846, 31963), (896, 32122), (901, 32131),

Gene: Eremos\_60 Start: 54246, Stop: 52387, Start Num: 196

Candidate Starts for Eremos\_60:

(Start: 175 @54270 has 1 MA's), (Start: 196 @54246 has 254 MA's), (Start: 221 @54222 has 2 MA's), (Start: 227 @54216 has 3 MA's), (246, 54174), (259, 54153), (307, 54039), (311, 54033), (326, 54003), (355, 53943), (366, 53922), (386, 53868), (391, 53856), (396, 53838), (398, 53826), (431, 53721), (454, 53664), (466, 53628), (471, 53616), (482, 53592), (486, 53580), (491, 53562), (499, 53544), (509, 53526), (533, 53487), (540, 53478), (542, 53475), (544, 53472), (695, 53115), (701, 53082), (706, 53061), (727, 52968), (730, 52959), (744, 52896), (760, 52860), (761, 52857), (766, 52842), (790, 52764), (794, 52752), (800, 52731), (817, 52692), (851, 52602), (856, 52584), (858, 52578), (868, 52563), (875, 52539), (877, 52524), (878, 52521), (881, 52509), (890, 52485), (907, 52437), (912, 52413),

Gene: EricB\_45 Start: 29620, Stop: 27779, Start Num: 231

Candidate Starts for EricB\_45:

(Start: 231 @29620 has 845 MA's), (329, 29416), (367, 29341), (369, 29338), (378, 29311), (384, 29296), (390, 29284), (403, 29233), (430, 29143), (434, 29131), (487, 29038), (502, 28999), (513, 28981), (524, 28966), (562, 28900), (576, 28867), (577, 28864), (619, 28762), (652, 28702), (683, 28618), (700, 28537), (719, 28453), (720, 28450), (722, 28441), (726, 28414), (733, 28384), (755, 28324), (766, 28285), (846, 28069), (847, 28066), (851, 28045), (896, 27910), (902, 27898), (906, 27889), (907, 27886), (939, 27793),

Gene: Erik\_36 Start: 28111, Stop: 26327, Start Num: 231

Candidate Starts for Erik\_36:

(Start: 231 @28111 has 845 MA's), (345, 27877), (363, 27847), (366, 27838), (367, 27835), (384, 27790), (390, 27778), (403, 27727), (434, 27625), (450, 27604), (487, 27532), (505, 27487), (509, 27484), (535, 27442), (539, 27436), (549, 27421), (562, 27394), (603, 27289), (607, 27280), (616, 27262), (638, 27223), (673, 27166), (700, 27043), (709, 26995), (733, 26890), (734, 26887), (755, 26830), (760, 26809), (774, 26761), (798, 26686), (832, 26617), (846, 26575), (851, 26551), (877, 26473), (896, 26416), (902, 26404), (906, 26395), (913, 26365), (917, 26347),

Gene: Eris\_44 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Eris\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524,

30922), (549, 30883), (570, 30838), (573, 30832), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Erla\_38 Start: 28612, Stop: 26747, Start Num: 267

Candidate Starts for Erla\_38:

(Start: 214 @28699 has 4 MA's), (Start: 267 @28612 has 137 MA's), (Start: 275 @28603 has 5 MA's), (321, 28498), (325, 28489), (338, 28459), (340, 28456), (395, 28336), (397, 28324), (400, 28318), (436, 28213), (445, 28186), (490, 28045), (492, 28039), (494, 28036), (498, 28024), (513, 27997), (516, 27994), (525, 27979), (527, 27973), (530, 27967), (553, 27934), (612, 27805), (634, 27745), (726, 27430), (729, 27421), (730, 27418), (733, 27400), (743, 27358), (745, 27352), (751, 27328), (768, 27271), (815, 27112), (827, 27082), (828, 27073), (847, 27013), (852, 26989), (863, 26950), (875, 26917), (876, 26905), (893, 26845),

Gene: Eros\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Eros\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Espica\_36 Start: 28114, Stop: 26330, Start Num: 231

Candidate Starts for Espica\_36:

(Start: 231 @28114 has 845 MA's), (345, 27880), (363, 27850), (366, 27841), (367, 27838), (384, 27793), (390, 27781), (403, 27730), (434, 27628), (450, 27607), (487, 27535), (505, 27490), (509, 27487), (535, 27445), (539, 27439), (549, 27424), (562, 27397), (603, 27292), (607, 27283), (616, 27265), (638, 27226), (673, 27169), (700, 27046), (709, 26998), (733, 26893), (734, 26890), (755, 26833), (760, 26812), (774, 26764), (798, 26689), (832, 26620), (846, 26578), (851, 26554), (877, 26476), (896, 26419), (902, 26407), (906, 26398), (913, 26368), (917, 26350),

Gene: Espinosa\_38 Start: 28630, Stop: 26765, Start Num: 267

Candidate Starts for Espinosa\_38:

(Start: 214 @28717 has 4 MA's), (Start: 216 @28714 has 7 MA's), (Start: 267 @28630 has 137 MA's), (Start: 275 @28621 has 5 MA's), (321, 28516), (325, 28507), (338, 28477), (340, 28474), (395, 28354), (397, 28342), (400, 28336), (436, 28231), (445, 28204), (490, 28063), (492, 28057), (494, 28054), (498, 28042), (513, 28015), (516, 28012), (525, 27997), (527, 27991), (530, 27985), (553, 27952), (612, 27823), (634, 27763), (726, 27448), (729, 27439), (730, 27436), (733, 27418), (743, 27376), (745, 27370), (747, 27361), (751, 27346), (768, 27289), (815, 27130), (827, 27100), (828, 27091), (847, 27031), (852, 27007), (863, 26968), (875, 26935), (876, 26923), (893, 26863),

Gene: Espresso\_44 Start: 34640, Stop: 32814, Start Num: 231

Candidate Starts for Espresso\_44:

(Start: 231 @34640 has 845 MA's), (332, 34427), (367, 34364), (378, 34334), (388, 34313), (390, 34307), (392, 34298), (425, 34181), (434, 34154), (487, 34061), (492, 34046), (541, 33962), (543, 33959), (575, 33893), (589, 33863), (598, 33833), (616, 33788), (638, 33749), (700, 33569), (708, 33539), (709, 33521), (711, 33518), (720, 33482), (733, 33416), (760, 33335), (761, 33332), (786, 33251), (846, 33101), (847, 33098), (855, 33062), (868, 33038), (870, 33029), (874, 33017), (896, 32942), (906, 32921),

Gene: Et2Brutus\_44 Start: 30698, Stop: 28911, Start Num: 231

Candidate Starts for Et2Brutus\_44:

(Start: 231 @30698 has 845 MA's), (329, 30494), (367, 30422), (378, 30392), (390, 30365), (489, 30113), (513, 30062), (562, 29981), (582, 29936), (583, 29933), (613, 29852), (643, 29795), (672, 29753), (683, 29708), (700, 29627), (711, 29576), (720, 29540), (733, 29474), (755, 29414), (758, 29402), (789, 29300), (796, 29276), (802, 29258), (834, 29195), (844, 29168), (846, 29159), (851, 29135), (896, 29000), (902, 28988), (906, 28979),

Gene: Etaye\_62 Start: 55077, Stop: 53218, Start Num: 196

Candidate Starts for Etaye\_62:

(Start: 175 @55101 has 1 MA's), (Start: 196 @55077 has 254 MA's), (Start: 221 @55053 has 2 MA's), (Start: 227 @55047 has 3 MA's), (246, 55005), (259, 54984), (307, 54870), (311, 54864), (326, 54834), (355, 54774), (366, 54753), (386, 54699), (391, 54687), (396, 54669), (398, 54657), (431, 54552), (454, 54495), (466, 54459), (471, 54447), (482, 54423), (486, 54411), (491, 54393), (499, 54375), (509, 54357), (533, 54318), (540, 54309), (542, 54306), (544, 54303), (695, 53946), (701, 53913), (706, 53892), (727, 53799), (730, 53790), (744, 53727), (760, 53691), (761, 53688), (766, 53673), (790, 53595), (794, 53583), (800, 53562), (817, 53523), (851, 53433), (856, 53415), (858, 53409), (868, 53394), (875, 53370), (877, 53355), (878, 53352), (881, 53340), (890, 53316), (907, 53268), (912, 53244),

Gene: Etna\_38 Start: 29066, Stop: 27201, Start Num: 267

Candidate Starts for Etna\_38:

(Start: 267 @29066 has 137 MA's), (Start: 275 @29057 has 5 MA's), (394, 28793), (397, 28778), (400, 28772), (445, 28640), (463, 28586), (467, 28574), (490, 28499), (494, 28490), (498, 28478), (513, 28451), (516, 28448), (525, 28433), (527, 28427), (534, 28415), (576, 28346), (675, 28097), (726, 27884), (729, 27875), (730, 27872), (733, 27854), (743, 27812), (768, 27725), (815, 27566), (827, 27536), (847, 27467), (852, 27443), (863, 27404), (875, 27371), (876, 27359),

Gene: Etta\_38 Start: 28616, Stop: 26751, Start Num: 267

Candidate Starts for Etta\_38:

(Start: 214 @28703 has 4 MA's), (Start: 267 @28616 has 137 MA's), (Start: 275 @28607 has 5 MA's), (321, 28502), (325, 28493), (338, 28463), (340, 28460), (395, 28340), (397, 28328), (400, 28322), (436, 28217), (445, 28190), (490, 28049), (492, 28043), (494, 28040), (498, 28028), (513, 28001), (516, 27998), (525, 27983), (527, 27977), (530, 27971), (553, 27938), (612, 27809), (634, 27749), (726, 27434), (729, 27425), (730, 27422), (733, 27404), (743, 27362), (745, 27356), (751, 27332), (768, 27275), (815, 27116), (827, 27086), (828, 27077), (847, 27017), (852, 26993), (863, 26954), (875, 26921), (876, 26909), (893, 26849),

Gene: Eugenia\_60 Start: 54399, Stop: 52540, Start Num: 196

Candidate Starts for Eugenia\_60:

(Start: 175 @54423 has 1 MA's), (Start: 196 @54399 has 254 MA's), (Start: 221 @54375 has 2 MA's), (Start: 227 @54369 has 3 MA's), (246, 54327), (259, 54306), (307, 54192), (311, 54186), (326, 54156), (355, 54096), (366, 54075), (386, 54021), (391, 54009), (396, 53991), (398, 53979), (431, 53874), (454, 53817), (466, 53781), (471, 53769), (483, 53742), (491, 53715), (499, 53697), (509, 53679), (533, 53640), (540, 53631), (542, 53628), (695, 53268), (701, 53235), (706, 53214), (727, 53121), (730, 53112), (744, 53049), (760, 53013), (761, 53010), (766, 52995), (790, 52917), (794, 52905), (800, 52884), (817, 52845), (851, 52755), (856, 52737), (858, 52731), (868, 52716), (875, 52692), (877, 52677), (878, 52674), (881, 52662), (890, 52638), (907, 52590), (912, 52566),

Gene: Eula\_43 Start: 29571, Stop: 31445, Start Num: 222

Candidate Starts for Eula\_43:

(Start: 220 @29568 has 7 MA's), (Start: 222 @29571 has 57 MA's), (Start: 266 @29640 has 4 MA's), (279, 29661), (367, 29841), (392, 29907), (403, 29949), (549, 30243), (603, 30378), (651, 30477), (688, 30600), (700, 30660), (702, 30666), (711, 30711), (718, 30741), (724, 30777), (733, 30813), (759, 30906), (787, 30999), (816, 31077), (846, 31149), (855, 31188), (873, 31230), (876, 31248),

(896, 31308), (906, 31329),

Gene: Euphoria\_43 Start: 34128, Stop: 32302, Start Num: 231

Candidate Starts for Euphoria\_43:

(Start: 231 @34128 has 845 MA's), (332, 33915), (337, 33900), (367, 33852), (378, 33822), (388, 33801), (390, 33795), (392, 33786), (425, 33669), (434, 33642), (487, 33549), (492, 33534), (509, 33501), (541, 33450), (543, 33447), (575, 33381), (589, 33351), (598, 33321), (616, 33276), (638, 33237), (700, 33057), (708, 33027), (709, 33009), (711, 33006), (720, 32970), (733, 32904), (760, 32823), (761, 32820), (786, 32739), (846, 32589), (847, 32586), (855, 32550), (868, 32526), (870, 32517), (874, 32505), (877, 32487), (880, 32478), (896, 32430), (906, 32409),

Gene: Euratis\_35 Start: 26897, Stop: 28750, Start Num: 231

Candidate Starts for Euratis\_35:

(Start: 231 @26897 has 845 MA's), (240, 26918), (274, 26978), (292, 27011), (329, 27098), (355, 27146), (378, 27200), (379, 27203), (388, 27221), (390, 27227), (402, 27275), (422, 27344), (433, 27377), (489, 27476), (517, 27533), (524, 27548), (541, 27575), (549, 27587), (560, 27605), (574, 27641), (593, 27683), (595, 27692), (610, 27734), (613, 27740), (645, 27800), (649, 27809), (688, 27938), (700, 27998), (709, 28049), (714, 28064), (724, 28121), (726, 28127), (727, 28130), (730, 28139), (733, 28157), (736, 28172), (741, 28202), (758, 28256), (787, 28352), (820, 28439), (841, 28481), (851, 28526), (855, 28541), (858, 28550), (871, 28577), (877, 28604), (896, 28661), (899, 28667), (906, 28682), (909, 28691),

Gene: Eurydice\_46 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Eurydice\_46:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Evaa\_50 Start: 46072, Stop: 44267, Start Num: 219

Candidate Starts for Evaa\_50:

(Start: 196 @46111 has 254 MA's), (Start: 219 @46072 has 12 MA's), (240, 46036), (289, 45955), (291, 45949), (307, 45895), (330, 45853), (410, 45658), (416, 45631), (431, 45592), (454, 45535), (466, 45499), (482, 45463), (542, 45346), (681, 45055), (689, 45016), (695, 44992), (696, 44986), (701, 44959), (704, 44947), (725, 44854), (727, 44848), (730, 44839), (744, 44776), (760, 44740), (766, 44722), (790, 44644), (794, 44632), (800, 44611), (817, 44572), (841, 44527), (847, 44503), (858, 44458), (875, 44419), (877, 44404), (890, 44365), (912, 44293),

Gene: EvilGenius\_47 Start: 33208, Stop: 31421, Start Num: 231

Candidate Starts for EvilGenius\_47:

(Start: 231 @33208 has 845 MA's), (330, 33001), (332, 32995), (337, 32980), (350, 32965), (369, 32929), (378, 32902), (390, 32875), (395, 32854), (415, 32773), (434, 32722), (487, 32629), (509, 32581), (513, 32572), (524, 32557), (562, 32491), (613, 32362), (616, 32356), (700, 32137), (711, 32086), (719, 32053), (720, 32050), (733, 31984), (742, 31945), (755, 31924), (775, 31849), (780, 31837), (796, 31786), (823, 31723), (834, 31705), (846, 31669), (851, 31645), (877, 31567), (896, 31510), (902, 31498), (906, 31489),

Gene: Exile\_36 Start: 30877, Stop: 32721, Start Num: 231

Candidate Starts for Exile\_36:

(Start: 231 @30877 has 845 MA's), (356, 31123), (523, 31516), (549, 31558), (558, 31573), (562, 31585), (595, 31663), (603, 31690), (608, 31702), (613, 31711), (674, 31849), (700, 31969), (708, 31999), (733, 32122), (739, 32152), (759, 32215), (761, 32224), (851, 32482), (871, 32533), (873,



32539), (876, 32557), (896, 32617),

Gene: Expelliarmus\_42 Start: 30600, Stop: 28756, Start Num: 231

Candidate Starts for Expelliarmus\_42:

(134, 30765), (Start: 231 @30600 has 845 MA's), (256, 30549), (317, 30426), (329, 30396), (350, 30357), (367, 30324), (378, 30294), (388, 30273), (390, 30267), (392, 30258), (415, 30165), (434, 30114), (487, 30018), (497, 29991), (505, 29973), (509, 29970), (513, 29961), (549, 29907), (562, 29880), (583, 29832), (603, 29775), (616, 29748), (643, 29697), (653, 29682), (697, 29535), (700, 29514), (708, 29484), (709, 29466), (711, 29463), (716, 29448), (720, 29427), (722, 29418), (726, 29391), (730, 29379), (733, 29361), (760, 29280), (764, 29268), (780, 29214), (792, 29178), (803, 29142), (818, 29109), (832, 29088), (834, 29082), (847, 29043), (851, 29022), (856, 29004), (896, 28887), (902, 28875),

Gene: ExplosioNervosa\_45 Start: 31573, Stop: 29780, Start Num: 231

Candidate Starts for ExplosioNervosa\_45:

(Start: 231 @31573 has 845 MA's), (236, 31564), (256, 31522), (316, 31402), (317, 31399), (334, 31351), (369, 31291), (379, 31261), (384, 31249), (390, 31237), (434, 31084), (487, 30991), (562, 30853), (575, 30823), (643, 30664), (652, 30652), (671, 30625), (697, 30517), (700, 30496), (730, 30361), (733, 30343), (760, 30262), (772, 30220), (796, 30145), (832, 30070), (846, 30028), (877, 29926), (896, 29869), (902, 29857), (906, 29848),

Gene: Eyeball\_46 Start: 35014, Stop: 33227, Start Num: 231

Candidate Starts for Eyeball\_46:

(Start: 231 @35014 has 845 MA's), (332, 34801), (337, 34786), (378, 34708), (388, 34687), (390, 34681), (392, 34672), (425, 34555), (434, 34528), (487, 34435), (492, 34420), (541, 34336), (543, 34333), (575, 34267), (589, 34237), (598, 34207), (616, 34162), (638, 34123), (700, 33943), (709, 33895), (720, 33856), (733, 33790), (758, 33718), (760, 33709), (786, 33625), (818, 33538), (868, 33412), (871, 33400), (896, 33316), (899, 33310),

Gene: FF47\_43 Start: 34250, Stop: 31839, Start Num: 40

Candidate Starts for FF47\_43:

(Start: 40 @34250 has 1 MA's), (46, 34241), (Start: 56 @34196 has 1 MA's), (Start: 60 @34184 has 1 MA's), (Start: 74 @34145 has 1 MA's), (127, 33986), (137, 33956), (159, 33926), (263, 33758), (321, 33638), (370, 33536), (397, 33455), (418, 33395), (443, 33329), (490, 33197), (524, 33149), (567, 33077), (576, 33068), (582, 33056), (622, 32987), (693, 32774), (703, 32720), (721, 32639), (726, 32606), (741, 32540), (743, 32534), (745, 32528), (746, 32522), (753, 32498), (761, 32465), (766, 32450), (768, 32441), (815, 32282), (821, 32270), (885, 32042), (893, 32015), (912, 31946),

Gene: Fajezeel\_47 Start: 35124, Stop: 33337, Start Num: 231

Candidate Starts for Fajezeel\_47:

(Start: 231 @35124 has 845 MA's), (332, 34911), (337, 34896), (367, 34848), (378, 34818), (388, 34797), (390, 34791), (392, 34782), (425, 34665), (434, 34638), (487, 34545), (492, 34530), (509, 34497), (541, 34446), (543, 34443), (575, 34377), (589, 34347), (598, 34317), (616, 34272), (638, 34233), (700, 34053), (709, 34005), (720, 33966), (733, 33900), (758, 33828), (760, 33819), (786, 33735), (818, 33648), (868, 33522), (871, 33510), (896, 33426), (899, 33420),

Gene: Fameo\_44 Start: 31472, Stop: 29685, Start Num: 231

Candidate Starts for Fameo\_44:

(53, 31850), (115, 31661), (129, 31622), (Start: 231 @31472 has 845 MA's), (329, 31268), (330, 31265), (332, 31259), (337, 31244), (350, 31229), (367, 31196), (369, 31193), (378, 31166), (390, 31139), (395, 31118), (434, 30986), (487, 30893), (501, 30857), (509, 30845), (513, 30836), (524, 30821), (562, 30755), (595, 30674), (613, 30626), (616, 30620), (652, 30557), (700, 30401), (711, 30350), (719, 30317), (720, 30314), (733, 30248), (742, 30209), (755, 30188), (775, 30113), (780,

30101), (823, 29987), (834, 29969), (844, 29942), (846, 29933), (851, 29909), (877, 29831), (896, 29774), (902, 29762), (906, 29753),

Gene: Fang\_62 Start: 54292, Stop: 52433, Start Num: 196

Candidate Starts for Fang\_62:

(Start: 175 @54316 has 1 MA's), (Start: 196 @54292 has 254 MA's), (Start: 221 @54268 has 2 MA's), (Start: 227 @54262 has 3 MA's), (246, 54220), (259, 54199), (307, 54085), (311, 54079), (326, 54049), (355, 53989), (366, 53968), (386, 53914), (391, 53902), (396, 53884), (398, 53872), (431, 53767), (454, 53710), (466, 53674), (471, 53662), (483, 53635), (491, 53608), (499, 53590), (509, 53572), (533, 53533), (540, 53524), (542, 53521), (668, 53263), (695, 53161), (701, 53128), (706, 53107), (727, 53014), (730, 53005), (744, 52942), (760, 52906), (761, 52903), (766, 52888), (790, 52810), (794, 52798), (800, 52777), (817, 52738), (851, 52648), (856, 52630), (858, 52624), (868, 52609), (875, 52585), (877, 52570), (878, 52567), (881, 52555), (890, 52531), (907, 52483), (912, 52459),

Gene: Farber\_48 Start: 31846, Stop: 30032, Start Num: 231

Candidate Starts for Farber\_48:

(Start: 231 @31846 has 845 MA's), (248, 31807), (256, 31795), (329, 31642), (333, 31627), (367, 31570), (390, 31513), (392, 31504), (403, 31462), (415, 31411), (434, 31360), (472, 31306), (487, 31267), (509, 31219), (524, 31195), (549, 31156), (562, 31129), (575, 31099), (610, 31006), (616, 30994), (641, 30946), (652, 30931), (700, 30775), (711, 30724), (719, 30691), (720, 30688), (733, 30622), (742, 30583), (761, 30511), (772, 30472), (780, 30448), (786, 30430), (796, 30397), (806, 30370), (834, 30316), (851, 30256), (877, 30178), (896, 30121), (902, 30109), (906, 30100),

Gene: FarmerDoug\_38 Start: 28918, Stop: 27050, Start Num: 267

Candidate Starts for FarmerDoug\_38:

(165, 29086), (Start: 193 @29041 has 1 MA's), (Start: 221 @28996 has 2 MA's), (Start: 267 @28918 has 137 MA's), (Start: 275 @28909 has 5 MA's), (393, 28651), (394, 28645), (397, 28630), (400, 28624), (445, 28492), (463, 28438), (467, 28426), (490, 28351), (494, 28342), (498, 28330), (513, 28303), (516, 28300), (525, 28285), (527, 28279), (534, 28267), (551, 28243), (726, 27736), (729, 27727), (730, 27724), (733, 27706), (743, 27664), (768, 27574), (815, 27415), (827, 27385), (847, 27316), (852, 27292), (854, 27286), (863, 27253), (875, 27220), (876, 27208),

Gene: Fascinus\_41 Start: 33978, Stop: 32152, Start Num: 231

Candidate Starts for Fascinus\_41:

(Start: 231 @33978 has 845 MA's), (332, 33765), (337, 33750), (367, 33702), (378, 33672), (388, 33651), (390, 33645), (392, 33636), (425, 33519), (434, 33492), (487, 33399), (492, 33384), (509, 33351), (541, 33300), (543, 33297), (575, 33231), (598, 33171), (616, 33126), (638, 33087), (700, 32907), (709, 32859), (720, 32820), (733, 32754), (742, 32715), (755, 32694), (760, 32673), (766, 32655), (786, 32589), (846, 32439), (847, 32436), (855, 32400), (868, 32376), (870, 32367), (874, 32355), (880, 32328), (896, 32280), (906, 32259),

Gene: Fayely\_45 Start: 31516, Stop: 29723, Start Num: 231

Candidate Starts for Fayely\_45:

(Start: 231 @31516 has 845 MA's), (236, 31507), (256, 31465), (316, 31345), (317, 31342), (334, 31294), (369, 31234), (379, 31204), (384, 31192), (390, 31180), (434, 31027), (487, 30934), (562, 30796), (575, 30766), (643, 30607), (652, 30595), (671, 30568), (697, 30460), (700, 30439), (730, 30304), (733, 30286), (760, 30205), (772, 30163), (796, 30088), (832, 30013), (846, 29971), (877, 29869), (896, 29812), (902, 29800), (906, 29791),

Gene: Faze9\_56 Start: 52623, Stop: 50794, Start Num: 188

Candidate Starts for Faze9\_56:

(Start: 188 @52623 has 31 MA's), (Start: 227 @52596 has 3 MA's), (242, 52566), (246, 52554), (264, 52527), (Start: 266 @52524 has 4 MA's), (274, 52515), (291, 52497), (330, 52401), (355, 52350), (367, 52326), (375, 52302), (417, 52164), (424, 52149), (427, 52140), (431, 52128), (454, 52071), (466, 52035), (471, 52023), (482, 51999), (522, 51915), (540, 51885), (542, 51882), (561, 51852), (624, 51708), (652, 51642), (681, 51591), (684, 51570), (689, 51552), (701, 51495), (717, 51438), (722, 51411), (727, 51381), (730, 51372), (744, 51306), (758, 51279), (760, 51270), (766, 51252), (772, 51228), (790, 51174), (794, 51162), (800, 51141), (834, 51072), (851, 51012), (856, 50994), (871, 50961), (875, 50949), (877, 50934), (878, 50931), (881, 50919), (890, 50895), (891, 50892), (907, 50844), (908, 50841), (912, 50820), (917, 50799),

Gene: Feastonyeet\_44 Start: 33868, Stop: 31490, Start Num: 43

Candidate Starts for Feastonyeet\_44:

(Start: 43 @33868 has 11 MA's), (58, 33808), (79, 33766), (91, 33727), (117, 33637), (127, 33607), (135, 33586), (159, 33562), (Start: 208 @33484 has 3 MA's), (Start: 212 @33478 has 1 MA's), (Start: 214 @33475 has 4 MA's), (237, 33445), (243, 33427), (253, 33409), (278, 33370), (280, 33367), (303, 33310), (314, 33286), (321, 33271), (352, 33208), (365, 33184), (369, 33175), (370, 33169), (371, 33163), (384, 33130), (393, 33109), (397, 33088), (463, 32905), (490, 32830), (519, 32788), (576, 32701), (596, 32677), (603, 32653), (607, 32644), (617, 32623), (640, 32572), (642, 32569), (649, 32554), (659, 32533), (693, 32407), (703, 32359), (705, 32350), (714, 32308), (733, 32215), (741, 32179), (743, 32173), (745, 32167), (746, 32161), (761, 32104), (768, 32080), (795, 31975), (796, 31972), (830, 31879), (836, 31861), (847, 31822), (857, 31780), (865, 31756), (875, 31726), (886, 31678), (893, 31654), (901, 31630), (908, 31609), (936, 31522), (944, 31510),

Gene: Fenn\_46 Start: 36445, Stop: 34658, Start Num: 231

Candidate Starts for Fenn\_46:

(Start: 231 @36445 has 845 MA's), (332, 36232), (337, 36217), (367, 36169), (378, 36139), (390, 36112), (392, 36103), (425, 35986), (434, 35959), (487, 35866), (492, 35851), (509, 35818), (541, 35767), (543, 35764), (575, 35698), (598, 35638), (616, 35593), (638, 35554), (700, 35374), (709, 35326), (720, 35287), (733, 35221), (758, 35149), (760, 35140), (786, 35056), (818, 34969), (868, 34843), (871, 34831), (896, 34747), (899, 34741),

Gene: Fernando\_48 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for Fernando\_48:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (641, 30952), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772, 30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Fibonacci\_44 Start: 30330, Stop: 28543, Start Num: 231

Candidate Starts for Fibonacci\_44:

(Start: 231 @30330 has 845 MA's), (329, 30126), (367, 30054), (378, 30024), (390, 29997), (489, 29745), (513, 29694), (562, 29613), (582, 29568), (583, 29565), (613, 29484), (643, 29427), (672, 29385), (683, 29340), (700, 29259), (711, 29208), (720, 29172), (733, 29106), (755, 29046), (758, 29034), (789, 28932), (796, 28908), (802, 28890), (834, 28827), (844, 28800), (846, 28791), (851, 28767), (896, 28632), (902, 28620), (906, 28611),

Gene: Figueroism\_39 Start: 28924, Stop: 27059, Start Num: 267

Candidate Starts for Figueroism\_39:

(Start: 214 @29011 has 4 MA's), (Start: 216 @29008 has 7 MA's), (Start: 267 @28924 has 137 MA's), (Start: 275 @28915 has 5 MA's), (321, 28810), (325, 28801), (338, 28771), (340, 28768), (395, 28648), (397, 28636), (400, 28630), (436, 28525), (445, 28498), (490, 28357), (492, 28351), (494,

28348), (498, 28336), (513, 28309), (516, 28306), (525, 28291), (527, 28285), (530, 28279), (553, 28246), (612, 28117), (634, 28057), (726, 27742), (729, 27733), (730, 27730), (733, 27712), (743, 27670), (745, 27664), (747, 27655), (751, 27640), (768, 27583), (815, 27424), (827, 27394), (828, 27385), (847, 27325), (852, 27301), (863, 27262), (875, 27229), (876, 27217), (893, 27157),

Gene: Finalfrontier\_43 Start: 30430, Stop: 32304, Start Num: 222

Candidate Starts for Finalfrontier\_43:

(Start: 220 @30427 has 7 MA's), (Start: 222 @30430 has 57 MA's), (Start: 266 @30499 has 4 MA's), (279, 30520), (367, 30700), (392, 30766), (403, 30808), (549, 31102), (603, 31237), (651, 31336), (688, 31459), (700, 31519), (702, 31525), (711, 31570), (716, 31585), (718, 31600), (724, 31636), (733, 31672), (759, 31765), (787, 31858), (816, 31936), (846, 32008), (855, 32047), (873, 32089), (876, 32107), (896, 32167), (906, 32188),

Gene: Finny\_38 Start: 28772, Stop: 26907, Start Num: 267

Candidate Starts for Finny\_38:

(Start: 267 @28772 has 137 MA's), (314, 28673), (342, 28613), (370, 28562), (397, 28484), (400, 28478), (415, 28433), (416, 28430), (417, 28427), (430, 28388), (453, 28328), (490, 28205), (494, 28196), (498, 28184), (507, 28172), (516, 28154), (527, 28133), (534, 28121), (620, 27950), (681, 27782), (722, 27617), (729, 27581), (733, 27560), (743, 27518), (768, 27431), (777, 27386), (811, 27287), (827, 27242), (847, 27173), (852, 27149), (862, 27116), (893, 27005),

Gene: FiringLine\_44 Start: 31266, Stop: 29479, Start Num: 231

Candidate Starts for FiringLine\_44:

(102, 31521), (Start: 231 @31266 has 845 MA's), (329, 31062), (330, 31059), (332, 31053), (337, 31038), (350, 31023), (367, 30990), (369, 30987), (378, 30960), (390, 30933), (395, 30912), (403, 30882), (434, 30780), (487, 30687), (509, 30639), (513, 30630), (524, 30615), (562, 30549), (595, 30468), (613, 30420), (616, 30414), (652, 30351), (683, 30276), (700, 30195), (711, 30144), (719, 30111), (720, 30108), (733, 30042), (742, 30003), (755, 29982), (775, 29907), (782, 29889), (796, 29844), (806, 29817), (823, 29781), (832, 29769), (834, 29763), (846, 29727), (851, 29703), (877, 29625), (896, 29568), (902, 29556), (906, 29547),

Gene: First\_0044 Start: 31142, Stop: 29355, Start Num: 231

Candidate Starts for First\_0044:

(49, 31559), (Start: 231 @31142 has 845 MA's), (329, 30938), (330, 30935), (332, 30929), (337, 30914), (350, 30899), (367, 30866), (369, 30863), (378, 30836), (390, 30809), (395, 30788), (403, 30758), (434, 30656), (487, 30563), (490, 30554), (509, 30515), (513, 30506), (524, 30491), (562, 30425), (595, 30344), (613, 30296), (616, 30290), (652, 30227), (683, 30152), (700, 30071), (719, 29987), (720, 29984), (733, 29918), (742, 29879), (755, 29858), (775, 29783), (782, 29765), (786, 29753), (796, 29720), (806, 29693), (823, 29657), (834, 29639), (846, 29603), (851, 29579), (873, 29522), (877, 29501), (896, 29444), (902, 29432), (906, 29423),

Gene: FlameThrower\_40 Start: 29788, Stop: 31659, Start Num: 222

Candidate Starts for FlameThrower\_40:

(Start: 222 @29788 has 57 MA's), (Start: 266 @29857 has 4 MA's), (316, 29962), (319, 29971), (392, 30124), (422, 30220), (425, 30229), (447, 30274), (500, 30379), (522, 30415), (549, 30460), (558, 30475), (595, 30568), (700, 30874), (711, 30925), (716, 30940), (724, 30991), (733, 31027), (759, 31120), (780, 31192), (816, 31291), (846, 31363), (851, 31387), (873, 31444), (890, 31498), (896, 31522), (906, 31543),

Gene: Flare16\_44 Start: 31360, Stop: 29573, Start Num: 231

Candidate Starts for Flare16\_44:

(Start: 231 @31360 has 845 MA's), (329, 31156), (330, 31153), (332, 31147), (350, 31117), (367, 31084), (369, 31081), (378, 31054), (390, 31027), (403, 30976), (434, 30874), (487, 30781), (509,

30733), (513, 30724), (524, 30709), (562, 30643), (595, 30562), (613, 30514), (683, 30370), (700, 30289), (711, 30238), (719, 30205), (733, 30136), (742, 30097), (755, 30076), (760, 30055), (764, 30043), (832, 29863), (834, 29857), (846, 29821), (851, 29797), (877, 29719), (896, 29662), (902, 29650),

Gene: Flaverint\_45 Start: 30777, Stop: 28990, Start Num: 231

Candidate Starts for Flaverint\_45:

(Start: 231 @30777 has 845 MA's), (329, 30573), (367, 30501), (378, 30471), (390, 30444), (489, 30192), (513, 30141), (562, 30060), (582, 30015), (643, 29874), (672, 29832), (683, 29787), (700, 29706), (711, 29655), (720, 29619), (733, 29553), (755, 29493), (758, 29481), (789, 29379), (796, 29355), (802, 29337), (834, 29274), (844, 29247), (846, 29238), (851, 29214), (896, 29079), (902, 29067), (906, 29058),

Gene: Floof\_49 Start: 32023, Stop: 33888, Start Num: 229

Candidate Starts for Floof\_49:

(Start: 229 @32023 has 7 MA's), (378, 32320), (422, 32464), (489, 32617), (516, 32668), (549, 32725), (610, 32872), (613, 32878), (643, 32935), (647, 32941), (683, 33055), (700, 33136), (714, 33199), (723, 33247), (724, 33253), (734, 33292), (774, 33436), (777, 33448), (783, 33463), (787, 33475), (818, 33559), (856, 33667), (875, 33712), (896, 33784), (934, 33883),

Gene: Florean\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Florean\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: FluffyNinja\_62 Start: 54312, Stop: 52453, Start Num: 196

Candidate Starts for FluffyNinja\_62:

(Start: 175 @54336 has 1 MA's), (Start: 196 @54312 has 254 MA's), (Start: 221 @54288 has 2 MA's), (Start: 227 @54282 has 3 MA's), (246, 54240), (259, 54219), (307, 54105), (311, 54099), (326, 54069), (355, 54009), (366, 53988), (386, 53934), (391, 53922), (396, 53904), (398, 53892), (431, 53787), (454, 53730), (466, 53694), (471, 53682), (482, 53658), (486, 53646), (491, 53628), (499, 53610), (509, 53592), (533, 53553), (540, 53544), (542, 53541), (544, 53538), (695, 53181), (701, 53148), (706, 53127), (727, 53034), (730, 53025), (744, 52962), (760, 52926), (761, 52923), (766, 52908), (790, 52830), (794, 52818), (800, 52797), (817, 52758), (851, 52668), (856, 52650), (858, 52644), (868, 52629), (875, 52605), (877, 52590), (878, 52587), (881, 52575), (890, 52551), (907, 52503), (912, 52479),

Gene: Flux\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Flux\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: ForGetIt\_38 Start: 30371, Stop: 28527, Start Num: 231

Candidate Starts for ForGetIt\_38:

(Start: 231 @30371 has 845 MA's), (256, 30320), (291, 30260), (317, 30197), (329, 30167), (330, 30164), (363, 30107), (367, 30095), (378, 30065), (390, 30038), (415, 29936), (422, 29921), (434, 29885), (475, 29825), (487, 29789), (509, 29741), (561, 29657), (562, 29651), (594, 29579), (603,

29546), (610, 29531), (616, 29519), (668, 29420), (700, 29285), (708, 29255), (709, 29237), (711, 29234), (720, 29198), (722, 29189), (724, 29168), (727, 29159), (733, 29132), (734, 29129), (755, 29072), (760, 29051), (796, 28934), (818, 28880), (823, 28871), (834, 28853), (856, 28775), (876, 28718), (890, 28682), (896, 28658), (902, 28646),

Gene: Forsytheast\_44 Start: 34479, Stop: 32653, Start Num: 231

Candidate Starts for Forsytheast\_44:

(Start: 231 @34479 has 845 MA's), (332, 34266), (337, 34251), (378, 34173), (388, 34152), (390, 34146), (392, 34137), (425, 34020), (434, 33993), (487, 33900), (492, 33885), (501, 33864), (509, 33852), (541, 33801), (543, 33798), (575, 33732), (589, 33702), (598, 33672), (616, 33627), (638, 33588), (700, 33408), (709, 33360), (720, 33321), (733, 33255), (742, 33216), (755, 33195), (760, 33174), (766, 33156), (786, 33090), (846, 32940), (847, 32937), (855, 32901), (868, 32877), (870, 32868), (874, 32856), (896, 32781), (906, 32760),

Gene: Fortunato\_54 Start: 54011, Stop: 52170, Start Num: 169

Candidate Starts for Fortunato\_54:

(Start: 169 @54011 has 3 MA's), (Start: 182 @53993 has 24 MA's), (Start: 227 @53969 has 3 MA's), (240, 53942), (246, 53927), (259, 53906), (301, 53819), (351, 53714), (366, 53687), (371, 53672), (396, 53606), (405, 53576), (407, 53567), (410, 53564), (412, 53561), (454, 53441), (461, 53423), (466, 53405), (471, 53393), (483, 53366), (509, 53303), (533, 53264), (540, 53255), (542, 53252), (561, 53222), (575, 53186), (681, 52961), (682, 52958), (689, 52922), (701, 52865), (725, 52757), (727, 52751), (730, 52742), (760, 52643), (761, 52640), (766, 52625), (790, 52547), (794, 52535), (800, 52514), (803, 52505), (817, 52475), (834, 52445), (844, 52418), (851, 52385), (858, 52361), (875, 52322), (878, 52304), (881, 52292), (890, 52268), (904, 52226), (907, 52220), (912, 52196),

Gene: Forza\_174 Start: 99637, Stop: 97856, Start Num: 228

Candidate Starts for Forza\_174:

(Start: 228 @99637 has 4 MA's), (250, 99592), (Start: 266 @99565 has 4 MA's), (316, 99472), (339, 99412), (348, 99409), (353, 99400), (366, 99376), (381, 99334), (383, 99331), (397, 99286), (413, 99244), (432, 99190), (487, 99106), (530, 99022), (549, 98995), (558, 98980), (626, 98821), (638, 98797), (645, 98782), (652, 98773), (685, 98686), (692, 98659), (693, 98656), (697, 98635), (700, 98614), (710, 98563), (730, 98479), (735, 98452), (739, 98419), (749, 98377), (783, 98266), (792, 98239), (804, 98203), (808, 98194), (810, 98191), (813, 98182), (852, 98062), (858, 98041), (860, 98035), (875, 98002), (878, 97984), (880, 97978), (892, 97945), (896, 97930), (907, 97906), (908, 97903), (916, 97879),

Gene: Fozzie\_61 Start: 54537, Stop: 52678, Start Num: 196

Candidate Starts for Fozzie\_61:

(Start: 175 @54561 has 1 MA's), (Start: 196 @54537 has 254 MA's), (Start: 221 @54513 has 2 MA's), (Start: 227 @54507 has 3 MA's), (246, 54465), (259, 54444), (307, 54330), (311, 54324), (326, 54294), (355, 54234), (366, 54213), (386, 54159), (391, 54147), (396, 54129), (398, 54117), (431, 54012), (454, 53955), (466, 53919), (471, 53907), (482, 53883), (486, 53871), (491, 53853), (499, 53835), (509, 53817), (533, 53778), (540, 53769), (542, 53766), (544, 53763), (695, 53406), (701, 53373), (706, 53352), (727, 53259), (730, 53250), (744, 53187), (760, 53151), (761, 53148), (766, 53133), (790, 53055), (794, 53043), (800, 53022), (817, 52983), (851, 52893), (856, 52875), (858, 52869), (868, 52854), (875, 52830), (877, 52815), (878, 52812), (881, 52800), (890, 52776), (907, 52728), (912, 52704),

Gene: Francis47\_44 Start: 35450, Stop: 33624, Start Num: 231

Candidate Starts for Francis47\_44:

(Start: 231 @35450 has 845 MA's), (332, 35237), (337, 35222), (378, 35144), (388, 35123), (390, 35117), (392, 35108), (425, 34991), (434, 34964), (487, 34871), (492, 34856), (509, 34823), (541, 34772), (543, 34769), (575, 34703), (589, 34673), (598, 34643), (616, 34598), (638, 34559), (700,

34379), (708, 34349), (709, 34331), (711, 34328), (720, 34292), (733, 34226), (760, 34145), (761, 34142), (786, 34061), (842, 33926), (846, 33911), (847, 33908), (855, 33872), (868, 33848), (870, 33839), (874, 33827), (880, 33800), (896, 33752), (906, 33731),

Gene: Frankicide\_59 Start: 54077, Stop: 52218, Start Num: 196

Candidate Starts for Frankicide\_59:

(Start: 175 @54101 has 1 MA's), (Start: 196 @54077 has 254 MA's), (Start: 221 @54053 has 2 MA's), (Start: 227 @54047 has 3 MA's), (246, 54005), (259, 53984), (307, 53870), (311, 53864), (326, 53834), (355, 53774), (366, 53753), (386, 53699), (391, 53687), (396, 53669), (398, 53657), (431, 53552), (454, 53495), (466, 53459), (471, 53447), (483, 53420), (486, 53411), (499, 53375), (533, 53318), (540, 53309), (542, 53306), (544, 53303), (695, 52946), (701, 52913), (706, 52892), (727, 52799), (730, 52790), (744, 52727), (760, 52691), (761, 52688), (766, 52673), (790, 52595), (794, 52583), (800, 52562), (817, 52523), (851, 52433), (856, 52415), (858, 52409), (868, 52394), (875, 52370), (877, 52355), (878, 52352), (881, 52340), (890, 52316), (907, 52268), (912, 52244),

Gene: Franklin22\_41 Start: 28031, Stop: 29905, Start Num: 222

Candidate Starts for Franklin22\_41:

(Start: 220 @28028 has 7 MA's), (Start: 222 @28031 has 57 MA's), (Start: 266 @28100 has 4 MA's), (329, 28238), (392, 28367), (396, 28382), (422, 28463), (549, 28703), (558, 28718), (570, 28748), (603, 28838), (667, 29012), (688, 29090), (700, 29150), (727, 29276), (733, 29303), (759, 29396), (780, 29468), (816, 29567), (817, 29570), (818, 29573), (873, 29720), (876, 29738), (896, 29798), (906, 29819), (911, 29843), (930, 29888),

Gene: Fred313\_45 Start: 31127, Stop: 29289, Start Num: 231

Candidate Starts for Fred313\_45:

(Start: 182 @31199 has 24 MA's), (Start: 231 @31127 has 845 MA's), (256, 31076), (329, 30923), (363, 30863), (367, 30851), (390, 30794), (392, 30785), (395, 30773), (426, 30665), (434, 30641), (487, 30545), (511, 30497), (549, 30437), (577, 30374), (603, 30305), (613, 30284), (652, 30215), (656, 30209), (673, 30170), (700, 30047), (720, 29960), (726, 29924), (733, 29894), (739, 29864), (761, 29783), (772, 29744), (780, 29720), (786, 29702), (834, 29573), (851, 29513), (896, 29378), (902, 29366), (906, 29357),

Gene: Frederick\_53 Start: 53857, Stop: 52085, Start Num: 240

Candidate Starts for Frederick\_53:

(Start: 169 @53929 has 3 MA's), (Start: 182 @53911 has 24 MA's), (Start: 227 @53884 has 3 MA's), (240, 53857), (246, 53842), (259, 53821), (301, 53734), (351, 53629), (366, 53602), (371, 53587), (396, 53521), (405, 53491), (407, 53482), (410, 53479), (412, 53476), (417, 53449), (431, 53413), (454, 53356), (461, 53338), (466, 53320), (471, 53308), (483, 53281), (509, 53218), (533, 53179), (540, 53170), (542, 53167), (561, 53137), (575, 53101), (681, 52876), (682, 52873), (689, 52837), (701, 52780), (725, 52672), (727, 52666), (730, 52657), (760, 52558), (761, 52555), (766, 52540), (790, 52462), (794, 52450), (800, 52429), (803, 52420), (817, 52390), (834, 52360), (844, 52333), (851, 52300), (858, 52276), (875, 52237), (878, 52219), (881, 52207), (890, 52183), (904, 52141), (907, 52135), (912, 52111),

Gene: FrenchFry\_57 Start: 52599, Stop: 50770, Start Num: 188

Candidate Starts for FrenchFry\_57:

(Start: 188 @52599 has 31 MA's), (Start: 227 @52572 has 3 MA's), (242, 52542), (246, 52530), (264, 52503), (Start: 266 @52500 has 4 MA's), (274, 52491), (291, 52473), (330, 52377), (355, 52326), (367, 52302), (375, 52278), (417, 52140), (427, 52116), (431, 52104), (454, 52047), (466, 52011), (471, 51999), (482, 51975), (522, 51891), (540, 51861), (542, 51858), (561, 51828), (624, 51684), (652, 51618), (678, 51579), (681, 51567), (684, 51546), (689, 51528), (701, 51471), (722, 51387), (727, 51357), (730, 51348), (744, 51282), (758, 51255), (760, 51246), (766, 51228), (772, 51204), (790, 51150), (794, 51138), (800, 51117), (834, 51048), (851, 50988), (856, 50970), (871, 50937),

(875, 50925), (877, 50910), (878, 50907), (881, 50895), (890, 50871), (891, 50868), (907, 50820), (908, 50817), (912, 50796), (917, 50775),

Gene: Fresco\_51 Start: 45981, Stop: 44164, Start Num: 219

Candidate Starts for Fresco\_51:

(66, 46302), (75, 46278), (Start: 219 @45981 has 12 MA's), (240, 45945), (246, 45930), (Start: 266 @45900 has 4 MA's), (322, 45774), (379, 45651), (387, 45636), (398, 45594), (431, 45498), (466, 45405), (526, 45276), (542, 45252), (684, 44940), (689, 44922), (701, 44865), (727, 44751), (730, 44742), (744, 44679), (761, 44640), (766, 44625), (790, 44547), (794, 44535), (800, 44514), (803, 44505), (844, 44418), (852, 44382), (855, 44370), (872, 44331), (875, 44322), (877, 44307), (890, 44262), (907, 44214), (912, 44190),

Gene: Freya\_58 Start: 53738, Stop: 51879, Start Num: 196

Candidate Starts for Freya\_58:

(Start: 175 @53762 has 1 MA's), (Start: 196 @53738 has 254 MA's), (Start: 221 @53714 has 2 MA's), (Start: 227 @53708 has 3 MA's), (246, 53666), (259, 53645), (307, 53531), (311, 53525), (326, 53495), (355, 53435), (366, 53414), (386, 53360), (391, 53348), (396, 53330), (398, 53318), (431, 53213), (454, 53156), (466, 53120), (471, 53108), (483, 53081), (491, 53054), (499, 53036), (509, 53018), (533, 52979), (540, 52970), (542, 52967), (668, 52709), (695, 52607), (701, 52574), (706, 52553), (727, 52460), (730, 52451), (744, 52388), (760, 52352), (761, 52349), (766, 52334), (790, 52256), (794, 52244), (800, 52223), (817, 52184), (851, 52094), (856, 52076), (858, 52070), (868, 52055), (875, 52031), (877, 52016), (878, 52013), (881, 52001), (890, 51977), (907, 51929), (912, 51905),

Gene: FriarPreacher\_60 Start: 54124, Stop: 52265, Start Num: 196

Candidate Starts for FriarPreacher\_60:

(Start: 175 @54148 has 1 MA's), (Start: 196 @54124 has 254 MA's), (Start: 221 @54100 has 2 MA's), (Start: 227 @54094 has 3 MA's), (246, 54052), (259, 54031), (307, 53917), (311, 53911), (326, 53881), (355, 53821), (366, 53800), (386, 53746), (391, 53734), (396, 53716), (398, 53704), (431, 53599), (454, 53542), (466, 53506), (471, 53494), (482, 53470), (486, 53458), (491, 53440), (499, 53422), (509, 53404), (533, 53365), (540, 53356), (542, 53353), (544, 53350), (695, 52993), (701, 52960), (706, 52939), (727, 52846), (730, 52837), (744, 52774), (760, 52738), (761, 52735), (766, 52720), (790, 52642), (794, 52630), (800, 52609), (817, 52570), (851, 52480), (856, 52462), (858, 52456), (868, 52441), (875, 52417), (877, 52402), (878, 52399), (881, 52387), (890, 52363), (907, 52315), (912, 52291),

Gene: Fribs8\_39 Start: 31749, Stop: 29392, Start Num: 41

Candidate Starts for Fribs8\_39:

(Start: 41 @31749 has 23 MA's), (48, 31734), (55, 31698), (105, 31563), (127, 31500), (157, 31458), (166, 31446), (Start: 229 @31344 has 7 MA's), (278, 31266), (303, 31206), (349, 31113), (365, 31083), (384, 31029), (397, 30987), (419, 30924), (469, 30789), (490, 30729), (497, 30711), (551, 30645), (567, 30609), (622, 30516), (640, 30471), (654, 30444), (660, 30432), (664, 30420), (698, 30279), (723, 30159), (730, 30135), (733, 30117), (735, 30108), (741, 30081), (743, 30075), (745, 30069), (746, 30063), (753, 30039), (761, 30006), (768, 29982), (777, 29937), (797, 29871), (836, 29763), (854, 29694), (865, 29658), (885, 29583), (886, 29580), (893, 29556), (912, 29487), (934, 29424),

Gene: Fringe\_64 Start: 54914, Stop: 53055, Start Num: 196

Candidate Starts for Fringe\_64:

(Start: 175 @54938 has 1 MA's), (Start: 196 @54914 has 254 MA's), (Start: 221 @54890 has 2 MA's), (Start: 227 @54884 has 3 MA's), (246, 54842), (259, 54821), (307, 54707), (311, 54701), (326, 54671), (355, 54611), (366, 54590), (386, 54536), (391, 54524), (396, 54506), (398, 54494), (431, 54389), (454, 54332), (466, 54296), (471, 54284), (482, 54260), (486, 54248), (491, 54230), (499,



54212), (509, 54194), (533, 54155), (540, 54146), (542, 54143), (544, 54140), (695, 53783), (701, 53750), (706, 53729), (727, 53636), (730, 53627), (744, 53564), (760, 53528), (761, 53525), (766, 53510), (790, 53432), (794, 53420), (800, 53399), (817, 53360), (851, 53270), (856, 53252), (858, 53246), (868, 53231), (875, 53207), (877, 53192), (878, 53189), (881, 53177), (890, 53153), (907, 53105), (912, 53081),

Gene: Froghopper\_43 Start: 34120, Stop: 32291, Start Num: 231

Candidate Starts for Froghopper\_43:

(Start: 231 @34120 has 845 MA's), (332, 33907), (337, 33892), (367, 33844), (378, 33814), (388, 33793), (390, 33787), (392, 33778), (425, 33661), (434, 33634), (487, 33541), (492, 33526), (541, 33442), (543, 33439), (575, 33373), (589, 33343), (598, 33313), (616, 33268), (638, 33229), (700, 33049), (709, 33001), (722, 32953), (730, 32914), (733, 32896), (742, 32857), (755, 32836), (760, 32815), (765, 32800), (803, 32677), (871, 32506), (876, 32482), (893, 32434), (896, 32422), (906, 32401), (908, 32395), (921, 32347), (928, 32332),

Gene: FugateOSU\_61 Start: 55083, Stop: 53224, Start Num: 196

Candidate Starts for FugateOSU\_61:

(Start: 175 @55107 has 1 MA's), (Start: 196 @55083 has 254 MA's), (Start: 221 @55059 has 2 MA's), (Start: 227 @55053 has 3 MA's), (246, 55011), (259, 54990), (307, 54876), (311, 54870), (326, 54840), (355, 54780), (366, 54759), (386, 54705), (391, 54693), (396, 54675), (398, 54663), (431, 54558), (454, 54501), (466, 54465), (471, 54453), (483, 54426), (491, 54399), (499, 54381), (509, 54363), (533, 54324), (540, 54315), (542, 54312), (668, 54054), (695, 53952), (701, 53919), (706, 53898), (727, 53805), (730, 53796), (744, 53733), (760, 53697), (761, 53694), (766, 53679), (790, 53601), (794, 53589), (800, 53568), (817, 53529), (851, 53439), (856, 53421), (858, 53415), (868, 53400), (875, 53376), (877, 53361), (878, 53358), (881, 53346), (890, 53322), (907, 53274), (912, 53250),

Gene: Fulton\_38 Start: 26991, Stop: 25126, Start Num: 267

Candidate Starts for Fulton\_38:

(Start: 267 @26991 has 137 MA's), (272, 26985), (316, 26886), (321, 26877), (332, 26853), (338, 26838), (342, 26832), (370, 26781), (371, 26778), (400, 26697), (420, 26637), (453, 26547), (456, 26544), (484, 26445), (492, 26418), (494, 26415), (498, 26403), (516, 26373), (527, 26352), (551, 26316), (620, 26169), (660, 26067), (683, 25989), (726, 25809), (733, 25779), (746, 25725), (751, 25707), (768, 25650), (775, 25623), (784, 25581), (796, 25542), (827, 25461), (828, 25452), (847, 25392), (852, 25368), (855, 25356), (858, 25347), (863, 25329), (875, 25296), (893, 25224),

Gene: Funsized\_59 Start: 56200, Stop: 54350, Start Num: 196

Candidate Starts for Funsized\_59:

(20, 56692), (37, 56611), (57, 56536), (70, 56497), (71, 56494), (178, 56221), (Start: 196 @56200 has 254 MA's), (Start: 212 @56191 has 1 MA's), (240, 56143), (245, 56131), (330, 55960), (367, 55885), (375, 55861), (396, 55807), (397, 55798), (398, 55795), (403, 55783), (405, 55777), (431, 55690), (454, 55633), (460, 55621), (466, 55597), (471, 55585), (475, 55576), (482, 55561), (483, 55558), (486, 55549), (526, 55462), (533, 55450), (542, 55438), (558, 55414), (561, 55408), (597, 55324), (636, 55228), (681, 55141), (682, 55138), (689, 55102), (696, 55072), (701, 55045), (706, 55024), (713, 54994), (725, 54937), (727, 54931), (730, 54922), (744, 54859), (760, 54823), (761, 54820), (766, 54805), (786, 54739), (790, 54727), (794, 54715), (800, 54694), (803, 54685), (807, 54676), (834, 54625), (851, 54565), (858, 54541), (868, 54526), (875, 54502), (876, 54490), (877, 54487), (878, 54484), (881, 54472), (890, 54448), (896, 54424), (897, 54421), (904, 54406), (907, 54400), (912, 54376),

Gene: Funston\_44 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Funston\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Fushigi\_43 Start: 32768, Stop: 30939, Start Num: 231

Candidate Starts for Fushigi\_43:

(Start: 231 @32768 has 845 MA's), (332, 32555), (337, 32540), (378, 32462), (388, 32441), (390, 32435), (392, 32426), (425, 32309), (434, 32282), (487, 32189), (492, 32174), (509, 32141), (541, 32090), (543, 32087), (570, 32033), (575, 32021), (589, 31991), (598, 31961), (616, 31916), (638, 31877), (700, 31697), (709, 31649), (722, 31601), (730, 31562), (733, 31544), (742, 31505), (755, 31484), (760, 31463), (765, 31448), (803, 31325), (871, 31154), (876, 31130), (893, 31082), (896, 31070), (906, 31049), (908, 31043), (921, 30995), (928, 30980),

Gene: GMA2\_66 Start: 70128, Stop: 68344, Start Num: 226

Candidate Starts for GMA2\_66:

(Start: 226 @70128 has 2 MA's), (239, 70104), (292, 70014), (329, 69927), (348, 69897), (355, 69885), (381, 69822), (383, 69819), (397, 69774), (398, 69771), (400, 69768), (432, 69678), (437, 69663), (472, 69633), (487, 69594), (502, 69558), (530, 69510), (549, 69483), (558, 69468), (596, 69375), (626, 69309), (638, 69285), (697, 69126), (700, 69105), (732, 68958), (735, 68943), (738, 68913), (749, 68865), (750, 68862), (761, 68826), (774, 68781), (777, 68769), (783, 68754), (796, 68712), (810, 68679), (834, 68613), (846, 68577), (860, 68523), (868, 68514), (875, 68490), (896, 68418), (908, 68391), (916, 68367),

Gene: GTE2\_35 Start: 32210, Stop: 29823, Start Num: 33

Candidate Starts for GTE2\_35:

(Start: 33 @32210 has 15 MA's), (58, 32147), (81, 32090), (119, 31967), (127, 31943), (Start: 214 @31811 has 4 MA's), (235, 31784), (303, 31646), (337, 31568), (365, 31520), (384, 31466), (386, 31463), (393, 31445), (397, 31424), (402, 31409), (415, 31373), (418, 31364), (419, 31361), (463, 31241), (486, 31181), (490, 31166), (551, 31082), (576, 31037), (588, 31013), (596, 31007), (603, 30983), (607, 30974), (639, 30905), (640, 30902), (642, 30899), (690, 30752), (705, 30683), (706, 30677), (714, 30641), (733, 30548), (735, 30539), (741, 30512), (743, 30506), (745, 30500), (746, 30494), (753, 30470), (761, 30437), (766, 30422), (768, 30413), (777, 30368), (795, 30308), (807, 30275), (847, 30155), (856, 30116), (857, 30113), (893, 29987), (908, 29942), (910, 29933), (926, 29873),

Gene: Gack\_40 Start: 28093, Stop: 29955, Start Num: 222

Candidate Starts for Gack\_40:

(185, 28039), (Start: 222 @28093 has 57 MA's), (240, 28114), (Start: 266 @28162 has 4 MA's), (392, 28429), (396, 28444), (422, 28525), (549, 28765), (651, 29017), (688, 29140), (700, 29200), (711, 29251), (727, 29326), (733, 29353), (759, 29446), (816, 29617), (817, 29620), (818, 29623), (847, 29692), (873, 29770), (896, 29848), (906, 29869), (911, 29893), (930, 29938),

Gene: Gadjet\_59 Start: 54012, Stop: 52195, Start Num: 223

Candidate Starts for Gadjet\_59:

(123, 54195), (Start: 223 @54012 has 42 MA's), (240, 53982), (332, 53802), (379, 53697), (395, 53649), (397, 53637), (407, 53607), (412, 53601), (431, 53538), (454, 53481), (466, 53445), (486, 53397), (542, 53292), (589, 53196), (610, 53145), (681, 53001), (689, 52962), (696, 52932), (701, 52905), (704, 52893), (725, 52797), (727, 52791), (730, 52782), (732, 52770), (754, 52698), (760, 52668), (766, 52650), (768, 52641), (790, 52572), (794, 52560), (800, 52539), (834, 52470), (841, 52455), (847, 52431), (851, 52410), (858, 52386), (875, 52347), (878, 52329), (881, 52317), (886, 52305), (890, 52293), (912, 52221),

Gene: Gadost\_45 Start: 31574, Stop: 29748, Start Num: 231

Candidate Starts for Gadost\_45:

(Start: 231 @31574 has 845 MA's), (240, 31553), (256, 31523), (274, 31493), (350, 31331), (360, 31313), (390, 31241), (392, 31232), (426, 31112), (434, 31088), (487, 30995), (511, 30947), (524, 30926), (549, 30887), (603, 30755), (613, 30734), (638, 30689), (643, 30677), (697, 30524), (700, 30503), (726, 30380), (733, 30350), (742, 30311), (760, 30245), (761, 30242), (766, 30227), (772, 30203), (780, 30179), (851, 29972), (896, 29837), (902, 29825), (906, 29816),

Gene: GaeCeo\_39 Start: 29207, Stop: 27342, Start Num: 265

Candidate Starts for GaeCeo\_39:

(Start: 265 @29207 has 17 MA's), (283, 29183), (340, 29051), (371, 28994), (393, 28940), (397, 28919), (400, 28913), (467, 28712), (494, 28628), (498, 28616), (516, 28586), (527, 28565), (534, 28553), (551, 28529), (576, 28484), (612, 28397), (633, 28352), (634, 28337), (675, 28235), (722, 28052), (730, 28013), (733, 27995), (743, 27953), (747, 27938), (768, 27866), (847, 27608), (852, 27584), (862, 27551), (893, 27440),

Gene: GageAP\_45 Start: 34414, Stop: 32588, Start Num: 231

Candidate Starts for GageAP\_45:

(Start: 231 @34414 has 845 MA's), (254, 34366), (332, 34201), (337, 34186), (378, 34108), (388, 34087), (390, 34081), (392, 34072), (425, 33955), (434, 33928), (487, 33835), (492, 33820), (541, 33736), (543, 33733), (575, 33667), (589, 33637), (598, 33607), (616, 33562), (638, 33523), (700, 33343), (708, 33313), (709, 33295), (711, 33292), (720, 33256), (733, 33190), (760, 33109), (761, 33106), (786, 33025), (846, 32875), (847, 32872), (855, 32836), (868, 32812), (870, 32803), (874, 32791), (896, 32716), (906, 32695),

Gene: Gail\_49 Start: 33012, Stop: 31219, Start Num: 231

Candidate Starts for Gail\_49:

(160, 33114), (Start: 231 @33012 has 845 MA's), (236, 33003), (250, 32970), (291, 32901), (329, 32808), (367, 32733), (369, 32730), (378, 32703), (390, 32676), (403, 32625), (426, 32547), (434, 32523), (487, 32430), (505, 32385), (562, 32292), (575, 32262), (638, 32115), (671, 32064), (683, 32016), (700, 31935), (716, 31869), (726, 31812), (733, 31782), (760, 31701), (796, 31584), (806, 31557), (846, 31467), (873, 31386), (877, 31365), (880, 31356), (896, 31308), (902, 31296), (906, 31287), (907, 31284),

Gene: Gandalf20\_46 Start: 35478, Stop: 33652, Start Num: 231

Candidate Starts for Gandalf20\_46:

(Start: 231 @35478 has 845 MA's), (332, 35265), (367, 35202), (378, 35172), (388, 35151), (390, 35145), (392, 35136), (425, 35019), (434, 34992), (487, 34899), (492, 34884), (501, 34863), (509, 34851), (541, 34800), (543, 34797), (575, 34731), (589, 34701), (598, 34671), (616, 34626), (638, 34587), (700, 34407), (709, 34359), (720, 34320), (733, 34254), (742, 34215), (755, 34194), (760, 34173), (766, 34155), (786, 34089), (846, 33939), (847, 33936), (855, 33900), (868, 33876), (870, 33867), (874, 33855), (880, 33828), (896, 33780), (906, 33759),

Gene: Garak\_47 Start: 29791, Stop: 27950, Start Num: 231

Candidate Starts for Garak\_47:

(Start: 231 @29791 has 845 MA's), (329, 29587), (367, 29512), (369, 29509), (378, 29482), (384, 29467), (390, 29455), (403, 29404), (430, 29314), (434, 29302), (487, 29209), (502, 29170), (513, 29152), (524, 29137), (562, 29071), (576, 29038), (577, 29035), (619, 28933), (652, 28873), (683, 28789), (700, 28708), (719, 28624), (720, 28621), (722, 28612), (726, 28585), (733, 28555), (755, 28495), (766, 28456), (846, 28240), (847, 28237), (851, 28216), (896, 28081), (902, 28069), (906, 28060), (907, 28057), (939, 27964),

Gene: GardenB\_38 Start: 29033, Stop: 27168, Start Num: 267

Candidate Starts for GardenB\_38:

(Start: 267 @29033 has 137 MA's), (Start: 275 @29024 has 5 MA's), (342, 28874), (394, 28760), (397, 28745), (400, 28739), (463, 28553), (467, 28541), (490, 28466), (494, 28457), (498, 28445), (513, 28418), (516, 28415), (525, 28400), (527, 28394), (530, 28388), (551, 28358), (576, 28313), (634, 28166), (675, 28064), (681, 28043), (726, 27851), (729, 27842), (730, 27839), (733, 27821), (743, 27779), (747, 27764), (768, 27692), (815, 27533), (827, 27503), (847, 27434), (852, 27410), (863, 27371), (875, 27338), (876, 27326),

Gene: GardenState\_48 Start: 31425, Stop: 33290, Start Num: 229

Candidate Starts for GardenState\_48:

(Start: 229 @31425 has 7 MA's), (378, 31722), (406, 31812), (549, 32127), (595, 32232), (598, 32241), (613, 32280), (647, 32343), (700, 32538), (714, 32601), (724, 32655), (726, 32661), (734, 32694), (758, 32781), (777, 32850), (787, 32877), (896, 33186),

Gene: Gareth\_60 Start: 54536, Stop: 52677, Start Num: 196

Candidate Starts for Gareth\_60:

(Start: 175 @54560 has 1 MA's), (Start: 196 @54536 has 254 MA's), (Start: 221 @54512 has 2 MA's), (Start: 227 @54506 has 3 MA's), (246, 54464), (259, 54443), (307, 54329), (311, 54323), (326, 54293), (355, 54233), (366, 54212), (386, 54158), (391, 54146), (396, 54128), (398, 54116), (431, 54011), (454, 53954), (466, 53918), (471, 53906), (483, 53879), (491, 53852), (499, 53834), (509, 53816), (533, 53777), (540, 53768), (542, 53765), (668, 53507), (695, 53405), (701, 53372), (706, 53351), (727, 53258), (730, 53249), (744, 53186), (760, 53150), (761, 53147), (766, 53132), (790, 53054), (794, 53042), (800, 53021), (817, 52982), (851, 52892), (856, 52874), (858, 52868), (868, 52853), (875, 52829), (877, 52814), (878, 52811), (881, 52799), (890, 52775), (907, 52727), (912, 52703),

Gene: Garey24\_38 Start: 28589, Stop: 26733, Start Num: 275

Candidate Starts for Garey24\_38:

(Start: 214 @28685 has 4 MA's), (Start: 267 @28598 has 137 MA's), (Start: 275 @28589 has 5 MA's), (321, 28484), (325, 28475), (338, 28445), (340, 28442), (395, 28322), (397, 28310), (400, 28304), (436, 28199), (445, 28172), (490, 28031), (492, 28025), (494, 28022), (498, 28010), (513, 27983), (516, 27980), (525, 27965), (527, 27959), (530, 27953), (553, 27920), (612, 27791), (634, 27731), (726, 27416), (729, 27407), (730, 27404), (733, 27386), (743, 27344), (745, 27338), (747, 27329), (751, 27314), (768, 27257), (815, 27098), (827, 27068), (828, 27059), (847, 26999), (852, 26975), (863, 26936), (875, 26903), (876, 26891), (893, 26831),

Gene: Gargoyle\_39 Start: 28930, Stop: 27074, Start Num: 275

Candidate Starts for Gargoyle\_39:

(Start: 214 @29026 has 4 MA's), (Start: 216 @29023 has 7 MA's), (Start: 267 @28939 has 137 MA's), (Start: 275 @28930 has 5 MA's), (321, 28825), (325, 28816), (338, 28786), (340, 28783), (394, 28666), (397, 28651), (400, 28645), (436, 28540), (445, 28513), (490, 28372), (494, 28363), (498, 28351), (513, 28324), (516, 28321), (525, 28306), (527, 28300), (530, 28294), (553, 28261), (634, 28072), (659, 28018), (666, 27997), (726, 27757), (729, 27748), (730, 27745), (733, 27727), (743, 27685), (745, 27679), (751, 27655), (768, 27598), (815, 27439), (827, 27409), (828, 27400), (847, 27340), (852, 27316), (863, 27277), (875, 27244), (876, 27232), (893, 27172),

Gene: GaugeLDP\_43 Start: 31738, Stop: 29948, Start Num: 231

Candidate Starts for GaugeLDP\_43:

(Start: 231 @31738 has 845 MA's), (329, 31534), (367, 31459), (369, 31456), (378, 31429), (384, 31414), (390, 31402), (430, 31261), (434, 31249), (487, 31156), (489, 31150), (509, 31108), (513, 31099), (524, 31084), (562, 31018), (595, 30937), (603, 30910), (613, 30889), (638, 30844), (673, 30787), (700, 30664), (719, 30580), (726, 30541), (733, 30511), (742, 30472), (760, 30430), (846,

30196), (877, 30094), (896, 30037), (902, 30025), (906, 30016),

Gene: Gelo\_38 Start: 28622, Stop: 26757, Start Num: 267

Candidate Starts for Gelo\_38:

(Start: 214 @28709 has 4 MA's), (Start: 267 @28622 has 137 MA's), (Start: 275 @28613 has 5 MA's), (321, 28508), (325, 28499), (338, 28469), (340, 28466), (395, 28346), (397, 28334), (400, 28328), (436, 28223), (445, 28196), (490, 28055), (492, 28049), (494, 28046), (498, 28034), (513, 28007), (516, 28004), (525, 27989), (527, 27983), (530, 27977), (553, 27944), (612, 27815), (634, 27755), (726, 27440), (729, 27431), (730, 27428), (733, 27410), (743, 27368), (745, 27362), (751, 27338), (768, 27281), (815, 27122), (827, 27092), (828, 27083), (847, 27023), (852, 26999), (863, 26960), (875, 26927), (876, 26915), (893, 26855),

Gene: Gemma\_47 Start: 31749, Stop: 29935, Start Num: 231

Candidate Starts for Gemma\_47:

(Start: 231 @31749 has 845 MA's), (248, 31710), (256, 31698), (329, 31545), (333, 31530), (367, 31473), (390, 31416), (392, 31407), (403, 31365), (415, 31314), (434, 31263), (487, 31170), (509, 31122), (524, 31098), (549, 31059), (562, 31032), (575, 31002), (610, 30909), (616, 30897), (641, 30849), (652, 30834), (700, 30678), (711, 30627), (719, 30594), (720, 30591), (733, 30525), (742, 30486), (761, 30414), (772, 30375), (780, 30351), (786, 30333), (796, 30300), (834, 30219), (851, 30159), (856, 30141), (877, 30081), (880, 30072), (896, 30024), (902, 30012), (906, 30003),

Gene: GeneCoco\_61 Start: 54579, Stop: 52720, Start Num: 196

Candidate Starts for GeneCoco\_61:

(Start: 175 @54603 has 1 MA's), (Start: 196 @54579 has 254 MA's), (Start: 221 @54555 has 2 MA's), (Start: 227 @54549 has 3 MA's), (246, 54507), (259, 54486), (307, 54372), (311, 54366), (326, 54336), (355, 54276), (366, 54255), (386, 54201), (391, 54189), (396, 54171), (398, 54159), (431, 54054), (454, 53997), (466, 53961), (471, 53949), (482, 53925), (486, 53913), (491, 53895), (499, 53877), (509, 53859), (533, 53820), (540, 53811), (542, 53808), (544, 53805), (668, 53550), (695, 53448), (701, 53415), (706, 53394), (727, 53301), (730, 53292), (744, 53229), (760, 53193), (761, 53190), (766, 53175), (790, 53097), (794, 53085), (800, 53064), (817, 53025), (851, 52935), (856, 52917), (858, 52911), (868, 52896), (875, 52872), (877, 52857), (878, 52854), (881, 52842), (890, 52818), (895, 52797), (907, 52770), (912, 52746), (915, 52731),

Gene: George\_38 Start: 30595, Stop: 28730, Start Num: 231

Candidate Starts for George\_38:

(Start: 231 @30595 has 845 MA's), (256, 30544), (291, 30484), (317, 30421), (329, 30391), (330, 30388), (363, 30331), (367, 30319), (378, 30289), (390, 30262), (434, 30109), (487, 30013), (509, 29965), (561, 29881), (562, 29875), (594, 29803), (603, 29770), (610, 29755), (616, 29743), (668, 29644), (700, 29509), (708, 29479), (709, 29461), (716, 29443), (720, 29422), (722, 29413), (733, 29356), (742, 29317), (755, 29296), (760, 29275), (780, 29209), (796, 29158), (818, 29104), (823, 29095), (834, 29077), (851, 29017), (856, 28999), (890, 28906), (896, 28882), (902, 28870), (939, 28765),

Gene: Georgie2\_45 Start: 31311, Stop: 29524, Start Num: 231

Candidate Starts for Georgie2\_45:

(102, 31566), (Start: 231 @31311 has 845 MA's), (329, 31107), (330, 31104), (332, 31098), (337, 31083), (350, 31068), (367, 31035), (369, 31032), (378, 31005), (390, 30978), (395, 30957), (403, 30927), (434, 30825), (487, 30732), (509, 30684), (513, 30675), (524, 30660), (562, 30594), (595, 30513), (613, 30465), (616, 30459), (652, 30396), (683, 30321), (700, 30240), (711, 30189), (719, 30156), (720, 30153), (733, 30087), (742, 30048), (755, 30027), (775, 29952), (782, 29934), (796, 29889), (806, 29862), (823, 29826), (832, 29814), (834, 29808), (846, 29772), (851, 29748), (877, 29670), (896, 29613), (902, 29601), (906, 29592),

Gene: Gershwin\_38 Start: 28632, Stop: 26767, Start Num: 267

Candidate Starts for Gershwin\_38:

(Start: 214 @28719 has 4 MA's), (Start: 267 @28632 has 137 MA's), (Start: 275 @28623 has 5 MA's), (321, 28518), (325, 28509), (338, 28479), (340, 28476), (395, 28356), (397, 28344), (400, 28338), (436, 28233), (445, 28206), (490, 28065), (492, 28059), (494, 28056), (498, 28044), (513, 28017), (516, 28014), (525, 27999), (527, 27993), (530, 27987), (553, 27954), (612, 27825), (634, 27765), (726, 27450), (729, 27441), (730, 27438), (733, 27420), (743, 27378), (745, 27372), (751, 27348), (768, 27291), (815, 27132), (827, 27102), (828, 27093), (847, 27033), (852, 27009), (863, 26970), (875, 26937), (876, 26925), (893, 26865),

Gene: Gervas\_59 Start: 54101, Stop: 52284, Start Num: 223

Candidate Starts for Gervas\_59:

(123, 54284), (Start: 223 @54101 has 42 MA's), (240, 54071), (332, 53891), (395, 53738), (397, 53726), (407, 53696), (412, 53690), (431, 53627), (433, 53621), (454, 53570), (466, 53534), (486, 53486), (542, 53381), (589, 53285), (610, 53234), (681, 53090), (689, 53051), (696, 53021), (701, 52994), (704, 52982), (725, 52886), (727, 52880), (730, 52871), (732, 52859), (754, 52787), (760, 52757), (766, 52739), (768, 52730), (790, 52661), (794, 52649), (800, 52628), (834, 52559), (841, 52544), (847, 52520), (851, 52499), (858, 52475), (875, 52436), (878, 52418), (881, 52406), (886, 52394), (890, 52382), (904, 52340), (912, 52310),

Gene: Ghoulboy\_40 Start: 31108, Stop: 29243, Start Num: 231

Candidate Starts for Ghoulboy\_40:

(Start: 231 @31108 has 845 MA's), (256, 31057), (291, 30997), (317, 30934), (329, 30904), (330, 30901), (363, 30844), (378, 30802), (390, 30775), (434, 30622), (487, 30526), (500, 30493), (509, 30478), (561, 30394), (562, 30388), (576, 30355), (610, 30268), (616, 30256), (638, 30217), (668, 30157), (700, 30022), (708, 29992), (709, 29974), (719, 29938), (720, 29935), (733, 29869), (742, 29830), (760, 29788), (766, 29770), (780, 29722), (782, 29716), (796, 29671), (818, 29617), (823, 29608), (834, 29590), (856, 29512), (876, 29455), (890, 29419), (896, 29395), (902, 29383), (949, 29251),

Gene: GiKK\_48 Start: 33132, Stop: 30748, Start Num: 41

Candidate Starts for GiKK\_48:

(Start: 41 @33132 has 23 MA's), (81, 33018), (91, 32988), (119, 32904), (127, 32880), (166, 32826), (235, 32721), (241, 32706), (Start: 267 @32658 has 137 MA's), (303, 32583), (306, 32577), (308, 32571), (312, 32565), (337, 32496), (352, 32472), (365, 32448), (386, 32391), (393, 32373), (397, 32352), (455, 32205), (490, 32091), (528, 32034), (546, 32013), (551, 32007), (603, 31914), (608, 31902), (640, 31830), (660, 31788), (664, 31776), (698, 31635), (703, 31611), (714, 31560), (733, 31467), (741, 31431), (743, 31425), (745, 31419), (746, 31413), (761, 31356), (766, 31341), (768, 31332), (815, 31173), (825, 31152), (836, 31113), (847, 31074), (851, 31053), (857, 31032), (861, 31020), (868, 31002), (883, 30939), (885, 30933), (893, 30906), (901, 30882), (908, 30861), (934, 30774),

Gene: Gibbous\_38 Start: 31347, Stop: 28987, Start Num: 41

Candidate Starts for Gibbous\_38:

(32, 31371), (Start: 41 @31347 has 23 MA's), (48, 31332), (55, 31296), (119, 31125), (127, 31101), (280, 30864), (303, 30807), (321, 30768), (331, 30747), (365, 30681), (384, 30627), (393, 30606), (397, 30585), (469, 30387), (485, 30345), (490, 30327), (497, 30309), (532, 30264), (548, 30246), (551, 30243), (567, 30207), (622, 30114), (640, 30069), (654, 30042), (660, 30030), (664, 30018), (698, 29877), (714, 29808), (723, 29757), (730, 29733), (733, 29715), (735, 29706), (741, 29679), (743, 29673), (745, 29667), (746, 29661), (761, 29604), (768, 29580), (777, 29535), (778, 29532), (797, 29469), (836, 29361), (854, 29292), (857, 29280), (865, 29256), (885, 29181), (886, 29178), (893, 29154), (901, 29130), (908, 29109), (912, 29085), (926, 29040), (934, 29022),

Gene: Gilberta\_45 Start: 30767, Stop: 28980, Start Num: 231

Candidate Starts for Gilberta\_45:

(Start: 231 @30767 has 845 MA's), (329, 30563), (367, 30491), (378, 30461), (390, 30434), (489, 30182), (513, 30131), (562, 30050), (582, 30005), (643, 29864), (672, 29822), (683, 29777), (700, 29696), (711, 29645), (720, 29609), (733, 29543), (755, 29483), (758, 29471), (789, 29369), (796, 29345), (802, 29327), (834, 29264), (844, 29237), (846, 29228), (851, 29204), (896, 29069), (902, 29057), (906, 29048),

Gene: GingkoMaracino\_48 Start: 31739, Stop: 29925, Start Num: 231

Candidate Starts for GingkoMaracino\_48:

(Start: 231 @31739 has 845 MA's), (248, 31700), (256, 31688), (329, 31535), (333, 31520), (367, 31463), (390, 31406), (392, 31397), (403, 31355), (415, 31304), (434, 31253), (487, 31160), (509, 31112), (513, 31103), (524, 31088), (549, 31049), (562, 31022), (575, 30992), (610, 30899), (616, 30887), (641, 30839), (652, 30824), (700, 30668), (709, 30620), (720, 30581), (733, 30515), (742, 30476), (761, 30404), (772, 30365), (780, 30341), (786, 30323), (796, 30290), (806, 30263), (834, 30209), (851, 30149), (877, 30071), (896, 30014), (902, 30002), (906, 29993),

Gene: Giraffe\_61 Start: 54531, Stop: 52672, Start Num: 196

Candidate Starts for Giraffe\_61:

(Start: 175 @54555 has 1 MA's), (Start: 196 @54531 has 254 MA's), (Start: 221 @54507 has 2 MA's), (Start: 227 @54501 has 3 MA's), (246, 54459), (259, 54438), (307, 54324), (311, 54318), (326, 54288), (355, 54228), (366, 54207), (386, 54153), (391, 54141), (396, 54123), (398, 54111), (431, 54006), (454, 53949), (466, 53913), (471, 53901), (483, 53874), (491, 53847), (499, 53829), (509, 53811), (533, 53772), (540, 53763), (542, 53760), (668, 53502), (695, 53400), (701, 53367), (706, 53346), (727, 53253), (730, 53244), (744, 53181), (760, 53145), (761, 53142), (766, 53127), (790, 53049), (794, 53037), (800, 53016), (817, 52977), (851, 52887), (856, 52869), (858, 52863), (868, 52848), (875, 52824), (877, 52809), (878, 52806), (881, 52794), (890, 52770), (907, 52722), (912, 52698),

Gene: Giroux\_46 Start: 31554, Stop: 29716, Start Num: 231

Candidate Starts for Giroux\_46:

(Start: 231 @31554 has 845 MA's), (256, 31503), (292, 31437), (329, 31350), (363, 31290), (367, 31278), (390, 31221), (392, 31212), (426, 31092), (434, 31068), (487, 30972), (511, 30924), (549, 30864), (577, 30801), (603, 30732), (613, 30711), (653, 30639), (673, 30597), (683, 30555), (700, 30474), (709, 30426), (726, 30351), (733, 30321), (739, 30291), (761, 30210), (772, 30171), (780, 30147), (786, 30129), (834, 30000), (851, 29940), (896, 29805), (902, 29793), (906, 29784),

Gene: Gladiator\_45 Start: 29628, Stop: 27787, Start Num: 231

Candidate Starts for Gladiator\_45:

(Start: 231 @29628 has 845 MA's), (329, 29424), (367, 29349), (369, 29346), (378, 29319), (384, 29304), (390, 29292), (403, 29241), (430, 29151), (434, 29139), (487, 29046), (502, 29007), (513, 28989), (524, 28974), (562, 28908), (576, 28875), (577, 28872), (619, 28770), (652, 28710), (683, 28626), (700, 28545), (719, 28461), (720, 28458), (722, 28449), (726, 28422), (730, 28410), (733, 28392), (755, 28332), (766, 28293), (846, 28077), (847, 28074), (851, 28053), (896, 27918), (902, 27906), (906, 27897), (907, 27894), (939, 27801),

Gene: Glamour\_37 Start: 28723, Stop: 26858, Start Num: 267

Candidate Starts for Glamour\_37:

(Start: 267 @28723 has 137 MA's), (292, 28678), (314, 28624), (342, 28564), (370, 28513), (397, 28435), (400, 28429), (415, 28384), (416, 28381), (417, 28378), (430, 28339), (453, 28279), (490, 28156), (494, 28147), (498, 28135), (507, 28123), (516, 28105), (527, 28084), (534, 28072), (620, 27901), (681, 27733), (722, 27568), (729, 27532), (733, 27511), (743, 27469), (768, 27382), (777, 27337), (811, 27238), (827, 27193), (828, 27184), (847, 27124), (852, 27100), (862, 27067), (893,

26956),

Gene: Glass\_57 Start: 52601, Stop: 50772, Start Num: 188

Candidate Starts for Glass\_57:

(Start: 188 @52601 has 31 MA's), (Start: 227 @52574 has 3 MA's), (242, 52544), (246, 52532), (264, 52505), (Start: 266 @52502 has 4 MA's), (274, 52493), (291, 52475), (330, 52379), (355, 52328), (367, 52304), (417, 52142), (427, 52118), (431, 52106), (454, 52049), (466, 52013), (471, 52001), (482, 51977), (522, 51893), (540, 51863), (542, 51860), (561, 51830), (624, 51686), (652, 51620), (678, 51581), (681, 51569), (684, 51548), (689, 51530), (701, 51473), (717, 51416), (722, 51389), (727, 51359), (730, 51350), (744, 51284), (758, 51257), (760, 51248), (766, 51230), (772, 51206), (790, 51152), (794, 51140), (800, 51119), (834, 51050), (851, 50990), (856, 50972), (871, 50939), (875, 50927), (877, 50912), (878, 50909), (881, 50897), (890, 50873), (891, 50870), (907, 50822), (908, 50819), (912, 50798), (917, 50777),

Gene: GlenHope\_59 Start: 53675, Stop: 51858, Start Num: 223

Candidate Starts for GlenHope\_59:

(Start: 223 @53675 has 42 MA's), (240, 53645), (332, 53465), (395, 53312), (397, 53300), (407, 53270), (412, 53264), (431, 53201), (433, 53195), (454, 53144), (464, 53117), (466, 53108), (486, 53060), (542, 52955), (589, 52859), (610, 52808), (681, 52664), (689, 52625), (696, 52595), (701, 52568), (704, 52556), (725, 52460), (727, 52454), (730, 52445), (732, 52433), (754, 52361), (760, 52331), (766, 52313), (768, 52304), (790, 52235), (794, 52223), (800, 52202), (834, 52133), (841, 52118), (847, 52094), (851, 52073), (856, 52055), (858, 52049), (873, 52016), (875, 52010), (878, 51992), (881, 51980), (886, 51968), (890, 51956), (904, 51914), (912, 51884),

Gene: Godines\_58 Start: 52884, Stop: 51055, Start Num: 188

Candidate Starts for Godines\_58:

(Start: 188 @52884 has 31 MA's), (Start: 227 @52857 has 3 MA's), (246, 52815), (264, 52788), (Start: 266 @52785 has 4 MA's), (274, 52776), (291, 52758), (330, 52662), (355, 52611), (367, 52587), (375, 52563), (417, 52425), (427, 52401), (431, 52389), (454, 52332), (466, 52296), (471, 52284), (482, 52260), (522, 52176), (540, 52146), (542, 52143), (561, 52113), (624, 51969), (652, 51903), (678, 51864), (681, 51852), (684, 51831), (689, 51813), (701, 51756), (717, 51699), (722, 51672), (727, 51642), (730, 51633), (744, 51567), (758, 51540), (760, 51531), (766, 51513), (772, 51489), (790, 51435), (794, 51423), (800, 51402), (834, 51333), (851, 51273), (856, 51255), (871, 51222), (875, 51210), (877, 51195), (878, 51192), (881, 51180), (890, 51156), (891, 51153), (907, 51105), (908, 51102), (912, 51081), (917, 51060),

Gene: GodonK\_188 Start: 97693, Stop: 95903, Start Num: 226

Candidate Starts for GodonK\_188:

(Start: 226 @97693 has 2 MA's), (268, 97615), (286, 97588), (291, 97585), (322, 97507), (348, 97462), (353, 97453), (380, 97393), (381, 97387), (385, 97381), (397, 97339), (415, 97288), (432, 97243), (475, 97192), (489, 97153), (502, 97123), (510, 97114), (530, 97075), (549, 97048), (558, 97033), (586, 96967), (638, 96850), (674, 96790), (681, 96763), (683, 96751), (693, 96709), (700, 96667), (708, 96637), (719, 96580), (720, 96577), (749, 96427), (750, 96424), (759, 96397), (783, 96316), (804, 96253), (810, 96241), (813, 96232), (852, 96112), (860, 96085), (871, 96064), (875, 96052), (896, 95977), (906, 95956), (916, 95926),

Gene: GoldHunter\_44 Start: 32554, Stop: 30161, Start Num: 33

Candidate Starts for GoldHunter\_44:

(Start: 33 @32554 has 15 MA's), (45, 32548), (Start: 56 @32500 has 1 MA's), (71, 32458), (81, 32434), (119, 32308), (127, 32284), (159, 32239), (191, 32188), (201, 32173), (Start: 214 @32152 has 4 MA's), (243, 32104), (261, 32071), (Start: 267 @32062 has 137 MA's), (303, 31987), (308, 31975), (337, 31906), (357, 31873), (365, 31858), (384, 31804), (386, 31801), (393, 31783), (397, 31762), (418, 31702), (463, 31579), (465, 31573), (490, 31504), (519, 31462), (576, 31375), (588, 31351),



(596, 31345), (603, 31321), (607, 31312), (614, 31297), (622, 31285), (639, 31243), (640, 31240), (642, 31237), (690, 31090), (705, 31021), (706, 31015), (714, 30979), (733, 30886), (741, 30850), (743, 30844), (745, 30838), (746, 30832), (761, 30775), (768, 30751), (777, 30706), (893, 30325), (908, 30280), (926, 30211),

Gene: Golden\_37 Start: 28582, Stop: 26732, Start Num: 265

Candidate Starts for Golden\_37:

(181, 28723), (238, 28633), (Start: 265 @28582 has 17 MA's), (314, 28483), (325, 28459), (340, 28426), (393, 28315), (397, 28294), (400, 28288), (415, 28243), (417, 28237), (476, 28081), (494, 28018), (498, 28006), (516, 27976), (551, 27919), (675, 27625), (726, 27415), (729, 27406), (730, 27403), (733, 27385), (743, 27343), (768, 27256), (847, 26998), (852, 26974), (853, 26971), (862, 26941), (893, 26830),

Gene: Gollum\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for Gollum\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (673, 27168), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: Gompeii16\_44 Start: 35183, Stop: 33354, Start Num: 231

Candidate Starts for Gompeii16\_44:

(Start: 231 @35183 has 845 MA's), (332, 34970), (337, 34955), (367, 34907), (378, 34877), (382, 34865), (388, 34856), (390, 34850), (392, 34841), (425, 34724), (434, 34697), (487, 34604), (492, 34589), (501, 34568), (509, 34556), (541, 34505), (543, 34502), (575, 34436), (589, 34406), (598, 34376), (616, 34331), (638, 34292), (700, 34112), (709, 34064), (722, 34016), (730, 33977), (733, 33959), (742, 33920), (755, 33899), (760, 33878), (765, 33863), (803, 33740), (871, 33569), (876, 33545), (893, 33497), (896, 33485), (906, 33464), (908, 33458), (921, 33410), (928, 33395),

Gene: Goose\_44 Start: 30924, Stop: 29089, Start Num: 231

Candidate Starts for Goose\_44:

(Start: 231 @30924 has 845 MA's), (256, 30873), (329, 30720), (337, 30696), (363, 30660), (367, 30648), (388, 30597), (390, 30591), (392, 30582), (413, 30498), (426, 30462), (430, 30450), (433, 30441), (434, 30438), (487, 30345), (511, 30297), (549, 30237), (562, 30210), (573, 30186), (602, 30108), (603, 30105), (613, 30084), (616, 30078), (653, 30012), (673, 29970), (700, 29847), (709, 29799), (726, 29724), (733, 29694), (742, 29655), (761, 29583), (772, 29544), (780, 29520), (782, 29514), (786, 29502), (826, 29394), (851, 29313), (858, 29289), (880, 29226), (896, 29178), (902, 29166), (906, 29157),

Gene: Gophee\_62 Start: 54522, Stop: 52663, Start Num: 196

Candidate Starts for Gophee\_62:

(Start: 175 @54546 has 1 MA's), (Start: 196 @54522 has 254 MA's), (Start: 221 @54498 has 2 MA's), (Start: 227 @54492 has 3 MA's), (246, 54450), (259, 54429), (307, 54315), (311, 54309), (326, 54279), (355, 54219), (366, 54198), (386, 54144), (391, 54132), (396, 54114), (398, 54102), (431, 53997), (454, 53940), (466, 53904), (471, 53892), (482, 53868), (486, 53856), (491, 53838), (499, 53820), (509, 53802), (533, 53763), (540, 53754), (542, 53751), (544, 53748), (695, 53391), (701, 53358), (706, 53337), (727, 53244), (730, 53235), (744, 53172), (760, 53136), (761, 53133), (766, 53118), (790, 53040), (794, 53028), (800, 53007), (817, 52968), (851, 52878), (856, 52860), (858, 52854), (868, 52839), (875, 52815), (877, 52800), (878, 52797), (881, 52785), (890, 52761), (895, 52740), (907, 52713), (912, 52689),

Gene: Gorgeous\_54 Start: 36486, Stop: 34318, Start Num: 209

Candidate Starts for Gorgeous\_54:

(207, 36489), (Start: 209 @36486 has 11 MA's), (240, 36432), (286, 36348), (337, 36195), (343, 36186), (367, 36141), (393, 36063), (395, 36054), (398, 36039), (403, 36024), (404, 36021), (417, 35964), (446, 35871), (458, 35829), (506, 35634), (514, 35622), (521, 35616), (531, 35592), (545, 35571), (559, 35550), (564, 35535), (566, 35529), (592, 35466), (607, 35415), (638, 35328), (670, 35268), (683, 35220), (707, 35118), (708, 35112), (713, 35085), (714, 35082), (719, 35061), (727, 35019), (729, 35013), (734, 34989), (740, 34947), (741, 34944), (748, 34917), (756, 34884), (759, 34872), (769, 34836), (775, 34812), (777, 34806), (780, 34800), (797, 34746), (817, 34698), (818, 34695), (840, 34635), (846, 34611), (853, 34581), (872, 34527), (890, 34458), (893, 34446), (907, 34407),

Gene: Graduation\_48 Start: 36333, Stop: 34516, Start Num: 231

Candidate Starts for Graduation\_48:

(Start: 231 @36333 has 845 MA's), (332, 36120), (337, 36105), (378, 36027), (388, 36006), (390, 36000), (392, 35991), (425, 35874), (434, 35847), (487, 35754), (492, 35739), (509, 35706), (541, 35655), (543, 35652), (575, 35586), (589, 35556), (598, 35526), (616, 35481), (638, 35442), (700, 35262), (709, 35214), (720, 35175), (733, 35109), (742, 35070), (755, 35049), (760, 35028), (766, 35010), (786, 34944), (846, 34794), (847, 34791), (855, 34755), (868, 34731), (870, 34722), (874, 34710), (896, 34635), (906, 34614),

Gene: Grand2040\_60 Start: 54525, Stop: 52666, Start Num: 196

Candidate Starts for Grand2040\_60:

(Start: 175 @54549 has 1 MA's), (Start: 196 @54525 has 254 MA's), (Start: 221 @54501 has 2 MA's), (Start: 227 @54495 has 3 MA's), (246, 54453), (259, 54432), (307, 54318), (311, 54312), (326, 54282), (355, 54222), (366, 54201), (386, 54147), (391, 54135), (396, 54117), (398, 54105), (431, 54000), (454, 53943), (466, 53907), (471, 53895), (482, 53871), (486, 53859), (491, 53841), (499, 53823), (509, 53805), (533, 53766), (540, 53757), (542, 53754), (544, 53751), (668, 53496), (695, 53394), (701, 53361), (706, 53340), (727, 53247), (730, 53238), (744, 53175), (760, 53139), (761, 53136), (766, 53121), (790, 53043), (794, 53031), (800, 53010), (817, 52971), (851, 52881), (856, 52863), (858, 52857), (868, 52842), (875, 52818), (877, 52803), (878, 52800), (881, 52788), (890, 52764), (895, 52743), (907, 52716), (912, 52692),

Gene: GrecoEtereo\_45 Start: 34806, Stop: 32980, Start Num: 231

Candidate Starts for GrecoEtereo\_45:

(Start: 231 @34806 has 845 MA's), (332, 34593), (337, 34578), (367, 34530), (378, 34500), (388, 34479), (390, 34473), (392, 34464), (425, 34347), (434, 34320), (487, 34227), (492, 34212), (509, 34179), (541, 34128), (543, 34125), (575, 34059), (589, 34029), (598, 33999), (616, 33954), (638, 33915), (700, 33735), (709, 33687), (720, 33648), (733, 33582), (742, 33543), (755, 33522), (760, 33501), (766, 33483), (786, 33417), (846, 33267), (847, 33264), (855, 33228), (868, 33204), (870, 33195), (874, 33183), (896, 33108), (906, 33087),

Gene: GreedyLawyer\_45 Start: 29627, Stop: 27786, Start Num: 231

Candidate Starts for GreedyLawyer\_45:

(Start: 231 @29627 has 845 MA's), (329, 29423), (367, 29348), (369, 29345), (378, 29318), (384, 29303), (390, 29291), (403, 29240), (430, 29150), (434, 29138), (487, 29045), (502, 29006), (513, 28988), (524, 28973), (562, 28907), (576, 28874), (577, 28871), (619, 28769), (652, 28709), (683, 28625), (700, 28544), (719, 28460), (720, 28457), (722, 28448), (726, 28421), (733, 28391), (755, 28331), (766, 28292), (846, 28076), (847, 28073), (851, 28052), (896, 27917), (902, 27905), (906, 27896), (907, 27893), (939, 27800),

Gene: Greenlvy\_37 Start: 27580, Stop: 25715, Start Num: 267

Candidate Starts for Greenlvy\_37:

(Start: 267 @27580 has 137 MA's), (272, 27574), (316, 27475), (321, 27466), (332, 27442), (338, 27427), (342, 27421), (370, 27370), (371, 27367), (400, 27286), (453, 27136), (456, 27133), (484, 27034), (492, 27007), (494, 27004), (498, 26992), (516, 26962), (527, 26941), (551, 26905), (620, 26758), (683, 26578), (726, 26398), (733, 26368), (746, 26314), (751, 26296), (768, 26239), (775, 26212), (784, 26170), (827, 26050), (828, 26041), (847, 25981), (852, 25957), (855, 25945), (858, 25936), (863, 25918), (875, 25885), (893, 25813),

Gene: Greg\_47 Start: 35124, Stop: 33337, Start Num: 231

Candidate Starts for Greg\_47:

(Start: 231 @35124 has 845 MA's), (332, 34911), (337, 34896), (367, 34848), (378, 34818), (388, 34797), (390, 34791), (392, 34782), (425, 34665), (434, 34638), (487, 34545), (492, 34530), (509, 34497), (541, 34446), (543, 34443), (575, 34377), (589, 34347), (598, 34317), (616, 34272), (638, 34233), (700, 34053), (709, 34005), (720, 33966), (733, 33900), (758, 33828), (760, 33819), (786, 33735), (818, 33648), (868, 33522), (871, 33510), (896, 33426), (899, 33420),

Gene: Gretchen\_48 Start: 32640, Stop: 34505, Start Num: 229

Candidate Starts for Gretchen\_48:

(148, 32514), (192, 32583), (Start: 229 @32640 has 7 MA's), (378, 32937), (422, 33081), (489, 33234), (549, 33342), (562, 33369), (589, 33429), (610, 33489), (613, 33495), (643, 33552), (647, 33558), (683, 33672), (700, 33753), (714, 33816), (724, 33870), (726, 33876), (774, 34053), (780, 34071), (783, 34080), (787, 34092), (818, 34176), (856, 34284), (875, 34329), (896, 34401), (923, 34479), (934, 34500),

Gene: Greys\_39 Start: 28932, Stop: 27067, Start Num: 267

Candidate Starts for Greys\_39:

(Start: 214 @29019 has 4 MA's), (Start: 216 @29016 has 7 MA's), (Start: 267 @28932 has 137 MA's), (Start: 275 @28923 has 5 MA's), (321, 28818), (325, 28809), (338, 28779), (340, 28776), (395, 28656), (397, 28644), (400, 28638), (436, 28533), (445, 28506), (490, 28365), (494, 28356), (498, 28344), (513, 28317), (516, 28314), (525, 28299), (527, 28293), (530, 28287), (553, 28254), (634, 28065), (726, 27750), (729, 27741), (730, 27738), (733, 27720), (743, 27678), (745, 27672), (751, 27648), (768, 27591), (815, 27432), (827, 27402), (828, 27393), (847, 27333), (852, 27309), (863, 27270), (875, 27237), (876, 27225), (893, 27165),

Gene: Grif\_48 Start: 31927, Stop: 30113, Start Num: 231

Candidate Starts for Grif\_48:

(Start: 231 @31927 has 845 MA's), (248, 31888), (256, 31876), (329, 31723), (333, 31708), (367, 31651), (390, 31594), (392, 31585), (403, 31543), (415, 31492), (434, 31441), (487, 31348), (509, 31300), (513, 31291), (524, 31276), (549, 31237), (562, 31210), (575, 31180), (610, 31087), (616, 31075), (641, 31027), (652, 31012), (700, 30856), (720, 30769), (730, 30721), (733, 30703), (742, 30664), (761, 30592), (772, 30553), (780, 30529), (786, 30511), (796, 30478), (806, 30451), (834, 30397), (851, 30337), (877, 30259), (896, 30202), (902, 30190), (906, 30181),

Gene: Groundhog\_41 Start: 30507, Stop: 28663, Start Num: 231

Candidate Starts for Groundhog\_41:

(134, 30672), (Start: 231 @30507 has 845 MA's), (256, 30456), (317, 30333), (329, 30303), (350, 30264), (367, 30231), (378, 30201), (388, 30180), (390, 30174), (392, 30165), (403, 30123), (415, 30072), (433, 30024), (434, 30021), (487, 29925), (497, 29898), (505, 29880), (509, 29877), (513, 29868), (549, 29814), (562, 29787), (583, 29739), (603, 29682), (616, 29655), (643, 29604), (653, 29589), (697, 29442), (700, 29421), (708, 29391), (709, 29373), (711, 29370), (716, 29355), (720, 29334), (722, 29325), (726, 29298), (730, 29286), (733, 29268), (760, 29187), (764, 29175), (780, 29121), (792, 29085), (818, 29016), (832, 28995), (834, 28989), (847, 28950), (851, 28929), (856, 28911), (896, 28794), (902, 28782),

Gene: Groupthink\_49 Start: 31753, Stop: 29939, Start Num: 231

Candidate Starts for Groupthink\_49:

(Start: 231 @31753 has 845 MA's), (248, 31714), (256, 31702), (329, 31549), (333, 31534), (367, 31477), (390, 31420), (392, 31411), (403, 31369), (415, 31318), (434, 31267), (487, 31174), (509, 31126), (524, 31102), (549, 31063), (562, 31036), (575, 31006), (610, 30913), (616, 30901), (641, 30853), (652, 30838), (700, 30682), (711, 30631), (719, 30598), (720, 30595), (733, 30529), (742, 30490), (761, 30418), (772, 30379), (780, 30355), (786, 30337), (796, 30304), (834, 30223), (851, 30163), (856, 30145), (877, 30085), (880, 30076), (896, 30028), (902, 30016), (906, 30007),

Gene: Grub\_48 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for Grub\_48:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: Grum1\_48 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for Grum1\_48:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772, 30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Gruunaga\_45 Start: 29627, Stop: 27786, Start Num: 231

Candidate Starts for Gruunaga\_45:

(Start: 210 @29657 has 1 MA's), (Start: 231 @29627 has 845 MA's), (329, 29423), (367, 29348), (369, 29345), (378, 29318), (384, 29303), (390, 29291), (403, 29240), (430, 29150), (434, 29138), (487, 29045), (502, 29006), (513, 28988), (524, 28973), (562, 28907), (576, 28874), (577, 28871), (619, 28769), (652, 28709), (683, 28625), (700, 28544), (719, 28460), (720, 28457), (722, 28448), (726, 28421), (730, 28409), (733, 28391), (755, 28331), (766, 28292), (846, 28076), (847, 28073), (851, 28052), (896, 27917), (902, 27905), (906, 27896), (907, 27893), (939, 27800),

Gene: GtownJaz\_48 Start: 31854, Stop: 30040, Start Num: 231

Candidate Starts for GtownJaz\_48:

(Start: 231 @31854 has 845 MA's), (248, 31815), (256, 31803), (329, 31650), (333, 31635), (367, 31578), (390, 31521), (392, 31512), (403, 31470), (415, 31419), (434, 31368), (487, 31275), (509, 31227), (513, 31218), (524, 31203), (549, 31164), (562, 31137), (575, 31107), (610, 31014), (616, 31002), (641, 30954), (652, 30939), (700, 30783), (720, 30696), (730, 30648), (733, 30630), (742, 30591), (761, 30519), (772, 30480), (780, 30456), (786, 30438), (796, 30405), (806, 30378), (834, 30324), (851, 30264), (877, 30186), (896, 30129), (902, 30117), (906, 30108),

Gene: Gubbabump\_38 Start: 28612, Stop: 26747, Start Num: 267

Candidate Starts for Gubbabump\_38:

(Start: 214 @28699 has 4 MA's), (Start: 216 @28696 has 7 MA's), (Start: 267 @28612 has 137 MA's), (Start: 275 @28603 has 5 MA's), (321, 28498), (325, 28489), (338, 28459), (340, 28456), (395, 28336), (397, 28324), (400, 28318), (436, 28213), (445, 28186), (490, 28045), (492, 28039), (494, 28036), (498, 28024), (513, 27997), (516, 27994), (525, 27979), (527, 27973), (530, 27967), (553, 27934), (612, 27805), (634, 27745), (726, 27430), (729, 27421), (730, 27418), (733, 27400), (743, 27358), (745, 27352), (747, 27343), (751, 27328), (768, 27271), (815, 27112), (827, 27082), (828,

27073), (847, 27013), (852, 26989), (863, 26950), (875, 26917), (876, 26905), (893, 26845),

Gene: Guetzie\_37 Start: 28567, Stop: 26717, Start Num: 265

Candidate Starts for Guetzie\_37:

(181, 28708), (238, 28618), (Start: 265 @28567 has 17 MA's), (314, 28468), (325, 28444), (340, 28411), (393, 28300), (397, 28279), (400, 28273), (415, 28228), (417, 28222), (476, 28066), (494, 28003), (498, 27991), (516, 27961), (551, 27904), (675, 27610), (726, 27400), (729, 27391), (730, 27388), (733, 27370), (743, 27328), (768, 27241), (847, 26983), (852, 26959), (853, 26956), (862, 26926), (893, 26815),

Gene: GurgleFerb\_36 Start: 31888, Stop: 30143, Start Num: 247

Candidate Starts for GurgleFerb\_36:

(237, 31915), (Start: 247 @31888 has 6 MA's), (249, 31885), (269, 31852), (272, 31846), (311, 31753), (327, 31720), (336, 31693), (399, 31558), (437, 31429), (439, 31423), (468, 31399), (473, 31384), (486, 31357), (495, 31327), (549, 31246), (556, 31237), (581, 31177), (593, 31156), (644, 31042), (650, 31024), (743, 30646), (755, 30628), (773, 30562), (777, 30547), (855, 30328), (871, 30286), (896, 30202), (908, 30169),

Gene: Gustav\_47 Start: 36228, Stop: 33886, Start Num: 4

Candidate Starts for Gustav\_47:

(1, 36366), (Start: 4 @36228 has 5 MA's), (23, 36123), (27, 36099), (39, 36045), (50, 36018), (52, 36006), (62, 35973), (72, 35946), (87, 35904), (93, 35886), (98, 35862), (111, 35823), (118, 35808), (126, 35784), (168, 35772), (Start: 266 @35610 has 4 MA's), (292, 35577), (296, 35562), (375, 35388), (386, 35361), (389, 35355), (403, 35310), (412, 35289), (429, 35232), (431, 35226), (434, 35217), (444, 35199), (445, 35193), (466, 35136), (516, 35022), (522, 35016), (523, 35013), (542, 34983), (561, 34953), (610, 34833), (676, 34707), (681, 34689), (687, 34659), (689, 34650), (701, 34593), (717, 34536), (722, 34512), (725, 34488), (727, 34482), (744, 34410), (757, 34383), (760, 34374), (761, 34371), (766, 34356), (772, 34332), (780, 34308), (790, 34278), (794, 34266), (800, 34245), (829, 34185), (840, 34152), (844, 34137), (858, 34080), (877, 34026), (878, 34023), (886, 33999), (890, 33987), (907, 33936), (912, 33912),

Gene: Gwendoluna\_48 Start: 36544, Stop: 34718, Start Num: 231

Candidate Starts for Gwendoluna\_48:

(Start: 231 @36544 has 845 MA's), (332, 36331), (337, 36316), (367, 36268), (378, 36238), (388, 36217), (390, 36211), (392, 36202), (425, 36085), (434, 36058), (487, 35965), (492, 35950), (509, 35917), (541, 35866), (543, 35863), (575, 35797), (589, 35767), (598, 35737), (616, 35692), (638, 35653), (700, 35473), (709, 35425), (720, 35386), (733, 35320), (742, 35281), (755, 35260), (760, 35239), (766, 35221), (786, 35155), (846, 35005), (847, 35002), (855, 34966), (868, 34942), (870, 34933), (874, 34921), (896, 34846), (906, 34825),

Gene: Gwilliam\_62 Start: 54930, Stop: 53071, Start Num: 196

Candidate Starts for Gwilliam\_62:

(Start: 175 @54954 has 1 MA's), (Start: 196 @54930 has 254 MA's), (Start: 221 @54906 has 2 MA's), (Start: 227 @54900 has 3 MA's), (246, 54858), (259, 54837), (307, 54723), (311, 54717), (326, 54687), (355, 54627), (366, 54606), (386, 54552), (391, 54540), (396, 54522), (398, 54510), (431, 54405), (454, 54348), (466, 54312), (471, 54300), (483, 54273), (491, 54246), (499, 54228), (509, 54210), (533, 54171), (540, 54162), (542, 54159), (695, 53799), (701, 53766), (706, 53745), (727, 53652), (730, 53643), (744, 53580), (760, 53544), (761, 53541), (766, 53526), (790, 53448), (794, 53436), (800, 53415), (817, 53376), (851, 53286), (856, 53268), (858, 53262), (868, 53247), (875, 53223), (877, 53208), (878, 53205), (881, 53193), (890, 53169), (907, 53121), (912, 53097),

Gene: Gyarad\_0059 Start: 53612, Stop: 51753, Start Num: 196

Candidate Starts for Gyarad\_0059:

(Start: 175 @53636 has 1 MA's), (Start: 196 @53612 has 254 MA's), (Start: 221 @53588 has 2 MA's), (Start: 227 @53582 has 3 MA's), (246, 53540), (259, 53519), (307, 53405), (311, 53399), (326, 53369), (355, 53309), (366, 53288), (386, 53234), (391, 53222), (396, 53204), (398, 53192), (431, 53087), (454, 53030), (466, 52994), (471, 52982), (483, 52955), (486, 52946), (499, 52910), (533, 52853), (540, 52844), (542, 52841), (544, 52838), (695, 52481), (701, 52448), (706, 52427), (727, 52334), (730, 52325), (744, 52262), (760, 52226), (761, 52223), (766, 52208), (790, 52130), (794, 52118), (800, 52097), (817, 52058), (851, 51968), (856, 51950), (858, 51944), (868, 51929), (875, 51905), (877, 51890), (878, 51887), (881, 51875), (890, 51851), (907, 51803), (912, 51779),

Gene: Gyzlar\_41 Start: 32798, Stop: 30972, Start Num: 231

Candidate Starts for Gyzlar\_41:

(Start: 231 @32798 has 845 MA's), (332, 32585), (337, 32570), (367, 32522), (378, 32492), (388, 32471), (390, 32465), (392, 32456), (425, 32339), (434, 32312), (487, 32219), (492, 32204), (509, 32171), (541, 32120), (543, 32117), (575, 32051), (589, 32021), (598, 31991), (616, 31946), (638, 31907), (700, 31727), (709, 31679), (720, 31640), (733, 31574), (742, 31535), (755, 31514), (760, 31493), (766, 31475), (786, 31409), (846, 31259), (847, 31256), (855, 31220), (868, 31196), (870, 31187), (874, 31175), (880, 31148), (896, 31100), (906, 31079),

Gene: HINdeR\_41 Start: 32902, Stop: 31064, Start Num: 231

Candidate Starts for HINdeR\_41:

(Start: 231 @32902 has 845 MA's), (240, 32881), (291, 32791), (317, 32728), (332, 32689), (353, 32653), (390, 32569), (395, 32548), (415, 32467), (430, 32428), (434, 32416), (484, 32332), (487, 32320), (497, 32293), (505, 32275), (511, 32272), (524, 32251), (549, 32212), (592, 32119), (602, 32083), (603, 32080), (613, 32059), (653, 31987), (663, 31966), (700, 31822), (709, 31774), (716, 31756), (722, 31726), (730, 31687), (733, 31669), (742, 31630), (760, 31561), (761, 31558), (772, 31519), (786, 31477), (787, 31474), (796, 31444), (832, 31354), (834, 31348), (851, 31288), (856, 31270), (871, 31237), (877, 31210), (896, 31153), (902, 31141), (906, 31132),

Gene: HSavage\_59 Start: 54056, Stop: 52197, Start Num: 196

Candidate Starts for HSavage\_59:

(Start: 175 @54080 has 1 MA's), (Start: 196 @54056 has 254 MA's), (Start: 221 @54032 has 2 MA's), (Start: 227 @54026 has 3 MA's), (246, 53984), (259, 53963), (307, 53849), (311, 53843), (326, 53813), (355, 53753), (366, 53732), (386, 53678), (391, 53666), (396, 53648), (398, 53636), (431, 53531), (454, 53474), (466, 53438), (471, 53426), (483, 53399), (499, 53354), (533, 53297), (540, 53288), (542, 53285), (544, 53282), (668, 53027), (695, 52925), (701, 52892), (706, 52871), (727, 52778), (730, 52769), (744, 52706), (760, 52670), (761, 52667), (766, 52652), (790, 52574), (794, 52562), (800, 52541), (817, 52502), (851, 52412), (856, 52394), (858, 52388), (868, 52373), (875, 52349), (877, 52334), (878, 52331), (881, 52319), (890, 52295), (907, 52247), (912, 52223),

Gene: Haimas\_59 Start: 53973, Stop: 52114, Start Num: 196

Candidate Starts for Haimas\_59:

(Start: 175 @53997 has 1 MA's), (Start: 196 @53973 has 254 MA's), (Start: 221 @53949 has 2 MA's), (Start: 227 @53943 has 3 MA's), (246, 53901), (259, 53880), (307, 53766), (311, 53760), (326, 53730), (355, 53670), (366, 53649), (386, 53595), (391, 53583), (396, 53565), (398, 53553), (431, 53448), (454, 53391), (466, 53355), (471, 53343), (483, 53316), (491, 53289), (499, 53271), (509, 53253), (533, 53214), (540, 53205), (542, 53202), (544, 53199), (668, 52944), (695, 52842), (701, 52809), (706, 52788), (727, 52695), (730, 52686), (744, 52623), (760, 52587), (761, 52584), (766, 52569), (790, 52491), (794, 52479), (800, 52458), (817, 52419), (851, 52329), (856, 52311), (858, 52305), (868, 52290), (875, 52266), (877, 52251), (878, 52248), (881, 52236), (890, 52212), (907, 52164), (912, 52140),

Gene: Haleema\_59 Start: 54071, Stop: 52212, Start Num: 196

Candidate Starts for Haleema\_59:

(Start: 175 @54095 has 1 MA's), (Start: 196 @54071 has 254 MA's), (Start: 221 @54047 has 2 MA's), (Start: 227 @54041 has 3 MA's), (246, 53999), (259, 53978), (307, 53864), (311, 53858), (326, 53828), (355, 53768), (366, 53747), (386, 53693), (391, 53681), (396, 53663), (398, 53651), (431, 53546), (454, 53489), (466, 53453), (471, 53441), (482, 53417), (486, 53405), (491, 53387), (499, 53369), (509, 53351), (533, 53312), (540, 53303), (542, 53300), (544, 53297), (695, 52940), (701, 52907), (706, 52886), (727, 52793), (730, 52784), (744, 52721), (760, 52685), (761, 52682), (766, 52667), (790, 52589), (794, 52577), (800, 52556), (817, 52517), (851, 52427), (856, 52409), (858, 52403), (868, 52388), (875, 52364), (877, 52349), (878, 52346), (881, 52334), (890, 52310), (907, 52262), (912, 52238),

Gene: Halfpint\_57 Start: 53415, Stop: 51598, Start Num: 223

Candidate Starts for Halfpint\_57:

(123, 53598), (Start: 223 @53415 has 42 MA's), (240, 53385), (332, 53205), (395, 53052), (397, 53040), (407, 53010), (412, 53004), (431, 52941), (433, 52935), (454, 52884), (466, 52848), (486, 52800), (542, 52695), (589, 52599), (610, 52548), (681, 52404), (689, 52365), (696, 52335), (701, 52308), (704, 52296), (725, 52200), (727, 52194), (730, 52185), (732, 52173), (754, 52101), (760, 52071), (766, 52053), (768, 52044), (790, 51975), (794, 51963), (800, 51942), (834, 51873), (841, 51858), (847, 51834), (851, 51813), (856, 51795), (858, 51789), (875, 51750), (878, 51732), (881, 51720), (890, 51696), (904, 51654), (912, 51624),

Gene: Halsey\_49 Start: 27738, Stop: 29720, Start Num: 231

Candidate Starts for Halsey\_49:

(Start: 231 @27738 has 845 MA's), (317, 27912), (329, 27942), (351, 27975), (369, 28008), (395, 28083), (402, 28110), (472, 28311), (549, 28485), (613, 28641), (674, 28779), (694, 28866), (700, 28899), (708, 28929), (720, 28986), (733, 29052), (759, 29145), (851, 29412), (858, 29436), (896, 29547),

Gene: HamSlice\_44 Start: 31568, Stop: 29742, Start Num: 231

Candidate Starts for HamSlice\_44:

(Start: 231 @31568 has 845 MA's), (240, 31547), (256, 31517), (274, 31487), (350, 31325), (360, 31307), (390, 31235), (392, 31226), (426, 31106), (434, 31082), (487, 30989), (511, 30941), (524, 30920), (549, 30881), (603, 30749), (613, 30728), (638, 30683), (643, 30671), (697, 30518), (700, 30497), (726, 30374), (733, 30344), (742, 30305), (760, 30239), (761, 30236), (766, 30221), (772, 30197), (780, 30173), (851, 29966), (896, 29831), (902, 29819), (906, 29810),

Gene: Hami1\_38 Start: 29239, Stop: 27413, Start Num: 231

Candidate Starts for Hami1\_38:

(Start: 231 @29239 has 845 MA's), (332, 29026), (337, 29011), (367, 28963), (378, 28933), (388, 28912), (390, 28906), (392, 28897), (425, 28780), (434, 28753), (487, 28660), (492, 28645), (509, 28612), (541, 28561), (543, 28558), (575, 28492), (589, 28462), (598, 28432), (616, 28387), (638, 28348), (700, 28168), (708, 28138), (709, 28120), (720, 28081), (733, 28015), (760, 27934), (761, 27931), (786, 27850), (846, 27700), (847, 27697), (855, 27661), (868, 27637), (870, 27628), (874, 27616), (896, 27541), (906, 27520),

Gene: Hamish\_59 Start: 53967, Stop: 52108, Start Num: 196

Candidate Starts for Hamish\_59:

(Start: 175 @53991 has 1 MA's), (Start: 196 @53967 has 254 MA's), (Start: 221 @53943 has 2 MA's), (Start: 227 @53937 has 3 MA's), (246, 53895), (259, 53874), (307, 53760), (311, 53754), (326, 53724), (355, 53664), (366, 53643), (386, 53589), (391, 53577), (396, 53559), (398, 53547), (431, 53442), (454, 53385), (466, 53349), (471, 53337), (483, 53310), (491, 53283), (499, 53265), (509, 53247), (533, 53208), (540, 53199), (542, 53196), (544, 53193), (668, 52938), (695, 52836), (701, 52803), (706, 52782), (727, 52689), (730, 52680), (744, 52617), (760, 52581), (761, 52578), (766, 52563), (790, 52485), (794, 52473), (800, 52452), (817, 52413), (851, 52323), (856, 52305), (858,

52299), (868, 52284), (875, 52260), (877, 52245), (878, 52242), (881, 52230), (890, 52206), (907, 52158), (912, 52134),

Gene: Hamlet\_38 Start: 29064, Stop: 27199, Start Num: 267

Candidate Starts for Hamlet\_38:

(Start: 267 @29064 has 137 MA's), (Start: 275 @29055 has 5 MA's), (394, 28791), (397, 28776), (400, 28770), (445, 28638), (463, 28584), (490, 28497), (494, 28488), (498, 28476), (513, 28449), (516, 28446), (525, 28431), (527, 28425), (551, 28389), (576, 28344), (634, 28197), (675, 28095), (726, 27882), (730, 27870), (733, 27852), (743, 27810), (753, 27780), (768, 27723), (815, 27564), (827, 27534), (847, 27465), (852, 27441), (863, 27402), (876, 27357),

Gene: Hammer\_47 Start: 29790, Stop: 27991, Start Num: 231

Candidate Starts for Hammer\_47:

(Start: 231 @29790 has 845 MA's), (329, 29586), (332, 29577), (367, 29511), (369, 29508), (378, 29481), (384, 29466), (390, 29454), (403, 29403), (430, 29313), (434, 29301), (487, 29208), (509, 29160), (513, 29151), (601, 28968), (678, 28818), (700, 28713), (711, 28656), (720, 28620), (722, 28611), (726, 28584), (733, 28554), (742, 28515), (755, 28494), (764, 28461), (766, 28455), (796, 28356), (823, 28293), (846, 28239), (851, 28215), (873, 28158), (896, 28080), (902, 28068), (906, 28059), (907, 28056),

Gene: HanShotFirst\_43 Start: 33831, Stop: 32005, Start Num: 231

Candidate Starts for HanShotFirst\_43:

(Start: 231 @33831 has 845 MA's), (332, 33618), (337, 33603), (367, 33555), (378, 33525), (388, 33504), (390, 33498), (392, 33489), (425, 33372), (434, 33345), (487, 33252), (492, 33237), (509, 33204), (541, 33153), (543, 33150), (575, 33084), (589, 33054), (598, 33024), (616, 32979), (638, 32940), (700, 32760), (709, 32712), (720, 32673), (733, 32607), (742, 32568), (755, 32547), (760, 32526), (766, 32508), (786, 32442), (846, 32292), (847, 32289), (855, 32253), (868, 32229), (870, 32220), (874, 32208), (896, 32133), (906, 32112),

Gene: HanSolo\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for HanSolo\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: Hangman\_53 Start: 54053, Stop: 52230, Start Num: 182

Candidate Starts for Hangman\_53:

(Start: 169 @54071 has 3 MA's), (Start: 182 @54053 has 24 MA's), (Start: 227 @54029 has 3 MA's), (240, 54002), (246, 53987), (259, 53966), (301, 53879), (351, 53774), (366, 53747), (371, 53732), (396, 53666), (405, 53636), (407, 53627), (410, 53624), (412, 53621), (417, 53594), (454, 53501), (461, 53483), (466, 53465), (471, 53453), (483, 53426), (509, 53363), (533, 53324), (540, 53315), (542, 53312), (561, 53282), (575, 53246), (681, 53021), (682, 53018), (689, 52982), (695, 52958), (701, 52925), (725, 52817), (727, 52811), (730, 52802), (760, 52703), (761, 52700), (766, 52685), (790, 52607), (794, 52595), (800, 52574), (803, 52565), (817, 52535), (844, 52478), (851, 52445), (858, 52421), (875, 52382), (878, 52364), (881, 52352), (890, 52328), (904, 52286), (907, 52280), (912, 52256),

Gene: HankSprout\_39 Start: 28499, Stop: 26634, Start Num: 267

Candidate Starts for HankSprout\_39:



(Start: 214 @28586 has 4 MA's), (Start: 216 @28583 has 7 MA's), (Start: 267 @28499 has 137 MA's), (Start: 275 @28490 has 5 MA's), (321, 28385), (325, 28376), (338, 28346), (340, 28343), (395, 28223), (397, 28211), (400, 28205), (436, 28100), (445, 28073), (490, 27932), (492, 27926), (494, 27923), (498, 27911), (513, 27884), (516, 27881), (525, 27866), (527, 27860), (530, 27854), (553, 27821), (612, 27692), (634, 27632), (726, 27317), (729, 27308), (730, 27305), (733, 27287), (743, 27245), (745, 27239), (747, 27230), (751, 27215), (768, 27158), (815, 26999), (827, 26969), (828, 26960), (847, 26900), (852, 26876), (863, 26837), (875, 26804), (876, 26792), (893, 26732),

Gene: Happiness\_44 Start: 31575, Stop: 29749, Start Num: 231

Candidate Starts for Happiness\_44:

(Start: 231 @31575 has 845 MA's), (240, 31554), (256, 31524), (274, 31494), (350, 31332), (360, 31314), (390, 31242), (392, 31233), (426, 31113), (434, 31089), (487, 30996), (511, 30948), (524, 30927), (549, 30888), (603, 30756), (613, 30735), (638, 30690), (643, 30678), (697, 30525), (700, 30504), (726, 30381), (733, 30351), (742, 30312), (760, 30246), (761, 30243), (766, 30228), (772, 30204), (780, 30180), (851, 29973), (896, 29838), (902, 29826), (906, 29817),

Gene: Harlequin\_36 Start: 28118, Stop: 26334, Start Num: 231

Candidate Starts for Harlequin\_36:

(Start: 231 @28118 has 845 MA's), (345, 27884), (363, 27854), (366, 27845), (367, 27842), (384, 27797), (390, 27785), (403, 27734), (434, 27632), (450, 27611), (487, 27539), (509, 27491), (549, 27428), (562, 27401), (603, 27296), (616, 27269), (638, 27230), (700, 27050), (709, 27002), (733, 26897), (734, 26894), (755, 26837), (760, 26816), (798, 26693), (832, 26624), (846, 26582), (851, 26558), (877, 26480), (896, 26423), (902, 26411), (917, 26354),

Gene: HarryHoudini\_45 Start: 31805, Stop: 30018, Start Num: 231

Candidate Starts for HarryHoudini\_45:

(Start: 231 @31805 has 845 MA's), (329, 31601), (330, 31598), (332, 31592), (350, 31562), (367, 31529), (369, 31526), (378, 31499), (390, 31472), (395, 31451), (403, 31421), (434, 31319), (487, 31226), (509, 31178), (513, 31169), (524, 31154), (562, 31088), (595, 31007), (613, 30959), (683, 30815), (700, 30734), (711, 30683), (719, 30650), (733, 30581), (742, 30542), (755, 30521), (760, 30500), (764, 30488), (832, 30308), (834, 30302), (846, 30266), (851, 30242), (877, 30164), (896, 30107), (902, 30095),

Gene: HarryOW\_43 Start: 33978, Stop: 32152, Start Num: 231

Candidate Starts for HarryOW\_43:

(Start: 231 @33978 has 845 MA's), (332, 33765), (337, 33750), (367, 33702), (378, 33672), (388, 33651), (390, 33645), (392, 33636), (425, 33519), (434, 33492), (487, 33399), (492, 33384), (509, 33351), (541, 33300), (543, 33297), (575, 33231), (589, 33201), (598, 33171), (616, 33126), (638, 33087), (700, 32907), (709, 32859), (720, 32820), (733, 32754), (742, 32715), (755, 32694), (760, 32673), (766, 32655), (786, 32589), (846, 32439), (847, 32436), (855, 32400), (868, 32376), (870, 32367), (874, 32355), (896, 32280), (906, 32259),

Gene: Hartsy\_61 Start: 54405, Stop: 52546, Start Num: 196

Candidate Starts for Hartsy\_61:

(Start: 175 @54429 has 1 MA's), (Start: 196 @54405 has 254 MA's), (Start: 221 @54381 has 2 MA's), (Start: 227 @54375 has 3 MA's), (246, 54333), (259, 54312), (307, 54198), (311, 54192), (326, 54162), (355, 54102), (366, 54081), (386, 54027), (391, 54015), (396, 53997), (398, 53985), (431, 53880), (454, 53823), (466, 53787), (471, 53775), (482, 53751), (486, 53739), (491, 53721), (499, 53703), (509, 53685), (533, 53646), (540, 53637), (542, 53634), (544, 53631), (695, 53274), (701, 53241), (706, 53220), (727, 53127), (730, 53118), (744, 53055), (760, 53019), (761, 53016), (766, 53001), (790, 52923), (794, 52911), (800, 52890), (817, 52851), (851, 52761), (856, 52743), (858, 52737), (868, 52722), (875, 52698), (877, 52683), (878, 52680), (881, 52668), (890, 52644), (907, 52596), (912, 52572),

Gene: Harvey\_59 Start: 54060, Stop: 52201, Start Num: 196

Candidate Starts for Harvey\_59:

(Start: 175 @54084 has 1 MA's), (Start: 196 @54060 has 254 MA's), (Start: 221 @54036 has 2 MA's), (Start: 227 @54030 has 3 MA's), (246, 53988), (259, 53967), (307, 53853), (311, 53847), (326, 53817), (355, 53757), (366, 53736), (386, 53682), (391, 53670), (396, 53652), (398, 53640), (431, 53535), (454, 53478), (466, 53442), (471, 53430), (483, 53403), (491, 53376), (499, 53358), (509, 53340), (533, 53301), (540, 53292), (542, 53289), (668, 53031), (695, 52929), (701, 52896), (706, 52875), (727, 52782), (730, 52773), (744, 52710), (761, 52671), (766, 52656), (790, 52578), (794, 52566), (800, 52545), (817, 52506), (851, 52416), (856, 52398), (858, 52392), (868, 52377), (875, 52353), (877, 52338), (878, 52335), (881, 52323), (890, 52299), (907, 52251), (912, 52227),

Gene: HarveySr\_57 Start: 53268, Stop: 51448, Start Num: 221

Candidate Starts for HarveySr\_57:

(123, 53448), (Start: 221 @53268 has 2 MA's), (240, 53235), (332, 53055), (379, 52950), (395, 52902), (397, 52890), (407, 52860), (412, 52854), (431, 52791), (433, 52785), (454, 52734), (464, 52707), (466, 52698), (486, 52650), (542, 52545), (589, 52449), (610, 52398), (681, 52254), (689, 52215), (696, 52185), (701, 52158), (704, 52146), (725, 52050), (727, 52044), (730, 52035), (732, 52023), (754, 51951), (760, 51921), (766, 51903), (768, 51894), (790, 51825), (794, 51813), (800, 51792), (834, 51723), (841, 51708), (847, 51684), (856, 51645), (858, 51639), (873, 51606), (875, 51600), (878, 51582), (881, 51570), (886, 51558), (890, 51546), (912, 51474),

Gene: HashRod\_49 Start: 31884, Stop: 30070, Start Num: 231

Candidate Starts for HashRod\_49:

(Start: 231 @31884 has 845 MA's), (248, 31845), (256, 31833), (329, 31680), (333, 31665), (367, 31608), (390, 31551), (392, 31542), (403, 31500), (415, 31449), (434, 31398), (472, 31344), (487, 31305), (509, 31257), (524, 31233), (549, 31194), (562, 31167), (575, 31137), (610, 31044), (616, 31032), (641, 30984), (652, 30969), (700, 30813), (711, 30762), (719, 30729), (720, 30726), (733, 30660), (742, 30621), (761, 30549), (772, 30510), (780, 30486), (786, 30468), (796, 30435), (834, 30354), (851, 30294), (880, 30207), (896, 30159), (902, 30147), (906, 30138), (907, 30135),

Gene: Hashim76\_62 Start: 54527, Stop: 52683, Start Num: 216

Candidate Starts for Hashim76\_62:

(Start: 216 @54527 has 7 MA's), (246, 54470), (264, 54443), (311, 54341), (355, 54254), (367, 54230), (377, 54200), (386, 54179), (395, 54155), (398, 54140), (405, 54122), (431, 54035), (466, 53942), (471, 53930), (486, 53894), (542, 53789), (610, 53642), (645, 53558), (648, 53552), (681, 53492), (682, 53489), (689, 53453), (695, 53429), (701, 53396), (725, 53288), (727, 53282), (730, 53273), (760, 53159), (766, 53141), (790, 53063), (794, 53051), (800, 53030), (834, 52961), (841, 52946), (851, 52901), (858, 52877), (875, 52838), (877, 52823), (881, 52808), (890, 52784), (904, 52739), (912, 52709),

Gene: Hasitha\_37 Start: 27003, Stop: 25138, Start Num: 267

Candidate Starts for Hasitha\_37:

(Start: 267 @27003 has 137 MA's), (272, 26997), (316, 26898), (321, 26889), (332, 26865), (338, 26850), (342, 26844), (370, 26793), (371, 26790), (400, 26709), (420, 26649), (453, 26559), (456, 26556), (484, 26457), (492, 26430), (494, 26427), (498, 26415), (516, 26385), (527, 26364), (551, 26328), (620, 26181), (660, 26079), (683, 26001), (726, 25821), (733, 25791), (746, 25737), (751, 25719), (768, 25662), (775, 25635), (784, 25593), (796, 25554), (827, 25473), (828, 25464), (847, 25404), (852, 25380), (855, 25368), (858, 25359), (863, 25341), (875, 25308), (893, 25236),

Gene: HaveUMetTed\_49 Start: 31735, Stop: 29921, Start Num: 231

Candidate Starts for HaveUMetTed\_49:

(Start: 231 @31735 has 845 MA's), (248, 31696), (256, 31684), (329, 31531), (333, 31516), (367, 31459), (390, 31402), (392, 31393), (403, 31351), (415, 31300), (434, 31249), (487, 31156), (509, 31108), (524, 31084), (549, 31045), (562, 31018), (575, 30988), (610, 30895), (616, 30883), (641, 30835), (652, 30820), (700, 30664), (711, 30613), (719, 30580), (720, 30577), (733, 30511), (742, 30472), (761, 30400), (772, 30361), (780, 30337), (786, 30319), (796, 30286), (834, 30205), (851, 30145), (856, 30127), (877, 30067), (880, 30058), (896, 30010), (902, 29998), (906, 29989),

Gene: Heath\_52 Start: 53664, Stop: 51841, Start Num: 182

Candidate Starts for Heath\_52:

(Start: 169 @53682 has 3 MA's), (Start: 182 @53664 has 24 MA's), (Start: 227 @53640 has 3 MA's), (240, 53613), (246, 53598), (259, 53577), (301, 53490), (351, 53385), (371, 53343), (396, 53277), (405, 53247), (407, 53238), (410, 53235), (412, 53232), (454, 53112), (461, 53094), (466, 53076), (471, 53064), (480, 53049), (483, 53037), (540, 52926), (542, 52923), (561, 52893), (575, 52857), (681, 52632), (682, 52629), (689, 52593), (695, 52569), (701, 52536), (725, 52428), (727, 52422), (730, 52413), (760, 52314), (761, 52311), (766, 52296), (790, 52218), (794, 52206), (800, 52185), (803, 52176), (817, 52146), (844, 52089), (851, 52056), (856, 52038), (858, 52032), (875, 51993), (878, 51975), (881, 51963), (890, 51939), (904, 51897), (907, 51891), (912, 51867),

Gene: Heathcliff\_58 Start: 53642, Stop: 51825, Start Num: 223

Candidate Starts for Heathcliff\_58:

(123, 53825), (Start: 223 @53642 has 42 MA's), (240, 53612), (332, 53432), (395, 53279), (397, 53267), (407, 53237), (412, 53231), (431, 53168), (433, 53162), (454, 53111), (466, 53075), (486, 53027), (542, 52922), (589, 52826), (610, 52775), (681, 52631), (689, 52592), (696, 52562), (701, 52535), (704, 52523), (725, 52427), (727, 52421), (730, 52412), (732, 52400), (754, 52328), (760, 52298), (766, 52280), (768, 52271), (790, 52202), (794, 52190), (800, 52169), (834, 52100), (841, 52085), (847, 52061), (851, 52040), (858, 52016), (875, 51977), (878, 51959), (881, 51947), (886, 51935), (890, 51923), (904, 51881), (912, 51851),

Gene: Heathen\_45 Start: 31183, Stop: 29345, Start Num: 231

Candidate Starts for Heathen\_45:

(Start: 182 @31255 has 24 MA's), (Start: 231 @31183 has 845 MA's), (256, 31132), (329, 30979), (363, 30919), (367, 30907), (390, 30850), (392, 30841), (395, 30829), (426, 30721), (434, 30697), (487, 30601), (511, 30553), (549, 30493), (577, 30430), (603, 30361), (613, 30340), (652, 30271), (656, 30265), (673, 30226), (700, 30103), (720, 30016), (726, 29980), (733, 29950), (739, 29920), (761, 29839), (772, 29800), (780, 29776), (786, 29758), (834, 29629), (851, 29569), (896, 29434), (902, 29422), (906, 29413),

Gene: Heather\_37 Start: 27927, Stop: 29858, Start Num: 231

Candidate Starts for Heather\_37:

(Start: 231 @27927 has 845 MA's), (240, 27948), (274, 28008), (329, 28137), (355, 28185), (360, 28194), (378, 28239), (478, 28476), (484, 28497), (489, 28515), (517, 28572), (524, 28587), (541, 28614), (549, 28626), (552, 28629), (560, 28644), (613, 28779), (638, 28824), (688, 28977), (700, 29037), (709, 29085), (714, 29100), (720, 29124), (724, 29154), (731, 29181), (733, 29190), (739, 29220), (746, 29244), (783, 29364), (820, 29463), (844, 29517), (851, 29550), (852, 29553), (855, 29565), (856, 29568), (858, 29574), (871, 29601), (896, 29685), (902, 29697), (921, 29760),

Gene: Hedgerow\_57 Start: 52616, Stop: 50787, Start Num: 188

Candidate Starts for Hedgerow\_57:

(Start: 188 @52616 has 31 MA's), (Start: 227 @52589 has 3 MA's), (242, 52559), (246, 52547), (264, 52520), (Start: 266 @52517 has 4 MA's), (274, 52508), (291, 52490), (330, 52394), (355, 52343), (367, 52319), (417, 52157), (427, 52133), (431, 52121), (454, 52064), (466, 52028), (471, 52016), (482, 51992), (522, 51908), (540, 51878), (542, 51875), (561, 51845), (624, 51701), (652, 51635), (678, 51596), (681, 51584), (684, 51563), (689, 51545), (701, 51488), (717, 51431), (722, 51404),

(727, 51374), (730, 51365), (744, 51299), (758, 51272), (760, 51263), (766, 51245), (772, 51221), (790, 51167), (794, 51155), (800, 51134), (834, 51065), (851, 51005), (856, 50987), (871, 50954), (875, 50942), (877, 50927), (878, 50924), (881, 50912), (890, 50888), (891, 50885), (907, 50837), (908, 50834), (912, 50813), (917, 50792),

Gene: Heffalump\_43 Start: 31940, Stop: 30153, Start Num: 231

Candidate Starts for Heffalump\_43:

(53, 32318), (115, 32129), (129, 32090), (Start: 231 @31940 has 845 MA's), (329, 31736), (330, 31733), (332, 31727), (337, 31712), (350, 31697), (367, 31664), (369, 31661), (378, 31634), (390, 31607), (395, 31586), (434, 31454), (487, 31361), (501, 31325), (509, 31313), (513, 31304), (524, 31289), (562, 31223), (595, 31142), (613, 31094), (616, 31088), (652, 31025), (700, 30869), (711, 30818), (719, 30785), (720, 30782), (733, 30716), (742, 30677), (755, 30656), (775, 30581), (780, 30569), (823, 30455), (834, 30437), (844, 30410), (846, 30401), (851, 30377), (877, 30299), (896, 30242), (902, 30230), (906, 30221),

Gene: HelDan\_45 Start: 31435, Stop: 29597, Start Num: 231

Candidate Starts for HelDan\_45:

(Start: 182 @31507 has 24 MA's), (Start: 231 @31435 has 845 MA's), (256, 31384), (329, 31231), (363, 31171), (367, 31159), (390, 31102), (392, 31093), (395, 31081), (426, 30973), (434, 30949), (487, 30853), (511, 30805), (549, 30745), (577, 30682), (603, 30613), (613, 30592), (652, 30523), (656, 30517), (673, 30478), (700, 30355), (720, 30268), (726, 30232), (733, 30202), (739, 30172), (761, 30091), (772, 30052), (780, 30028), (786, 30010), (834, 29881), (851, 29821), (896, 29686), (902, 29674), (906, 29665),

Gene: Held\_60 Start: 54034, Stop: 52175, Start Num: 196

Candidate Starts for Held\_60:

(Start: 175 @54058 has 1 MA's), (Start: 196 @54034 has 254 MA's), (Start: 221 @54010 has 2 MA's), (Start: 227 @54004 has 3 MA's), (246, 53962), (259, 53941), (307, 53827), (311, 53821), (326, 53791), (355, 53731), (366, 53710), (386, 53656), (391, 53644), (396, 53626), (398, 53614), (431, 53509), (454, 53452), (466, 53416), (471, 53404), (483, 53377), (499, 53332), (533, 53275), (540, 53266), (542, 53263), (695, 52903), (701, 52870), (706, 52849), (727, 52756), (730, 52747), (744, 52684), (760, 52648), (761, 52645), (766, 52630), (790, 52552), (794, 52540), (800, 52519), (817, 52480), (851, 52390), (856, 52372), (858, 52366), (868, 52351), (875, 52327), (877, 52312), (878, 52309), (881, 52297), (890, 52273), (907, 52225), (912, 52201),

Gene: Heliosoles\_47 Start: 31756, Stop: 29942, Start Num: 231

Candidate Starts for Heliosoles\_47:

(Start: 231 @31756 has 845 MA's), (248, 31717), (256, 31705), (329, 31552), (333, 31537), (367, 31480), (390, 31423), (392, 31414), (403, 31372), (415, 31321), (434, 31270), (487, 31177), (509, 31129), (524, 31105), (549, 31066), (562, 31039), (575, 31009), (610, 30916), (616, 30904), (641, 30856), (652, 30841), (700, 30685), (711, 30634), (719, 30601), (720, 30598), (733, 30532), (742, 30493), (761, 30421), (772, 30382), (780, 30358), (786, 30340), (796, 30307), (834, 30226), (851, 30166), (856, 30148), (877, 30088), (880, 30079), (896, 30031), (902, 30019), (906, 30010),

Gene: Helmet\_47 Start: 29791, Stop: 27950, Start Num: 231

Candidate Starts for Helmet\_47:

(Start: 231 @29791 has 845 MA's), (329, 29587), (367, 29512), (369, 29509), (378, 29482), (384, 29467), (390, 29455), (403, 29404), (430, 29314), (434, 29302), (487, 29209), (502, 29170), (513, 29152), (524, 29137), (562, 29071), (576, 29038), (577, 29035), (619, 28933), (652, 28873), (683, 28789), (700, 28708), (719, 28624), (720, 28621), (722, 28612), (726, 28585), (733, 28555), (755, 28495), (766, 28456), (846, 28240), (847, 28237), (851, 28216), (896, 28081), (902, 28069), (906, 28060), (907, 28057), (939, 27964),

Gene: Hendrix\_88 Start: 57216, Stop: 59255, Start Num: 197

Candidate Starts for Hendrix\_88:

(Start: 197 @57216 has 4 MA's), (Start: 232 @57273 has 1 MA's), (259, 57330), (277, 57357), (296, 57408), (346, 57528), (365, 57564), (374, 57594), (428, 57762), (467, 57876), (479, 57915), (498, 57972), (504, 57981), (513, 57999), (571, 58107), (580, 58122), (584, 58128), (600, 58161), (616, 58194), (632, 58239), (659, 58311), (689, 58416), (690, 58419), (715, 58488), (726, 58545), (733, 58575), (768, 58710), (784, 58779), (796, 58818), (815, 58869), (825, 58890), (844, 58956), (847, 58968), (851, 58989), (852, 58992), (854, 58998), (859, 59016), (867, 59043), (875, 59070), (878, 59088), (893, 59142), (902, 59172), (912, 59214), (924, 59250),

Gene: HenryJackson\_60 Start: 54560, Stop: 52701, Start Num: 196

Candidate Starts for HenryJackson\_60:

(Start: 175 @54584 has 1 MA's), (Start: 196 @54560 has 254 MA's), (Start: 221 @54536 has 2 MA's), (Start: 227 @54530 has 3 MA's), (246, 54488), (259, 54467), (307, 54353), (311, 54347), (326, 54317), (355, 54257), (366, 54236), (386, 54182), (391, 54170), (396, 54152), (398, 54140), (431, 54035), (454, 53978), (466, 53942), (471, 53930), (483, 53903), (491, 53876), (499, 53858), (509, 53840), (533, 53801), (540, 53792), (542, 53789), (668, 53531), (695, 53429), (701, 53396), (706, 53375), (727, 53282), (730, 53273), (744, 53210), (760, 53174), (761, 53171), (766, 53156), (790, 53078), (794, 53066), (800, 53045), (817, 53006), (851, 52916), (856, 52898), (858, 52892), (868, 52877), (875, 52853), (877, 52838), (878, 52835), (881, 52823), (890, 52799), (895, 52778), (907, 52751), (912, 52727),

Gene: Herbertwm\_42 Start: 30692, Stop: 28857, Start Num: 231

Candidate Starts for Herbertwm\_42:

(Start: 231 @30692 has 845 MA's), (329, 30488), (330, 30485), (369, 30410), (378, 30383), (384, 30368), (390, 30356), (395, 30335), (434, 30203), (487, 30110), (513, 30053), (599, 29882), (683, 29693), (700, 29612), (711, 29561), (720, 29525), (726, 29489), (733, 29459), (742, 29420), (755, 29399), (760, 29378), (796, 29261), (806, 29234), (823, 29198), (834, 29180), (846, 29144), (847, 29141), (851, 29120), (877, 29042), (896, 28985), (906, 28964), (941, 28865),

Gene: Hercules11\_48 Start: 31861, Stop: 30047, Start Num: 231

Candidate Starts for Hercules11\_48:

(Start: 231 @31861 has 845 MA's), (248, 31822), (256, 31810), (329, 31657), (333, 31642), (367, 31585), (390, 31528), (392, 31519), (403, 31477), (415, 31426), (434, 31375), (487, 31282), (509, 31234), (513, 31225), (524, 31210), (549, 31171), (562, 31144), (575, 31114), (610, 31021), (641, 30961), (652, 30946), (700, 30790), (720, 30703), (733, 30637), (742, 30598), (761, 30526), (772, 30487), (780, 30463), (786, 30445), (796, 30412), (806, 30385), (834, 30331), (851, 30271), (877, 30193), (896, 30136), (902, 30124), (906, 30115),

Gene: HerculesXL\_37 Start: 27313, Stop: 25415, Start Num: 265

Candidate Starts for HerculesXL\_37:

(6, 28051), (8, 28045), (54, 27790), (238, 27364), (Start: 265 @27313 has 17 MA's), (295, 27250), (321, 27199), (338, 27160), (370, 27103), (393, 27046), (395, 27037), (397, 27025), (400, 27019), (417, 26968), (430, 26929), (456, 26866), (467, 26821), (490, 26746), (494, 26737), (498, 26725), (516, 26695), (527, 26674), (534, 26662), (551, 26638), (622, 26488), (699, 26227), (722, 26125), (724, 26104), (733, 26068), (741, 26032), (743, 26026), (768, 25939), (775, 25912), (815, 25780), (828, 25741), (836, 25720), (847, 25681), (852, 25657), (854, 25651), (862, 25624), (893, 25513),

Gene: Hermia\_46 Start: 35549, Stop: 33723, Start Num: 231

Candidate Starts for Hermia\_46:

(Start: 231 @35549 has 845 MA's), (332, 35336), (337, 35321), (378, 35243), (388, 35222), (390, 35216), (392, 35207), (425, 35090), (434, 35063), (487, 34970), (492, 34955), (541, 34871), (543, 34868), (575, 34802), (598, 34742), (616, 34697), (638, 34658), (700, 34478), (709, 34430), (720,

34391), (733, 34325), (742, 34286), (755, 34265), (760, 34244), (766, 34226), (786, 34160), (844, 34019), (846, 34010), (847, 34007), (855, 33971), (868, 33947), (870, 33938), (874, 33926), (896, 33851), (906, 33830),

Gene: HermioneGrange\_44 Start: 34683, Stop: 32854, Start Num: 231

Candidate Starts for HermioneGrange\_44:

(Start: 231 @34683 has 845 MA's), (332, 34470), (337, 34455), (367, 34407), (378, 34377), (388, 34356), (390, 34350), (392, 34341), (425, 34224), (434, 34197), (487, 34104), (492, 34089), (541, 34005), (543, 34002), (575, 33936), (589, 33906), (598, 33876), (616, 33831), (638, 33792), (700, 33612), (709, 33564), (722, 33516), (730, 33477), (733, 33459), (742, 33420), (755, 33399), (760, 33378), (803, 33240), (871, 33069), (876, 33045), (889, 33012), (893, 32997), (896, 32985), (906, 32964), (908, 32958), (921, 32910), (928, 32895),

Gene: Hertubise\_60 Start: 54326, Stop: 52467, Start Num: 196

Candidate Starts for Hertubise\_60:

(Start: 175 @54350 has 1 MA's), (Start: 196 @54326 has 254 MA's), (Start: 221 @54302 has 2 MA's), (Start: 227 @54296 has 3 MA's), (246, 54254), (259, 54233), (307, 54119), (311, 54113), (326, 54083), (355, 54023), (366, 54002), (386, 53948), (391, 53936), (396, 53918), (398, 53906), (431, 53801), (454, 53744), (466, 53708), (471, 53696), (483, 53669), (491, 53642), (499, 53624), (509, 53606), (533, 53567), (540, 53558), (542, 53555), (668, 53297), (695, 53195), (701, 53162), (706, 53141), (727, 53048), (730, 53039), (744, 52976), (760, 52940), (761, 52937), (766, 52922), (790, 52844), (794, 52832), (800, 52811), (817, 52772), (851, 52682), (856, 52664), (858, 52658), (868, 52643), (875, 52619), (877, 52604), (878, 52601), (881, 52589), (890, 52565), (907, 52517), (912, 52493),

Gene: Hetaeria\_60 Start: 54265, Stop: 52406, Start Num: 196

Candidate Starts for Hetaeria\_60:

(Start: 175 @54289 has 1 MA's), (Start: 196 @54265 has 254 MA's), (Start: 221 @54241 has 2 MA's), (Start: 227 @54235 has 3 MA's), (246, 54193), (259, 54172), (307, 54058), (311, 54052), (326, 54022), (355, 53962), (366, 53941), (386, 53887), (391, 53875), (396, 53857), (398, 53845), (431, 53740), (454, 53683), (466, 53647), (471, 53635), (482, 53611), (486, 53599), (491, 53581), (499, 53563), (509, 53545), (533, 53506), (540, 53497), (542, 53494), (544, 53491), (695, 53134), (701, 53101), (706, 53080), (727, 52987), (730, 52978), (744, 52915), (760, 52879), (761, 52876), (766, 52861), (790, 52783), (794, 52771), (800, 52750), (817, 52711), (851, 52621), (856, 52603), (858, 52597), (868, 52582), (875, 52558), (877, 52543), (878, 52540), (881, 52528), (890, 52504), (907, 52456), (912, 52432),

Gene: Hexamo\_45 Start: 29412, Stop: 27571, Start Num: 231

Candidate Starts for Hexamo\_45:

(Start: 210 @29442 has 1 MA's), (Start: 231 @29412 has 845 MA's), (329, 29208), (367, 29133), (369, 29130), (378, 29103), (384, 29088), (390, 29076), (403, 29025), (430, 28935), (434, 28923), (487, 28830), (502, 28791), (513, 28773), (524, 28758), (562, 28692), (576, 28659), (577, 28656), (619, 28554), (652, 28494), (683, 28410), (700, 28329), (719, 28245), (720, 28242), (722, 28233), (726, 28206), (733, 28176), (755, 28116), (766, 28077), (846, 27861), (847, 27858), (851, 27837), (896, 27702), (902, 27690), (906, 27681), (907, 27678), (939, 27585),

Gene: Hexbug\_51 Start: 35224, Stop: 32828, Start Num: 41

Candidate Starts for Hexbug\_51:

(14, 35353), (17, 35344), (Start: 41 @35224 has 23 MA's), (85, 35092), (91, 35080), (104, 35035), (127, 34972), (135, 34951), (166, 34918), (201, 34861), (235, 34813), (241, 34798), (Start: 267 @34750 has 137 MA's), (303, 34675), (306, 34669), (308, 34663), (312, 34657), (337, 34588), (352, 34564), (365, 34540), (393, 34465), (397, 34444), (414, 34396), (418, 34384), (434, 34339), (488, 34183), (490, 34177), (576, 34048), (603, 34000), (608, 33988), (640, 33916), (660, 33874), (690,

33763), (698, 33721), (703, 33697), (705, 33688), (714, 33646), (733, 33553), (741, 33517), (743, 33511), (745, 33505), (746, 33499), (761, 33442), (768, 33418), (773, 33400), (797, 33307), (825, 33238), (836, 33199), (847, 33160), (851, 33139), (861, 33106), (868, 33088), (893, 32992), (901, 32968), (911, 32929), (934, 32860),

Gene: Heylee\_53 Start: 36664, Stop: 34496, Start Num: 209

Candidate Starts for Heylee\_53:

(207, 36667), (Start: 209 @36664 has 11 MA's), (240, 36610), (286, 36526), (337, 36373), (343, 36364), (367, 36319), (393, 36241), (395, 36232), (398, 36217), (403, 36202), (404, 36199), (417, 36142), (446, 36049), (458, 36007), (506, 35812), (514, 35800), (521, 35794), (531, 35770), (545, 35749), (559, 35728), (564, 35713), (566, 35707), (592, 35644), (607, 35593), (638, 35506), (670, 35446), (683, 35398), (707, 35296), (708, 35290), (713, 35263), (714, 35260), (719, 35239), (727, 35197), (729, 35191), (734, 35167), (740, 35125), (741, 35122), (748, 35095), (756, 35062), (759, 35050), (769, 35014), (775, 34990), (777, 34984), (780, 34978), (797, 34924), (817, 34876), (818, 34873), (840, 34813), (846, 34789), (853, 34759), (872, 34705), (875, 34696), (890, 34636), (893, 34624), (907, 34585),

Gene: HighStump\_62 Start: 54537, Stop: 52678, Start Num: 196

Candidate Starts for HighStump\_62:

(Start: 175 @54561 has 1 MA's), (Start: 196 @54537 has 254 MA's), (Start: 221 @54513 has 2 MA's), (Start: 227 @54507 has 3 MA's), (246, 54465), (259, 54444), (307, 54330), (311, 54324), (326, 54294), (355, 54234), (366, 54213), (386, 54159), (391, 54147), (396, 54129), (431, 54012), (454, 53955), (466, 53919), (471, 53907), (483, 53880), (491, 53853), (499, 53835), (509, 53817), (533, 53778), (540, 53769), (542, 53766), (695, 53406), (701, 53373), (706, 53352), (727, 53259), (730, 53250), (744, 53187), (761, 53148), (766, 53133), (790, 53055), (794, 53043), (800, 53022), (817, 52983), (847, 52914), (851, 52893), (856, 52875), (858, 52869), (868, 52854), (875, 52830), (877, 52815), (878, 52812), (881, 52800), (890, 52776), (907, 52728), (912, 52704),

Gene: HippoPololi\_40 Start: 31759, Stop: 29405, Start Num: 40

Candidate Starts for HippoPololi\_40:

(31, 31786), (Start: 40 @31759 has 1 MA's), (48, 31744), (55, 31708), (127, 31513), (258, 31306), (280, 31276), (303, 31219), (321, 31183), (329, 31168), (349, 31126), (352, 31120), (365, 31096), (384, 31042), (397, 31000), (469, 30802), (485, 30760), (490, 30742), (567, 30622), (622, 30529), (627, 30520), (640, 30484), (660, 30445), (664, 30433), (698, 30292), (708, 30250), (733, 30130), (741, 30094), (743, 30088), (745, 30082), (746, 30076), (753, 30052), (761, 30019), (768, 29995), (777, 29950), (797, 29884), (836, 29776), (854, 29707), (857, 29695), (865, 29671), (886, 29593), (890, 29581), (893, 29569), (901, 29545), (908, 29524), (912, 29500), (926, 29455), (934, 29437),

Gene: Hiro\_36 Start: 28373, Stop: 26589, Start Num: 231

Candidate Starts for Hiro\_36:

(Start: 231 @28373 has 845 MA's), (345, 28139), (363, 28109), (366, 28100), (367, 28097), (384, 28052), (390, 28040), (392, 28031), (403, 27989), (434, 27887), (450, 27866), (487, 27794), (505, 27749), (509, 27746), (535, 27704), (539, 27698), (549, 27683), (562, 27656), (603, 27551), (616, 27524), (638, 27485), (700, 27305), (709, 27257), (733, 27152), (734, 27149), (755, 27092), (760, 27071), (774, 27023), (798, 26948), (832, 26879), (846, 26837), (851, 26813), (877, 26735), (896, 26678), (902, 26666), (917, 26609),

Gene: Hocus\_60 Start: 54021, Stop: 52162, Start Num: 196

Candidate Starts for Hocus\_60:

(Start: 175 @54045 has 1 MA's), (Start: 196 @54021 has 254 MA's), (Start: 221 @53997 has 2 MA's), (Start: 227 @53991 has 3 MA's), (246, 53949), (259, 53928), (307, 53814), (311, 53808), (326, 53778), (355, 53718), (366, 53697), (386, 53643), (391, 53631), (396, 53613), (398, 53601), (431, 53496), (454, 53439), (466, 53403), (471, 53391), (483, 53364), (499, 53319), (533, 53262), (540,

53253), (542, 53250), (695, 52890), (701, 52857), (706, 52836), (727, 52743), (730, 52734), (744, 52671), (760, 52635), (761, 52632), (766, 52617), (790, 52539), (794, 52527), (800, 52506), (817, 52467), (851, 52377), (856, 52359), (858, 52353), (868, 52338), (875, 52314), (877, 52299), (878, 52296), (881, 52284), (890, 52260), (907, 52212), (912, 52188),

Gene: Holeinone\_57 Start: 52455, Stop: 50626, Start Num: 188

Candidate Starts for Holeinone\_57:

(Start: 188 @52455 has 31 MA's), (Start: 227 @52428 has 3 MA's), (242, 52398), (246, 52386), (264, 52359), (Start: 266 @52356 has 4 MA's), (274, 52347), (291, 52329), (330, 52233), (355, 52182), (367, 52158), (417, 51996), (424, 51981), (427, 51972), (431, 51960), (454, 51903), (466, 51867), (471, 51855), (482, 51831), (522, 51747), (540, 51717), (542, 51714), (561, 51684), (624, 51540), (652, 51474), (681, 51423), (684, 51402), (689, 51384), (701, 51327), (722, 51243), (727, 51213), (730, 51204), (744, 51138), (758, 51111), (760, 51102), (766, 51084), (772, 51060), (790, 51006), (794, 50994), (800, 50973), (834, 50904), (851, 50844), (856, 50826), (871, 50793), (875, 50781), (877, 50766), (878, 50763), (881, 50751), (890, 50727), (891, 50724), (907, 50676), (908, 50673), (912, 50652), (917, 50631),

Gene: Holli\_44 Start: 31360, Stop: 29534, Start Num: 231

Candidate Starts for Holli\_44:

(Start: 231 @31360 has 845 MA's), (240, 31339), (256, 31309), (274, 31279), (350, 31117), (360, 31099), (390, 31027), (392, 31018), (426, 30898), (434, 30874), (487, 30781), (511, 30733), (524, 30712), (549, 30673), (603, 30541), (613, 30520), (638, 30475), (643, 30463), (697, 30310), (700, 30289), (726, 30166), (733, 30136), (742, 30097), (760, 30031), (761, 30028), (766, 30013), (772, 29989), (780, 29965), (851, 29758), (896, 29623), (902, 29611), (906, 29602),

Gene: Homines\_37 Start: 30760, Stop: 28934, Start Num: 231

Candidate Starts for Homines\_37:

(Start: 231 @30760 has 845 MA's), (332, 30547), (337, 30532), (367, 30484), (378, 30454), (388, 30433), (390, 30427), (392, 30418), (425, 30301), (434, 30274), (487, 30181), (492, 30166), (509, 30133), (541, 30082), (543, 30079), (575, 30013), (589, 29983), (598, 29953), (616, 29908), (638, 29869), (700, 29689), (708, 29659), (709, 29641), (711, 29638), (720, 29602), (733, 29536), (760, 29455), (761, 29452), (786, 29371), (846, 29221), (847, 29218), (855, 29182), (868, 29158), (870, 29149), (874, 29137), (896, 29062), (906, 29041),

Gene: Honk\_44 Start: 28246, Stop: 30111, Start Num: 229

Candidate Starts for Honk\_44:

(Start: 229 @28246 has 7 MA's), (254, 28294), (290, 28354), (329, 28450), (388, 28567), (489, 28840), (509, 28882), (549, 28948), (598, 29062), (613, 29101), (647, 29164), (682, 29269), (683, 29278), (700, 29359), (711, 29410), (724, 29476), (726, 29482), (734, 29515), (777, 29671), (787, 29698), (820, 29785), (868, 29911), (870, 29920), (875, 29935), (896, 30007), (903, 30022), (909, 30037),

Gene: Hookmount\_44 Start: 31598, Stop: 29760, Start Num: 231

Candidate Starts for Hookmount\_44:

(Start: 231 @31598 has 845 MA's), (256, 31547), (329, 31394), (367, 31322), (378, 31292), (390, 31265), (392, 31256), (434, 31112), (487, 31016), (511, 30968), (549, 30908), (590, 30821), (603, 30776), (613, 30755), (653, 30683), (673, 30641), (683, 30599), (700, 30518), (709, 30470), (720, 30431), (726, 30395), (733, 30365), (739, 30335), (761, 30254), (772, 30215), (780, 30191), (786, 30173), (787, 30170), (834, 30044), (851, 29984), (880, 29897), (896, 29849), (902, 29837), (906, 29828),

Gene: Hoot\_45 Start: 29605, Stop: 27764, Start Num: 231

Candidate Starts for Hoot\_45:



(Start: 231 @29605 has 845 MA's), (329, 29401), (367, 29326), (369, 29323), (378, 29296), (384, 29281), (390, 29269), (403, 29218), (430, 29128), (434, 29116), (487, 29023), (502, 28984), (513, 28966), (524, 28951), (562, 28885), (576, 28852), (577, 28849), (619, 28747), (652, 28687), (683, 28603), (700, 28522), (719, 28438), (720, 28435), (722, 28426), (726, 28399), (733, 28369), (755, 28309), (766, 28270), (846, 28054), (847, 28051), (851, 28030), (896, 27895), (902, 27883), (906, 27874), (907, 27871), (939, 27778),

Gene: Hope4ever\_46 Start: 35139, Stop: 33313, Start Num: 231

Candidate Starts for Hope4ever\_46:

(Start: 231 @35139 has 845 MA's), (332, 34926), (367, 34863), (378, 34833), (388, 34812), (390, 34806), (392, 34797), (425, 34680), (434, 34653), (487, 34560), (492, 34545), (541, 34461), (543, 34458), (575, 34392), (589, 34362), (598, 34332), (616, 34287), (638, 34248), (700, 34068), (709, 34020), (720, 33981), (733, 33915), (742, 33876), (755, 33855), (760, 33834), (766, 33816), (786, 33750), (846, 33600), (847, 33597), (855, 33561), (868, 33537), (870, 33528), (874, 33516), (896, 33441), (906, 33420),

Gene: Horchata\_59 Start: 54056, Stop: 52197, Start Num: 196

Candidate Starts for Horchata\_59:

(Start: 175 @54080 has 1 MA's), (Start: 196 @54056 has 254 MA's), (Start: 221 @54032 has 2 MA's), (Start: 227 @54026 has 3 MA's), (246, 53984), (259, 53963), (307, 53849), (311, 53843), (326, 53813), (355, 53753), (366, 53732), (386, 53678), (391, 53666), (396, 53648), (398, 53636), (431, 53531), (454, 53474), (466, 53438), (471, 53426), (483, 53399), (486, 53390), (499, 53354), (533, 53297), (540, 53288), (542, 53285), (544, 53282), (695, 52925), (701, 52892), (706, 52871), (727, 52778), (730, 52769), (744, 52706), (760, 52670), (761, 52667), (766, 52652), (790, 52574), (794, 52562), (800, 52541), (817, 52502), (851, 52412), (856, 52394), (858, 52388), (868, 52373), (875, 52349), (877, 52334), (878, 52331), (881, 52319), (890, 52295), (907, 52247), (912, 52223),

Gene: Horseradish\_45 Start: 32448, Stop: 30058, Start Num: 33

Candidate Starts for Horseradish\_45:

(Start: 33 @32448 has 15 MA's), (58, 32385), (65, 32367), (71, 32352), (91, 32298), (94, 32286), (98, 32265), (109, 32232), (119, 32205), (127, 32181), (147, 32154), (Start: 214 @32049 has 4 MA's), (243, 32001), (303, 31884), (337, 31803), (354, 31776), (365, 31755), (384, 31701), (386, 31698), (393, 31680), (397, 31659), (418, 31599), (490, 31401), (519, 31359), (576, 31272), (588, 31248), (596, 31242), (617, 31188), (622, 31182), (639, 31140), (640, 31137), (642, 31134), (690, 30987), (698, 30945), (705, 30918), (714, 30876), (733, 30783), (741, 30747), (743, 30741), (745, 30735), (746, 30729), (753, 30705), (761, 30672), (768, 30648), (777, 30603), (795, 30543), (847, 30390), (893, 30222), (908, 30177), (910, 30168), (911, 30159),

Gene: HortumSL17\_45 Start: 31483, Stop: 29690, Start Num: 231

Candidate Starts for HortumSL17\_45:

(Start: 231 @31483 has 845 MA's), (236, 31474), (256, 31432), (316, 31312), (317, 31309), (334, 31261), (369, 31201), (379, 31171), (384, 31159), (390, 31147), (434, 30994), (487, 30901), (562, 30763), (575, 30733), (643, 30574), (652, 30562), (671, 30535), (697, 30427), (700, 30406), (730, 30271), (733, 30253), (760, 30172), (772, 30130), (796, 30055), (832, 29980), (846, 29938), (877, 29836), (896, 29779), (902, 29767), (906, 29758),

Gene: Hosp\_050 Start: 50681, Stop: 48840, Start Num: 183

Candidate Starts for Hosp\_050:

(80, 50945), (84, 50930), (Start: 183 @50681 has 3 MA's), (240, 50624), (246, 50609), (330, 50435), (355, 50384), (356, 50381), (367, 50360), (386, 50309), (389, 50303), (395, 50285), (407, 50243), (410, 50240), (417, 50210), (454, 50117), (466, 50081), (471, 50069), (524, 49955), (540, 49931), (542, 49928), (645, 49697), (682, 49628), (684, 49610), (689, 49592), (701, 49535), (725, 49427), (727, 49421), (730, 49412), (744, 49349), (760, 49313), (761, 49310), (766, 49295), (790, 49217),

(794, 49205), (800, 49184), (802, 49178), (817, 49145), (834, 49115), (841, 49100), (846, 49079), (851, 49055), (858, 49031), (875, 48992), (876, 48980), (877, 48977), (878, 48974), (881, 48962), (890, 48938), (912, 48866), (917, 48845),

Gene: Houdini22\_45 Start: 31574, Stop: 29748, Start Num: 231

Candidate Starts for Houdini22\_45:

(Start: 231 @31574 has 845 MA's), (240, 31553), (256, 31523), (274, 31493), (350, 31331), (360, 31313), (390, 31241), (392, 31232), (426, 31112), (434, 31088), (487, 30995), (511, 30947), (524, 30926), (549, 30887), (603, 30755), (613, 30734), (638, 30689), (643, 30677), (697, 30524), (700, 30503), (726, 30380), (733, 30350), (742, 30311), (760, 30245), (761, 30242), (766, 30227), (772, 30203), (780, 30179), (851, 29972), (896, 29837), (902, 29825), (906, 29816),

Gene: HuhtaEnerson15\_39 Start: 30586, Stop: 28721, Start Num: 231

Candidate Starts for HuhtaEnerson15\_39:

(Start: 231 @30586 has 845 MA's), (256, 30535), (291, 30475), (317, 30412), (329, 30382), (330, 30379), (363, 30322), (367, 30310), (378, 30280), (390, 30253), (434, 30100), (487, 30004), (509, 29956), (561, 29872), (562, 29866), (594, 29794), (603, 29761), (610, 29746), (616, 29734), (668, 29635), (700, 29500), (708, 29470), (709, 29452), (716, 29434), (720, 29413), (722, 29404), (733, 29347), (742, 29308), (760, 29266), (766, 29248), (780, 29200), (796, 29149), (818, 29095), (823, 29086), (834, 29068), (851, 29008), (856, 28990), (890, 28897), (896, 28873), (902, 28861), (939, 28756),

Gene: HungryHenry\_38 Start: 28624, Stop: 26759, Start Num: 267

Candidate Starts for HungryHenry\_38:

(Start: 214 @28711 has 4 MA's), (Start: 216 @28708 has 7 MA's), (Start: 267 @28624 has 137 MA's), (Start: 275 @28615 has 5 MA's), (321, 28510), (325, 28501), (338, 28471), (340, 28468), (395, 28348), (397, 28336), (400, 28330), (436, 28225), (445, 28198), (490, 28057), (492, 28051), (494, 28048), (498, 28036), (513, 28009), (516, 28006), (525, 27991), (527, 27985), (530, 27979), (553, 27946), (612, 27817), (634, 27757), (726, 27442), (729, 27433), (730, 27430), (733, 27412), (743, 27370), (745, 27364), (747, 27355), (751, 27340), (768, 27283), (815, 27124), (827, 27094), (828, 27085), (847, 27025), (852, 27001), (863, 26962), (875, 26929), (876, 26917), (893, 26857),

Gene: Hutc2\_44 Start: 30330, Stop: 28543, Start Num: 231

Candidate Starts for Hutc2\_44:

(Start: 231 @30330 has 845 MA's), (329, 30126), (367, 30054), (378, 30024), (390, 29997), (489, 29745), (513, 29694), (562, 29613), (582, 29568), (583, 29565), (613, 29484), (643, 29427), (672, 29385), (683, 29340), (700, 29259), (711, 29208), (720, 29172), (733, 29106), (755, 29046), (758, 29034), (789, 28932), (796, 28908), (802, 28890), (834, 28827), (844, 28800), (846, 28791), (851, 28767), (896, 28632), (902, 28620), (906, 28611),

Gene: Huwbert\_71 Start: 43958, Stop: 46630, Start Num: 24

Candidate Starts for Huwbert\_71:

(Start: 24 @43958 has 2 MA's), (46, 44048), (47, 44051), (48, 44054), (63, 44114), (103, 44231), (159, 44360), (271, 44537), (280, 44549), (294, 44594), (302, 44609), (313, 44636), (357, 44735), (370, 44765), (384, 44804), (397, 44846), (417, 44903), (422, 44918), (442, 44972), (479, 45083), (540, 45224), (594, 45353), (607, 45398), (608, 45401), (617, 45419), (635, 45476), (660, 45536), (679, 45596), (721, 45791), (733, 45854), (748, 45917), (768, 45992), (788, 46073), (797, 46103), (827, 46181), (836, 46211), (847, 46250), (853, 46277), (855, 46286), (875, 46352), (893, 46424), (895, 46433), (905, 46463), (946, 46589), (950, 46607),

Gene: Hydro\_53 Start: 54045, Stop: 52222, Start Num: 182

Candidate Starts for Hydro\_53:

(Start: 169 @54063 has 3 MA's), (Start: 182 @54045 has 24 MA's), (Start: 227 @54021 has 3 MA's),  
(240, 53994), (246, 53979), (259, 53958), (301, 53871), (351, 53766), (371, 53724), (396, 53658),  
(405, 53628), (407, 53619), (410, 53616), (412, 53613), (454, 53493), (461, 53475), (466, 53457),  
(471, 53445), (480, 53430), (483, 53418), (540, 53307), (542, 53304), (561, 53274), (575, 53238),  
(681, 53013), (682, 53010), (689, 52974), (695, 52950), (701, 52917), (725, 52809), (727, 52803),  
(730, 52794), (760, 52695), (761, 52692), (766, 52677), (790, 52599), (794, 52587), (800, 52566),  
(803, 52557), (817, 52527), (844, 52470), (851, 52437), (856, 52419), (858, 52413), (875, 52374),  
(878, 52356), (881, 52344), (890, 52320), (904, 52278), (907, 52272), (912, 52248),

Gene: IAmGroot\_48 Start: 31892, Stop: 33757, Start Num: 229

Candidate Starts for IAmGroot\_48:

(Start: 229 @31892 has 7 MA's), (378, 32189), (406, 32279), (549, 32594), (595, 32699), (598,  
32708), (613, 32747), (647, 32810), (700, 33005), (714, 33068), (724, 33122), (726, 33128), (734,  
33161), (758, 33248), (777, 33317), (787, 33344), (896, 33653),

Gene: ICleared\_45 Start: 31599, Stop: 29773, Start Num: 231

Candidate Starts for ICleared\_45:

(Start: 231 @31599 has 845 MA's), (240, 31578), (256, 31548), (274, 31518), (350, 31356), (360,  
31338), (390, 31266), (392, 31257), (426, 31137), (434, 31113), (487, 31020), (511, 30972), (524,  
30951), (549, 30912), (603, 30780), (613, 30759), (638, 30714), (643, 30702), (697, 30549), (700,  
30528), (726, 30405), (733, 30375), (742, 30336), (760, 30270), (761, 30267), (772, 30228), (780,  
30204), (851, 29997), (896, 29862), (902, 29850), (906, 29841),

Gene: ILeeKay\_49 Start: 35713, Stop: 33884, Start Num: 231

Candidate Starts for ILeeKay\_49:

(Start: 231 @35713 has 845 MA's), (332, 35500), (337, 35485), (378, 35407), (388, 35386), (390,  
35380), (392, 35371), (425, 35254), (434, 35227), (487, 35134), (492, 35119), (509, 35086), (541,  
35035), (543, 35032), (570, 34978), (575, 34966), (589, 34936), (598, 34906), (616, 34861), (638,  
34822), (700, 34642), (709, 34594), (722, 34546), (730, 34507), (733, 34489), (742, 34450), (755,  
34429), (760, 34408), (765, 34393), (803, 34270), (871, 34099), (876, 34075), (893, 34027), (896,  
34015), (906, 33994), (908, 33988), (921, 33940), (928, 33925),

Gene: Ibantik\_18 Start: 8692, Stop: 6680, Start Num: 232

Candidate Starts for Ibantik\_18:

(Start: 232 @8692 has 1 MA's), (332, 8473), (350, 8443), (416, 8248), (422, 8236), (434, 8200), (441,  
8179), (457, 8122), (487, 7954), (541, 7849), (549, 7837), (569, 7795), (668, 7585), (700, 7450), (723,  
7336), (725, 7327), (733, 7294), (742, 7228), (780, 7105), (844, 6946), (871, 6862), (873, 6856), (875,  
6850), (878, 6832), (890, 6802), (896, 6778),

Gene: Icarian\_45 Start: 30940, Stop: 32814, Start Num: 222

Candidate Starts for Icarian\_45:

(Start: 222 @30940 has 57 MA's), (Start: 266 @31009 has 4 MA's), (279, 31030), (367, 31210), (392,  
31276), (396, 31291), (403, 31318), (549, 31612), (651, 31846), (687, 31966), (688, 31969), (700,  
32029), (702, 32035), (711, 32080), (716, 32095), (718, 32110), (724, 32146), (733, 32182), (759,  
32275), (787, 32368), (816, 32446), (817, 32449), (846, 32518), (851, 32542), (855, 32557), (873,  
32599), (876, 32617), (896, 32677), (906, 32698),

Gene: Iceman\_45 Start: 31856, Stop: 30030, Start Num: 231

Candidate Starts for Iceman\_45:

(Start: 231 @31856 has 845 MA's), (240, 31835), (256, 31805), (274, 31775), (350, 31613), (360,  
31595), (390, 31523), (392, 31514), (426, 31394), (434, 31370), (487, 31277), (511, 31229), (524,  
31208), (549, 31169), (603, 31037), (613, 31016), (638, 30971), (643, 30959), (697, 30806), (700,  
30785), (726, 30662), (733, 30632), (742, 30593), (760, 30527), (761, 30524), (766, 30509), (772,

30485), (780, 30461), (851, 30254), (896, 30119), (902, 30107), (906, 30098),

Gene: Ichabod\_46 Start: 34837, Stop: 33011, Start Num: 231

Candidate Starts for Ichabod\_46:

(Start: 231 @34837 has 845 MA's), (332, 34624), (367, 34561), (378, 34531), (388, 34510), (390, 34504), (392, 34495), (425, 34378), (434, 34351), (487, 34258), (492, 34243), (509, 34210), (541, 34159), (543, 34156), (575, 34090), (589, 34060), (598, 34030), (616, 33985), (638, 33946), (700, 33766), (709, 33718), (720, 33679), (733, 33613), (742, 33574), (755, 33553), (760, 33532), (766, 33514), (786, 33448), (846, 33298), (847, 33295), (868, 33235), (870, 33226), (874, 33214), (896, 33139), (906, 33118),

Gene: Ichor\_55 Start: 36879, Stop: 34711, Start Num: 209

Candidate Starts for Ichor\_55:

(207, 36882), (Start: 209 @36879 has 11 MA's), (240, 36825), (286, 36741), (337, 36588), (343, 36579), (367, 36534), (393, 36456), (395, 36447), (398, 36432), (403, 36417), (404, 36414), (417, 36357), (446, 36264), (458, 36222), (506, 36027), (514, 36015), (521, 36009), (531, 35985), (545, 35964), (559, 35943), (564, 35928), (566, 35922), (592, 35859), (607, 35808), (638, 35721), (670, 35661), (683, 35613), (707, 35511), (708, 35505), (713, 35478), (714, 35475), (719, 35454), (727, 35412), (729, 35406), (734, 35382), (740, 35340), (741, 35337), (748, 35310), (756, 35277), (759, 35265), (769, 35229), (775, 35205), (777, 35199), (780, 35193), (797, 35139), (817, 35091), (818, 35088), (840, 35028), (846, 35004), (853, 34974), (872, 34920), (890, 34851), (893, 34839), (907, 34800),

Gene: Idleandcovert\_46 Start: 31555, Stop: 29717, Start Num: 231

Candidate Starts for Idleandcovert\_46:

(Start: 231 @31555 has 845 MA's), (256, 31504), (292, 31438), (329, 31351), (363, 31291), (367, 31279), (390, 31222), (392, 31213), (426, 31093), (434, 31069), (487, 30973), (511, 30925), (549, 30865), (577, 30802), (603, 30733), (613, 30712), (653, 30640), (673, 30598), (683, 30556), (700, 30475), (709, 30427), (726, 30352), (733, 30322), (739, 30292), (761, 30211), (772, 30172), (780, 30148), (786, 30130), (834, 30001), (851, 29941), (896, 29806), (902, 29794), (906, 29785),

Gene: IgnatiusPatJac\_44 Start: 34736, Stop: 32907, Start Num: 231

Candidate Starts for IgnatiusPatJac\_44:

(Start: 231 @34736 has 845 MA's), (332, 34523), (367, 34460), (378, 34430), (388, 34409), (390, 34403), (392, 34394), (425, 34277), (434, 34250), (487, 34157), (492, 34142), (509, 34109), (541, 34058), (543, 34055), (575, 33989), (598, 33929), (616, 33884), (638, 33845), (700, 33665), (709, 33617), (722, 33569), (730, 33530), (733, 33512), (742, 33473), (755, 33452), (760, 33431), (765, 33416), (803, 33293), (871, 33122), (876, 33098), (893, 33050), (896, 33038), (906, 33017), (908, 33011), (921, 32963), (928, 32948),

Gene: Ilzat\_38 Start: 28635, Stop: 26770, Start Num: 267

Candidate Starts for Ilzat\_38:

(Start: 214 @28722 has 4 MA's), (Start: 216 @28719 has 7 MA's), (Start: 267 @28635 has 137 MA's), (Start: 275 @28626 has 5 MA's), (321, 28521), (325, 28512), (338, 28482), (340, 28479), (395, 28359), (397, 28347), (400, 28341), (436, 28236), (445, 28209), (490, 28068), (492, 28062), (494, 28059), (498, 28047), (513, 28020), (516, 28017), (525, 28002), (527, 27996), (530, 27990), (553, 27957), (612, 27828), (634, 27768), (726, 27453), (729, 27444), (730, 27441), (733, 27423), (743, 27381), (745, 27375), (747, 27366), (751, 27351), (768, 27294), (815, 27135), (827, 27105), (828, 27096), (847, 27036), (852, 27012), (863, 26973), (875, 26940), (876, 26928), (893, 26868),

Gene: ImtiyazSitla\_62 Start: 54257, Stop: 52398, Start Num: 196

Candidate Starts for ImtiyazSitla\_62:

(Start: 175 @54281 has 1 MA's), (Start: 196 @54257 has 254 MA's), (Start: 221 @54233 has 2 MA's), (Start: 227 @54227 has 3 MA's), (246, 54185), (259, 54164), (307, 54050), (311, 54044), (326, 54014), (355, 53954), (366, 53933), (386, 53879), (391, 53867), (396, 53849), (398, 53837), (431, 53732), (454, 53675), (466, 53639), (471, 53627), (482, 53603), (486, 53591), (491, 53573), (499, 53555), (509, 53537), (533, 53498), (540, 53489), (542, 53486), (544, 53483), (668, 53228), (695, 53126), (701, 53093), (706, 53072), (727, 52979), (730, 52970), (744, 52907), (760, 52871), (761, 52868), (766, 52853), (790, 52775), (794, 52763), (800, 52742), (817, 52703), (851, 52613), (856, 52595), (858, 52589), (868, 52574), (875, 52550), (877, 52535), (878, 52532), (881, 52520), (890, 52496), (895, 52475), (907, 52448), (912, 52424),

Gene: Imvubu\_52 Start: 51848, Stop: 49983, Start Num: 180

Candidate Starts for Imvubu\_52:

(106, 52028), (Start: 169 @51866 has 3 MA's), (171, 51863), (Start: 180 @51848 has 1 MA's), (Start: 227 @51803 has 3 MA's), (240, 51776), (Start: 266 @51731 has 4 MA's), (367, 51518), (397, 51431), (431, 51323), (454, 51266), (466, 51230), (471, 51218), (482, 51194), (483, 51191), (486, 51182), (487, 51176), (542, 51071), (561, 51041), (575, 51005), (577, 50999), (682, 50771), (701, 50678), (727, 50564), (730, 50555), (744, 50492), (760, 50456), (761, 50453), (766, 50438), (790, 50360), (794, 50348), (800, 50327), (803, 50318), (812, 50300), (834, 50258), (841, 50243), (851, 50198), (858, 50174), (868, 50159), (875, 50135), (876, 50123), (877, 50120), (878, 50117), (881, 50105), (886, 50093), (890, 50081), (896, 50057), (912, 50009),

Gene: Inchworm\_62 Start: 54408, Stop: 52549, Start Num: 196

Candidate Starts for Inchworm\_62:

(Start: 175 @54432 has 1 MA's), (Start: 196 @54408 has 254 MA's), (Start: 221 @54384 has 2 MA's), (Start: 227 @54378 has 3 MA's), (246, 54336), (259, 54315), (307, 54201), (311, 54195), (326, 54165), (355, 54105), (366, 54084), (386, 54030), (391, 54018), (396, 54000), (398, 53988), (431, 53883), (454, 53826), (466, 53790), (471, 53778), (483, 53751), (491, 53724), (499, 53706), (509, 53688), (533, 53649), (540, 53640), (542, 53637), (544, 53634), (695, 53277), (701, 53244), (706, 53223), (727, 53130), (730, 53121), (744, 53058), (760, 53022), (761, 53019), (766, 53004), (790, 52926), (794, 52914), (800, 52893), (817, 52854), (851, 52764), (856, 52746), (858, 52740), (868, 52725), (875, 52701), (877, 52686), (878, 52683), (881, 52671), (890, 52647), (907, 52599), (912, 52575),

Gene: Indlovu\_55 Start: 54200, Stop: 52356, Start Num: 183

Candidate Starts for Indlovu\_55:

(Start: 183 @54200 has 3 MA's), (259, 54098), (326, 53960), (367, 53876), (407, 53759), (410, 53756), (431, 53690), (454, 53633), (466, 53597), (471, 53585), (482, 53561), (540, 53447), (542, 53444), (544, 53441), (575, 53378), (645, 53213), (652, 53204), (689, 53108), (701, 53051), (713, 53000), (727, 52937), (730, 52928), (744, 52865), (766, 52811), (772, 52787), (790, 52733), (794, 52721), (800, 52700), (803, 52691), (807, 52682), (832, 52637), (834, 52631), (841, 52616), (851, 52571), (856, 52553), (858, 52547), (875, 52508), (876, 52496), (877, 52493), (878, 52490), (886, 52466), (890, 52454), (912, 52382),

Gene: Indra\_48 Start: 29792, Stop: 27951, Start Num: 231

Candidate Starts for Indra\_48:

(Start: 231 @29792 has 845 MA's), (329, 29588), (367, 29513), (369, 29510), (378, 29483), (384, 29468), (390, 29456), (403, 29405), (430, 29315), (434, 29303), (487, 29210), (502, 29171), (513, 29153), (524, 29138), (562, 29072), (576, 29039), (577, 29036), (619, 28934), (652, 28874), (683, 28790), (700, 28709), (719, 28625), (720, 28622), (722, 28613), (726, 28586), (733, 28556), (755, 28496), (766, 28457), (846, 28241), (847, 28238), (851, 28217), (896, 28082), (902, 28070), (906, 28061), (907, 28058), (939, 27965),

Gene: IndyLu\_42 Start: 29805, Stop: 31679, Start Num: 222

Candidate Starts for IndyLu\_42:

(Start: 222 @29805 has 57 MA's), (Start: 266 @29874 has 4 MA's), (279, 29895), (392, 30141), (396, 30156), (422, 30237), (549, 30477), (651, 30711), (687, 30831), (688, 30834), (700, 30894), (716, 30960), (718, 30975), (724, 31011), (733, 31047), (759, 31140), (816, 31311), (817, 31314), (846, 31383), (855, 31422), (873, 31464), (876, 31482), (896, 31542), (906, 31563),

Gene: Insomnia\_45 Start: 30835, Stop: 29048, Start Num: 231

Candidate Starts for Insomnia\_45:

(Start: 231 @30835 has 845 MA's), (329, 30631), (367, 30559), (378, 30529), (390, 30502), (489, 30250), (513, 30199), (562, 30118), (582, 30073), (613, 29989), (643, 29932), (672, 29890), (683, 29845), (700, 29764), (711, 29713), (720, 29677), (733, 29611), (755, 29551), (758, 29539), (789, 29437), (796, 29413), (802, 29395), (834, 29332), (844, 29305), (846, 29296), (851, 29272), (896, 29137), (902, 29125), (906, 29116),

Gene: Inventa\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Inventa\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: Inverness\_59 Start: 54064, Stop: 52205, Start Num: 196

Candidate Starts for Inverness\_59:

(Start: 175 @54088 has 1 MA's), (Start: 196 @54064 has 254 MA's), (Start: 221 @54040 has 2 MA's), (Start: 227 @54034 has 3 MA's), (246, 53992), (259, 53971), (307, 53857), (311, 53851), (326, 53821), (355, 53761), (366, 53740), (386, 53686), (391, 53674), (396, 53656), (398, 53644), (431, 53539), (454, 53482), (466, 53446), (471, 53434), (482, 53410), (486, 53398), (491, 53380), (499, 53362), (509, 53344), (533, 53305), (540, 53296), (542, 53293), (544, 53290), (695, 52933), (701, 52900), (706, 52879), (727, 52786), (730, 52777), (744, 52714), (761, 52675), (766, 52660), (790, 52582), (794, 52570), (800, 52549), (817, 52510), (851, 52420), (856, 52402), (858, 52396), (868, 52381), (875, 52357), (877, 52342), (878, 52339), (881, 52327), (890, 52303), (907, 52255), (912, 52231),

Gene: loannes\_39 Start: 28925, Stop: 27069, Start Num: 275

Candidate Starts for loannes\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (492, 28361), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612, 28127), (634, 28067), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (747, 27665), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Iracema64\_46 Start: 31834, Stop: 30008, Start Num: 231

Candidate Starts for Iracema64\_46:

(Start: 231 @31834 has 845 MA's), (240, 31813), (256, 31783), (274, 31753), (350, 31591), (360, 31573), (390, 31501), (392, 31492), (426, 31372), (434, 31348), (487, 31255), (511, 31207), (524, 31186), (549, 31147), (603, 31015), (613, 30994), (638, 30949), (643, 30937), (697, 30784), (700, 30763), (726, 30640), (733, 30610), (742, 30571), (760, 30505), (761, 30502), (766, 30487), (772, 30463), (780, 30439), (851, 30232), (896, 30097), (902, 30085), (906, 30076),

Gene: Iridoclysis\_61 Start: 54348, Stop: 52489, Start Num: 196

Candidate Starts for Iridoclysis\_61:

(Start: 175 @54372 has 1 MA's), (Start: 196 @54348 has 254 MA's), (Start: 221 @54324 has 2 MA's), (Start: 227 @54318 has 3 MA's), (246, 54276), (259, 54255), (307, 54141), (311, 54135), (326, 54105), (355, 54045), (366, 54024), (386, 53970), (391, 53958), (396, 53940), (398, 53928), (431, 53823), (454, 53766), (466, 53730), (471, 53718), (483, 53691), (491, 53664), (499, 53646), (509, 53628), (533, 53589), (540, 53580), (542, 53577), (668, 53319), (695, 53217), (701, 53184), (706, 53163), (727, 53070), (730, 53061), (744, 52998), (760, 52962), (761, 52959), (766, 52944), (790, 52866), (794, 52854), (800, 52833), (817, 52794), (851, 52704), (856, 52686), (858, 52680), (868, 52665), (875, 52641), (877, 52626), (878, 52623), (881, 52611), (890, 52587), (907, 52539), (912, 52515),

Gene: IronMan\_44 Start: 32460, Stop: 30670, Start Num: 231

Candidate Starts for IronMan\_44:

(Start: 231 @32460 has 845 MA's), (329, 32256), (332, 32247), (369, 32178), (378, 32151), (390, 32124), (434, 31971), (487, 31878), (509, 31830), (513, 31821), (524, 31806), (562, 31740), (576, 31707), (607, 31623), (652, 31542), (672, 31512), (700, 31386), (708, 31356), (711, 31335), (726, 31263), (730, 31251), (733, 31233), (742, 31194), (755, 31173), (760, 31152), (764, 31140), (823, 30972), (846, 30918), (851, 30894), (873, 30837), (877, 30816), (896, 30759), (902, 30747), (906, 30738),

Gene: IsaacEli\_62 Start: 54547, Stop: 52688, Start Num: 196

Candidate Starts for IsaacEli\_62:

(Start: 175 @54571 has 1 MA's), (Start: 196 @54547 has 254 MA's), (Start: 221 @54523 has 2 MA's), (Start: 227 @54517 has 3 MA's), (246, 54475), (259, 54454), (307, 54340), (311, 54334), (326, 54304), (355, 54244), (366, 54223), (386, 54169), (391, 54157), (396, 54139), (398, 54127), (431, 54022), (454, 53965), (466, 53929), (471, 53917), (475, 53908), (483, 53890), (491, 53863), (499, 53845), (509, 53827), (533, 53788), (540, 53779), (542, 53776), (544, 53773), (668, 53518), (695, 53416), (701, 53383), (706, 53362), (727, 53269), (730, 53260), (744, 53197), (760, 53161), (761, 53158), (766, 53143), (790, 53065), (794, 53053), (800, 53032), (817, 52993), (851, 52903), (856, 52885), (858, 52879), (868, 52864), (875, 52840), (877, 52825), (878, 52822), (881, 52810), (890, 52786), (907, 52738), (912, 52714),

Gene: Isca\_44 Start: 30978, Stop: 29140, Start Num: 231

Candidate Starts for Isca\_44:

(Start: 182 @31050 has 24 MA's), (Start: 231 @30978 has 845 MA's), (256, 30927), (329, 30774), (350, 30735), (367, 30702), (390, 30645), (392, 30636), (395, 30624), (426, 30516), (434, 30492), (487, 30396), (511, 30348), (549, 30288), (603, 30156), (613, 30135), (656, 30060), (673, 30021), (683, 29979), (700, 29898), (720, 29811), (726, 29775), (733, 29745), (761, 29634), (772, 29595), (780, 29571), (786, 29553), (787, 29550), (832, 29430), (834, 29424), (851, 29364), (896, 29229), (902, 29217), (906, 29208),

Gene: Isiphiwo\_43 Start: 29164, Stop: 27323, Start Num: 231

Candidate Starts for Isiphiwo\_43:

(Start: 231 @29164 has 845 MA's), (329, 28960), (367, 28885), (369, 28882), (378, 28855), (384, 28840), (390, 28828), (403, 28777), (430, 28687), (434, 28675), (487, 28582), (502, 28543), (513, 28525), (524, 28510), (562, 28444), (576, 28411), (577, 28408), (619, 28306), (652, 28246), (683, 28162), (700, 28081), (719, 27997), (720, 27994), (722, 27985), (726, 27958), (733, 27928), (755, 27868), (766, 27829), (772, 27805), (846, 27613), (847, 27610), (851, 27589), (896, 27454), (902, 27442), (906, 27433), (907, 27430), (939, 27337),

Gene: Iter\_41 Start: 29603, Stop: 31468, Start Num: 231

Candidate Starts for lter\_41:

(Start: 231 @29603 has 845 MA's), (254, 29651), (332, 29816), (378, 29900), (406, 29990), (489, 30197), (492, 30206), (542, 30296), (549, 30305), (558, 30320), (613, 30458), (674, 30596), (700, 30716), (708, 30746), (720, 30803), (733, 30869), (759, 30962), (780, 31034), (896, 31364), (901, 31373),

Gene: ltsyBitsy1\_57 Start: 52478, Stop: 50649, Start Num: 188

Candidate Starts for ltsyBitsy1\_57:

(Start: 188 @52478 has 31 MA's), (Start: 227 @52451 has 3 MA's), (242, 52421), (246, 52409), (264, 52382), (Start: 266 @52379 has 4 MA's), (274, 52370), (291, 52352), (330, 52256), (355, 52205), (367, 52181), (375, 52157), (417, 52019), (427, 51995), (431, 51983), (454, 51926), (466, 51890), (471, 51878), (482, 51854), (522, 51770), (540, 51740), (542, 51737), (561, 51707), (624, 51563), (652, 51497), (681, 51446), (684, 51425), (689, 51407), (701, 51350), (722, 51266), (730, 51227), (744, 51161), (758, 51134), (760, 51125), (766, 51107), (772, 51083), (790, 51029), (794, 51017), (800, 50996), (834, 50927), (851, 50867), (856, 50849), (871, 50816), (875, 50804), (877, 50789), (878, 50786), (881, 50774), (890, 50750), (891, 50747), (907, 50699), (908, 50696), (912, 50675), (917, 50654),

Gene: ltyBittyPiggy\_40 Start: 29144, Stop: 31009, Start Num: 231

Candidate Starts for ltyBittyPiggy\_40:

(Start: 231 @29144 has 845 MA's), (254, 29192), (413, 29561), (489, 29738), (549, 29846), (558, 29861), (613, 29999), (674, 30137), (700, 30257), (720, 30344), (733, 30410), (759, 30503), (896, 30905), (901, 30914),

Gene: lwokeuplikedis\_47 Start: 31404, Stop: 29578, Start Num: 231

Candidate Starts for lwokeuplikedis\_47:

(Start: 231 @31404 has 845 MA's), (329, 31200), (332, 31191), (337, 31176), (350, 31161), (369, 31125), (378, 31098), (390, 31071), (395, 31050), (434, 30918), (487, 30825), (513, 30768), (524, 30753), (562, 30687), (595, 30606), (613, 30558), (616, 30552), (653, 30486), (683, 30414), (700, 30333), (711, 30282), (719, 30249), (720, 30246), (733, 30180), (742, 30141), (755, 30120), (775, 30045), (782, 30027), (796, 29982), (806, 29955), (823, 29919), (846, 29865), (851, 29841), (873, 29784), (877, 29763), (896, 29706), (902, 29694), (907, 29682), (939, 29589),

Gene: lxel\_38 Start: 27481, Stop: 25580, Start Num: 267

Candidate Starts for lxel\_38:

(Start: 267 @27481 has 137 MA's), (338, 27328), (340, 27325), (342, 27322), (370, 27271), (393, 27214), (395, 27205), (397, 27193), (400, 27187), (413, 27151), (430, 27097), (490, 26911), (494, 26902), (498, 26890), (516, 26860), (527, 26839), (534, 26827), (551, 26803), (622, 26653), (659, 26557), (699, 26392), (722, 26290), (733, 26233), (741, 26197), (743, 26191), (768, 26104), (777, 26059), (815, 25945), (836, 25885), (847, 25846), (852, 25822), (854, 25816), (862, 25789), (893, 25678),

Gene: JAMaL\_53 Start: 54192, Stop: 52339, Start Num: 164

Candidate Starts for JAMaL\_53:

(152, 54210), (Start: 164 @54192 has 2 MA's), (Start: 227 @54138 has 3 MA's), (240, 54111), (246, 54096), (291, 54024), (292, 54018), (318, 53955), (326, 53937), (330, 53928), (350, 53886), (355, 53877), (356, 53874), (367, 53853), (393, 53787), (405, 53745), (407, 53736), (410, 53733), (417, 53703), (454, 53610), (461, 53592), (466, 53574), (471, 53562), (482, 53538), (483, 53535), (540, 53424), (542, 53421), (544, 53418), (561, 53391), (575, 53355), (681, 53130), (682, 53127), (689, 53091), (696, 53061), (697, 53058), (701, 53034), (725, 52926), (727, 52920), (730, 52911), (760, 52812), (761, 52809), (766, 52794), (790, 52716), (794, 52704), (800, 52683), (803, 52674), (817, 52644), (834, 52614), (844, 52587), (851, 52554), (858, 52530), (875, 52491), (877, 52476), (878, 52473), (881, 52461), (890, 52437), (904, 52395), (907, 52389), (912, 52365),



Gene: JC27\_45 Start: 34894, Stop: 33068, Start Num: 231

Candidate Starts for JC27\_45:

(Start: 231 @34894 has 845 MA's), (332, 34681), (378, 34588), (388, 34567), (390, 34561), (392, 34552), (425, 34435), (434, 34408), (487, 34315), (492, 34300), (509, 34267), (541, 34216), (543, 34213), (575, 34147), (589, 34117), (598, 34087), (616, 34042), (638, 34003), (700, 33823), (709, 33775), (720, 33736), (733, 33670), (742, 33631), (755, 33610), (760, 33589), (766, 33571), (786, 33505), (846, 33355), (847, 33352), (855, 33316), (868, 33292), (870, 33283), (874, 33271), (880, 33244), (896, 33196), (906, 33175),

Gene: JDog\_59 Start: 54563, Stop: 52704, Start Num: 196

Candidate Starts for JDog\_59:

(Start: 175 @54587 has 1 MA's), (Start: 196 @54563 has 254 MA's), (Start: 221 @54539 has 2 MA's), (Start: 227 @54533 has 3 MA's), (246, 54491), (259, 54470), (307, 54356), (311, 54350), (326, 54320), (355, 54260), (366, 54239), (386, 54185), (391, 54173), (396, 54155), (398, 54143), (431, 54038), (454, 53981), (466, 53945), (471, 53933), (482, 53909), (486, 53897), (491, 53879), (499, 53861), (509, 53843), (533, 53804), (540, 53795), (542, 53792), (668, 53534), (695, 53432), (701, 53399), (706, 53378), (727, 53285), (730, 53276), (744, 53213), (760, 53177), (761, 53174), (766, 53159), (790, 53081), (794, 53069), (800, 53048), (817, 53009), (851, 52919), (856, 52901), (858, 52895), (868, 52880), (875, 52856), (877, 52841), (878, 52838), (881, 52826), (890, 52802), (907, 52754), (912, 52730),

Gene: JF2\_45 Start: 30729, Stop: 28891, Start Num: 231

Candidate Starts for JF2\_45:

(Start: 182 @30801 has 24 MA's), (Start: 231 @30729 has 845 MA's), (256, 30678), (329, 30525), (350, 30486), (367, 30453), (390, 30396), (392, 30387), (395, 30375), (426, 30267), (434, 30243), (487, 30147), (511, 30099), (549, 30039), (603, 29907), (613, 29886), (652, 29817), (673, 29772), (683, 29730), (700, 29649), (720, 29562), (726, 29526), (733, 29496), (761, 29385), (772, 29346), (780, 29322), (786, 29304), (832, 29181), (834, 29175), (851, 29115), (895, 28983), (896, 28980), (902, 28968), (906, 28959),

Gene: JF4\_45 Start: 30729, Stop: 28891, Start Num: 231

Candidate Starts for JF4\_45:

(Start: 182 @30801 has 24 MA's), (Start: 231 @30729 has 845 MA's), (256, 30678), (329, 30525), (350, 30486), (367, 30453), (390, 30396), (392, 30387), (395, 30375), (426, 30267), (434, 30243), (487, 30147), (511, 30099), (549, 30039), (603, 29907), (613, 29886), (652, 29817), (673, 29772), (683, 29730), (700, 29649), (720, 29562), (726, 29526), (733, 29496), (761, 29385), (772, 29346), (780, 29322), (786, 29304), (832, 29181), (834, 29175), (851, 29115), (895, 28983), (896, 28980), (902, 28968), (906, 28959),

Gene: JHC117\_48 Start: 31851, Stop: 30037, Start Num: 231

Candidate Starts for JHC117\_48:

(Start: 231 @31851 has 845 MA's), (248, 31812), (256, 31800), (329, 31647), (333, 31632), (367, 31575), (390, 31518), (392, 31509), (403, 31467), (415, 31416), (434, 31365), (487, 31272), (509, 31224), (513, 31215), (524, 31200), (549, 31161), (562, 31134), (575, 31104), (610, 31011), (641, 30951), (652, 30936), (700, 30780), (720, 30693), (733, 30627), (742, 30588), (761, 30516), (772, 30477), (780, 30453), (786, 30435), (796, 30402), (806, 30375), (834, 30321), (851, 30261), (877, 30183), (896, 30126), (902, 30114), (906, 30105),

Gene: JSwag\_46 Start: 29679, Stop: 27889, Start Num: 231

Candidate Starts for JSwag\_46:

(Start: 231 @29679 has 845 MA's), (317, 29505), (367, 29400), (369, 29397), (378, 29370), (390, 29343), (403, 29292), (434, 29190), (487, 29097), (505, 29052), (509, 29049), (513, 29040), (595,

28878), (603, 28851), (613, 28830), (616, 28824), (674, 28725), (683, 28686), (695, 28635), (700, 28605), (711, 28554), (719, 28521), (724, 28488), (726, 28482), (733, 28452), (755, 28392), (760, 28371), (772, 28329), (781, 28302), (786, 28287), (818, 28200), (846, 28137), (847, 28134), (896, 27978), (902, 27966), (907, 27954),

Gene: Jaan\_45 Start: 32749, Stop: 30959, Start Num: 231

Candidate Starts for Jaan\_45:

(Start: 231 @32749 has 845 MA's), (329, 32545), (332, 32536), (369, 32467), (378, 32440), (390, 32413), (434, 32260), (487, 32167), (509, 32119), (513, 32110), (524, 32095), (562, 32029), (576, 31996), (607, 31912), (652, 31831), (672, 31801), (700, 31675), (711, 31624), (726, 31552), (733, 31522), (742, 31483), (755, 31462), (760, 31441), (764, 31429), (823, 31261), (846, 31207), (851, 31183), (873, 31126), (877, 31105), (896, 31048), (902, 31036), (906, 31027),

Gene: Jabiru\_39 Start: 30201, Stop: 28336, Start Num: 231

Candidate Starts for Jabiru\_39:

(Start: 231 @30201 has 845 MA's), (291, 30090), (329, 29997), (330, 29994), (367, 29925), (378, 29895), (390, 29868), (392, 29859), (415, 29766), (422, 29751), (434, 29715), (475, 29655), (487, 29619), (509, 29571), (523, 29550), (524, 29547), (561, 29487), (594, 29409), (610, 29361), (616, 29349), (641, 29301), (668, 29250), (700, 29115), (709, 29067), (716, 29049), (720, 29028), (722, 29019), (727, 28989), (733, 28962), (734, 28959), (760, 28881), (766, 28863), (780, 28815), (796, 28764), (818, 28710), (823, 28701), (834, 28683), (856, 28605), (896, 28488), (902, 28476), (939, 28371),

Gene: Jabith\_45 Start: 30836, Stop: 29049, Start Num: 231

Candidate Starts for Jabith\_45:

(Start: 231 @30836 has 845 MA's), (329, 30632), (367, 30560), (378, 30530), (390, 30503), (489, 30251), (513, 30200), (562, 30119), (582, 30074), (583, 30071), (613, 29990), (643, 29933), (672, 29891), (683, 29846), (700, 29765), (711, 29714), (720, 29678), (733, 29612), (755, 29552), (789, 29438), (796, 29414), (802, 29396), (834, 29333), (844, 29306), (846, 29297), (851, 29273), (896, 29138), (902, 29126), (906, 29117),

Gene: JacAttac\_62 Start: 54010, Stop: 52151, Start Num: 196

Candidate Starts for JacAttac\_62:

(Start: 175 @54034 has 1 MA's), (Start: 196 @54010 has 254 MA's), (Start: 221 @53986 has 2 MA's), (Start: 227 @53980 has 3 MA's), (246, 53938), (259, 53917), (307, 53803), (311, 53797), (326, 53767), (355, 53707), (366, 53686), (386, 53632), (391, 53620), (396, 53602), (398, 53590), (431, 53485), (454, 53428), (466, 53392), (471, 53380), (482, 53356), (486, 53344), (491, 53326), (499, 53308), (509, 53290), (533, 53251), (540, 53242), (542, 53239), (544, 53236), (695, 52879), (701, 52846), (706, 52825), (727, 52732), (730, 52723), (744, 52660), (760, 52624), (761, 52621), (766, 52606), (790, 52528), (794, 52516), (800, 52495), (817, 52456), (851, 52366), (856, 52348), (858, 52342), (868, 52327), (875, 52303), (877, 52288), (878, 52285), (881, 52273), (890, 52249), (907, 52201), (912, 52177),

Gene: JackSparrow\_46 Start: 35167, Stop: 33338, Start Num: 231

Candidate Starts for JackSparrow\_46:

(Start: 231 @35167 has 845 MA's), (332, 34954), (378, 34861), (388, 34840), (390, 34834), (392, 34825), (425, 34708), (434, 34681), (487, 34588), (492, 34573), (509, 34540), (541, 34489), (543, 34486), (575, 34420), (589, 34390), (598, 34360), (616, 34315), (638, 34276), (700, 34096), (709, 34048), (722, 34000), (730, 33961), (733, 33943), (742, 33904), (755, 33883), (760, 33862), (765, 33847), (803, 33724), (871, 33553), (876, 33529), (893, 33481), (896, 33469), (906, 33448), (908, 33442), (921, 33394), (928, 33379),

Gene: Jackstina\_54 Start: 53566, Stop: 51749, Start Num: 223

Candidate Starts for Jackstina\_54:

(Start: 223 @53566 has 42 MA's), (240, 53536), (332, 53356), (395, 53203), (397, 53191), (407, 53161), (412, 53155), (431, 53092), (433, 53086), (454, 53035), (466, 52999), (486, 52951), (542, 52846), (589, 52750), (610, 52699), (681, 52555), (689, 52516), (696, 52486), (701, 52459), (704, 52447), (725, 52351), (727, 52345), (730, 52336), (732, 52324), (754, 52252), (760, 52222), (766, 52204), (768, 52195), (790, 52126), (794, 52114), (800, 52093), (834, 52024), (841, 52009), (847, 51985), (851, 51964), (858, 51940), (875, 51901), (878, 51883), (881, 51871), (886, 51859), (890, 51847), (904, 51805), (912, 51775),

Gene: JacoRen57\_40 Start: 35060, Stop: 32673, Start Num: 56

Candidate Starts for JacoRen57\_40:

(35, 35138), (Start: 41 @35114 has 23 MA's), (Start: 51 @35084 has 1 MA's), (Start: 56 @35060 has 1 MA's), (Start: 74 @35009 has 1 MA's), (77, 35003), (112, 34895), (117, 34880), (127, 34850), (137, 34823), (159, 34793), (194, 34739), (201, 34727), (206, 34718), (293, 34562), (369, 34406), (413, 34277), (418, 34259), (459, 34154), (463, 34136), (469, 34121), (490, 34061), (565, 33944), (576, 33932), (582, 33920), (627, 33842), (654, 33773), (693, 33638), (721, 33503), (724, 33476), (726, 33470), (735, 33431), (741, 33404), (743, 33398), (745, 33392), (746, 33386), (761, 33329), (768, 33305), (837, 33083), (883, 32912), (893, 32879), (908, 32834), (912, 32810), (952, 32684),

Gene: Jaek\_55 Start: 36879, Stop: 34711, Start Num: 209

Candidate Starts for Jaek\_55:

(207, 36882), (Start: 209 @36879 has 11 MA's), (240, 36825), (286, 36741), (337, 36588), (343, 36579), (367, 36534), (393, 36456), (395, 36447), (398, 36432), (403, 36417), (404, 36414), (417, 36357), (446, 36264), (458, 36222), (506, 36027), (514, 36015), (521, 36009), (531, 35985), (545, 35964), (559, 35943), (564, 35928), (566, 35922), (592, 35859), (607, 35808), (638, 35721), (670, 35661), (683, 35613), (707, 35511), (708, 35505), (713, 35478), (714, 35475), (719, 35454), (727, 35412), (729, 35406), (734, 35382), (740, 35340), (741, 35337), (748, 35310), (756, 35277), (759, 35265), (769, 35229), (775, 35205), (777, 35199), (780, 35193), (797, 35139), (817, 35091), (818, 35088), (840, 35028), (846, 35004), (853, 34974), (872, 34920), (890, 34851), (893, 34839), (907, 34800),

Gene: JaguarMi\_55 Start: 55103, Stop: 53277, Start Num: 182

Candidate Starts for JaguarMi\_55:

(Start: 169 @55121 has 3 MA's), (Start: 182 @55103 has 24 MA's), (Start: 227 @55076 has 3 MA's), (240, 55049), (246, 55034), (259, 55013), (301, 54926), (307, 54908), (351, 54821), (366, 54794), (371, 54779), (396, 54713), (405, 54683), (407, 54674), (410, 54671), (412, 54668), (417, 54641), (454, 54548), (461, 54530), (466, 54512), (471, 54500), (483, 54473), (509, 54410), (533, 54371), (540, 54362), (542, 54359), (561, 54329), (575, 54293), (681, 54068), (682, 54065), (689, 54029), (695, 54005), (701, 53972), (725, 53864), (727, 53858), (730, 53849), (760, 53750), (761, 53747), (766, 53732), (790, 53654), (794, 53642), (800, 53621), (803, 53612), (817, 53582), (834, 53552), (844, 53525), (851, 53492), (856, 53474), (858, 53468), (875, 53429), (878, 53411), (881, 53399), (890, 53375), (904, 53333), (907, 53327), (912, 53303),

Gene: JakeO\_61 Start: 54286, Stop: 52427, Start Num: 196

Candidate Starts for JakeO\_61:

(Start: 175 @54310 has 1 MA's), (Start: 196 @54286 has 254 MA's), (Start: 221 @54262 has 2 MA's), (Start: 227 @54256 has 3 MA's), (246, 54214), (259, 54193), (307, 54079), (311, 54073), (326, 54043), (355, 53983), (366, 53962), (386, 53908), (391, 53896), (396, 53878), (398, 53866), (431, 53761), (454, 53704), (466, 53668), (471, 53656), (482, 53632), (486, 53620), (491, 53602), (499, 53584), (509, 53566), (533, 53527), (540, 53518), (542, 53515), (544, 53512), (695, 53155), (701, 53122), (706, 53101), (727, 53008), (730, 52999), (744, 52936), (760, 52900), (761, 52897), (766, 52882), (790, 52804), (794, 52792), (800, 52771), (817, 52732), (851, 52642), (856, 52624), (858, 52618), (868, 52603), (875, 52579), (877, 52564), (878, 52561), (881, 52549), (890, 52525), (895,

52504), (907, 52477), (912, 52453), (915, 52438),

Gene: Jamzy\_48 Start: 33115, Stop: 30731, Start Num: 41

Candidate Starts for Jamzy\_48:

(Start: 41 @33115 has 23 MA's), (81, 33001), (91, 32971), (119, 32887), (127, 32863), (166, 32809), (235, 32704), (241, 32689), (Start: 267 @32641 has 137 MA's), (303, 32566), (306, 32560), (308, 32554), (312, 32548), (337, 32479), (352, 32455), (365, 32431), (386, 32374), (393, 32356), (397, 32335), (455, 32188), (490, 32074), (528, 32017), (546, 31996), (551, 31990), (603, 31897), (608, 31885), (640, 31813), (664, 31759), (698, 31618), (703, 31594), (714, 31543), (733, 31450), (741, 31414), (743, 31408), (745, 31402), (746, 31396), (761, 31339), (768, 31315), (815, 31156), (825, 31135), (836, 31096), (847, 31057), (851, 31036), (857, 31015), (861, 31003), (868, 30985), (883, 30922), (885, 30916), (893, 30889), (901, 30865), (908, 30844), (934, 30757),

Gene: Janeemi\_43 Start: 31325, Stop: 33190, Start Num: 231

Candidate Starts for Janeemi\_43:

(Start: 231 @31325 has 845 MA's), (254, 31373), (329, 31529), (378, 31622), (388, 31643), (406, 31712), (492, 31928), (542, 32018), (549, 32027), (558, 32042), (562, 32054), (595, 32132), (613, 32180), (643, 32237), (674, 32318), (700, 32438), (720, 32525), (733, 32591), (759, 32684), (780, 32756), (820, 32864), (841, 32906), (851, 32951), (893, 33074), (896, 33086), (901, 33095), (929, 33173),

Gene: JangoPhett\_60 Start: 54351, Stop: 52492, Start Num: 196

Candidate Starts for JangoPhett\_60:

(Start: 175 @54375 has 1 MA's), (Start: 196 @54351 has 254 MA's), (Start: 221 @54327 has 2 MA's), (Start: 227 @54321 has 3 MA's), (246, 54279), (259, 54258), (307, 54144), (311, 54138), (326, 54108), (355, 54048), (366, 54027), (386, 53973), (391, 53961), (396, 53943), (398, 53931), (431, 53826), (454, 53769), (466, 53733), (471, 53721), (482, 53697), (486, 53685), (491, 53667), (499, 53649), (509, 53631), (533, 53592), (540, 53583), (542, 53580), (544, 53577), (695, 53220), (701, 53187), (706, 53166), (727, 53073), (730, 53064), (744, 53001), (760, 52965), (761, 52962), (766, 52947), (790, 52869), (794, 52857), (800, 52836), (817, 52797), (851, 52707), (856, 52689), (858, 52683), (868, 52668), (875, 52644), (877, 52629), (878, 52626), (881, 52614), (890, 52590), (907, 52542), (912, 52518),

Gene: Janus167\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for Janus167\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: Jasmine\_38 Start: 33398, Stop: 31653, Start Num: 247

Candidate Starts for Jasmine\_38:

(237, 33425), (Start: 247 @33398 has 6 MA's), (249, 33395), (269, 33362), (272, 33356), (311, 33263), (327, 33230), (336, 33203), (399, 33068), (437, 32939), (439, 32933), (468, 32909), (473, 32894), (486, 32867), (495, 32837), (549, 32756), (581, 32687), (593, 32666), (644, 32552), (650, 32534), (726, 32231), (743, 32156), (755, 32138), (773, 32072), (855, 31838), (871, 31796), (896, 31712), (908, 31679),

Gene: JasmineDragon\_45 Start: 30557, Stop: 32419, Start Num: 231

Candidate Starts for JasmineDragon\_45:

(162, 30458), (Start: 173 @30476 has 1 MA's), (Start: 231 @30557 has 845 MA's), (254, 30605), (330, 30764), (332, 30770), (388, 30875), (400, 30920), (483, 31127), (549, 31256), (595, 31361), (613, 31409), (655, 31493), (700, 31667), (719, 31751), (724, 31784), (727, 31793), (738, 31844), (759, 31913), (793, 32024), (820, 32093), (823, 32099), (858, 32204), (896, 32315),

Gene: JasonD\_43 Start: 29488, Stop: 27620, Start Num: 267

Candidate Starts for JasonD\_43:

(Start: 214 @29575 has 4 MA's), (Start: 216 @29572 has 7 MA's), (Start: 267 @29488 has 137 MA's), (Start: 275 @29479 has 5 MA's), (340, 29332), (395, 29212), (397, 29200), (400, 29194), (490, 28921), (494, 28912), (498, 28900), (516, 28870), (525, 28855), (527, 28849), (530, 28843), (576, 28768), (674, 28522), (726, 28306), (729, 28297), (730, 28294), (733, 28276), (743, 28234), (768, 28144), (777, 28099), (815, 27985), (828, 27946), (847, 27886), (852, 27862), (854, 27856), (863, 27823), (875, 27790), (876, 27778),

Gene: Jasper\_46 Start: 34284, Stop: 32455, Start Num: 231

Candidate Starts for Jasper\_46:

(Start: 231 @34284 has 845 MA's), (332, 34071), (337, 34056), (367, 34008), (378, 33978), (388, 33957), (390, 33951), (392, 33942), (425, 33825), (434, 33798), (487, 33705), (492, 33690), (501, 33669), (509, 33657), (541, 33606), (543, 33603), (575, 33537), (589, 33507), (598, 33477), (616, 33432), (638, 33393), (700, 33213), (709, 33165), (722, 33117), (730, 33078), (733, 33060), (742, 33021), (755, 33000), (760, 32979), (765, 32964), (803, 32841), (871, 32670), (876, 32646), (893, 32598), (896, 32586), (906, 32565), (908, 32559), (921, 32511), (928, 32496),

Gene: JasperRussell\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for JasperRussell\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: Jaykayelowell\_43 Start: 31563, Stop: 29737, Start Num: 231

Candidate Starts for Jaykayelowell\_43:

(Start: 231 @31563 has 845 MA's), (240, 31542), (256, 31512), (274, 31482), (350, 31320), (360, 31302), (390, 31230), (392, 31221), (426, 31101), (434, 31077), (487, 30984), (511, 30936), (524, 30915), (549, 30876), (603, 30744), (613, 30723), (638, 30678), (643, 30666), (697, 30513), (700, 30492), (726, 30369), (733, 30339), (742, 30300), (760, 30234), (761, 30231), (766, 30216), (772, 30192), (780, 30168), (851, 29961), (896, 29826), (902, 29814), (906, 29805),

Gene: Jeeves\_50 Start: 31954, Stop: 30161, Start Num: 231

Candidate Starts for Jeeves\_50:

(Start: 231 @31954 has 845 MA's), (236, 31945), (291, 31843), (329, 31750), (367, 31675), (369, 31672), (390, 31618), (426, 31489), (434, 31465), (487, 31372), (505, 31327), (562, 31234), (575, 31204), (638, 31057), (671, 31006), (683, 30958), (700, 30877), (716, 30811), (726, 30754), (733, 30724), (755, 30664), (760, 30643), (796, 30526), (806, 30499), (844, 30418), (846, 30409), (873, 30328), (877, 30307), (880, 30298), (896, 30250), (902, 30238), (906, 30229), (907, 30226),

Gene: Jeffabunny\_45 Start: 29478, Stop: 27607, Start Num: 210

Candidate Starts for Jeffabunny\_45:

(Start: 210 @29478 has 1 MA's), (Start: 231 @29448 has 845 MA's), (329, 29244), (367, 29169), (369, 29166), (378, 29139), (384, 29124), (390, 29112), (403, 29061), (430, 28971), (434, 28959), (487,

28866), (502, 28827), (513, 28809), (524, 28794), (562, 28728), (576, 28695), (577, 28692), (619, 28590), (652, 28530), (683, 28446), (700, 28365), (719, 28281), (720, 28278), (722, 28269), (726, 28242), (733, 28212), (755, 28152), (766, 28113), (846, 27897), (847, 27894), (851, 27873), (896, 27738), (902, 27726), (906, 27717), (907, 27714), (939, 27621),

Gene: Jemerald\_40 Start: 29369, Stop: 27471, Start Num: 267

Candidate Starts for Jemerald\_40:

(Start: 267 @29369 has 137 MA's), (332, 29231), (338, 29216), (342, 29210), (370, 29159), (393, 29102), (397, 29081), (400, 29075), (416, 29027), (417, 29024), (453, 28925), (467, 28877), (490, 28802), (494, 28793), (498, 28781), (516, 28751), (527, 28730), (536, 28715), (576, 28649), (634, 28502), (661, 28442), (666, 28427), (675, 28400), (724, 28160), (733, 28124), (743, 28082), (751, 28052), (768, 27995), (811, 27851), (815, 27836), (828, 27797), (836, 27776), (852, 27713), (862, 27680), (876, 27629), (878, 27623), (893, 27569),

Gene: JenCasNa\_49 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for JenCasNa\_49:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (641, 30952), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772, 30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Jenos\_42 Start: 30134, Stop: 28266, Start Num: 267

Candidate Starts for Jenos\_42:

(256, 30149), (Start: 267 @30134 has 137 MA's), (Start: 275 @30125 has 5 MA's), (338, 29981), (340, 29978), (393, 29867), (395, 29858), (397, 29846), (400, 29840), (436, 29735), (467, 29642), (490, 29567), (494, 29558), (498, 29546), (513, 29519), (516, 29516), (525, 29501), (527, 29495), (530, 29489), (612, 29327), (726, 28952), (729, 28943), (730, 28940), (733, 28922), (743, 28880), (768, 28790), (775, 28763), (815, 28631), (828, 28592), (847, 28532), (852, 28508), (863, 28469), (875, 28436), (876, 28424),

Gene: JeppNRM\_49 Start: 31754, Stop: 29940, Start Num: 231

Candidate Starts for JeppNRM\_49:

(Start: 231 @31754 has 845 MA's), (248, 31715), (256, 31703), (329, 31550), (333, 31535), (367, 31478), (390, 31421), (392, 31412), (403, 31370), (415, 31319), (434, 31268), (487, 31175), (509, 31127), (524, 31103), (549, 31064), (562, 31037), (575, 31007), (608, 30917), (610, 30914), (616, 30902), (641, 30854), (652, 30839), (700, 30683), (711, 30632), (719, 30599), (720, 30596), (733, 30530), (742, 30491), (761, 30419), (772, 30380), (780, 30356), (786, 30338), (796, 30305), (834, 30224), (851, 30164), (856, 30146), (877, 30086), (880, 30077), (896, 30029), (902, 30017), (906, 30008),

Gene: Jerbirus\_39 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for Jerbirus\_39:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: JeriBeth\_39 Start: 28482, Stop: 26617, Start Num: 267

Candidate Starts for JeriBeth\_39:

(Start: 214 @28569 has 4 MA's), (Start: 216 @28566 has 7 MA's), (Start: 267 @28482 has 137 MA's), (Start: 275 @28473 has 5 MA's), (321, 28368), (325, 28359), (338, 28329), (340, 28326), (395, 28206), (397, 28194), (400, 28188), (436, 28083), (445, 28056), (490, 27915), (492, 27909), (494, 27906), (498, 27894), (513, 27867), (516, 27864), (525, 27849), (527, 27843), (530, 27837), (553, 27804), (612, 27675), (634, 27615), (726, 27300), (729, 27291), (730, 27288), (733, 27270), (743, 27228), (745, 27222), (747, 27213), (751, 27198), (768, 27141), (815, 26982), (827, 26952), (828, 26943), (847, 26883), (852, 26859), (863, 26820), (875, 26787), (876, 26775), (893, 26715),

Gene: Jerm\_46 Start: 31734, Stop: 29947, Start Num: 231

Candidate Starts for Jerm\_46:

(156, 31821), (Start: 231 @31734 has 845 MA's), (330, 31527), (332, 31521), (337, 31506), (350, 31491), (369, 31455), (378, 31428), (390, 31401), (395, 31380), (434, 31248), (487, 31155), (509, 31107), (513, 31098), (524, 31083), (562, 31017), (595, 30936), (613, 30888), (616, 30882), (652, 30819), (700, 30663), (711, 30612), (719, 30579), (720, 30576), (733, 30510), (742, 30471), (755, 30450), (775, 30375), (780, 30363), (796, 30312), (823, 30249), (834, 30231), (846, 30195), (851, 30171), (877, 30093), (896, 30036), (902, 30024), (906, 30015),

Gene: Jerm2\_45 Start: 34938, Stop: 33109, Start Num: 231

Candidate Starts for Jerm2\_45:

(Start: 231 @34938 has 845 MA's), (332, 34725), (337, 34710), (367, 34662), (378, 34632), (388, 34611), (390, 34605), (392, 34596), (425, 34479), (434, 34452), (487, 34359), (492, 34344), (541, 34260), (543, 34257), (575, 34191), (589, 34161), (598, 34131), (616, 34086), (638, 34047), (700, 33867), (709, 33819), (722, 33771), (730, 33732), (733, 33714), (742, 33675), (755, 33654), (760, 33633), (803, 33495), (871, 33324), (876, 33300), (889, 33267), (893, 33252), (896, 33240), (906, 33219), (908, 33213), (921, 33165), (928, 33150),

Gene: Jester\_36 Start: 28049, Stop: 26265, Start Num: 231

Candidate Starts for Jester\_36:

(Start: 231 @28049 has 845 MA's), (345, 27815), (363, 27785), (366, 27776), (367, 27773), (384, 27728), (390, 27716), (403, 27665), (434, 27563), (450, 27542), (487, 27470), (509, 27422), (549, 27359), (562, 27332), (603, 27227), (616, 27200), (638, 27161), (700, 26981), (709, 26933), (733, 26828), (734, 26825), (755, 26768), (760, 26747), (798, 26624), (832, 26555), (846, 26513), (851, 26489), (877, 26411), (896, 26354), (902, 26342), (917, 26285),

Gene: JetBlade\_45 Start: 31564, Stop: 29738, Start Num: 231

Candidate Starts for JetBlade\_45:

(Start: 231 @31564 has 845 MA's), (240, 31543), (256, 31513), (274, 31483), (350, 31321), (360, 31303), (390, 31231), (392, 31222), (426, 31102), (434, 31078), (487, 30985), (511, 30937), (524, 30916), (549, 30877), (603, 30745), (613, 30724), (638, 30679), (643, 30667), (697, 30514), (700, 30493), (726, 30370), (733, 30340), (742, 30301), (760, 30235), (761, 30232), (766, 30217), (772, 30193), (780, 30169), (851, 29962), (856, 29944), (896, 29827), (902, 29815), (906, 29806),

Gene: JewelBug\_47 Start: 29796, Stop: 27955, Start Num: 231

Candidate Starts for JewelBug\_47:

(Start: 231 @29796 has 845 MA's), (329, 29592), (367, 29517), (369, 29514), (378, 29487), (384, 29472), (390, 29460), (403, 29409), (430, 29319), (434, 29307), (487, 29214), (502, 29175), (513, 29157), (524, 29142), (562, 29076), (576, 29043), (577, 29040), (619, 28938), (652, 28878), (683, 28794), (700, 28713), (719, 28629), (720, 28626), (722, 28617), (726, 28590), (733, 28560), (755, 28500), (766, 28461), (846, 28245), (847, 28242), (851, 28221), (896, 28086), (902, 28074), (906, 28065), (907, 28062), (939, 27969),

Gene: Jillium\_60 Start: 54555, Stop: 52696, Start Num: 196

Candidate Starts for Jillium\_60:

(Start: 175 @54579 has 1 MA's), (Start: 196 @54555 has 254 MA's), (Start: 221 @54531 has 2 MA's), (Start: 227 @54525 has 3 MA's), (246, 54483), (259, 54462), (307, 54348), (311, 54342), (326, 54312), (355, 54252), (366, 54231), (386, 54177), (391, 54165), (396, 54147), (398, 54135), (431, 54030), (454, 53973), (466, 53937), (471, 53925), (482, 53901), (486, 53889), (491, 53871), (499, 53853), (509, 53835), (533, 53796), (540, 53787), (542, 53784), (544, 53781), (695, 53424), (701, 53391), (706, 53370), (727, 53277), (730, 53268), (744, 53205), (760, 53169), (761, 53166), (766, 53151), (790, 53073), (794, 53061), (800, 53040), (817, 53001), (851, 52911), (856, 52893), (858, 52887), (868, 52872), (875, 52848), (877, 52833), (878, 52830), (881, 52818), (890, 52794), (907, 52746), (912, 52722),

Gene: Jiminy\_61 Start: 54122, Stop: 52263, Start Num: 196

Candidate Starts for Jiminy\_61:

(Start: 175 @54146 has 1 MA's), (Start: 196 @54122 has 254 MA's), (Start: 221 @54098 has 2 MA's), (Start: 227 @54092 has 3 MA's), (246, 54050), (259, 54029), (307, 53915), (311, 53909), (326, 53879), (355, 53819), (366, 53798), (386, 53744), (391, 53732), (396, 53714), (398, 53702), (431, 53597), (454, 53540), (466, 53504), (471, 53492), (482, 53468), (486, 53456), (491, 53438), (499, 53420), (509, 53402), (533, 53363), (540, 53354), (542, 53351), (544, 53348), (668, 53093), (695, 52991), (701, 52958), (706, 52937), (727, 52844), (730, 52835), (744, 52772), (760, 52736), (761, 52733), (766, 52718), (790, 52640), (794, 52628), (800, 52607), (817, 52568), (851, 52478), (856, 52460), (858, 52454), (868, 52439), (875, 52415), (877, 52400), (878, 52397), (881, 52385), (890, 52361), (895, 52340), (907, 52313), (912, 52289), (915, 52274),

Gene: Jiraiya\_64 Start: 54320, Stop: 52461, Start Num: 196

Candidate Starts for Jiraiya\_64:

(Start: 175 @54344 has 1 MA's), (Start: 196 @54320 has 254 MA's), (Start: 221 @54296 has 2 MA's), (Start: 227 @54290 has 3 MA's), (246, 54248), (259, 54227), (307, 54113), (311, 54107), (326, 54077), (355, 54017), (366, 53996), (386, 53942), (391, 53930), (396, 53912), (398, 53900), (431, 53795), (454, 53738), (466, 53702), (471, 53690), (483, 53663), (499, 53618), (533, 53561), (540, 53552), (542, 53549), (695, 53189), (701, 53156), (706, 53135), (727, 53042), (730, 53033), (744, 52970), (760, 52934), (761, 52931), (766, 52916), (790, 52838), (794, 52826), (800, 52805), (817, 52766), (851, 52676), (856, 52658), (858, 52652), (868, 52637), (875, 52613), (877, 52598), (878, 52595), (881, 52583), (890, 52559), (907, 52511), (912, 52487), (915, 52472),

Gene: Jobu08\_47 Start: 31685, Stop: 29871, Start Num: 231

Candidate Starts for Jobu08\_47:

(Start: 231 @31685 has 845 MA's), (248, 31646), (256, 31634), (329, 31481), (333, 31466), (367, 31409), (390, 31352), (392, 31343), (403, 31301), (415, 31250), (434, 31199), (487, 31106), (509, 31058), (513, 31049), (524, 31034), (549, 30995), (562, 30968), (575, 30938), (610, 30845), (616, 30833), (641, 30785), (652, 30770), (700, 30614), (720, 30527), (733, 30461), (742, 30422), (761, 30350), (772, 30311), (780, 30287), (786, 30269), (796, 30236), (806, 30209), (834, 30155), (851, 30095), (877, 30017), (896, 29960), (902, 29948), (906, 29939),

Gene: Joemato\_43 Start: 29704, Stop: 31569, Start Num: 231

Candidate Starts for Joemato\_43:

(Start: 136 @29560 has 1 MA's), (Start: 145 @29587 has 1 MA's), (147, 29590), (166, 29617), (Start: 231 @29704 has 845 MA's), (254, 29752), (378, 30001), (395, 30049), (406, 30091), (489, 30298), (492, 30307), (542, 30397), (549, 30406), (558, 30421), (576, 30466), (595, 30511), (613, 30559), (643, 30616), (674, 30697), (694, 30784), (700, 30817), (708, 30847), (720, 30904), (733, 30970), (759, 31063), (780, 31135), (820, 31243), (846, 31306), (851, 31330), (890, 31441), (896, 31465), (901, 31474),

Gene: JohnDoe\_41 Start: 29700, Stop: 31565, Start Num: 231



Candidate Starts for JohnDoe\_41:

(Start: 231 @29700 has 845 MA's), (254, 29748), (378, 29997), (395, 30045), (406, 30087), (489, 30294), (492, 30303), (542, 30393), (549, 30402), (558, 30417), (576, 30462), (595, 30507), (613, 30555), (643, 30612), (674, 30693), (694, 30780), (700, 30813), (708, 30843), (720, 30900), (733, 30966), (738, 30990), (759, 31059), (780, 31131), (820, 31239), (846, 31302), (851, 31326), (890, 31437), (895, 31458), (896, 31461), (901, 31470), (911, 31506),

Gene: Johnathan\_41 Start: 28861, Stop: 30735, Start Num: 222

Candidate Starts for Johnathan\_41:

(Start: 220 @28858 has 7 MA's), (Start: 222 @28861 has 57 MA's), (Start: 266 @28930 has 4 MA's), (279, 28951), (392, 29197), (403, 29239), (500, 29452), (549, 29533), (651, 29767), (688, 29890), (700, 29950), (702, 29956), (711, 30001), (716, 30016), (718, 30031), (724, 30067), (733, 30103), (759, 30196), (787, 30289), (816, 30367), (846, 30439), (855, 30478), (873, 30520), (876, 30538), (890, 30574), (896, 30598), (906, 30619),

Gene: Jolie1\_052 Start: 52581, Stop: 50743, Start Num: 183

Candidate Starts for Jolie1\_052:

(64, 52887), (80, 52845), (84, 52830), (Start: 183 @52581 has 3 MA's), (240, 52524), (246, 52509), (289, 52443), (290, 52440), (355, 52287), (356, 52284), (367, 52263), (386, 52212), (389, 52206), (395, 52188), (407, 52146), (410, 52143), (417, 52113), (454, 52020), (466, 51984), (471, 51972), (491, 51918), (524, 51858), (540, 51834), (542, 51831), (575, 51765), (682, 51531), (684, 51513), (689, 51495), (701, 51438), (725, 51330), (727, 51324), (730, 51315), (744, 51252), (760, 51216), (761, 51213), (766, 51198), (790, 51120), (794, 51108), (800, 51087), (802, 51081), (817, 51048), (834, 51018), (841, 51003), (846, 50982), (851, 50958), (858, 50934), (875, 50895), (876, 50883), (877, 50880), (878, 50877), (881, 50865), (890, 50841), (912, 50769), (917, 50748),

Gene: JoongJeon\_44 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for JoongJeon\_44:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Jordennis\_45 Start: 29635, Stop: 27794, Start Num: 231

Candidate Starts for Jordennis\_45:

(Start: 231 @29635 has 845 MA's), (329, 29431), (367, 29356), (369, 29353), (378, 29326), (384, 29311), (390, 29299), (403, 29248), (430, 29158), (434, 29146), (487, 29053), (502, 29014), (513, 28996), (524, 28981), (562, 28915), (576, 28882), (577, 28879), (619, 28777), (652, 28717), (683, 28633), (700, 28552), (719, 28468), (720, 28465), (722, 28456), (726, 28429), (730, 28417), (733, 28399), (755, 28339), (766, 28300), (846, 28084), (847, 28081), (851, 28060), (896, 27925), (902, 27913), (906, 27904), (907, 27901), (939, 27808),

Gene: Jorgensen\_45 Start: 34588, Stop: 32762, Start Num: 231

Candidate Starts for Jorgensen\_45:

(Start: 231 @34588 has 845 MA's), (332, 34375), (337, 34360), (367, 34312), (378, 34282), (388, 34261), (390, 34255), (392, 34246), (425, 34129), (434, 34102), (487, 34009), (492, 33994), (541, 33910), (543, 33907), (575, 33841), (589, 33811), (598, 33781), (616, 33736), (638, 33697), (700, 33517), (708, 33487), (709, 33469), (720, 33430), (733, 33364), (760, 33283), (761, 33280), (786, 33199), (846, 33049), (847, 33046), (855, 33010), (868, 32986), (870, 32977), (874, 32965), (896, 32890), (906, 32869),

Gene: Joselito\_45 Start: 30776, Stop: 28989, Start Num: 231

Candidate Starts for Joselito\_45:

(Start: 231 @30776 has 845 MA's), (329, 30572), (367, 30500), (378, 30470), (390, 30443), (489, 30191), (513, 30140), (562, 30059), (582, 30014), (643, 29873), (672, 29831), (683, 29786), (700, 29705), (711, 29654), (720, 29618), (733, 29552), (755, 29492), (758, 29480), (789, 29378), (796, 29354), (802, 29336), (834, 29273), (844, 29246), (846, 29237), (851, 29213), (896, 29078), (902, 29066), (906, 29057),

Gene: JoshKayV\_46 Start: 31792, Stop: 30005, Start Num: 231

Candidate Starts for JoshKayV\_46:

(Start: 231 @31792 has 845 MA's), (330, 31585), (332, 31579), (337, 31564), (350, 31549), (369, 31513), (378, 31486), (390, 31459), (395, 31438), (434, 31306), (487, 31213), (509, 31165), (513, 31156), (524, 31141), (562, 31075), (595, 30994), (613, 30946), (616, 30940), (652, 30877), (700, 30721), (719, 30637), (720, 30634), (733, 30568), (742, 30529), (755, 30508), (775, 30433), (780, 30421), (806, 30343), (823, 30307), (834, 30289), (846, 30253), (851, 30229), (877, 30151), (896, 30094), (902, 30082), (906, 30073),

Gene: Journey13\_40 Start: 30167, Stop: 28380, Start Num: 231

Candidate Starts for Journey13\_40:

(Start: 231 @30167 has 845 MA's), (329, 29963), (330, 29960), (332, 29954), (350, 29924), (363, 29903), (366, 29894), (367, 29891), (378, 29861), (390, 29834), (395, 29813), (432, 29687), (434, 29681), (487, 29588), (490, 29579), (509, 29540), (524, 29516), (562, 29450), (603, 29342), (613, 29321), (700, 29096), (711, 29045), (722, 29000), (726, 28973), (733, 28943), (742, 28904), (755, 28883), (775, 28808), (782, 28790), (796, 28745), (806, 28718), (823, 28682), (834, 28664), (846, 28628), (851, 28604), (896, 28469), (902, 28457), (906, 28448),

Gene: Jovita\_43 Start: 29600, Stop: 31474, Start Num: 222

Candidate Starts for Jovita\_43:

(Start: 220 @29597 has 7 MA's), (Start: 222 @29600 has 57 MA's), (Start: 266 @29669 has 4 MA's), (279, 29690), (367, 29870), (403, 29978), (549, 30272), (603, 30407), (651, 30506), (688, 30629), (700, 30689), (702, 30695), (711, 30740), (716, 30755), (718, 30770), (724, 30806), (733, 30842), (759, 30935), (787, 31028), (816, 31106), (817, 31109), (846, 31178), (847, 31181), (855, 31217), (873, 31259), (876, 31277), (896, 31337), (906, 31358),

Gene: Jovo\_38 Start: 30627, Stop: 28783, Start Num: 231

Candidate Starts for Jovo\_38:

(Start: 231 @30627 has 845 MA's), (256, 30576), (291, 30516), (317, 30453), (329, 30423), (330, 30420), (363, 30363), (367, 30351), (378, 30321), (390, 30294), (415, 30192), (422, 30177), (434, 30141), (475, 30081), (487, 30045), (509, 29997), (561, 29913), (562, 29907), (594, 29835), (603, 29802), (610, 29787), (616, 29775), (668, 29676), (700, 29541), (708, 29511), (709, 29493), (711, 29490), (720, 29454), (722, 29445), (724, 29424), (727, 29415), (733, 29388), (734, 29385), (755, 29328), (760, 29307), (796, 29190), (818, 29136), (823, 29127), (834, 29109), (856, 29031), (876, 28974), (890, 28938), (896, 28914), (902, 28902),

Gene: Jsquared\_43 Start: 30314, Stop: 28527, Start Num: 230

Candidate Starts for Jsquared\_43:

(138, 30455), (Start: 230 @30314 has 8 MA's), (329, 30110), (330, 30107), (332, 30101), (337, 30086), (350, 30071), (366, 30041), (367, 30038), (378, 30008), (390, 29981), (395, 29960), (403, 29930), (434, 29828), (487, 29735), (509, 29687), (513, 29678), (524, 29663), (562, 29597), (595, 29516), (613, 29468), (638, 29423), (700, 29243), (709, 29195), (711, 29192), (720, 29156), (733, 29090), (742, 29051), (755, 29030), (775, 28955), (782, 28937), (796, 28892), (806, 28865), (823, 28829), (834, 28811), (846, 28775), (851, 28751), (896, 28616), (902, 28604), (906, 28595), (907, 28592),

Gene: Jstan\_41 Start: 30355, Stop: 32220, Start Num: 231

Candidate Starts for Jstan\_41:

(Start: 231 @30355 has 845 MA's), (254, 30403), (348, 30586), (351, 30592), (378, 30652), (388, 30673), (406, 30742), (492, 30958), (542, 31048), (549, 31057), (558, 31072), (576, 31117), (613, 31210), (674, 31348), (700, 31468), (708, 31498), (720, 31555), (731, 31612), (733, 31621), (738, 31645), (759, 31714), (780, 31786), (783, 31795), (820, 31894), (846, 31957), (896, 32116), (901, 32125),

Gene: Juanyo\_37 Start: 28491, Stop: 26590, Start Num: 267

Candidate Starts for Juanyo\_37:

(Start: 267 @28491 has 137 MA's), (314, 28392), (325, 28368), (332, 28353), (338, 28338), (342, 28332), (359, 28305), (370, 28281), (391, 28230), (397, 28203), (400, 28197), (417, 28146), (430, 28107), (453, 28047), (476, 27978), (490, 27921), (494, 27912), (498, 27900), (516, 27870), (551, 27813), (620, 27666), (677, 27510), (733, 27243), (743, 27201), (751, 27171), (758, 27150), (768, 27114), (827, 26925), (828, 26916), (847, 26856), (852, 26832), (855, 26820), (862, 26799), (863, 26793), (893, 26688),

Gene: Juicer\_40 Start: 29369, Stop: 27471, Start Num: 267

Candidate Starts for Juicer\_40:

(Start: 267 @29369 has 137 MA's), (332, 29231), (338, 29216), (342, 29210), (370, 29159), (393, 29102), (397, 29081), (400, 29075), (416, 29027), (417, 29024), (453, 28925), (467, 28877), (490, 28802), (494, 28793), (498, 28781), (516, 28751), (527, 28730), (536, 28715), (576, 28649), (634, 28502), (661, 28442), (666, 28427), (675, 28400), (724, 28160), (733, 28124), (743, 28082), (751, 28052), (768, 27995), (811, 27851), (815, 27836), (828, 27797), (836, 27776), (852, 27713), (862, 27680), (876, 27629), (878, 27623), (893, 27569),

Gene: JuliaChild\_45 Start: 34674, Stop: 32845, Start Num: 231

Candidate Starts for JuliaChild\_45:

(Start: 231 @34674 has 845 MA's), (332, 34461), (337, 34446), (367, 34398), (378, 34368), (388, 34347), (390, 34341), (392, 34332), (425, 34215), (434, 34188), (487, 34095), (492, 34080), (501, 34059), (541, 33996), (543, 33993), (575, 33927), (589, 33897), (598, 33867), (616, 33822), (638, 33783), (700, 33603), (709, 33555), (722, 33507), (730, 33468), (733, 33450), (742, 33411), (755, 33390), (760, 33369), (765, 33354), (803, 33231), (871, 33060), (876, 33036), (893, 32988), (896, 32976), (906, 32955), (908, 32949), (921, 32901), (928, 32886),

Gene: JuneStar\_42 Start: 31105, Stop: 33111, Start Num: 136

Candidate Starts for JuneStar\_42:

(124, 31072), (Start: 136 @31105 has 1 MA's), (Start: 145 @31132 has 1 MA's), (147, 31135), (166, 31162), (Start: 231 @31246 has 845 MA's), (254, 31294), (378, 31543), (406, 31633), (413, 31663), (489, 31840), (492, 31849), (549, 31948), (558, 31963), (562, 31975), (613, 32101), (674, 32239), (700, 32359), (720, 32446), (733, 32512), (759, 32605), (851, 32872), (871, 32923), (896, 33007),

Gene: KADY\_48 Start: 31884, Stop: 30070, Start Num: 231

Candidate Starts for KADY\_48:

(Start: 231 @31884 has 845 MA's), (248, 31845), (256, 31833), (329, 31680), (333, 31665), (367, 31608), (390, 31551), (392, 31542), (403, 31500), (415, 31449), (434, 31398), (472, 31344), (487, 31305), (509, 31257), (524, 31233), (549, 31194), (562, 31167), (575, 31137), (610, 31044), (616, 31032), (641, 30984), (652, 30969), (700, 30813), (711, 30762), (719, 30729), (720, 30726), (733, 30660), (742, 30621), (761, 30549), (772, 30510), (780, 30486), (786, 30468), (796, 30435), (834, 30354), (851, 30294), (880, 30207), (896, 30159), (902, 30147), (906, 30138), (907, 30135),

Gene: KBG\_46 Start: 35895, Stop: 34069, Start Num: 231

Candidate Starts for KBG\_46:

(Start: 231 @35895 has 845 MA's), (332, 35682), (337, 35667), (367, 35619), (378, 35589), (382, 35577), (388, 35568), (390, 35562), (392, 35553), (425, 35436), (434, 35409), (487, 35316), (492, 35301), (509, 35268), (541, 35217), (543, 35214), (575, 35148), (589, 35118), (598, 35088), (616, 35043), (638, 35004), (700, 34824), (708, 34794), (709, 34776), (711, 34773), (720, 34737), (733, 34671), (760, 34590), (761, 34587), (786, 34506), (846, 34356), (847, 34353), (855, 34317), (868, 34293), (870, 34284), (874, 34272), (880, 34245), (896, 34197), (906, 34176),

Gene: KFPoly\_44 Start: 31564, Stop: 29738, Start Num: 231

Candidate Starts for KFPoly\_44:

(Start: 231 @31564 has 845 MA's), (240, 31543), (256, 31513), (274, 31483), (350, 31321), (360, 31303), (390, 31231), (392, 31222), (426, 31102), (434, 31078), (487, 30985), (511, 30937), (524, 30916), (549, 30877), (603, 30745), (613, 30724), (638, 30679), (643, 30667), (697, 30514), (700, 30493), (726, 30370), (733, 30340), (742, 30301), (760, 30235), (761, 30232), (766, 30217), (772, 30193), (780, 30169), (851, 29962), (896, 29827), (902, 29815), (906, 29806),

Gene: KLucky39\_59 Start: 53611, Stop: 51752, Start Num: 196

Candidate Starts for KLucky39\_59:

(Start: 175 @53635 has 1 MA's), (Start: 196 @53611 has 254 MA's), (Start: 221 @53587 has 2 MA's), (Start: 227 @53581 has 3 MA's), (246, 53539), (259, 53518), (307, 53404), (311, 53398), (326, 53368), (355, 53308), (366, 53287), (386, 53233), (391, 53221), (396, 53203), (398, 53191), (431, 53086), (454, 53029), (466, 52993), (471, 52981), (483, 52954), (491, 52927), (499, 52909), (509, 52891), (533, 52852), (540, 52843), (542, 52840), (668, 52582), (695, 52480), (701, 52447), (706, 52426), (727, 52333), (730, 52324), (744, 52261), (760, 52225), (761, 52222), (766, 52207), (790, 52129), (794, 52117), (800, 52096), (817, 52057), (851, 51967), (856, 51949), (858, 51943), (868, 51928), (875, 51904), (877, 51889), (878, 51886), (881, 51874), (890, 51850), (907, 51802), (912, 51778),

Gene: KSSJEB\_43 Start: 34167, Stop: 32338, Start Num: 231

Candidate Starts for KSSJEB\_43:

(Start: 231 @34167 has 845 MA's), (332, 33954), (337, 33939), (367, 33891), (378, 33861), (388, 33840), (390, 33834), (392, 33825), (425, 33708), (434, 33681), (487, 33588), (492, 33573), (509, 33540), (541, 33489), (543, 33486), (575, 33420), (598, 33360), (616, 33315), (638, 33276), (700, 33096), (709, 33048), (722, 33000), (730, 32961), (733, 32943), (742, 32904), (755, 32883), (760, 32862), (765, 32847), (803, 32724), (871, 32553), (876, 32529), (893, 32481), (896, 32469), (906, 32448), (908, 32442), (921, 32394), (928, 32379),

Gene: Kahve\_60 Start: 54557, Stop: 52698, Start Num: 196

Candidate Starts for Kahve\_60:

(Start: 175 @54581 has 1 MA's), (Start: 196 @54557 has 254 MA's), (Start: 221 @54533 has 2 MA's), (Start: 227 @54527 has 3 MA's), (246, 54485), (259, 54464), (307, 54350), (311, 54344), (326, 54314), (355, 54254), (366, 54233), (386, 54179), (391, 54167), (396, 54149), (398, 54137), (431, 54032), (454, 53975), (466, 53939), (471, 53927), (483, 53900), (491, 53873), (499, 53855), (509, 53837), (533, 53798), (540, 53789), (542, 53786), (668, 53528), (695, 53426), (701, 53393), (706, 53372), (727, 53279), (730, 53270), (744, 53207), (760, 53171), (761, 53168), (766, 53153), (790, 53075), (794, 53063), (800, 53042), (817, 53003), (851, 52913), (856, 52895), (858, 52889), (868, 52874), (875, 52850), (877, 52835), (878, 52832), (881, 52820), (890, 52796), (895, 52775), (907, 52748), (912, 52724),

Gene: Kailash\_61 Start: 54637, Stop: 52778, Start Num: 196

Candidate Starts for Kailash\_61:

(Start: 175 @54661 has 1 MA's), (Start: 196 @54637 has 254 MA's), (Start: 221 @54613 has 2 MA's), (Start: 227 @54607 has 3 MA's), (246, 54565), (259, 54544), (307, 54430), (311, 54424), (326, 54394), (355, 54334), (366, 54313), (386, 54259), (391, 54247), (396, 54229), (398, 54217), (431,

54112), (454, 54055), (466, 54019), (471, 54007), (482, 53983), (486, 53971), (491, 53953), (499, 53935), (509, 53917), (533, 53878), (540, 53869), (542, 53866), (544, 53863), (695, 53506), (701, 53473), (706, 53452), (727, 53359), (730, 53350), (744, 53287), (760, 53251), (761, 53248), (766, 53233), (790, 53155), (794, 53143), (800, 53122), (817, 53083), (851, 52993), (856, 52975), (858, 52969), (868, 52954), (875, 52930), (877, 52915), (878, 52912), (881, 52900), (890, 52876), (907, 52828), (912, 52804),

Gene: Kalb97\_49 Start: 31752, Stop: 29938, Start Num: 231

Candidate Starts for Kalb97\_49:

(Start: 231 @31752 has 845 MA's), (248, 31713), (256, 31701), (329, 31548), (333, 31533), (367, 31476), (390, 31419), (392, 31410), (403, 31368), (415, 31317), (434, 31266), (487, 31173), (509, 31125), (524, 31101), (549, 31062), (562, 31035), (575, 31005), (610, 30912), (616, 30900), (641, 30852), (652, 30837), (700, 30681), (711, 30630), (719, 30597), (720, 30594), (733, 30528), (742, 30489), (761, 30417), (772, 30378), (780, 30354), (786, 30336), (796, 30303), (834, 30222), (851, 30162), (856, 30144), (877, 30084), (880, 30075), (896, 30027), (902, 30015), (906, 30006),

Gene: Kale\_38 Start: 28634, Stop: 26769, Start Num: 267

Candidate Starts for Kale\_38:

(Start: 214 @28721 has 4 MA's), (Start: 267 @28634 has 137 MA's), (Start: 275 @28625 has 5 MA's), (321, 28520), (325, 28511), (338, 28481), (340, 28478), (395, 28358), (397, 28346), (400, 28340), (436, 28235), (445, 28208), (490, 28067), (492, 28061), (494, 28058), (498, 28046), (513, 28019), (516, 28016), (525, 28001), (527, 27995), (530, 27989), (553, 27956), (634, 27767), (726, 27452), (729, 27443), (730, 27440), (733, 27422), (743, 27380), (745, 27374), (751, 27350), (768, 27293), (815, 27134), (827, 27104), (828, 27095), (847, 27035), (852, 27011), (863, 26972), (875, 26939), (876, 26927), (893, 26867),

Gene: Kaleb\_57 Start: 52637, Stop: 50808, Start Num: 188

Candidate Starts for Kaleb\_57:

(Start: 188 @52637 has 31 MA's), (Start: 227 @52610 has 3 MA's), (242, 52580), (246, 52568), (264, 52541), (Start: 266 @52538 has 4 MA's), (274, 52529), (291, 52511), (330, 52415), (355, 52364), (367, 52340), (417, 52178), (427, 52154), (431, 52142), (454, 52085), (466, 52049), (471, 52037), (482, 52013), (522, 51929), (540, 51899), (542, 51896), (561, 51866), (624, 51722), (652, 51656), (681, 51605), (684, 51584), (689, 51566), (701, 51509), (722, 51425), (727, 51395), (730, 51386), (744, 51320), (758, 51293), (760, 51284), (763, 51275), (766, 51266), (772, 51242), (790, 51188), (794, 51176), (800, 51155), (834, 51086), (851, 51026), (856, 51008), (871, 50975), (875, 50963), (877, 50948), (878, 50945), (881, 50933), (890, 50909), (891, 50906), (907, 50858), (908, 50855), (912, 50834), (917, 50813),

Gene: Kalnoky\_49 Start: 31750, Stop: 29936, Start Num: 231

Candidate Starts for Kalnoky\_49:

(Start: 231 @31750 has 845 MA's), (248, 31711), (256, 31699), (329, 31546), (333, 31531), (367, 31474), (390, 31417), (392, 31408), (403, 31366), (415, 31315), (434, 31264), (487, 31171), (509, 31123), (524, 31099), (549, 31060), (562, 31033), (575, 31003), (610, 30910), (616, 30898), (641, 30850), (652, 30835), (700, 30679), (711, 30628), (719, 30595), (720, 30592), (733, 30526), (742, 30487), (761, 30415), (772, 30376), (780, 30352), (786, 30334), (796, 30301), (834, 30220), (851, 30160), (856, 30142), (877, 30082), (880, 30073), (896, 30025), (902, 30013), (906, 30004),

Gene: Kalpine\_44 Start: 31973, Stop: 30186, Start Num: 231

Candidate Starts for Kalpine\_44:

(Start: 231 @31973 has 845 MA's), (330, 31766), (332, 31760), (350, 31730), (366, 31700), (369, 31694), (378, 31667), (390, 31640), (395, 31619), (403, 31589), (434, 31487), (487, 31394), (509, 31346), (513, 31337), (524, 31322), (562, 31256), (595, 31175), (613, 31127), (685, 30971), (700, 30902), (711, 30851), (719, 30818), (720, 30815), (733, 30749), (742, 30710), (755, 30689), (775,

30614), (780, 30602), (782, 30596), (823, 30488), (846, 30434), (851, 30410), (873, 30353), (877, 30332), (896, 30275), (902, 30263),

Gene: Kamiyu\_58 Start: 53644, Stop: 51827, Start Num: 223

Candidate Starts for Kamiyu\_58:

(123, 53827), (Start: 223 @53644 has 42 MA's), (240, 53614), (332, 53434), (395, 53281), (397, 53269), (407, 53239), (412, 53233), (431, 53170), (433, 53164), (454, 53113), (466, 53077), (486, 53029), (542, 52924), (589, 52828), (610, 52777), (681, 52633), (689, 52594), (696, 52564), (701, 52537), (704, 52525), (725, 52429), (727, 52423), (730, 52414), (732, 52402), (754, 52330), (760, 52300), (766, 52282), (768, 52273), (790, 52204), (794, 52192), (800, 52171), (834, 52102), (841, 52087), (847, 52063), (851, 52042), (858, 52018), (875, 51979), (878, 51961), (881, 51949), (886, 51937), (890, 51925), (904, 51883), (912, 51853),

Gene: Kampy\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Kampy\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Kanely\_45 Start: 34951, Stop: 33125, Start Num: 231

Candidate Starts for Kanely\_45:

(Start: 231 @34951 has 845 MA's), (332, 34738), (367, 34675), (378, 34645), (388, 34624), (390, 34618), (392, 34609), (425, 34492), (434, 34465), (487, 34372), (492, 34357), (541, 34273), (543, 34270), (575, 34204), (589, 34174), (598, 34144), (616, 34099), (638, 34060), (700, 33880), (709, 33832), (720, 33793), (733, 33727), (742, 33688), (755, 33667), (760, 33646), (766, 33628), (786, 33562), (846, 33412), (847, 33409), (855, 33373), (868, 33349), (870, 33340), (874, 33328), (896, 33253), (906, 33232),

Gene: KannH\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for KannH\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: KatChan\_40 Start: 28364, Stop: 26472, Start Num: 267

Candidate Starts for KatChan\_40:

(213, 28454), (Start: 267 @28364 has 137 MA's), (Start: 275 @28355 has 5 MA's), (297, 28298), (314, 28268), (332, 28229), (338, 28214), (342, 28208), (354, 28190), (370, 28157), (397, 28079), (400, 28073), (417, 28022), (430, 27983), (467, 27872), (494, 27788), (498, 27776), (516, 27746), (525, 27731), (527, 27725), (530, 27719), (534, 27713), (538, 27707), (677, 27392), (718, 27197), (733, 27125), (743, 27083), (751, 27053), (758, 27032), (768, 26996), (785, 26924), (827, 26807), (828, 26798), (847, 26738), (852, 26714), (855, 26702), (868, 26666), (893, 26570),

Gene: Katalie136\_44 Start: 31522, Stop: 29693, Start Num: 231

Candidate Starts for Katalie136\_44:

(Start: 231 @31522 has 845 MA's), (256, 31471), (274, 31441), (350, 31279), (360, 31261), (367, 31246), (390, 31189), (392, 31180), (426, 31060), (434, 31036), (468, 30994), (487, 30943), (511,

30895), (524, 30874), (549, 30835), (570, 30790), (573, 30784), (603, 30703), (613, 30682), (638, 30637), (697, 30472), (700, 30451), (733, 30298), (742, 30259), (761, 30187), (766, 30172), (772, 30148), (777, 30130), (780, 30124), (782, 30118), (851, 29917), (896, 29782), (902, 29770), (906, 29761),

Gene: KatherineG\_48 Start: 30182, Stop: 28392, Start Num: 231

Candidate Starts for KatherineG\_48:

(Start: 231 @30182 has 845 MA's), (317, 30008), (367, 29903), (369, 29900), (378, 29873), (390, 29846), (403, 29795), (434, 29693), (487, 29600), (505, 29555), (509, 29552), (513, 29543), (595, 29381), (603, 29354), (613, 29333), (616, 29327), (674, 29228), (683, 29189), (695, 29138), (700, 29108), (711, 29057), (719, 29024), (724, 28991), (726, 28985), (733, 28955), (755, 28895), (760, 28874), (772, 28832), (781, 28805), (786, 28790), (818, 28703), (846, 28640), (847, 28637), (896, 28481), (902, 28469), (907, 28457),

Gene: Katniss\_61 Start: 53995, Stop: 52136, Start Num: 196

Candidate Starts for Katniss\_61:

(Start: 175 @54019 has 1 MA's), (Start: 196 @53995 has 254 MA's), (Start: 221 @53971 has 2 MA's), (Start: 227 @53965 has 3 MA's), (246, 53923), (259, 53902), (307, 53788), (311, 53782), (326, 53752), (355, 53692), (366, 53671), (386, 53617), (391, 53605), (396, 53587), (398, 53575), (431, 53470), (454, 53413), (466, 53377), (471, 53365), (483, 53338), (491, 53311), (499, 53293), (509, 53275), (533, 53236), (540, 53227), (542, 53224), (544, 53221), (668, 52966), (695, 52864), (701, 52831), (706, 52810), (727, 52717), (730, 52708), (744, 52645), (760, 52609), (761, 52606), (766, 52591), (790, 52513), (794, 52501), (800, 52480), (817, 52441), (851, 52351), (856, 52333), (858, 52327), (868, 52312), (875, 52288), (877, 52273), (878, 52270), (881, 52258), (890, 52234), (907, 52186), (912, 52162),

Gene: Katzastrophic\_41 Start: 29917, Stop: 31788, Start Num: 222

Candidate Starts for Katzastrophic\_41:

(Start: 222 @29917 has 57 MA's), (Start: 266 @29986 has 4 MA's), (316, 30091), (319, 30100), (392, 30253), (422, 30349), (425, 30358), (549, 30589), (558, 30604), (595, 30697), (638, 30787), (700, 31003), (711, 31054), (716, 31069), (724, 31120), (733, 31156), (759, 31249), (780, 31321), (816, 31420), (846, 31492), (851, 31516), (873, 31573), (890, 31627), (896, 31651), (906, 31672),

Gene: Kauala\_37 Start: 28473, Stop: 26623, Start Num: 265

Candidate Starts for Kauala\_37:

(Start: 265 @28473 has 17 MA's), (309, 28377), (325, 28350), (340, 28317), (393, 28206), (397, 28185), (400, 28179), (402, 28170), (415, 28134), (417, 28128), (476, 27972), (490, 27918), (494, 27909), (498, 27897), (516, 27867), (551, 27810), (620, 27663), (675, 27516), (726, 27306), (730, 27294), (733, 27276), (743, 27234), (747, 27219), (768, 27147), (827, 26958), (828, 26949), (847, 26889), (852, 26865), (858, 26844), (862, 26832), (893, 26721),

Gene: KayGee\_45 Start: 34208, Stop: 31833, Start Num: 43

Candidate Starts for KayGee\_45:

(Start: 43 @34208 has 11 MA's), (58, 34148), (79, 34106), (91, 34067), (127, 33947), (135, 33926), (159, 33902), (Start: 208 @33824 has 3 MA's), (Start: 212 @33818 has 1 MA's), (Start: 214 @33815 has 4 MA's), (237, 33785), (243, 33767), (253, 33749), (278, 33710), (280, 33707), (303, 33650), (314, 33626), (321, 33611), (352, 33548), (365, 33524), (369, 33515), (370, 33509), (371, 33503), (384, 33470), (393, 33449), (397, 33428), (463, 33245), (490, 33170), (519, 33128), (596, 33017), (603, 32993), (617, 32963), (640, 32912), (642, 32909), (649, 32894), (659, 32873), (703, 32699), (705, 32690), (711, 32660), (733, 32555), (741, 32519), (743, 32513), (745, 32507), (746, 32501), (761, 32444), (768, 32420), (795, 32315), (796, 32312), (830, 32219), (836, 32201), (847, 32162), (857, 32120), (865, 32096), (875, 32066), (886, 32018), (893, 31994), (908, 31949), (936, 31862),

Gene: KayaCho\_51 Start: 52386, Stop: 50545, Start Num: 183

Candidate Starts for KayaCho\_51:

(122, 52506), (Start: 183 @52386 has 3 MA's), (240, 52329), (246, 52314), (330, 52140), (350, 52098), (355, 52089), (356, 52086), (367, 52065), (386, 52014), (389, 52008), (395, 51990), (405, 51957), (407, 51948), (410, 51945), (412, 51942), (417, 51915), (454, 51822), (466, 51786), (471, 51774), (540, 51636), (542, 51633), (586, 51543), (645, 51402), (678, 51348), (682, 51333), (684, 51315), (689, 51297), (695, 51273), (701, 51240), (725, 51132), (727, 51126), (730, 51117), (744, 51054), (752, 51039), (758, 51027), (760, 51018), (766, 51000), (770, 50985), (790, 50922), (794, 50910), (800, 50889), (802, 50883), (817, 50850), (834, 50820), (841, 50805), (851, 50760), (856, 50742), (858, 50736), (875, 50697), (876, 50685), (877, 50682), (878, 50679), (881, 50667), (890, 50643), (912, 50571),

Gene: Kaylissa\_42 Start: 30090, Stop: 31955, Start Num: 231

Candidate Starts for Kaylissa\_42:

(Start: 231 @30090 has 845 MA's), (254, 30138), (300, 30228), (302, 30234), (378, 30387), (395, 30435), (406, 30477), (489, 30684), (492, 30693), (542, 30783), (549, 30792), (558, 30807), (576, 30852), (595, 30897), (613, 30945), (643, 31002), (674, 31083), (694, 31170), (700, 31203), (708, 31233), (720, 31290), (733, 31356), (738, 31380), (759, 31449), (780, 31521), (820, 31629), (846, 31692), (851, 31716), (890, 31827), (896, 31851), (901, 31860),

Gene: Kazan\_46 Start: 29633, Stop: 27792, Start Num: 231

Candidate Starts for Kazan\_46:

(Start: 231 @29633 has 845 MA's), (329, 29429), (367, 29354), (369, 29351), (378, 29324), (384, 29309), (390, 29297), (403, 29246), (430, 29156), (434, 29144), (487, 29051), (502, 29012), (513, 28994), (524, 28979), (562, 28913), (576, 28880), (577, 28877), (619, 28775), (652, 28715), (683, 28631), (700, 28550), (719, 28466), (720, 28463), (722, 28454), (726, 28427), (733, 28397), (755, 28337), (766, 28298), (846, 28082), (847, 28079), (851, 28058), (896, 27923), (902, 27911), (906, 27902), (907, 27899), (939, 27806),

Gene: KeAlii\_40 Start: 29667, Stop: 31577, Start Num: 231

Candidate Starts for KeAlii\_40:

(101, 29409), (167, 29580), (Start: 231 @29667 has 845 MA's), (254, 29715), (348, 29898), (378, 29964), (406, 30054), (462, 30213), (489, 30306), (492, 30315), (549, 30414), (558, 30429), (576, 30474), (595, 30519), (613, 30567), (674, 30705), (686, 30759), (700, 30825), (714, 30888), (731, 30969), (733, 30978), (759, 31071), (820, 31251), (851, 31338), (896, 31473), (901, 31482), (906, 31494),

Gene: Keitherie\_62 Start: 54618, Stop: 52759, Start Num: 196

Candidate Starts for Keitherie\_62:

(Start: 175 @54642 has 1 MA's), (Start: 196 @54618 has 254 MA's), (Start: 221 @54594 has 2 MA's), (Start: 227 @54588 has 3 MA's), (246, 54546), (259, 54525), (307, 54411), (311, 54405), (326, 54375), (355, 54315), (366, 54294), (386, 54240), (391, 54228), (396, 54210), (398, 54198), (431, 54093), (454, 54036), (466, 54000), (471, 53988), (482, 53964), (486, 53952), (491, 53934), (499, 53916), (509, 53898), (533, 53859), (540, 53850), (542, 53847), (544, 53844), (695, 53487), (701, 53454), (706, 53433), (727, 53340), (730, 53331), (744, 53268), (760, 53232), (761, 53229), (766, 53214), (790, 53136), (794, 53124), (800, 53103), (817, 53064), (851, 52974), (856, 52956), (858, 52950), (868, 52935), (875, 52911), (877, 52896), (878, 52893), (881, 52881), (890, 52857), (907, 52809), (912, 52785),

Gene: Kenmech\_48 Start: 35912, Stop: 34083, Start Num: 231

Candidate Starts for Kenmech\_48:

(Start: 231 @35912 has 845 MA's), (332, 35699), (367, 35636), (378, 35606), (388, 35585), (390, 35579), (392, 35570), (425, 35453), (434, 35426), (487, 35333), (492, 35318), (541, 35234), (543,



35231), (575, 35165), (589, 35135), (598, 35105), (616, 35060), (638, 35021), (700, 34841), (709, 34793), (722, 34745), (730, 34706), (733, 34688), (742, 34649), (755, 34628), (760, 34607), (765, 34592), (803, 34469), (871, 34298), (876, 34274), (893, 34226), (896, 34214), (906, 34193), (908, 34187), (921, 34139), (928, 34124),

Gene: Kenzers\_43 Start: 29644, Stop: 31518, Start Num: 222

Candidate Starts for Kenzers\_43:

(Start: 220 @29641 has 7 MA's), (Start: 222 @29644 has 57 MA's), (Start: 266 @29713 has 4 MA's), (279, 29734), (329, 29851), (367, 29914), (392, 29980), (403, 30022), (549, 30316), (651, 30550), (688, 30673), (700, 30733), (702, 30739), (711, 30784), (718, 30814), (724, 30850), (733, 30886), (759, 30979), (787, 31072), (816, 31150), (846, 31222), (855, 31261), (873, 31303), (876, 31321), (896, 31381), (906, 31402),

Gene: Kerberos\_47 Start: 31153, Stop: 29330, Start Num: 231

Candidate Starts for Kerberos\_47:

(Start: 231 @31153 has 845 MA's), (329, 30949), (337, 30925), (350, 30907), (360, 30889), (367, 30874), (369, 30871), (378, 30844), (390, 30817), (403, 30766), (434, 30664), (487, 30571), (509, 30523), (513, 30514), (523, 30502), (524, 30499), (562, 30433), (589, 30373), (638, 30259), (652, 30235), (672, 30196), (700, 30070), (711, 30019), (720, 29983), (733, 29917), (742, 29878), (761, 29809), (772, 29770), (787, 29725), (796, 29695), (823, 29632), (832, 29620), (834, 29614), (851, 29554), (896, 29419), (902, 29407), (906, 29398),

Gene: Keziacharles14\_44 Start: 32157, Stop: 30364, Start Num: 230

Candidate Starts for Keziacharles14\_44:

(163, 32262), (Start: 230 @32157 has 8 MA's), (236, 32148), (300, 32019), (316, 31986), (329, 31953), (350, 31911), (367, 31878), (369, 31875), (384, 31833), (390, 31821), (403, 31770), (434, 31668), (435, 31665), (487, 31575), (501, 31539), (575, 31407), (643, 31248), (671, 31209), (673, 31203), (700, 31080), (722, 30984), (724, 30963), (733, 30927), (760, 30846), (796, 30729), (803, 30708), (823, 30666), (846, 30612), (877, 30510), (896, 30453), (902, 30441), (906, 30432),

Gene: Kheth\_57 Start: 52520, Stop: 50691, Start Num: 188

Candidate Starts for Kheth\_57:

(Start: 188 @52520 has 31 MA's), (Start: 227 @52493 has 3 MA's), (242, 52463), (246, 52451), (264, 52424), (Start: 266 @52421 has 4 MA's), (274, 52412), (291, 52394), (330, 52298), (355, 52247), (367, 52223), (375, 52199), (417, 52061), (427, 52037), (431, 52025), (454, 51968), (466, 51932), (471, 51920), (482, 51896), (522, 51812), (540, 51782), (542, 51779), (561, 51749), (624, 51605), (652, 51539), (678, 51500), (681, 51488), (684, 51467), (689, 51449), (701, 51392), (722, 51308), (727, 51278), (730, 51269), (744, 51203), (758, 51176), (760, 51167), (766, 51149), (772, 51125), (790, 51071), (794, 51059), (800, 51038), (834, 50969), (851, 50909), (856, 50891), (871, 50858), (875, 50846), (877, 50831), (878, 50828), (881, 50816), (890, 50792), (891, 50789), (907, 50741), (908, 50738), (912, 50717), (917, 50696),

Gene: Kieran\_40 Start: 29929, Stop: 31800, Start Num: 222

Candidate Starts for Kieran\_40:

(Start: 222 @29929 has 57 MA's), (319, 30112), (337, 30151), (351, 30169), (392, 30265), (395, 30277), (396, 30280), (422, 30361), (520, 30553), (549, 30601), (590, 30691), (651, 30832), (688, 30955), (700, 31015), (716, 31081), (718, 31096), (724, 31132), (727, 31141), (733, 31168), (759, 31261), (816, 31432), (846, 31504), (855, 31543), (873, 31585), (890, 31639), (896, 31663), (906, 31684), (911, 31708),

Gene: Kikipoo\_62 Start: 54547, Stop: 52688, Start Num: 196

Candidate Starts for Kikipoo\_62:

(Start: 175 @54571 has 1 MA's), (Start: 196 @54547 has 254 MA's), (Start: 221 @54523 has 2 MA's), (Start: 227 @54517 has 3 MA's), (246, 54475), (259, 54454), (307, 54340), (311, 54334), (326, 54304), (355, 54244), (366, 54223), (386, 54169), (391, 54157), (396, 54139), (398, 54127), (431, 54022), (454, 53965), (466, 53929), (471, 53917), (475, 53908), (483, 53890), (491, 53863), (499, 53845), (509, 53827), (533, 53788), (540, 53779), (542, 53776), (544, 53773), (668, 53518), (695, 53416), (701, 53383), (706, 53362), (727, 53269), (730, 53260), (744, 53197), (760, 53161), (761, 53158), (766, 53143), (790, 53065), (794, 53053), (800, 53032), (817, 52993), (851, 52903), (856, 52885), (858, 52879), (868, 52864), (875, 52840), (877, 52825), (878, 52822), (881, 52810), (890, 52786), (907, 52738), (912, 52714),

Gene: Killigrew\_44 Start: 34598, Stop: 32769, Start Num: 231

Candidate Starts for Killigrew\_44:

(Start: 231 @34598 has 845 MA's), (332, 34385), (337, 34370), (367, 34322), (378, 34292), (388, 34271), (390, 34265), (392, 34256), (425, 34139), (434, 34112), (487, 34019), (492, 34004), (541, 33920), (543, 33917), (575, 33851), (589, 33821), (598, 33791), (616, 33746), (638, 33707), (700, 33527), (709, 33479), (722, 33431), (730, 33392), (733, 33374), (742, 33335), (755, 33314), (760, 33293), (765, 33278), (803, 33155), (871, 32984), (876, 32960), (893, 32912), (896, 32900), (906, 32879), (908, 32873), (921, 32825), (928, 32810),

Gene: KimJongPhill\_80 Start: 57331, Stop: 59844, Start Num: 34

Candidate Starts for KimJongPhill\_80:

(Start: 13 @57226 has 1 MA's), (22, 57268), (27, 57298), (Start: 34 @57331 has 1 MA's), (71, 57460), (Start: 74 @57466 has 1 MA's), (79, 57475), (107, 57571), (112, 57589), (174, 57733), (Start: 197 @57766 has 4 MA's), (Start: 214 @57796 has 4 MA's), (Start: 267 @57892 has 137 MA's), (280, 57910), (303, 57979), (384, 58159), (391, 58174), (397, 58201), (422, 58273), (451, 58321), (490, 58438), (576, 58567), (640, 58753), (642, 58756), (654, 58780), (664, 58804), (687, 58891), (721, 59047), (723, 59068), (733, 59110), (741, 59146), (743, 59152), (745, 59158), (746, 59164), (768, 59245), (807, 59383), (815, 59404), (851, 59524), (856, 59542), (865, 59569), (883, 59638), (885, 59644), (889, 59656), (893, 59671), (904, 59704), (920, 59770),

Gene: Kimbrough\_61 Start: 54598, Stop: 52739, Start Num: 196

Candidate Starts for Kimbrough\_61:

(Start: 175 @54622 has 1 MA's), (Start: 196 @54598 has 254 MA's), (Start: 221 @54574 has 2 MA's), (Start: 227 @54568 has 3 MA's), (246, 54526), (259, 54505), (307, 54391), (311, 54385), (326, 54355), (355, 54295), (366, 54274), (386, 54220), (391, 54208), (396, 54190), (398, 54178), (431, 54073), (454, 54016), (466, 53980), (471, 53968), (482, 53944), (486, 53932), (491, 53914), (499, 53896), (509, 53878), (533, 53839), (540, 53830), (542, 53827), (544, 53824), (695, 53467), (701, 53434), (706, 53413), (727, 53320), (730, 53311), (744, 53248), (760, 53212), (761, 53209), (766, 53194), (790, 53116), (794, 53104), (800, 53083), (817, 53044), (851, 52954), (856, 52936), (858, 52930), (868, 52915), (875, 52891), (877, 52876), (878, 52873), (881, 52861), (890, 52837), (907, 52789), (912, 52765),

Gene: Kimona\_43 Start: 29598, Stop: 27742, Start Num: 231

Candidate Starts for Kimona\_43:

(Start: 231 @29598 has 845 MA's), (329, 29394), (378, 29292), (388, 29271), (390, 29265), (392, 29256), (430, 29124), (434, 29112), (487, 29016), (549, 28905), (562, 28878), (603, 28773), (613, 28752), (638, 28707), (667, 28638), (683, 28581), (700, 28500), (733, 28347), (742, 28308), (761, 28236), (766, 28221), (772, 28197), (786, 28155), (796, 28122), (896, 27831), (902, 27819), (906, 27810),

Gene: KingCyrus\_47 Start: 33203, Stop: 31416, Start Num: 231

Candidate Starts for KingCyrus\_47:

(186, 33239), (Start: 231 @33203 has 845 MA's), (330, 32996), (332, 32990), (337, 32975), (350, 32960), (369, 32924), (378, 32897), (390, 32870), (395, 32849), (434, 32717), (487, 32624), (509, 32576), (513, 32567), (524, 32552), (562, 32486), (595, 32405), (613, 32357), (638, 32312), (652, 32288), (700, 32132), (711, 32081), (719, 32048), (720, 32045), (733, 31979), (742, 31940), (755, 31919), (775, 31844), (780, 31832), (796, 31781), (823, 31718), (834, 31700), (846, 31664), (877, 31562), (896, 31505), (902, 31493), (906, 31484),

Gene: KingJulien\_38 Start: 29054, Stop: 27189, Start Num: 267

Candidate Starts for KingJulien\_38:

(Start: 267 @29054 has 137 MA's), (Start: 275 @29045 has 5 MA's), (394, 28781), (397, 28766), (400, 28760), (445, 28628), (463, 28574), (467, 28562), (490, 28487), (494, 28478), (498, 28466), (513, 28439), (516, 28436), (525, 28421), (527, 28415), (534, 28403), (576, 28334), (675, 28085), (726, 27872), (729, 27863), (730, 27860), (733, 27842), (743, 27800), (768, 27713), (815, 27554), (827, 27524), (847, 27455), (852, 27431), (863, 27392), (875, 27359), (876, 27347),

Gene: KingTut\_53 Start: 50762, Stop: 48903, Start Num: 196

Candidate Starts for KingTut\_53:

(Start: 175 @50786 has 1 MA's), (Start: 196 @50762 has 254 MA's), (Start: 221 @50738 has 2 MA's), (Start: 227 @50732 has 3 MA's), (246, 50690), (259, 50669), (307, 50555), (311, 50549), (326, 50519), (355, 50459), (366, 50438), (386, 50384), (391, 50372), (396, 50354), (398, 50342), (431, 50237), (454, 50180), (466, 50144), (471, 50132), (483, 50105), (491, 50078), (499, 50060), (509, 50042), (533, 50003), (540, 49994), (542, 49991), (668, 49733), (695, 49631), (701, 49598), (706, 49577), (727, 49484), (730, 49475), (744, 49412), (760, 49376), (761, 49373), (766, 49358), (790, 49280), (794, 49268), (800, 49247), (817, 49208), (851, 49118), (856, 49100), (858, 49094), (868, 49079), (875, 49055), (877, 49040), (878, 49037), (881, 49025), (890, 49001), (907, 48953), (912, 48929),

Gene: KingVeVeVe\_59 Start: 53565, Stop: 51706, Start Num: 196

Candidate Starts for KingVeVeVe\_59:

(Start: 175 @53589 has 1 MA's), (Start: 196 @53565 has 254 MA's), (Start: 221 @53541 has 2 MA's), (Start: 227 @53535 has 3 MA's), (240, 53508), (246, 53493), (259, 53472), (307, 53358), (311, 53352), (326, 53322), (355, 53262), (366, 53241), (386, 53187), (391, 53175), (396, 53157), (398, 53145), (431, 53040), (454, 52983), (466, 52947), (471, 52935), (483, 52908), (486, 52899), (499, 52863), (533, 52806), (540, 52797), (542, 52794), (544, 52791), (695, 52434), (701, 52401), (706, 52380), (727, 52287), (730, 52278), (744, 52215), (760, 52179), (761, 52176), (766, 52161), (790, 52083), (794, 52071), (800, 52050), (817, 52011), (851, 51921), (856, 51903), (858, 51897), (868, 51882), (875, 51858), (877, 51843), (878, 51840), (881, 51828), (890, 51804), (907, 51756), (912, 51732),

Gene: Kingmustik0402\_45 Start: 31559, Stop: 29733, Start Num: 231

Candidate Starts for Kingmustik0402\_45:

(Start: 231 @31559 has 845 MA's), (240, 31538), (256, 31508), (274, 31478), (350, 31316), (360, 31298), (390, 31226), (392, 31217), (426, 31097), (434, 31073), (487, 30980), (511, 30932), (524, 30911), (549, 30872), (603, 30740), (613, 30719), (638, 30674), (643, 30662), (697, 30509), (700, 30488), (726, 30365), (733, 30335), (742, 30296), (760, 30230), (761, 30227), (766, 30212), (772, 30188), (780, 30164), (851, 29957), (896, 29822), (902, 29810), (906, 29801),

Gene: Kipper29\_45 Start: 29646, Stop: 27805, Start Num: 231

Candidate Starts for Kipper29\_45:

(Start: 231 @29646 has 845 MA's), (329, 29442), (367, 29367), (369, 29364), (378, 29337), (384, 29322), (390, 29310), (403, 29259), (430, 29169), (434, 29157), (487, 29064), (502, 29025), (513, 29007), (524, 28992), (562, 28926), (576, 28893), (577, 28890), (619, 28788), (652, 28728), (683, 28644), (700, 28563), (719, 28479), (720, 28476), (722, 28467), (726, 28440), (733, 28410), (755,

28350), (766, 28311), (846, 28095), (847, 28092), (851, 28071), (896, 27936), (902, 27924), (906, 27915), (907, 27912), (939, 27819),

Gene: KittenMittens\_41 Start: 30386, Stop: 28554, Start Num: 231

Candidate Starts for KittenMittens\_41:

(Start: 231 @30386 has 845 MA's), (256, 30335), (292, 30269), (329, 30182), (332, 30173), (363, 30122), (367, 30110), (390, 30053), (411, 29972), (413, 29960), (415, 29951), (426, 29924), (434, 29900), (487, 29807), (502, 29768), (549, 29699), (562, 29672), (616, 29540), (700, 29312), (716, 29246), (726, 29189), (733, 29159), (742, 29120), (761, 29048), (766, 29033), (772, 29009), (786, 28967), (796, 28934), (851, 28778), (858, 28754), (880, 28691), (896, 28643), (902, 28631), (906, 28622),

Gene: KlimbOn\_60 Start: 54056, Stop: 52197, Start Num: 196

Candidate Starts for KlimbOn\_60:

(Start: 175 @54080 has 1 MA's), (Start: 196 @54056 has 254 MA's), (Start: 221 @54032 has 2 MA's), (Start: 227 @54026 has 3 MA's), (246, 53984), (259, 53963), (307, 53849), (311, 53843), (326, 53813), (355, 53753), (366, 53732), (386, 53678), (391, 53666), (396, 53648), (398, 53636), (431, 53531), (454, 53474), (466, 53438), (471, 53426), (482, 53402), (486, 53390), (491, 53372), (499, 53354), (509, 53336), (533, 53297), (540, 53288), (542, 53285), (544, 53282), (668, 53027), (695, 52925), (701, 52892), (706, 52871), (727, 52778), (730, 52769), (744, 52706), (760, 52670), (761, 52667), (766, 52652), (790, 52574), (794, 52562), (800, 52541), (817, 52502), (851, 52412), (856, 52394), (858, 52388), (868, 52373), (875, 52349), (877, 52334), (878, 52331), (881, 52319), (890, 52295), (907, 52247), (912, 52223),

Gene: Klimt\_38 Start: 28614, Stop: 26749, Start Num: 267

Candidate Starts for Klimt\_38:

(Start: 214 @28701 has 4 MA's), (Start: 267 @28614 has 137 MA's), (Start: 275 @28605 has 5 MA's), (321, 28500), (325, 28491), (338, 28461), (340, 28458), (395, 28338), (397, 28326), (400, 28320), (436, 28215), (445, 28188), (490, 28047), (492, 28041), (494, 28038), (498, 28026), (513, 27999), (516, 27996), (525, 27981), (527, 27975), (530, 27969), (553, 27936), (612, 27807), (634, 27747), (726, 27432), (729, 27423), (730, 27420), (733, 27402), (743, 27360), (745, 27354), (751, 27330), (768, 27273), (815, 27114), (827, 27084), (828, 27075), (847, 27015), (852, 26991), (863, 26952), (875, 26919), (876, 26907), (893, 26847),

Gene: Kloppinator\_61 Start: 54207, Stop: 52348, Start Num: 196

Candidate Starts for Kloppinator\_61:

(Start: 175 @54231 has 1 MA's), (Start: 196 @54207 has 254 MA's), (Start: 221 @54183 has 2 MA's), (Start: 227 @54177 has 3 MA's), (246, 54135), (259, 54114), (307, 54000), (311, 53994), (326, 53964), (355, 53904), (366, 53883), (386, 53829), (391, 53817), (396, 53799), (397, 53790), (398, 53787), (431, 53682), (454, 53625), (466, 53589), (471, 53577), (482, 53553), (486, 53541), (491, 53523), (499, 53505), (509, 53487), (533, 53448), (540, 53439), (542, 53436), (544, 53433), (695, 53076), (701, 53043), (706, 53022), (727, 52929), (730, 52920), (744, 52857), (760, 52821), (761, 52818), (766, 52803), (790, 52725), (794, 52713), (800, 52692), (817, 52653), (851, 52563), (856, 52545), (858, 52539), (868, 52524), (875, 52500), (877, 52485), (878, 52482), (881, 52470), (890, 52446), (907, 52398), (912, 52374),

Gene: Knocker\_59 Start: 55993, Stop: 54140, Start Num: 196

Candidate Starts for Knocker\_59:

(Start: 196 @55993 has 254 MA's), (240, 55936), (Start: 266 @55891 has 4 MA's), (274, 55879), (276, 55876), (289, 55855), (330, 55750), (397, 55588), (398, 55585), (405, 55567), (431, 55480), (454, 55423), (460, 55411), (466, 55387), (471, 55375), (486, 55339), (487, 55333), (526, 55252), (540, 55231), (542, 55228), (558, 55204), (561, 55198), (597, 55114), (608, 55084), (636, 55018), (668, 54970), (676, 54949), (682, 54928), (689, 54892), (696, 54862), (701, 54835), (706, 54814), (725,

54727), (727, 54721), (730, 54712), (744, 54649), (760, 54613), (761, 54610), (762, 54607), (766, 54595), (772, 54571), (790, 54517), (794, 54505), (800, 54484), (803, 54475), (834, 54415), (847, 54376), (856, 54337), (858, 54331), (875, 54292), (876, 54280), (877, 54277), (878, 54274), (886, 54250), (890, 54238), (896, 54214), (907, 54190), (908, 54187), (912, 54166), (917, 54145),

Gene: Knox\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for Knox\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (394, 28661), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (634, 28067), (659, 28013), (666, 27992), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Koduck\_44 Start: 30337, Stop: 28550, Start Num: 231

Candidate Starts for Koduck\_44:

(Start: 231 @30337 has 845 MA's), (330, 30130), (332, 30124), (337, 30109), (350, 30094), (366, 30064), (367, 30061), (378, 30031), (390, 30004), (395, 29983), (403, 29953), (434, 29851), (487, 29758), (505, 29713), (509, 29710), (513, 29701), (524, 29686), (562, 29620), (576, 29587), (595, 29539), (613, 29491), (700, 29266), (711, 29215), (719, 29182), (720, 29179), (733, 29113), (742, 29074), (755, 29053), (775, 28978), (782, 28960), (796, 28915), (806, 28888), (823, 28852), (834, 28834), (846, 28798), (851, 28774), (873, 28717), (896, 28639), (902, 28627), (906, 28618),

Gene: Koji\_37 Start: 28666, Stop: 26816, Start Num: 265

Candidate Starts for Koji\_37:

(Start: 265 @28666 has 17 MA's), (325, 28543), (340, 28510), (393, 28399), (397, 28378), (400, 28372), (402, 28363), (417, 28321), (476, 28165), (490, 28111), (492, 28105), (494, 28102), (498, 28090), (516, 28060), (551, 28003), (645, 27787), (675, 27709), (726, 27499), (730, 27487), (733, 27469), (743, 27427), (768, 27340), (827, 27151), (828, 27142), (847, 27082), (852, 27058), (858, 27037), (862, 27025), (893, 26914),

Gene: Koko\_47 Start: 30329, Stop: 28530, Start Num: 231

Candidate Starts for Koko\_47:

(Start: 231 @30329 has 845 MA's), (329, 30125), (332, 30116), (367, 30050), (369, 30047), (378, 30020), (384, 30005), (390, 29993), (403, 29942), (430, 29852), (434, 29840), (487, 29747), (509, 29699), (513, 29690), (601, 29507), (678, 29357), (700, 29252), (711, 29195), (720, 29159), (722, 29150), (726, 29123), (733, 29093), (742, 29054), (755, 29033), (764, 29000), (766, 28994), (796, 28895), (823, 28832), (846, 28778), (851, 28754), (873, 28697), (896, 28619), (902, 28607), (906, 28598), (907, 28595),

Gene: Koreni\_44 Start: 31251, Stop: 29425, Start Num: 231

Candidate Starts for Koreni\_44:

(Start: 231 @31251 has 845 MA's), (240, 31230), (256, 31200), (274, 31170), (350, 31008), (360, 30990), (390, 30918), (392, 30909), (426, 30789), (434, 30765), (487, 30672), (511, 30624), (524, 30603), (549, 30564), (603, 30432), (613, 30411), (638, 30366), (643, 30354), (697, 30201), (700, 30180), (726, 30057), (733, 30027), (742, 29988), (760, 29922), (761, 29919), (766, 29904), (772, 29880), (780, 29856), (851, 29649), (896, 29514), (902, 29502), (906, 29493),

Gene: Kratark\_45 Start: 31709, Stop: 29883, Start Num: 231

Candidate Starts for Kratark\_45:

(Start: 231 @31709 has 845 MA's), (240, 31688), (256, 31658), (274, 31628), (350, 31466), (360, 31448), (390, 31376), (392, 31367), (426, 31247), (434, 31223), (487, 31130), (511, 31082), (549,

31022), (603, 30890), (613, 30869), (638, 30824), (643, 30812), (697, 30659), (700, 30638), (726, 30515), (733, 30485), (742, 30446), (760, 30380), (761, 30377), (766, 30362), (772, 30338), (780, 30314), (851, 30107), (896, 29972), (902, 29960), (906, 29951),

Gene: Kremtemulon\_43 Start: 31521, Stop: 29695, Start Num: 231

Candidate Starts for Kremtemulon\_43:

(Start: 231 @31521 has 845 MA's), (254, 31473), (329, 31317), (367, 31245), (390, 31188), (392, 31179), (426, 31059), (434, 31035), (472, 30981), (487, 30942), (511, 30894), (524, 30873), (549, 30834), (603, 30702), (607, 30693), (613, 30681), (638, 30636), (643, 30624), (697, 30471), (700, 30450), (726, 30327), (733, 30297), (742, 30258), (760, 30192), (761, 30189), (766, 30174), (772, 30150), (780, 30126), (851, 29919), (896, 29784), (902, 29772), (906, 29763),

Gene: Krishelle\_36 Start: 28397, Stop: 26613, Start Num: 231

Candidate Starts for Krishelle\_36:

(Start: 231 @28397 has 845 MA's), (316, 28226), (345, 28163), (366, 28124), (367, 28121), (384, 28076), (390, 28064), (392, 28055), (402, 28016), (434, 27911), (487, 27818), (509, 27770), (549, 27707), (562, 27680), (603, 27575), (616, 27548), (638, 27509), (700, 27329), (709, 27281), (733, 27176), (734, 27173), (755, 27116), (760, 27095), (774, 27047), (798, 26972), (832, 26903), (846, 26861), (847, 26858), (851, 26837), (855, 26822), (877, 26759), (896, 26702), (902, 26690), (913, 26651), (917, 26633),

Gene: Kristoff\_44 Start: 31492, Stop: 29657, Start Num: 231

Candidate Starts for Kristoff\_44:

(Start: 231 @31492 has 845 MA's), (256, 31441), (292, 31375), (329, 31288), (337, 31264), (363, 31228), (367, 31216), (390, 31159), (392, 31150), (434, 31006), (468, 30964), (487, 30913), (511, 30865), (549, 30805), (602, 30676), (603, 30673), (613, 30652), (616, 30646), (673, 30538), (700, 30415), (709, 30367), (726, 30292), (733, 30262), (742, 30223), (760, 30154), (761, 30151), (772, 30112), (780, 30088), (782, 30082), (786, 30070), (851, 29881), (858, 29857), (880, 29794), (896, 29746), (902, 29734), (906, 29725),

Gene: Kronus\_58 Start: 54729, Stop: 52912, Start Num: 223

Candidate Starts for Kronus\_58:

(123, 54912), (Start: 223 @54729 has 42 MA's), (240, 54699), (332, 54519), (379, 54414), (395, 54366), (397, 54354), (407, 54324), (412, 54318), (431, 54255), (433, 54249), (454, 54198), (466, 54162), (486, 54114), (542, 54009), (589, 53913), (610, 53862), (681, 53718), (689, 53679), (696, 53649), (701, 53622), (704, 53610), (725, 53514), (727, 53508), (730, 53499), (732, 53487), (754, 53415), (760, 53385), (766, 53367), (768, 53358), (790, 53289), (794, 53277), (800, 53256), (834, 53187), (841, 53172), (847, 53148), (851, 53127), (856, 53109), (858, 53103), (873, 53070), (875, 53064), (878, 53046), (881, 53034), (886, 53022), (890, 53010), (904, 52968), (912, 52938),

Gene: Kugel\_46 Start: 35094, Stop: 33268, Start Num: 231

Candidate Starts for Kugel\_46:

(Start: 231 @35094 has 845 MA's), (332, 34881), (337, 34866), (367, 34818), (378, 34788), (388, 34767), (390, 34761), (392, 34752), (425, 34635), (434, 34608), (487, 34515), (492, 34500), (509, 34467), (541, 34416), (543, 34413), (575, 34347), (598, 34287), (616, 34242), (638, 34203), (700, 34023), (709, 33975), (720, 33936), (733, 33870), (742, 33831), (755, 33810), (760, 33789), (766, 33771), (786, 33705), (846, 33555), (847, 33552), (855, 33516), (868, 33492), (870, 33483), (874, 33471), (896, 33396), (906, 33375),

Gene: Kurt1\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Kurt1\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395,

28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: Kwadwo\_59 Start: 54008, Stop: 52149, Start Num: 196

Candidate Starts for Kwadwo\_59:

(Start: 175 @54032 has 1 MA's), (Start: 196 @54008 has 254 MA's), (Start: 221 @53984 has 2 MA's), (Start: 227 @53978 has 3 MA's), (246, 53936), (259, 53915), (307, 53801), (311, 53795), (326, 53765), (355, 53705), (366, 53684), (386, 53630), (391, 53618), (396, 53600), (398, 53588), (431, 53483), (454, 53426), (466, 53390), (471, 53378), (483, 53351), (499, 53306), (533, 53249), (540, 53240), (542, 53237), (668, 52979), (695, 52877), (701, 52844), (706, 52823), (727, 52730), (730, 52721), (744, 52658), (760, 52622), (761, 52619), (766, 52604), (790, 52526), (794, 52514), (800, 52493), (817, 52454), (851, 52364), (856, 52346), (858, 52340), (868, 52325), (875, 52301), (877, 52286), (878, 52283), (881, 52271), (890, 52247), (907, 52199), (912, 52175),

Gene: Kwksand96\_61 Start: 54137, Stop: 52278, Start Num: 196

Candidate Starts for Kwksand96\_61:

(Start: 175 @54161 has 1 MA's), (Start: 196 @54137 has 254 MA's), (Start: 221 @54113 has 2 MA's), (Start: 227 @54107 has 3 MA's), (246, 54065), (259, 54044), (307, 53930), (311, 53924), (326, 53894), (355, 53834), (366, 53813), (386, 53759), (391, 53747), (396, 53729), (398, 53717), (431, 53612), (454, 53555), (466, 53519), (471, 53507), (483, 53480), (499, 53435), (533, 53378), (540, 53369), (542, 53366), (695, 53006), (701, 52973), (706, 52952), (727, 52859), (730, 52850), (744, 52787), (760, 52751), (761, 52748), (766, 52733), (790, 52655), (794, 52643), (800, 52622), (817, 52583), (851, 52493), (856, 52475), (858, 52469), (868, 52454), (875, 52430), (877, 52415), (878, 52412), (881, 52400), (890, 52376), (907, 52328), (912, 52304), (915, 52289),

Gene: KyMonks1A\_47 Start: 34990, Stop: 33164, Start Num: 231

Candidate Starts for KyMonks1A\_47:

(Start: 231 @34990 has 845 MA's), (332, 34777), (337, 34762), (378, 34684), (388, 34663), (390, 34657), (392, 34648), (425, 34531), (434, 34504), (487, 34411), (492, 34396), (509, 34363), (541, 34312), (543, 34309), (575, 34243), (589, 34213), (598, 34183), (616, 34138), (638, 34099), (700, 33919), (709, 33871), (720, 33832), (733, 33766), (742, 33727), (755, 33706), (760, 33685), (766, 33667), (786, 33601), (846, 33451), (847, 33448), (855, 33412), (868, 33388), (870, 33379), (874, 33367), (880, 33340), (896, 33292), (906, 33271),

Gene: Kyee\_45 Start: 31568, Stop: 29742, Start Num: 231

Candidate Starts for Kyee\_45:

(Start: 231 @31568 has 845 MA's), (240, 31547), (256, 31517), (274, 31487), (350, 31325), (360, 31307), (390, 31235), (392, 31226), (426, 31106), (434, 31082), (487, 30989), (511, 30941), (524, 30920), (549, 30881), (603, 30749), (613, 30728), (638, 30683), (643, 30671), (697, 30518), (700, 30497), (726, 30374), (733, 30344), (742, 30305), (760, 30239), (761, 30236), (766, 30221), (772, 30197), (780, 30173), (851, 29966), (896, 29831), (902, 29819), (906, 29810),

Gene: Kykar\_45 Start: 34788, Stop: 32959, Start Num: 231

Candidate Starts for Kykar\_45:

(Start: 231 @34788 has 845 MA's), (332, 34575), (337, 34560), (378, 34482), (388, 34461), (390, 34455), (392, 34446), (434, 34302), (487, 34209), (492, 34194), (541, 34110), (543, 34107), (575, 34041), (589, 34011), (598, 33981), (616, 33936), (638, 33897), (700, 33717), (709, 33669), (722, 33621), (730, 33582), (733, 33564), (742, 33525), (755, 33504), (760, 33483), (765, 33468), (803, 33345), (871, 33174), (876, 33150), (893, 33102), (896, 33090), (906, 33069), (908, 33063), (921, 33015), (928, 33000),

Gene: L5\_44 Start: 30476, Stop: 28689, Start Num: 231

Candidate Starts for L5\_44:

(Start: 231 @30476 has 845 MA's), (329, 30272), (330, 30269), (332, 30263), (337, 30248), (350, 30233), (366, 30203), (367, 30200), (378, 30170), (390, 30143), (395, 30122), (403, 30092), (434, 29990), (487, 29897), (505, 29852), (509, 29849), (513, 29840), (524, 29825), (562, 29759), (576, 29726), (595, 29678), (613, 29630), (700, 29405), (711, 29354), (719, 29321), (720, 29318), (733, 29252), (742, 29213), (755, 29192), (775, 29117), (782, 29099), (796, 29054), (806, 29027), (823, 28991), (834, 28973), (846, 28937), (851, 28913), (873, 28856), (896, 28778), (902, 28766), (906, 28757),

Gene: LBerry\_49 Start: 31856, Stop: 30042, Start Num: 231

Candidate Starts for LBerry\_49:

(Start: 231 @31856 has 845 MA's), (248, 31817), (256, 31805), (329, 31652), (333, 31637), (367, 31580), (390, 31523), (392, 31514), (403, 31472), (415, 31421), (434, 31370), (487, 31277), (509, 31229), (513, 31220), (524, 31205), (549, 31166), (562, 31139), (575, 31109), (610, 31016), (641, 30956), (652, 30941), (700, 30785), (720, 30698), (733, 30632), (742, 30593), (761, 30521), (772, 30482), (780, 30458), (786, 30440), (796, 30407), (806, 30380), (834, 30326), (851, 30266), (877, 30188), (896, 30131), (902, 30119), (906, 30110),

Gene: LHTSCC\_47 Start: 31992, Stop: 30166, Start Num: 231

Candidate Starts for LHTSCC\_47:

(Start: 231 @31992 has 845 MA's), (254, 31944), (329, 31788), (367, 31716), (390, 31659), (392, 31650), (426, 31530), (434, 31506), (487, 31413), (511, 31365), (524, 31344), (549, 31305), (570, 31260), (603, 31173), (607, 31164), (613, 31152), (638, 31107), (643, 31095), (697, 30942), (700, 30921), (726, 30798), (733, 30768), (742, 30729), (760, 30663), (761, 30660), (772, 30621), (780, 30597), (851, 30390), (896, 30255), (902, 30243), (906, 30234),

Gene: Labeouficaum\_61 Start: 54131, Stop: 52272, Start Num: 196

Candidate Starts for Labeouficaum\_61:

(Start: 175 @54155 has 1 MA's), (Start: 196 @54131 has 254 MA's), (Start: 221 @54107 has 2 MA's), (Start: 227 @54101 has 3 MA's), (246, 54059), (259, 54038), (307, 53924), (311, 53918), (326, 53888), (355, 53828), (366, 53807), (386, 53753), (391, 53741), (396, 53723), (398, 53711), (431, 53606), (454, 53549), (466, 53513), (471, 53501), (482, 53477), (486, 53465), (491, 53447), (499, 53429), (509, 53411), (533, 53372), (540, 53363), (542, 53360), (544, 53357), (668, 53102), (695, 53000), (701, 52967), (706, 52946), (727, 52853), (730, 52844), (744, 52781), (760, 52745), (761, 52742), (766, 52727), (790, 52649), (794, 52637), (800, 52616), (817, 52577), (851, 52487), (856, 52469), (858, 52463), (868, 52448), (875, 52424), (877, 52409), (878, 52406), (881, 52394), (890, 52370), (895, 52349), (907, 52322), (912, 52298), (915, 52283),

Gene: LadyBird\_47 Start: 31737, Stop: 29950, Start Num: 231

Candidate Starts for LadyBird\_47:

(Start: 231 @31737 has 845 MA's), (329, 31533), (330, 31530), (332, 31524), (337, 31509), (350, 31494), (367, 31461), (369, 31458), (378, 31431), (390, 31404), (395, 31383), (403, 31353), (434, 31251), (487, 31158), (490, 31149), (509, 31110), (513, 31101), (524, 31086), (562, 31020), (595, 30939), (613, 30891), (616, 30885), (683, 30747), (700, 30666), (711, 30615), (719, 30582), (720, 30579), (733, 30513), (742, 30474), (755, 30453), (775, 30378), (782, 30360), (796, 30315), (806, 30288), (823, 30252), (834, 30234), (846, 30198), (851, 30174), (873, 30117), (896, 30039), (902, 30027), (906, 30018),

Gene: Lahqtemish\_42 Start: 29831, Stop: 31705, Start Num: 222

Candidate Starts for Lahqtemish\_42:



(Start: 222 @29831 has 57 MA's), (Start: 266 @29900 has 4 MA's), (279, 29921), (367, 30101), (396, 30182), (549, 30503), (651, 30737), (687, 30857), (688, 30860), (700, 30920), (702, 30926), (716, 30986), (718, 31001), (724, 31037), (727, 31046), (733, 31073), (759, 31166), (764, 31184), (772, 31214), (816, 31337), (817, 31340), (846, 31409), (855, 31448), (858, 31457), (873, 31490), (875, 31496), (876, 31508), (890, 31544), (896, 31568), (902, 31580), (906, 31589), (911, 31613),

Gene: Lambert1\_44 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for Lambert1\_44:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Lamina13\_45 Start: 34387, Stop: 32561, Start Num: 231

Candidate Starts for Lamina13\_45:

(Start: 231 @34387 has 845 MA's), (332, 34174), (337, 34159), (378, 34081), (388, 34060), (390, 34054), (392, 34045), (425, 33928), (434, 33901), (487, 33808), (492, 33793), (541, 33709), (543, 33706), (575, 33640), (589, 33610), (598, 33580), (616, 33535), (638, 33496), (700, 33316), (709, 33268), (720, 33229), (733, 33163), (742, 33124), (755, 33103), (760, 33082), (766, 33064), (786, 32998), (846, 32848), (847, 32845), (855, 32809), (868, 32785), (870, 32776), (874, 32764), (896, 32689), (906, 32668),

Gene: Landor\_44 Start: 32538, Stop: 30748, Start Num: 231

Candidate Starts for Landor\_44:

(Start: 231 @32538 has 845 MA's), (329, 32334), (332, 32325), (369, 32256), (378, 32229), (390, 32202), (434, 32049), (487, 31956), (509, 31908), (513, 31899), (524, 31884), (562, 31818), (576, 31785), (607, 31701), (652, 31620), (672, 31590), (700, 31464), (708, 31434), (711, 31413), (726, 31341), (733, 31311), (742, 31272), (755, 31251), (760, 31230), (823, 31050), (832, 31038), (846, 30996), (851, 30972), (873, 30915), (877, 30894), (896, 30837), (902, 30825), (906, 30816),

Gene: LappelDuVide\_44 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for LappelDuVide\_44:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: Larenn\_44 Start: 31600, Stop: 29807, Start Num: 231

Candidate Starts for Larenn\_44:

(Start: 231 @31600 has 845 MA's), (329, 31396), (330, 31393), (332, 31387), (350, 31357), (367, 31324), (369, 31321), (378, 31294), (390, 31267), (403, 31216), (434, 31114), (487, 31021), (509, 30973), (513, 30964), (524, 30949), (562, 30883), (595, 30802), (613, 30754), (616, 30748), (683, 30610), (700, 30529), (711, 30472), (719, 30439), (726, 30400), (733, 30370), (742, 30331), (755, 30310), (760, 30289), (832, 30097), (834, 30091), (846, 30055), (851, 30031), (873, 29974), (877, 29953), (896, 29896), (902, 29884), (906, 29875),

Gene: LarryKay\_48 Start: 31886, Stop: 30072, Start Num: 231

Candidate Starts for LarryKay\_48:

(Start: 231 @31886 has 845 MA's), (248, 31847), (256, 31835), (329, 31682), (333, 31667), (367, 31610), (390, 31553), (392, 31544), (403, 31502), (415, 31451), (434, 31400), (472, 31346), (487,

31307), (509, 31259), (524, 31235), (549, 31196), (562, 31169), (575, 31139), (610, 31046), (616, 31034), (641, 30986), (652, 30971), (700, 30815), (711, 30764), (719, 30731), (720, 30728), (733, 30662), (742, 30623), (761, 30551), (772, 30512), (780, 30488), (786, 30470), (796, 30437), (834, 30356), (851, 30296), (880, 30209), (896, 30161), (902, 30149), (906, 30140), (907, 30137),

Gene: Lars\_57 Start: 52585, Stop: 50756, Start Num: 188

Candidate Starts for Lars\_57:

(Start: 188 @52585 has 31 MA's), (Start: 227 @52558 has 3 MA's), (242, 52528), (246, 52516), (264, 52489), (Start: 266 @52486 has 4 MA's), (274, 52477), (291, 52459), (330, 52363), (355, 52312), (367, 52288), (375, 52264), (417, 52126), (427, 52102), (431, 52090), (454, 52033), (466, 51997), (471, 51985), (482, 51961), (516, 51883), (522, 51877), (526, 51868), (540, 51847), (542, 51844), (561, 51814), (624, 51670), (652, 51604), (681, 51553), (684, 51532), (689, 51514), (701, 51457), (722, 51373), (727, 51343), (730, 51334), (744, 51268), (758, 51241), (760, 51232), (766, 51214), (772, 51190), (790, 51136), (794, 51124), (800, 51103), (834, 51034), (851, 50974), (856, 50956), (871, 50923), (875, 50911), (877, 50896), (878, 50893), (881, 50881), (890, 50857), (891, 50854), (907, 50806), (908, 50803), (912, 50782), (917, 50761),

Gene: LasagnaCat\_62 Start: 54420, Stop: 52561, Start Num: 196

Candidate Starts for LasagnaCat\_62:

(Start: 175 @54444 has 1 MA's), (Start: 196 @54420 has 254 MA's), (Start: 221 @54396 has 2 MA's), (Start: 227 @54390 has 3 MA's), (246, 54348), (259, 54327), (307, 54213), (311, 54207), (326, 54177), (355, 54117), (366, 54096), (386, 54042), (391, 54030), (396, 54012), (398, 54000), (431, 53895), (454, 53838), (466, 53802), (471, 53790), (483, 53763), (491, 53736), (499, 53718), (509, 53700), (533, 53661), (540, 53652), (542, 53649), (544, 53646), (695, 53289), (701, 53256), (706, 53235), (727, 53142), (730, 53133), (744, 53070), (760, 53034), (761, 53031), (766, 53016), (790, 52938), (794, 52926), (800, 52905), (817, 52866), (851, 52776), (856, 52758), (858, 52752), (868, 52737), (875, 52713), (877, 52698), (878, 52695), (881, 52683), (890, 52659), (907, 52611), (912, 52587),

Gene: Lasso\_61 Start: 54283, Stop: 52424, Start Num: 196

Candidate Starts for Lasso\_61:

(Start: 175 @54307 has 1 MA's), (Start: 196 @54283 has 254 MA's), (Start: 221 @54259 has 2 MA's), (Start: 227 @54253 has 3 MA's), (246, 54211), (259, 54190), (307, 54076), (311, 54070), (326, 54040), (355, 53980), (366, 53959), (386, 53905), (391, 53893), (396, 53875), (398, 53863), (431, 53758), (454, 53701), (466, 53665), (471, 53653), (483, 53626), (499, 53581), (533, 53524), (540, 53515), (542, 53512), (695, 53152), (701, 53119), (706, 53098), (727, 53005), (730, 52996), (744, 52933), (760, 52897), (761, 52894), (766, 52879), (790, 52801), (794, 52789), (800, 52768), (817, 52729), (851, 52639), (856, 52621), (858, 52615), (868, 52600), (875, 52576), (877, 52561), (878, 52558), (881, 52546), (890, 52522), (907, 52474), (912, 52450),

Gene: LastResort\_46 Start: 29743, Stop: 27953, Start Num: 231

Candidate Starts for LastResort\_46:

(Start: 231 @29743 has 845 MA's), (317, 29569), (367, 29464), (369, 29461), (378, 29434), (390, 29407), (403, 29356), (434, 29254), (487, 29161), (505, 29116), (509, 29113), (513, 29104), (595, 28942), (603, 28915), (613, 28894), (616, 28888), (674, 28789), (683, 28750), (695, 28699), (700, 28669), (711, 28618), (719, 28585), (724, 28552), (726, 28546), (733, 28516), (755, 28456), (760, 28435), (772, 28393), (781, 28366), (786, 28351), (818, 28264), (846, 28201), (847, 28198), (896, 28042), (902, 28030), (907, 28018),

Gene: Lauer\_41 Start: 35269, Stop: 32888, Start Num: 43

Candidate Starts for Lauer\_41:

(Start: 43 @35269 has 11 MA's), (58, 35209), (79, 35167), (91, 35128), (117, 35038), (127, 35008), (135, 34987), (159, 34963), (Start: 208 @34885 has 3 MA's), (Start: 212 @34879 has 1 MA's), (Start:

214 @34876 has 4 MA's), (237, 34846), (258, 34798), (278, 34771), (280, 34768), (303, 34711), (314, 34687), (321, 34672), (331, 34651), (352, 34609), (365, 34585), (369, 34576), (370, 34570), (371, 34564), (384, 34531), (393, 34510), (397, 34489), (463, 34306), (490, 34231), (519, 34189), (576, 34102), (617, 34024), (622, 34018), (640, 33973), (642, 33970), (649, 33955), (659, 33934), (693, 33808), (703, 33760), (705, 33751), (711, 33721), (714, 33709), (733, 33616), (741, 33580), (743, 33574), (745, 33568), (746, 33562), (761, 33505), (768, 33481), (795, 33376), (796, 33373), (830, 33280), (836, 33262), (847, 33223), (857, 33181), (865, 33157), (875, 33127), (886, 33079), (889, 33070), (893, 33055), (908, 33010), (925, 32944), (934, 32923), (936, 32917), (940, 32911),

Gene: Laurie\_57 Start: 52312, Stop: 50483, Start Num: 188

Candidate Starts for Laurie\_57:

(Start: 188 @52312 has 31 MA's), (Start: 227 @52285 has 3 MA's), (242, 52255), (246, 52243), (264, 52216), (Start: 266 @52213 has 4 MA's), (274, 52204), (291, 52186), (330, 52090), (355, 52039), (367, 52015), (417, 51853), (424, 51838), (427, 51829), (431, 51817), (454, 51760), (466, 51724), (471, 51712), (482, 51688), (516, 51610), (522, 51604), (526, 51595), (540, 51574), (542, 51571), (561, 51541), (624, 51397), (652, 51331), (681, 51280), (684, 51259), (689, 51241), (701, 51184), (717, 51127), (722, 51100), (727, 51070), (730, 51061), (744, 50995), (758, 50968), (760, 50959), (766, 50941), (772, 50917), (790, 50863), (794, 50851), (800, 50830), (834, 50761), (851, 50701), (856, 50683), (871, 50650), (875, 50638), (877, 50623), (878, 50620), (881, 50608), (890, 50584), (891, 50581), (907, 50533), (908, 50530), (912, 50509), (917, 50488),

Gene: Leaf\_95 Start: 58518, Stop: 60557, Start Num: 197

Candidate Starts for Leaf\_95:

(Start: 197 @58518 has 4 MA's), (257, 58629), (259, 58632), (277, 58659), (298, 58716), (313, 58752), (328, 58791), (354, 58845), (361, 58857), (365, 58866), (376, 58902), (395, 58962), (398, 58977), (402, 58989), (418, 59034), (428, 59064), (467, 59178), (497, 59271), (498, 59274), (504, 59283), (513, 59301), (571, 59409), (600, 59463), (606, 59475), (632, 59541), (658, 59610), (708, 59763), (726, 59847), (733, 59877), (767, 60009), (768, 60012), (776, 60048), (784, 60081), (796, 60120), (847, 60270), (852, 60294), (854, 60300), (858, 60315), (867, 60345), (887, 60423), (893, 60444), (902, 60474), (912, 60516), (924, 60552),

Gene: Leafus\_38 Start: 29199, Stop: 27334, Start Num: 267

Candidate Starts for Leafus\_38:

(Start: 267 @29199 has 137 MA's), (Start: 275 @29190 has 5 MA's), (394, 28926), (397, 28911), (400, 28905), (445, 28773), (463, 28719), (490, 28632), (494, 28623), (498, 28611), (513, 28584), (516, 28581), (525, 28566), (527, 28560), (576, 28479), (634, 28332), (675, 28230), (726, 28017), (729, 28008), (730, 28005), (733, 27987), (743, 27945), (753, 27915), (768, 27858), (815, 27699), (827, 27669), (847, 27600), (852, 27576), (863, 27537), (876, 27492),

Gene: LeeLot\_61 Start: 54638, Stop: 52779, Start Num: 196

Candidate Starts for LeeLot\_61:

(Start: 175 @54662 has 1 MA's), (Start: 196 @54638 has 254 MA's), (Start: 221 @54614 has 2 MA's), (Start: 227 @54608 has 3 MA's), (246, 54566), (259, 54545), (307, 54431), (311, 54425), (326, 54395), (355, 54335), (366, 54314), (386, 54260), (391, 54248), (396, 54230), (398, 54218), (431, 54113), (454, 54056), (466, 54020), (471, 54008), (483, 53981), (499, 53936), (533, 53879), (540, 53870), (542, 53867), (695, 53507), (701, 53474), (706, 53453), (727, 53360), (730, 53351), (744, 53288), (760, 53252), (761, 53249), (766, 53234), (790, 53156), (794, 53144), (800, 53123), (817, 53084), (851, 52994), (856, 52976), (858, 52970), (868, 52955), (875, 52931), (877, 52916), (878, 52913), (881, 52901), (890, 52877), (907, 52829), (912, 52805),

Gene: Lego\_41 Start: 29589, Stop: 31454, Start Num: 231

Candidate Starts for Lego\_41:

(Start: 231 @29589 has 845 MA's), (254, 29637), (378, 29886), (406, 29976), (489, 30183), (492, 30192), (542, 30282), (549, 30291), (558, 30306), (576, 30351), (595, 30396), (613, 30444), (643, 30501), (674, 30582), (694, 30669), (700, 30702), (708, 30732), (720, 30789), (733, 30855), (759, 30948), (780, 31020), (820, 31128), (846, 31191), (851, 31215), (890, 31326), (896, 31350), (901, 31359),

Gene: Lego3393\_59 Start: 54589, Stop: 52730, Start Num: 196

Candidate Starts for Lego3393\_59:

(Start: 175 @54613 has 1 MA's), (Start: 196 @54589 has 254 MA's), (Start: 221 @54565 has 2 MA's), (Start: 227 @54559 has 3 MA's), (246, 54517), (259, 54496), (307, 54382), (311, 54376), (326, 54346), (355, 54286), (366, 54265), (386, 54211), (391, 54199), (396, 54181), (398, 54169), (431, 54064), (454, 54007), (466, 53971), (471, 53959), (483, 53932), (491, 53905), (499, 53887), (509, 53869), (533, 53830), (540, 53821), (542, 53818), (695, 53458), (701, 53425), (706, 53404), (727, 53311), (730, 53302), (744, 53239), (760, 53203), (761, 53200), (766, 53185), (790, 53107), (794, 53095), (800, 53074), (817, 53035), (851, 52945), (856, 52927), (858, 52921), (868, 52906), (875, 52882), (877, 52867), (878, 52864), (881, 52852), (890, 52828), (907, 52780), (912, 52756),

Gene: Legolas\_62 Start: 54377, Stop: 52518, Start Num: 196

Candidate Starts for Legolas\_62:

(Start: 175 @54401 has 1 MA's), (Start: 196 @54377 has 254 MA's), (Start: 221 @54353 has 2 MA's), (Start: 227 @54347 has 3 MA's), (246, 54305), (259, 54284), (307, 54170), (311, 54164), (326, 54134), (355, 54074), (366, 54053), (386, 53999), (391, 53987), (396, 53969), (398, 53957), (431, 53852), (454, 53795), (466, 53759), (471, 53747), (483, 53720), (499, 53675), (533, 53618), (540, 53609), (542, 53606), (695, 53246), (701, 53213), (706, 53192), (727, 53099), (730, 53090), (744, 53027), (760, 52991), (761, 52988), (766, 52973), (790, 52895), (794, 52883), (800, 52862), (817, 52823), (851, 52733), (856, 52715), (858, 52709), (868, 52694), (875, 52670), (877, 52655), (878, 52652), (881, 52640), (890, 52616), (907, 52568), (912, 52544),

Gene: LeiMonet\_63 Start: 54494, Stop: 52635, Start Num: 196

Candidate Starts for LeiMonet\_63:

(Start: 175 @54518 has 1 MA's), (Start: 196 @54494 has 254 MA's), (Start: 221 @54470 has 2 MA's), (Start: 227 @54464 has 3 MA's), (246, 54422), (259, 54401), (307, 54287), (311, 54281), (326, 54251), (355, 54191), (366, 54170), (386, 54116), (391, 54104), (396, 54086), (398, 54074), (431, 53969), (454, 53912), (466, 53876), (471, 53864), (482, 53840), (486, 53828), (491, 53810), (499, 53792), (509, 53774), (533, 53735), (540, 53726), (542, 53723), (544, 53720), (695, 53363), (701, 53330), (706, 53309), (727, 53216), (730, 53207), (744, 53144), (760, 53108), (761, 53105), (766, 53090), (790, 53012), (794, 53000), (800, 52979), (817, 52940), (851, 52850), (856, 52832), (858, 52826), (868, 52811), (875, 52787), (877, 52772), (878, 52769), (881, 52757), (890, 52733), (907, 52685), (912, 52661),

Gene: LemonSlice\_61 Start: 53968, Stop: 52109, Start Num: 196

Candidate Starts for LemonSlice\_61:

(Start: 175 @53992 has 1 MA's), (Start: 196 @53968 has 254 MA's), (Start: 221 @53944 has 2 MA's), (Start: 227 @53938 has 3 MA's), (246, 53896), (259, 53875), (307, 53761), (311, 53755), (326, 53725), (355, 53665), (366, 53644), (386, 53590), (391, 53578), (396, 53560), (398, 53548), (431, 53443), (454, 53386), (466, 53350), (471, 53338), (483, 53311), (491, 53284), (499, 53266), (509, 53248), (533, 53209), (540, 53200), (542, 53197), (668, 52939), (695, 52837), (701, 52804), (706, 52783), (727, 52690), (730, 52681), (744, 52618), (760, 52582), (761, 52579), (766, 52564), (790, 52486), (794, 52474), (800, 52453), (817, 52414), (851, 52324), (856, 52306), (858, 52300), (868, 52285), (875, 52261), (877, 52246), (878, 52243), (881, 52231), (890, 52207), (907, 52159), (912, 52135),

Gene: Lemur\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Lemur\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: LeoAvram\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for LeoAvram\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Leogania\_44 Start: 32411, Stop: 30624, Start Num: 231

Candidate Starts for Leogania\_44:

(Start: 231 @32411 has 845 MA's), (330, 32204), (332, 32198), (337, 32183), (350, 32168), (378, 32105), (390, 32078), (395, 32057), (434, 31925), (487, 31832), (513, 31775), (524, 31760), (562, 31694), (595, 31613), (613, 31565), (616, 31559), (683, 31421), (700, 31340), (711, 31289), (719, 31256), (720, 31253), (722, 31244), (726, 31217), (733, 31187), (742, 31148), (755, 31127), (760, 31106), (834, 30908), (846, 30872), (851, 30848), (873, 30791), (877, 30770), (896, 30713), (902, 30701), (906, 30692),

Gene: Lephleur\_57 Start: 52497, Stop: 50668, Start Num: 188

Candidate Starts for Lephleur\_57:

(Start: 188 @52497 has 31 MA's), (Start: 227 @52470 has 3 MA's), (242, 52440), (246, 52428), (264, 52401), (Start: 266 @52398 has 4 MA's), (274, 52389), (291, 52371), (330, 52275), (355, 52224), (367, 52200), (375, 52176), (417, 52038), (427, 52014), (431, 52002), (454, 51945), (466, 51909), (471, 51897), (482, 51873), (522, 51789), (540, 51759), (542, 51756), (561, 51726), (624, 51582), (652, 51516), (678, 51477), (681, 51465), (684, 51444), (689, 51426), (701, 51369), (722, 51285), (727, 51255), (730, 51246), (744, 51180), (758, 51153), (760, 51144), (766, 51126), (772, 51102), (790, 51048), (794, 51036), (800, 51015), (834, 50946), (851, 50886), (856, 50868), (871, 50835), (875, 50823), (877, 50808), (878, 50805), (881, 50793), (890, 50769), (891, 50766), (907, 50718), (908, 50715), (912, 50694), (917, 50673),

Gene: Lesedi\_42 Start: 33941, Stop: 32115, Start Num: 231

Candidate Starts for Lesedi\_42:

(Start: 231 @33941 has 845 MA's), (332, 33728), (367, 33665), (378, 33635), (388, 33614), (390, 33608), (392, 33599), (425, 33482), (434, 33455), (487, 33362), (492, 33347), (509, 33314), (541, 33263), (543, 33260), (575, 33194), (589, 33164), (598, 33134), (616, 33089), (638, 33050), (700, 32870), (709, 32822), (720, 32783), (733, 32717), (742, 32678), (755, 32657), (760, 32636), (766, 32618), (786, 32552), (846, 32402), (847, 32399), (855, 32363), (868, 32339), (870, 32330), (874, 32318), (896, 32243), (906, 32222),

Gene: LestyG\_57 Start: 53332, Stop: 51515, Start Num: 223

Candidate Starts for LestyG\_57:

(59, 53716), (123, 53515), (Start: 223 @53332 has 42 MA's), (240, 53302), (332, 53122), (395, 52969), (397, 52957), (407, 52927), (412, 52921), (431, 52858), (433, 52852), (454, 52801), (466, 52765), (486, 52717), (542, 52612), (589, 52516), (610, 52465), (681, 52321), (689, 52282), (696, 52252), (701, 52225), (704, 52213), (725, 52117), (727, 52111), (730, 52102), (732, 52090), (754, 52018), (760, 51988), (766, 51970), (768, 51961), (790, 51892), (794, 51880), (800, 51859), (834, 51790), (841, 51775), (847, 51751), (851, 51730), (858, 51706), (875, 51667), (878, 51649), (881,

51637), (886, 51625), (890, 51613), (904, 51571), (912, 51541),

Gene: Lev2\_38 Start: 30259, Stop: 28415, Start Num: 231

Candidate Starts for Lev2\_38:

(Start: 231 @30259 has 845 MA's), (256, 30208), (291, 30148), (317, 30085), (329, 30055), (330, 30052), (363, 29995), (367, 29983), (378, 29953), (390, 29926), (415, 29824), (422, 29809), (434, 29773), (475, 29713), (487, 29677), (509, 29629), (561, 29545), (562, 29539), (594, 29467), (603, 29434), (610, 29419), (616, 29407), (668, 29308), (700, 29173), (708, 29143), (709, 29125), (711, 29122), (720, 29086), (722, 29077), (724, 29056), (727, 29047), (733, 29020), (734, 29017), (755, 28960), (760, 28939), (796, 28822), (818, 28768), (823, 28759), (834, 28741), (856, 28663), (876, 28606), (890, 28570), (896, 28546), (902, 28534),

Gene: Leviathan\_46 Start: 31790, Stop: 30003, Start Num: 231

Candidate Starts for Leviathan\_46:

(156, 31877), (Start: 231 @31790 has 845 MA's), (330, 31583), (332, 31577), (337, 31562), (350, 31547), (369, 31511), (378, 31484), (390, 31457), (395, 31436), (434, 31304), (487, 31211), (509, 31163), (513, 31154), (524, 31139), (562, 31073), (595, 30992), (613, 30944), (616, 30938), (700, 30719), (711, 30668), (719, 30635), (720, 30632), (733, 30566), (742, 30527), (755, 30506), (775, 30431), (780, 30419), (796, 30368), (823, 30305), (834, 30287), (846, 30251), (851, 30227), (877, 30149), (896, 30092), (902, 30080), (906, 30071),

Gene: Librie\_37 Start: 26990, Stop: 25125, Start Num: 267

Candidate Starts for Librie\_37:

(Start: 267 @26990 has 137 MA's), (272, 26984), (316, 26885), (321, 26876), (332, 26852), (338, 26837), (342, 26831), (370, 26780), (371, 26777), (400, 26696), (453, 26546), (456, 26543), (484, 26444), (492, 26417), (494, 26414), (498, 26402), (516, 26372), (527, 26351), (551, 26315), (620, 26168), (660, 26066), (683, 25988), (726, 25808), (733, 25778), (746, 25724), (751, 25706), (768, 25649), (775, 25622), (784, 25580), (796, 25541), (827, 25460), (828, 25451), (847, 25391), (852, 25367), (855, 25355), (858, 25346), (863, 25328), (875, 25295), (893, 25223),

Gene: Licorice\_48 Start: 36210, Stop: 34423, Start Num: 231

Candidate Starts for Licorice\_48:

(Start: 231 @36210 has 845 MA's), (332, 35997), (337, 35982), (378, 35904), (388, 35883), (390, 35877), (392, 35868), (425, 35751), (434, 35724), (487, 35631), (492, 35616), (509, 35583), (541, 35532), (543, 35529), (570, 35475), (575, 35463), (589, 35433), (598, 35403), (616, 35358), (638, 35319), (700, 35139), (709, 35091), (720, 35052), (733, 34986), (758, 34914), (760, 34905), (786, 34821), (818, 34734), (868, 34608), (871, 34596), (896, 34512), (899, 34506),

Gene: Liebe\_42 Start: 31253, Stop: 33223, Start Num: 145

Candidate Starts for Liebe\_42:

(Start: 145 @31253 has 1 MA's), (147, 31256), (Start: 231 @31379 has 845 MA's), (378, 31676), (489, 31952), (544, 32054), (558, 32075), (613, 32213), (647, 32276), (700, 32471), (702, 32477), (708, 32501), (720, 32558), (731, 32615), (733, 32624), (766, 32741), (780, 32789), (843, 32948), (846, 32960), (873, 33041), (896, 33119), (911, 33164),

Gene: Ligma\_51 Start: 45981, Stop: 44164, Start Num: 219

Candidate Starts for Ligma\_51:

(66, 46302), (75, 46278), (Start: 219 @45981 has 12 MA's), (240, 45945), (246, 45930), (Start: 266 @45900 has 4 MA's), (322, 45774), (379, 45651), (387, 45636), (398, 45594), (431, 45498), (466, 45405), (526, 45276), (542, 45252), (684, 44940), (689, 44922), (701, 44865), (727, 44751), (730, 44742), (744, 44679), (761, 44640), (766, 44625), (790, 44547), (794, 44535), (800, 44514), (803, 44505), (844, 44418), (852, 44382), (855, 44370), (872, 44331), (875, 44322), (877, 44307), (890, 44262), (912, 44190),

Gene: LilBib\_45 Start: 35268, Stop: 33442, Start Num: 231

Candidate Starts for LilBib\_45:

(Start: 231 @35268 has 845 MA's), (332, 35055), (337, 35040), (367, 34992), (378, 34962), (388, 34941), (390, 34935), (392, 34926), (425, 34809), (434, 34782), (487, 34689), (492, 34674), (509, 34641), (541, 34590), (543, 34587), (575, 34521), (589, 34491), (598, 34461), (616, 34416), (638, 34377), (700, 34197), (709, 34149), (722, 34101), (730, 34062), (733, 34044), (742, 34005), (755, 33984), (760, 33963), (765, 33948), (803, 33825), (855, 33690), (868, 33666), (870, 33657), (874, 33645), (896, 33570), (906, 33549),

Gene: LilMcDreamy\_55 Start: 53828, Stop: 51987, Start Num: 182

Candidate Starts for LilMcDreamy\_55:

(Start: 182 @53828 has 24 MA's), (Start: 227 @53786 has 3 MA's), (240, 53759), (330, 53591), (366, 53519), (375, 53492), (395, 53441), (410, 53396), (412, 53393), (421, 53360), (424, 53351), (431, 53330), (466, 53237), (471, 53225), (486, 53189), (509, 53135), (522, 53117), (533, 53096), (540, 53087), (542, 53084), (590, 52985), (610, 52937), (681, 52793), (689, 52754), (701, 52697), (706, 52676), (713, 52646), (727, 52583), (730, 52574), (734, 52553), (754, 52490), (760, 52460), (766, 52442), (790, 52364), (794, 52352), (800, 52331), (803, 52322), (851, 52202), (875, 52139), (876, 52127), (886, 52097), (890, 52085), (904, 52043), (912, 52013),

Gene: LilTerminator\_38 Start: 27012, Stop: 25147, Start Num: 267

Candidate Starts for LilTerminator\_38:

(Start: 267 @27012 has 137 MA's), (272, 27006), (316, 26907), (321, 26898), (332, 26874), (338, 26859), (342, 26853), (370, 26802), (371, 26799), (400, 26718), (453, 26568), (456, 26565), (484, 26466), (492, 26439), (494, 26436), (498, 26424), (516, 26394), (527, 26373), (551, 26337), (620, 26190), (645, 26121), (681, 26022), (683, 26010), (726, 25830), (733, 25800), (746, 25746), (751, 25728), (768, 25671), (775, 25644), (784, 25602), (827, 25482), (828, 25473), (847, 25413), (852, 25389), (855, 25377), (858, 25368), (863, 25350), (875, 25317), (893, 25245),

Gene: LilTurb\_45 Start: 31623, Stop: 29836, Start Num: 231

Candidate Starts for LilTurb\_45:

(Start: 231 @31623 has 845 MA's), (330, 31416), (332, 31410), (337, 31395), (350, 31380), (369, 31344), (378, 31317), (390, 31290), (395, 31269), (434, 31137), (487, 31044), (509, 30996), (513, 30987), (524, 30972), (562, 30906), (595, 30825), (613, 30777), (616, 30771), (652, 30708), (700, 30552), (711, 30501), (719, 30468), (720, 30465), (733, 30399), (742, 30360), (755, 30339), (775, 30264), (780, 30252), (796, 30201), (823, 30138), (834, 30120), (846, 30084), (851, 30060), (877, 29982), (896, 29925), (902, 29913), (906, 29904),

Gene: Lilbooboo\_34 Start: 26910, Stop: 28784, Start Num: 231

Candidate Starts for Lilbooboo\_34:

(Start: 231 @26910 has 845 MA's), (240, 26931), (245, 26943), (274, 26991), (329, 27111), (378, 27213), (379, 27216), (388, 27234), (392, 27249), (422, 27357), (436, 27399), (517, 27546), (523, 27558), (541, 27588), (549, 27600), (560, 27618), (574, 27654), (603, 27732), (608, 27744), (613, 27753), (643, 27810), (645, 27813), (688, 27951), (695, 27981), (700, 28011), (709, 28062), (720, 28104), (724, 28134), (726, 28140), (727, 28143), (730, 28152), (731, 28161), (733, 28170), (741, 28236), (758, 28290), (793, 28404), (820, 28473), (841, 28515), (844, 28527), (855, 28575), (858, 28584), (871, 28611), (873, 28617), (877, 28638), (896, 28695), (899, 28701), (906, 28716),

Gene: Lilbunny\_43 Start: 29422, Stop: 27581, Start Num: 231

Candidate Starts for Lilbunny\_43:

(Start: 210 @29452 has 1 MA's), (Start: 231 @29422 has 845 MA's), (329, 29218), (367, 29143), (369, 29140), (378, 29113), (384, 29098), (390, 29086), (403, 29035), (430, 28945), (434, 28933), (487, 28840), (502, 28801), (513, 28783), (524, 28768), (562, 28702), (576, 28669), (577, 28666), (619,

28564), (652, 28504), (683, 28420), (700, 28339), (719, 28255), (720, 28252), (722, 28243), (726, 28216), (733, 28186), (755, 28126), (766, 28087), (846, 27871), (847, 27868), (851, 27847), (896, 27712), (902, 27700), (906, 27691), (907, 27688), (939, 27595),

Gene: Lilith\_49 Start: 31846, Stop: 30032, Start Num: 231

Candidate Starts for Lilith\_49:

(Start: 231 @31846 has 845 MA's), (248, 31807), (256, 31795), (329, 31642), (333, 31627), (367, 31570), (390, 31513), (392, 31504), (403, 31462), (415, 31411), (434, 31360), (487, 31267), (509, 31219), (513, 31210), (524, 31195), (549, 31156), (562, 31129), (575, 31099), (610, 31006), (616, 30994), (641, 30946), (652, 30931), (700, 30775), (720, 30688), (733, 30622), (742, 30583), (761, 30511), (772, 30472), (780, 30448), (786, 30430), (796, 30397), (806, 30370), (834, 30316), (851, 30256), (877, 30178), (896, 30121), (902, 30109), (906, 30100),

Gene: Lillie\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for Lillie\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: LimaBean\_42 Start: 29163, Stop: 31037, Start Num: 222

Candidate Starts for LimaBean\_42:

(Start: 220 @29160 has 7 MA's), (Start: 222 @29163 has 57 MA's), (Start: 266 @29232 has 4 MA's), (279, 29253), (392, 29499), (403, 29541), (549, 29835), (651, 30069), (688, 30192), (700, 30252), (702, 30258), (711, 30303), (716, 30318), (718, 30333), (724, 30369), (733, 30405), (759, 30498), (787, 30591), (816, 30669), (846, 30741), (847, 30744), (855, 30780), (873, 30822), (876, 30840), (890, 30876), (896, 30900), (906, 30921),

Gene: LittleB\_45 Start: 31571, Stop: 29745, Start Num: 231

Candidate Starts for LittleB\_45:

(Start: 231 @31571 has 845 MA's), (240, 31550), (256, 31520), (274, 31490), (350, 31328), (360, 31310), (390, 31238), (392, 31229), (426, 31109), (434, 31085), (487, 30992), (511, 30944), (524, 30923), (549, 30884), (603, 30752), (613, 30731), (638, 30686), (643, 30674), (697, 30521), (700, 30500), (726, 30377), (733, 30347), (742, 30308), (760, 30242), (761, 30239), (766, 30224), (772, 30200), (780, 30176), (851, 29969), (896, 29834), (902, 29822), (906, 29813),

Gene: LittleCherry\_39 Start: 30596, Stop: 28731, Start Num: 231

Candidate Starts for LittleCherry\_39:

(Start: 231 @30596 has 845 MA's), (256, 30545), (291, 30485), (317, 30422), (329, 30392), (330, 30389), (363, 30332), (367, 30320), (378, 30290), (390, 30263), (434, 30110), (487, 30014), (509, 29966), (561, 29882), (562, 29876), (594, 29804), (603, 29771), (610, 29756), (616, 29744), (668, 29645), (700, 29510), (708, 29480), (709, 29462), (716, 29444), (720, 29423), (722, 29414), (733, 29357), (742, 29318), (760, 29276), (766, 29258), (780, 29210), (796, 29159), (818, 29105), (823, 29096), (834, 29078), (851, 29018), (856, 29000), (890, 28907), (896, 28883), (902, 28871), (939, 28766),

Gene: LittleGuy\_45 Start: 31466, Stop: 29640, Start Num: 231

Candidate Starts for LittleGuy\_45:

(Start: 231 @31466 has 845 MA's), (240, 31445), (256, 31415), (274, 31385), (350, 31223), (360, 31205), (390, 31133), (392, 31124), (426, 31004), (434, 30980), (487, 30887), (511, 30839), (524, 30818), (549, 30779), (603, 30647), (613, 30626), (638, 30581), (643, 30569), (697, 30416), (700,



30395), (726, 30272), (733, 30242), (742, 30203), (760, 30137), (761, 30134), (766, 30119), (772, 30095), (780, 30071), (851, 29864), (896, 29729), (902, 29717), (906, 29708),

Gene: LittleMunchkin\_52 Start: 48656, Stop: 46845, Start Num: 216

Candidate Starts for LittleMunchkin\_52:

(Start: 216 @48656 has 7 MA's), (245, 48608), (246, 48605), (259, 48584), (Start: 266 @48575 has 4 MA's), (326, 48446), (375, 48338), (379, 48326), (395, 48287), (398, 48272), (424, 48197), (431, 48176), (466, 48083), (523, 47960), (542, 47930), (681, 47639), (701, 47543), (725, 47438), (727, 47432), (730, 47423), (744, 47360), (757, 47333), (766, 47306), (770, 47291), (772, 47282), (790, 47228), (794, 47216), (800, 47195), (841, 47111), (844, 47099), (852, 47063), (875, 47003), (877, 46988), (890, 46943), (907, 46895), (912, 46871),

Gene: LizLemon\_57 Start: 52610, Stop: 50781, Start Num: 188

Candidate Starts for LizLemon\_57:

(Start: 188 @52610 has 31 MA's), (Start: 227 @52583 has 3 MA's), (242, 52553), (246, 52541), (264, 52514), (Start: 266 @52511 has 4 MA's), (274, 52502), (291, 52484), (330, 52388), (355, 52337), (367, 52313), (375, 52289), (417, 52151), (427, 52127), (431, 52115), (454, 52058), (466, 52022), (471, 52010), (482, 51986), (522, 51902), (540, 51872), (542, 51869), (561, 51839), (624, 51695), (652, 51629), (678, 51590), (681, 51578), (684, 51557), (689, 51539), (701, 51482), (722, 51398), (727, 51368), (730, 51359), (744, 51293), (758, 51266), (760, 51257), (766, 51239), (772, 51215), (790, 51161), (794, 51149), (800, 51128), (834, 51059), (851, 50999), (856, 50981), (871, 50948), (875, 50936), (877, 50921), (878, 50918), (881, 50906), (890, 50882), (891, 50879), (907, 50831), (908, 50828), (912, 50807), (917, 50786),

Gene: Lizalica\_39 Start: 28785, Stop: 30650, Start Num: 231

Candidate Starts for Lizalica\_39:

(Start: 231 @28785 has 845 MA's), (254, 28833), (378, 29082), (406, 29172), (489, 29379), (492, 29388), (542, 29478), (549, 29487), (558, 29502), (576, 29547), (595, 29592), (613, 29640), (643, 29697), (674, 29778), (694, 29865), (700, 29898), (708, 29928), (720, 29985), (731, 30042), (733, 30051), (820, 30324), (846, 30387), (896, 30546), (901, 30555), (929, 30633),

Gene: LochMonster\_46 Start: 31806, Stop: 29980, Start Num: 231

Candidate Starts for LochMonster\_46:

(Start: 231 @31806 has 845 MA's), (240, 31785), (256, 31755), (274, 31725), (350, 31563), (360, 31545), (390, 31473), (392, 31464), (426, 31344), (434, 31320), (487, 31227), (511, 31179), (524, 31158), (549, 31119), (570, 31074), (573, 31068), (603, 30987), (613, 30966), (638, 30921), (643, 30909), (697, 30756), (700, 30735), (726, 30612), (733, 30582), (742, 30543), (760, 30477), (761, 30474), (766, 30459), (772, 30435), (780, 30411), (851, 30204), (896, 30069), (902, 30057), (906, 30048),

Gene: Lockley\_44 Start: 34369, Stop: 32543, Start Num: 231

Candidate Starts for Lockley\_44:

(Start: 231 @34369 has 845 MA's), (332, 34156), (367, 34093), (378, 34063), (390, 34036), (392, 34027), (425, 33910), (434, 33883), (487, 33790), (492, 33775), (541, 33691), (543, 33688), (575, 33622), (589, 33592), (598, 33562), (616, 33517), (638, 33478), (700, 33298), (709, 33250), (720, 33211), (733, 33145), (742, 33106), (755, 33085), (760, 33064), (766, 33046), (786, 32980), (846, 32830), (847, 32827), (855, 32791), (870, 32758), (874, 32746), (896, 32671), (906, 32650),

Gene: Loka\_45 Start: 31915, Stop: 30128, Start Num: 231

Candidate Starts for Loka\_45:

(Start: 231 @31915 has 845 MA's), (330, 31708), (332, 31702), (350, 31672), (367, 31639), (369, 31636), (384, 31594), (390, 31582), (434, 31429), (487, 31336), (509, 31288), (513, 31279), (524, 31264), (562, 31198), (613, 31069), (678, 30949), (683, 30925), (700, 30844), (711, 30793), (719,

30760), (720, 30757), (733, 30691), (742, 30652), (755, 30631), (775, 30556), (780, 30544), (806, 30466), (823, 30430), (834, 30412), (846, 30376), (851, 30352), (877, 30274), (896, 30217), (902, 30205), (906, 30196),

Gene: Lolalove\_54 Start: 54016, Stop: 52190, Start Num: 182

Candidate Starts for Lolalove\_54:

(Start: 182 @54016 has 24 MA's), (Start: 227 @53989 has 3 MA's), (240, 53962), (246, 53947), (259, 53926), (301, 53839), (351, 53734), (366, 53707), (371, 53692), (396, 53626), (405, 53596), (407, 53587), (410, 53584), (412, 53581), (454, 53461), (461, 53443), (466, 53425), (471, 53413), (483, 53386), (509, 53323), (533, 53284), (540, 53275), (542, 53272), (561, 53242), (575, 53206), (681, 52981), (682, 52978), (689, 52942), (695, 52918), (701, 52885), (725, 52777), (727, 52771), (730, 52762), (760, 52663), (761, 52660), (766, 52645), (790, 52567), (794, 52555), (800, 52534), (803, 52525), (817, 52495), (834, 52465), (844, 52438), (851, 52405), (858, 52381), (875, 52342), (878, 52324), (881, 52312), (890, 52288), (904, 52246), (907, 52240), (912, 52216),

Gene: London\_39 Start: 30351, Stop: 32216, Start Num: 231

Candidate Starts for London\_39:

(Start: 231 @30351 has 845 MA's), (254, 30399), (348, 30582), (351, 30588), (378, 30648), (388, 30669), (406, 30738), (492, 30954), (542, 31044), (549, 31053), (558, 31068), (576, 31113), (613, 31206), (674, 31344), (700, 31464), (708, 31494), (720, 31551), (731, 31608), (733, 31617), (738, 31641), (759, 31710), (780, 31782), (783, 31791), (820, 31890), (846, 31953), (896, 32112), (901, 32121),

Gene: LoneWolf\_45 Start: 31301, Stop: 29508, Start Num: 231

Candidate Starts for LoneWolf\_45:

(Start: 231 @31301 has 845 MA's), (236, 31292), (329, 31097), (350, 31055), (369, 31019), (378, 30992), (390, 30965), (403, 30914), (426, 30836), (434, 30812), (487, 30719), (505, 30674), (575, 30551), (671, 30353), (673, 30347), (700, 30224), (722, 30128), (726, 30101), (733, 30071), (742, 30032), (758, 29999), (760, 29990), (796, 29873), (803, 29852), (851, 29732), (877, 29654), (896, 29597), (902, 29585), (906, 29576),

Gene: Longacauda\_61 Start: 54397, Stop: 52538, Start Num: 196

Candidate Starts for Longacauda\_61:

(Start: 175 @54421 has 1 MA's), (Start: 196 @54397 has 254 MA's), (Start: 221 @54373 has 2 MA's), (Start: 227 @54367 has 3 MA's), (246, 54325), (259, 54304), (307, 54190), (311, 54184), (326, 54154), (355, 54094), (366, 54073), (386, 54019), (391, 54007), (396, 53989), (398, 53977), (431, 53872), (454, 53815), (466, 53779), (471, 53767), (483, 53740), (499, 53695), (533, 53638), (540, 53629), (542, 53626), (668, 53368), (695, 53266), (701, 53233), (706, 53212), (727, 53119), (730, 53110), (744, 53047), (760, 53011), (761, 53008), (766, 52993), (790, 52915), (794, 52903), (800, 52882), (817, 52843), (851, 52753), (856, 52735), (858, 52729), (868, 52714), (875, 52690), (877, 52675), (878, 52672), (881, 52660), (890, 52636), (907, 52588), (912, 52564),

Gene: Looper\_47 Start: 29720, Stop: 27930, Start Num: 231

Candidate Starts for Looper\_47:

(Start: 231 @29720 has 845 MA's), (317, 29546), (367, 29441), (369, 29438), (378, 29411), (390, 29384), (403, 29333), (434, 29231), (487, 29138), (505, 29093), (509, 29090), (513, 29081), (595, 28919), (603, 28892), (613, 28871), (616, 28865), (674, 28766), (683, 28727), (695, 28676), (700, 28646), (711, 28595), (719, 28562), (724, 28529), (726, 28523), (733, 28493), (755, 28433), (760, 28412), (772, 28370), (781, 28343), (786, 28328), (818, 28241), (846, 28178), (847, 28175), (896, 28019), (902, 28007), (907, 27995),

Gene: Lopsy\_59 Start: 53696, Stop: 51837, Start Num: 196

Candidate Starts for Lopsy\_59:

(Start: 175 @53720 has 1 MA's), (Start: 196 @53696 has 254 MA's), (Start: 221 @53672 has 2 MA's), (Start: 227 @53666 has 3 MA's), (246, 53624), (259, 53603), (307, 53489), (311, 53483), (326, 53453), (355, 53393), (366, 53372), (386, 53318), (391, 53306), (396, 53288), (397, 53279), (398, 53276), (431, 53171), (454, 53114), (466, 53078), (471, 53066), (482, 53042), (486, 53030), (491, 53012), (499, 52994), (509, 52976), (533, 52937), (540, 52928), (542, 52925), (544, 52922), (695, 52565), (701, 52532), (706, 52511), (727, 52418), (730, 52409), (744, 52346), (760, 52310), (761, 52307), (766, 52292), (790, 52214), (794, 52202), (800, 52181), (817, 52142), (851, 52052), (858, 52028), (868, 52013), (875, 51989), (877, 51974), (878, 51971), (881, 51959), (890, 51935), (907, 51887), (912, 51863),

Gene: Lopton\_45 Start: 35870, Stop: 34044, Start Num: 231

Candidate Starts for Lopton\_45:

(Start: 231 @35870 has 845 MA's), (332, 35657), (367, 35594), (378, 35564), (388, 35543), (390, 35537), (392, 35528), (425, 35411), (434, 35384), (487, 35291), (492, 35276), (509, 35243), (541, 35192), (543, 35189), (575, 35123), (589, 35093), (598, 35063), (616, 35018), (638, 34979), (700, 34799), (709, 34751), (720, 34712), (733, 34646), (742, 34607), (755, 34586), (760, 34565), (766, 34547), (786, 34481), (846, 34331), (847, 34328), (855, 34292), (868, 34268), (874, 34247), (880, 34220), (896, 34172), (906, 34151),

Gene: Lorenzo\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Lorenzo\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Loser\_46 Start: 32256, Stop: 30469, Start Num: 231

Candidate Starts for Loser\_46:

(Start: 231 @32256 has 845 MA's), (329, 32052), (330, 32049), (337, 32028), (350, 32013), (367, 31980), (378, 31950), (390, 31923), (395, 31902), (403, 31872), (434, 31770), (487, 31677), (509, 31629), (513, 31620), (524, 31605), (562, 31539), (595, 31458), (613, 31410), (653, 31338), (683, 31266), (700, 31185), (711, 31134), (719, 31101), (720, 31098), (733, 31032), (742, 30993), (755, 30972), (771, 30915), (775, 30897), (806, 30807), (823, 30771), (834, 30753), (846, 30717), (851, 30693), (873, 30636), (877, 30615), (896, 30558), (902, 30546), (906, 30537),

Gene: LostAndPhound\_61 Start: 54582, Stop: 52723, Start Num: 196

Candidate Starts for LostAndPhound\_61:

(Start: 175 @54606 has 1 MA's), (Start: 196 @54582 has 254 MA's), (Start: 221 @54558 has 2 MA's), (Start: 227 @54552 has 3 MA's), (246, 54510), (259, 54489), (307, 54375), (311, 54369), (326, 54339), (355, 54279), (366, 54258), (386, 54204), (391, 54192), (396, 54174), (398, 54162), (431, 54057), (454, 54000), (466, 53964), (471, 53952), (483, 53925), (491, 53898), (499, 53880), (509, 53862), (533, 53823), (540, 53814), (542, 53811), (668, 53553), (695, 53451), (701, 53418), (706, 53397), (727, 53304), (730, 53295), (744, 53232), (760, 53196), (761, 53193), (766, 53178), (790, 53100), (794, 53088), (800, 53067), (817, 53028), (851, 52938), (856, 52920), (858, 52914), (868, 52899), (875, 52875), (877, 52860), (878, 52857), (881, 52845), (890, 52821), (907, 52773), (912, 52749),

Gene: Louie6\_47 Start: 31885, Stop: 30071, Start Num: 231

Candidate Starts for Louie6\_47:

(Start: 231 @31885 has 845 MA's), (248, 31846), (256, 31834), (329, 31681), (333, 31666), (367, 31609), (390, 31552), (392, 31543), (403, 31501), (415, 31450), (434, 31399), (472, 31345), (487, 31306), (509, 31258), (524, 31234), (549, 31195), (562, 31168), (575, 31138), (610, 31045), (616,

31033), (641, 30985), (652, 30970), (700, 30814), (711, 30763), (719, 30730), (720, 30727), (733, 30661), (742, 30622), (761, 30550), (772, 30511), (780, 30487), (786, 30469), (796, 30436), (834, 30355), (851, 30295), (880, 30208), (896, 30160), (902, 30148), (906, 30139), (907, 30136),

Gene: Lovelyunicorn\_39 Start: 28935, Stop: 27070, Start Num: 267

Candidate Starts for Lovelyunicorn\_39:

(Start: 214 @29022 has 4 MA's), (Start: 216 @29019 has 7 MA's), (256, 28950), (Start: 267 @28935 has 137 MA's), (Start: 275 @28926 has 5 MA's), (321, 28821), (325, 28812), (338, 28782), (340, 28779), (395, 28659), (397, 28647), (400, 28641), (436, 28536), (445, 28509), (490, 28368), (494, 28359), (498, 28347), (513, 28320), (516, 28317), (525, 28302), (527, 28296), (530, 28290), (553, 28257), (634, 28068), (726, 27753), (729, 27744), (730, 27741), (733, 27723), (743, 27681), (745, 27675), (751, 27651), (768, 27594), (815, 27435), (827, 27405), (828, 27396), (847, 27336), (852, 27312), (863, 27273), (875, 27240), (876, 27228), (893, 27168),

Gene: Luchador\_50 Start: 33745, Stop: 31952, Start Num: 231

Candidate Starts for Luchador\_50:

(Start: 231 @33745 has 845 MA's), (236, 33736), (250, 33703), (291, 33634), (329, 33541), (367, 33466), (369, 33463), (378, 33436), (390, 33409), (403, 33358), (426, 33280), (434, 33256), (487, 33163), (495, 33139), (505, 33118), (562, 33025), (575, 32995), (638, 32848), (671, 32797), (683, 32749), (700, 32668), (708, 32638), (716, 32602), (726, 32545), (733, 32515), (760, 32434), (786, 32350), (796, 32317), (806, 32290), (846, 32200), (873, 32119), (877, 32098), (880, 32089), (896, 32041), (902, 32029), (906, 32020), (907, 32017),

Gene: Lucivia\_45 Start: 30825, Stop: 29038, Start Num: 231

Candidate Starts for Lucivia\_45:

(Start: 231 @30825 has 845 MA's), (329, 30621), (367, 30549), (378, 30519), (390, 30492), (489, 30240), (513, 30189), (562, 30108), (582, 30063), (613, 29979), (643, 29922), (672, 29880), (683, 29835), (700, 29754), (711, 29703), (720, 29667), (733, 29601), (755, 29541), (758, 29529), (789, 29427), (796, 29403), (802, 29385), (834, 29322), (844, 29295), (846, 29286), (851, 29262), (896, 29127), (902, 29115), (906, 29106),

Gene: Lucky3\_37 Start: 28582, Stop: 26732, Start Num: 265

Candidate Starts for Lucky3\_37:

(181, 28723), (238, 28633), (Start: 265 @28582 has 17 MA's), (314, 28483), (325, 28459), (340, 28426), (393, 28315), (397, 28294), (400, 28288), (415, 28243), (417, 28237), (476, 28081), (494, 28018), (498, 28006), (516, 27976), (551, 27919), (675, 27625), (726, 27415), (729, 27406), (730, 27403), (733, 27385), (743, 27343), (768, 27256), (847, 26998), (852, 26974), (853, 26971), (862, 26941), (893, 26830),

Gene: LuckyMarjie\_58 Start: 53758, Stop: 51899, Start Num: 196

Candidate Starts for LuckyMarjie\_58:

(Start: 175 @53782 has 1 MA's), (Start: 196 @53758 has 254 MA's), (Start: 221 @53734 has 2 MA's), (Start: 227 @53728 has 3 MA's), (246, 53686), (259, 53665), (307, 53551), (311, 53545), (326, 53515), (355, 53455), (366, 53434), (386, 53380), (391, 53368), (396, 53350), (398, 53338), (431, 53233), (454, 53176), (466, 53140), (471, 53128), (482, 53104), (486, 53092), (491, 53074), (499, 53056), (509, 53038), (533, 52999), (540, 52990), (542, 52987), (544, 52984), (695, 52627), (701, 52594), (706, 52573), (727, 52480), (730, 52471), (744, 52408), (760, 52372), (761, 52369), (766, 52354), (790, 52276), (794, 52264), (800, 52243), (817, 52204), (851, 52114), (856, 52096), (858, 52090), (868, 52075), (875, 52051), (877, 52036), (878, 52033), (881, 52021), (890, 51997), (907, 51949), (912, 51925),

Gene: Lucyedi\_45 Start: 30972, Stop: 29140, Start Num: 231

Candidate Starts for Lucyedi\_45:

(Start: 231 @30972 has 845 MA's), (329, 30768), (330, 30765), (367, 30696), (369, 30693), (378, 30666), (388, 30645), (390, 30639), (392, 30630), (403, 30588), (426, 30510), (434, 30486), (487, 30393), (575, 30225), (671, 30027), (700, 29898), (722, 29802), (730, 29763), (733, 29745), (758, 29673), (760, 29664), (803, 29526), (844, 29439), (846, 29430), (877, 29328), (896, 29271), (902, 29259), (939, 29154),

Gene: Ludgate\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Ludgate\_39:

(Start: 214 @29017 has 4 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (612, 28123), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: LugYA\_51 Start: 31853, Stop: 30039, Start Num: 231

Candidate Starts for LugYA\_51:

(Start: 231 @31853 has 845 MA's), (248, 31814), (256, 31802), (329, 31649), (333, 31634), (367, 31577), (390, 31520), (392, 31511), (403, 31469), (415, 31418), (434, 31367), (487, 31274), (509, 31226), (513, 31217), (524, 31202), (549, 31163), (562, 31136), (575, 31106), (610, 31013), (641, 30953), (652, 30938), (700, 30782), (720, 30695), (733, 30629), (742, 30590), (761, 30518), (772, 30479), (780, 30455), (786, 30437), (796, 30404), (806, 30377), (834, 30323), (851, 30263), (877, 30185), (896, 30128), (902, 30116), (906, 30107),

Gene: Lulumae\_58 Start: 53743, Stop: 51884, Start Num: 196

Candidate Starts for Lulumae\_58:

(Start: 175 @53767 has 1 MA's), (Start: 196 @53743 has 254 MA's), (Start: 221 @53719 has 2 MA's), (Start: 227 @53713 has 3 MA's), (246, 53671), (259, 53650), (307, 53536), (311, 53530), (326, 53500), (355, 53440), (366, 53419), (386, 53365), (391, 53353), (396, 53335), (398, 53323), (431, 53218), (454, 53161), (466, 53125), (471, 53113), (483, 53086), (491, 53059), (499, 53041), (509, 53023), (533, 52984), (540, 52975), (542, 52972), (544, 52969), (695, 52612), (701, 52579), (706, 52558), (727, 52465), (730, 52456), (744, 52393), (760, 52357), (761, 52354), (766, 52339), (790, 52261), (794, 52249), (800, 52228), (817, 52189), (851, 52099), (856, 52081), (858, 52075), (868, 52060), (875, 52036), (877, 52021), (878, 52018), (881, 52006), (890, 51982), (907, 51934), (912, 51910),

Gene: Lulwa\_58 Start: 53340, Stop: 51481, Start Num: 196

Candidate Starts for Lulwa\_58:

(Start: 175 @53364 has 1 MA's), (Start: 196 @53340 has 254 MA's), (Start: 221 @53316 has 2 MA's), (Start: 227 @53310 has 3 MA's), (246, 53268), (259, 53247), (307, 53133), (311, 53127), (326, 53097), (355, 53037), (366, 53016), (386, 52962), (391, 52950), (396, 52932), (398, 52920), (431, 52815), (454, 52758), (466, 52722), (471, 52710), (483, 52683), (491, 52656), (499, 52638), (509, 52620), (533, 52581), (540, 52572), (542, 52569), (668, 52311), (695, 52209), (701, 52176), (706, 52155), (727, 52062), (730, 52053), (744, 51990), (760, 51954), (761, 51951), (766, 51936), (790, 51858), (794, 51846), (800, 51825), (817, 51786), (851, 51696), (856, 51678), (858, 51672), (868, 51657), (875, 51633), (877, 51618), (878, 51615), (881, 51603), (890, 51579), (907, 51531), (912, 51507),

Gene: Lumine\_61 Start: 54227, Stop: 52368, Start Num: 196

Candidate Starts for Lumine\_61:

(Start: 175 @54251 has 1 MA's), (Start: 196 @54227 has 254 MA's), (Start: 221 @54203 has 2 MA's), (Start: 227 @54197 has 3 MA's), (246, 54155), (259, 54134), (307, 54020), (311, 54014), (326,

53984), (355, 53924), (366, 53903), (386, 53849), (391, 53837), (396, 53819), (398, 53807), (431, 53702), (454, 53645), (466, 53609), (471, 53597), (482, 53573), (486, 53561), (491, 53543), (499, 53525), (509, 53507), (533, 53468), (540, 53459), (542, 53456), (544, 53453), (695, 53096), (701, 53063), (706, 53042), (727, 52949), (730, 52940), (744, 52877), (760, 52841), (761, 52838), (766, 52823), (790, 52745), (794, 52733), (800, 52712), (817, 52673), (851, 52583), (856, 52565), (858, 52559), (868, 52544), (875, 52520), (877, 52505), (878, 52502), (881, 52490), (890, 52466), (907, 52418), (912, 52394),

Gene: Luna18\_40 Start: 28364, Stop: 26472, Start Num: 267

Candidate Starts for Luna18\_40:

(213, 28454), (Start: 267 @28364 has 137 MA's), (Start: 275 @28355 has 5 MA's), (297, 28298), (314, 28268), (332, 28229), (338, 28214), (342, 28208), (354, 28190), (370, 28157), (397, 28079), (400, 28073), (417, 28022), (430, 27983), (467, 27872), (494, 27788), (498, 27776), (516, 27746), (525, 27731), (527, 27725), (530, 27719), (534, 27713), (538, 27707), (677, 27392), (718, 27197), (733, 27125), (743, 27083), (751, 27053), (758, 27032), (768, 26996), (785, 26924), (827, 26807), (828, 26798), (847, 26738), (852, 26714), (855, 26702), (868, 26666), (893, 26570),

Gene: Lunsford\_46 Start: 31564, Stop: 29738, Start Num: 231

Candidate Starts for Lunsford\_46:

(Start: 231 @31564 has 845 MA's), (240, 31543), (256, 31513), (274, 31483), (350, 31321), (360, 31303), (390, 31231), (392, 31222), (426, 31102), (434, 31078), (487, 30985), (511, 30937), (524, 30916), (549, 30877), (603, 30745), (613, 30724), (638, 30679), (643, 30667), (697, 30514), (700, 30493), (726, 30370), (733, 30340), (742, 30301), (760, 30235), (761, 30232), (766, 30217), (772, 30193), (780, 30169), (851, 29962), (896, 29827), (902, 29815), (906, 29806),

Gene: Lynlen\_43 Start: 29644, Stop: 31518, Start Num: 222

Candidate Starts for Lynlen\_43:

(Start: 220 @29641 has 7 MA's), (Start: 222 @29644 has 57 MA's), (Start: 266 @29713 has 4 MA's), (279, 29734), (392, 29980), (403, 30022), (500, 30235), (549, 30316), (603, 30451), (651, 30550), (688, 30673), (700, 30733), (702, 30739), (711, 30784), (716, 30799), (718, 30814), (724, 30850), (733, 30886), (759, 30979), (787, 31072), (816, 31150), (846, 31222), (855, 31261), (873, 31303), (876, 31321), (896, 31381), (906, 31402),

Gene: MA5\_45 Start: 30880, Stop: 29042, Start Num: 231

Candidate Starts for MA5\_45:

(Start: 182 @30952 has 24 MA's), (Start: 231 @30880 has 845 MA's), (256, 30829), (329, 30676), (350, 30637), (367, 30604), (390, 30547), (392, 30538), (395, 30526), (426, 30418), (434, 30394), (487, 30298), (511, 30250), (549, 30190), (603, 30058), (613, 30037), (673, 29923), (683, 29881), (700, 29800), (720, 29713), (726, 29677), (733, 29647), (761, 29536), (772, 29497), (780, 29473), (786, 29455), (787, 29452), (834, 29326), (851, 29266), (896, 29131), (902, 29119), (906, 29110),

Gene: MAnor\_46 Start: 34598, Stop: 32220, Start Num: 43

Candidate Starts for MAnor\_46:

(Start: 43 @34598 has 11 MA's), (58, 34538), (91, 34457), (127, 34337), (159, 34292), (Start: 208 @34214 has 3 MA's), (Start: 212 @34208 has 1 MA's), (Start: 214 @34205 has 4 MA's), (Start: 216 @34202 has 7 MA's), (237, 34175), (255, 34136), (258, 34127), (280, 34097), (303, 34040), (321, 34001), (331, 33980), (352, 33938), (357, 33929), (365, 33914), (369, 33905), (371, 33893), (384, 33860), (386, 33857), (393, 33839), (397, 33818), (463, 33635), (490, 33560), (519, 33518), (576, 33431), (617, 33353), (622, 33347), (640, 33302), (642, 33299), (649, 33284), (659, 33263), (683, 33179), (690, 33149), (703, 33089), (705, 33080), (708, 33065), (711, 33050), (714, 33038), (733, 32945), (741, 32909), (743, 32903), (745, 32897), (746, 32891), (761, 32834), (768, 32810), (795, 32705), (796, 32702), (815, 32651), (830, 32609), (836, 32591), (847, 32552), (857, 32510), (865, 32486), (886, 32408), (893, 32384), (901, 32360), (908, 32339), (920, 32285), (934, 32252), (940,

32240),

Gene: MCubed\_38 Start: 28748, Stop: 26883, Start Num: 267

Candidate Starts for MCubed\_38:

(Start: 267 @28748 has 137 MA's), (314, 28649), (342, 28589), (370, 28538), (397, 28460), (400, 28454), (415, 28409), (416, 28406), (417, 28403), (430, 28364), (453, 28304), (490, 28181), (494, 28172), (498, 28160), (507, 28148), (516, 28130), (527, 28109), (534, 28097), (620, 27926), (681, 27758), (722, 27593), (729, 27557), (733, 27536), (743, 27494), (768, 27407), (777, 27362), (811, 27263), (827, 27218), (847, 27149), (852, 27125), (862, 27092), (893, 26981),

Gene: MK4\_45 Start: 30963, Stop: 29125, Start Num: 231

Candidate Starts for MK4\_45:

(Start: 182 @31035 has 24 MA's), (Start: 231 @30963 has 845 MA's), (256, 30912), (329, 30759), (350, 30720), (367, 30687), (390, 30630), (392, 30621), (395, 30609), (426, 30501), (434, 30477), (487, 30381), (511, 30333), (549, 30273), (603, 30141), (613, 30120), (652, 30051), (673, 30006), (683, 29964), (700, 29883), (720, 29796), (726, 29760), (733, 29730), (761, 29619), (772, 29580), (780, 29556), (786, 29538), (832, 29415), (834, 29409), (851, 29349), (895, 29217), (896, 29214), (902, 29202), (906, 29193),

Gene: MPlant7149\_43 Start: 33801, Stop: 32014, Start Num: 231

Candidate Starts for MPlant7149\_43:

(Start: 231 @33801 has 845 MA's), (332, 33588), (337, 33573), (367, 33525), (378, 33495), (388, 33474), (390, 33468), (392, 33459), (425, 33342), (434, 33315), (487, 33222), (492, 33207), (541, 33123), (543, 33120), (575, 33054), (589, 33024), (598, 32994), (616, 32949), (638, 32910), (700, 32730), (709, 32682), (720, 32643), (733, 32577), (758, 32505), (760, 32496), (786, 32412), (818, 32325), (868, 32199), (871, 32187), (890, 32127), (896, 32103), (899, 32097),

Gene: MRabcd\_60 Start: 54351, Stop: 52492, Start Num: 196

Candidate Starts for MRabcd\_60:

(Start: 175 @54375 has 1 MA's), (Start: 196 @54351 has 254 MA's), (Start: 221 @54327 has 2 MA's), (Start: 227 @54321 has 3 MA's), (246, 54279), (259, 54258), (307, 54144), (311, 54138), (326, 54108), (355, 54048), (366, 54027), (386, 53973), (391, 53961), (396, 53943), (398, 53931), (431, 53826), (454, 53769), (466, 53733), (471, 53721), (483, 53694), (499, 53649), (533, 53592), (540, 53583), (542, 53580), (695, 53220), (701, 53187), (706, 53166), (727, 53073), (730, 53064), (744, 53001), (760, 52965), (761, 52962), (766, 52947), (790, 52869), (794, 52857), (800, 52836), (817, 52797), (851, 52707), (856, 52689), (858, 52683), (868, 52668), (875, 52644), (877, 52629), (878, 52626), (881, 52614), (890, 52590), (907, 52542), (912, 52518),

Gene: MScarn\_47 Start: 32630, Stop: 30240, Start Num: 33

Candidate Starts for MScarn\_47:

(Start: 33 @32630 has 15 MA's), (65, 32549), (71, 32534), (91, 32480), (94, 32468), (98, 32447), (109, 32414), (119, 32387), (127, 32363), (147, 32336), (Start: 214 @32231 has 4 MA's), (243, 32183), (303, 32066), (337, 31985), (354, 31958), (365, 31937), (384, 31883), (386, 31880), (393, 31862), (397, 31841), (418, 31781), (490, 31583), (519, 31541), (576, 31454), (588, 31430), (596, 31424), (617, 31370), (622, 31364), (639, 31322), (640, 31319), (642, 31316), (690, 31169), (705, 31100), (706, 31094), (714, 31058), (733, 30965), (741, 30929), (743, 30923), (745, 30917), (746, 30911), (761, 30854), (768, 30830), (777, 30785), (893, 30404), (908, 30359), (910, 30350), (926, 30290),

Gene: MaCh\_45 Start: 30763, Stop: 28976, Start Num: 231

Candidate Starts for MaCh\_45:

(Start: 231 @30763 has 845 MA's), (329, 30559), (367, 30487), (378, 30457), (390, 30430), (489, 30178), (513, 30127), (562, 30046), (582, 30001), (583, 29998), (613, 29917), (643, 29860), (672, 29818), (683, 29773), (700, 29692), (711, 29641), (720, 29605), (733, 29539), (755, 29479), (758,

29467), (789, 29365), (796, 29341), (802, 29323), (834, 29260), (844, 29233), (846, 29224), (851, 29200), (896, 29065), (902, 29053), (906, 29044),

Gene: MaGuCo\_40 Start: 30008, Stop: 31852, Start Num: 231

Candidate Starts for MaGuCo\_40:

(Start: 231 @30008 has 845 MA's), (378, 30305), (388, 30326), (489, 30581), (544, 30683), (558, 30704), (595, 30794), (613, 30842), (647, 30905), (700, 31100), (702, 31106), (720, 31187), (733, 31253), (766, 31370), (793, 31457), (843, 31577), (846, 31589), (896, 31748), (911, 31793),

Gene: MaVan\_40 Start: 32050, Stop: 29693, Start Num: 41

Candidate Starts for MaVan\_40:

(38, 32059), (Start: 41 @32050 has 23 MA's), (48, 32035), (55, 31999), (105, 31864), (127, 31801), (157, 31759), (166, 31747), (Start: 229 @31645 has 7 MA's), (237, 31642), (278, 31567), (293, 31528), (303, 31507), (329, 31456), (349, 31414), (365, 31384), (384, 31330), (393, 31309), (397, 31288), (419, 31225), (469, 31090), (474, 31075), (490, 31030), (551, 30946), (567, 30910), (622, 30817), (639, 30775), (640, 30772), (642, 30769), (654, 30745), (660, 30733), (664, 30721), (698, 30580), (705, 30553), (733, 30418), (741, 30382), (743, 30376), (745, 30370), (746, 30364), (753, 30340), (761, 30307), (768, 30283), (777, 30238), (779, 30232), (797, 30172), (836, 30064), (853, 29998), (854, 29995), (857, 29983), (865, 29959), (886, 29881), (893, 29857), (912, 29788),

Gene: Mabel\_45 Start: 30748, Stop: 28961, Start Num: 231

Candidate Starts for Mabel\_45:

(Start: 231 @30748 has 845 MA's), (329, 30544), (367, 30472), (378, 30442), (390, 30415), (489, 30163), (513, 30112), (562, 30031), (582, 29986), (613, 29902), (643, 29845), (672, 29803), (683, 29758), (700, 29677), (711, 29626), (720, 29590), (733, 29524), (755, 29464), (758, 29452), (789, 29350), (796, 29326), (802, 29308), (834, 29245), (844, 29218), (846, 29209), (851, 29185), (896, 29050), (902, 29038), (906, 29029),

Gene: Mabodamaca\_48 Start: 32455, Stop: 34320, Start Num: 230

Candidate Starts for Mabodamaca\_48:

(186, 32392), (195, 32401), (Start: 230 @32455 has 8 MA's), (406, 32842), (505, 33088), (549, 33157), (613, 33310), (683, 33487), (700, 33568), (714, 33631), (724, 33685), (734, 33724), (777, 33880), (787, 33907), (818, 33991), (875, 34144), (896, 34216), (909, 34246),

Gene: Maco6\_42 Start: 33485, Stop: 31179, Start Num: 74

Candidate Starts for Maco6\_42:

(Start: 40 @33590 has 1 MA's), (46, 33581), (Start: 56 @33536 has 1 MA's), (Start: 60 @33524 has 1 MA's), (Start: 74 @33485 has 1 MA's), (94, 33428), (127, 33326), (137, 33296), (159, 33266), (263, 33098), (321, 32978), (370, 32876), (397, 32795), (418, 32735), (420, 32729), (443, 32669), (490, 32537), (524, 32489), (567, 32417), (576, 32408), (582, 32396), (622, 32327), (711, 32021), (712, 32018), (721, 31979), (724, 31952), (726, 31946), (741, 31880), (743, 31874), (745, 31868), (746, 31862), (753, 31838), (761, 31805), (766, 31790), (768, 31781), (815, 31622), (827, 31592), (885, 31382), (893, 31355), (912, 31286),

Gene: MadMarie\_48 Start: 31855, Stop: 30041, Start Num: 231

Candidate Starts for MadMarie\_48:

(Start: 231 @31855 has 845 MA's), (248, 31816), (256, 31804), (329, 31651), (333, 31636), (367, 31579), (390, 31522), (392, 31513), (403, 31471), (415, 31420), (434, 31369), (487, 31276), (509, 31228), (513, 31219), (524, 31204), (549, 31165), (562, 31138), (575, 31108), (610, 31015), (616, 31003), (641, 30955), (652, 30940), (700, 30784), (720, 30697), (730, 30649), (733, 30631), (742, 30592), (761, 30520), (772, 30481), (780, 30457), (786, 30439), (796, 30406), (806, 30379), (834, 30325), (851, 30265), (877, 30187), (896, 30130), (902, 30118), (906, 30109),



Gene: MaeLinda\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for MaeLinda\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (492, 28361), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612, 28127), (634, 28067), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (747, 27665), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Mag7\_61 Start: 54187, Stop: 52328, Start Num: 196

Candidate Starts for Mag7\_61:

(Start: 175 @54211 has 1 MA's), (Start: 196 @54187 has 254 MA's), (Start: 221 @54163 has 2 MA's), (Start: 227 @54157 has 3 MA's), (246, 54115), (259, 54094), (307, 53980), (311, 53974), (326, 53944), (355, 53884), (366, 53863), (386, 53809), (391, 53797), (396, 53779), (398, 53767), (431, 53662), (454, 53605), (466, 53569), (471, 53557), (482, 53533), (486, 53521), (491, 53503), (499, 53485), (509, 53467), (533, 53428), (540, 53419), (542, 53416), (544, 53413), (695, 53056), (701, 53023), (706, 53002), (727, 52909), (730, 52900), (744, 52837), (760, 52801), (761, 52798), (766, 52783), (790, 52705), (794, 52693), (800, 52672), (817, 52633), (851, 52543), (856, 52525), (858, 52519), (868, 52504), (875, 52480), (877, 52465), (878, 52462), (881, 52450), (890, 52426), (907, 52378), (912, 52354),

Gene: Magic8\_61 Start: 54339, Stop: 52480, Start Num: 196

Candidate Starts for Magic8\_61:

(Start: 175 @54363 has 1 MA's), (Start: 196 @54339 has 254 MA's), (Start: 221 @54315 has 2 MA's), (Start: 227 @54309 has 3 MA's), (246, 54267), (259, 54246), (307, 54132), (311, 54126), (326, 54096), (355, 54036), (366, 54015), (386, 53961), (391, 53949), (396, 53931), (398, 53919), (431, 53814), (454, 53757), (466, 53721), (471, 53709), (483, 53682), (491, 53655), (499, 53637), (509, 53619), (533, 53580), (540, 53571), (542, 53568), (544, 53565), (695, 53208), (701, 53175), (706, 53154), (727, 53061), (730, 53052), (744, 52989), (760, 52953), (761, 52950), (766, 52935), (790, 52857), (794, 52845), (800, 52824), (817, 52785), (851, 52695), (856, 52677), (858, 52671), (868, 52656), (875, 52632), (877, 52617), (878, 52614), (881, 52602), (890, 52578), (907, 52530), (912, 52506),

Gene: Magnar\_44 Start: 35145, Stop: 33328, Start Num: 231

Candidate Starts for Magnar\_44:

(Start: 231 @35145 has 845 MA's), (332, 34932), (337, 34917), (378, 34839), (388, 34818), (390, 34812), (392, 34803), (425, 34686), (434, 34659), (487, 34566), (492, 34551), (509, 34518), (541, 34467), (543, 34464), (575, 34398), (589, 34368), (598, 34338), (616, 34293), (638, 34254), (700, 34074), (708, 34044), (709, 34026), (720, 33987), (733, 33921), (760, 33840), (761, 33837), (786, 33756), (846, 33606), (847, 33603), (855, 33567), (868, 33543), (870, 33534), (874, 33522), (896, 33447), (906, 33426),

Gene: Magnito\_42 Start: 33719, Stop: 31893, Start Num: 231

Candidate Starts for Magnito\_42:

(Start: 231 @33719 has 845 MA's), (332, 33506), (337, 33491), (378, 33413), (382, 33401), (388, 33392), (390, 33386), (392, 33377), (425, 33260), (434, 33233), (487, 33140), (492, 33125), (509, 33092), (541, 33041), (543, 33038), (570, 32984), (575, 32972), (589, 32942), (598, 32912), (616, 32867), (638, 32828), (700, 32648), (709, 32600), (711, 32597), (720, 32561), (733, 32495), (742, 32456), (755, 32435), (760, 32414), (766, 32396), (786, 32330), (846, 32180), (847, 32177), (855, 32141), (868, 32117), (870, 32108), (874, 32096), (889, 32048), (896, 32021), (906, 32000),

Gene: Magpie\_52 Start: 53908, Stop: 52085, Start Num: 182

Candidate Starts for Magpie\_52:

(Start: 169 @53926 has 3 MA's), (Start: 182 @53908 has 24 MA's), (Start: 227 @53884 has 3 MA's), (240, 53857), (246, 53842), (259, 53821), (301, 53734), (351, 53629), (366, 53602), (371, 53587), (396, 53521), (405, 53491), (407, 53482), (410, 53479), (412, 53476), (417, 53449), (431, 53413), (454, 53356), (461, 53338), (466, 53320), (471, 53308), (483, 53281), (509, 53218), (533, 53179), (540, 53170), (542, 53167), (561, 53137), (575, 53101), (668, 52915), (681, 52876), (682, 52873), (689, 52837), (695, 52813), (701, 52780), (725, 52672), (727, 52666), (730, 52657), (760, 52558), (761, 52555), (766, 52540), (790, 52462), (794, 52450), (800, 52429), (803, 52420), (817, 52390), (834, 52360), (844, 52333), (851, 52300), (858, 52276), (875, 52237), (878, 52219), (881, 52207), (890, 52183), (904, 52141), (907, 52135), (912, 52111),

Gene: Mahdia\_44 Start: 34961, Stop: 32724, Start Num: 4

Candidate Starts for Mahdia\_44:

(1, 35099), (Start: 4 @34961 has 5 MA's), (27, 34808), (28, 34805), (39, 34754), (90, 34676), (126, 34622), (168, 34610), (187, 34580), (198, 34568), (205, 34556), (Start: 222 @34526 has 57 MA's), (Start: 266 @34448 has 4 MA's), (290, 34424), (291, 34421), (296, 34400), (386, 34199), (397, 34163), (403, 34148), (422, 34091), (429, 34070), (431, 34064), (434, 34055), (453, 34013), (466, 33974), (489, 33911), (503, 33878), (516, 33860), (523, 33851), (542, 33821), (561, 33791), (610, 33671), (681, 33527), (687, 33497), (689, 33488), (695, 33464), (701, 33431), (722, 33350), (725, 33326), (727, 33320), (744, 33248), (757, 33221), (760, 33212), (761, 33209), (766, 33194), (772, 33170), (790, 33116), (794, 33104), (840, 32990), (844, 32975), (877, 32864), (878, 32861), (886, 32837), (890, 32825), (907, 32774), (912, 32750),

Gene: Mainiac\_48 Start: 31846, Stop: 30032, Start Num: 231

Candidate Starts for Mainiac\_48:

(Start: 231 @31846 has 845 MA's), (248, 31807), (256, 31795), (329, 31642), (333, 31627), (367, 31570), (390, 31513), (392, 31504), (403, 31462), (415, 31411), (434, 31360), (487, 31267), (509, 31219), (513, 31210), (524, 31195), (549, 31156), (562, 31129), (575, 31099), (610, 31006), (641, 30946), (652, 30931), (700, 30775), (720, 30688), (733, 30622), (742, 30583), (761, 30511), (772, 30472), (780, 30448), (786, 30430), (796, 30397), (806, 30370), (834, 30316), (851, 30256), (877, 30178), (896, 30121), (902, 30109), (906, 30100),

Gene: Makemake\_44 Start: 35340, Stop: 33514, Start Num: 231

Candidate Starts for Makemake\_44:

(Start: 231 @35340 has 845 MA's), (332, 35127), (337, 35112), (367, 35064), (378, 35034), (388, 35013), (390, 35007), (392, 34998), (425, 34881), (434, 34854), (487, 34761), (492, 34746), (509, 34713), (541, 34662), (543, 34659), (575, 34593), (589, 34563), (598, 34533), (616, 34488), (638, 34449), (700, 34269), (708, 34239), (709, 34221), (711, 34218), (720, 34182), (733, 34116), (760, 34035), (761, 34032), (786, 33951), (846, 33801), (847, 33798), (855, 33762), (868, 33738), (870, 33729), (874, 33717), (896, 33642), (906, 33621),

Gene: MakoManhole\_51 Start: 47082, Stop: 45265, Start Num: 219

Candidate Starts for MakoManhole\_51:

(Start: 219 @47082 has 12 MA's), (Start: 227 @47073 has 3 MA's), (240, 47046), (245, 47034), (259, 47010), (Start: 266 @47001 has 4 MA's), (307, 46905), (330, 46863), (347, 46827), (379, 46752), (405, 46677), (431, 46599), (454, 46542), (466, 46506), (471, 46494), (482, 46470), (526, 46377), (542, 46353), (555, 46335), (681, 46062), (689, 46023), (696, 45993), (701, 45966), (725, 45858), (727, 45852), (730, 45843), (757, 45753), (760, 45744), (761, 45741), (766, 45726), (790, 45648), (794, 45636), (795, 45630), (800, 45615), (822, 45567), (844, 45519), (851, 45486), (858, 45462), (875, 45423), (876, 45411), (877, 45408), (890, 45363), (907, 45315), (912, 45291), (917, 45270),

Gene: Malec\_45 Start: 32164, Stop: 30371, Start Num: 231

Candidate Starts for Malec\_45:

(Start: 231 @32164 has 845 MA's), (329, 31960), (330, 31957), (332, 31951), (350, 31921), (367, 31888), (369, 31885), (378, 31858), (390, 31831), (403, 31780), (434, 31678), (487, 31585), (509, 31537), (513, 31528), (524, 31513), (562, 31447), (595, 31366), (613, 31318), (616, 31312), (683, 31174), (700, 31093), (711, 31036), (719, 31003), (726, 30964), (733, 30934), (742, 30895), (755, 30874), (760, 30853), (832, 30661), (834, 30655), (846, 30619), (851, 30595), (873, 30538), (877, 30517), (896, 30460), (902, 30448), (906, 30439),

Gene: Malinsilva\_50 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for Malinsilva\_50:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: Maminiaina\_44 Start: 31324, Stop: 29531, Start Num: 231

Candidate Starts for Maminiaina\_44:

(Start: 231 @31324 has 845 MA's), (236, 31315), (291, 31213), (316, 31153), (317, 31150), (329, 31120), (332, 31111), (350, 31078), (367, 31045), (369, 31042), (378, 31015), (384, 31000), (390, 30988), (434, 30835), (487, 30742), (562, 30604), (575, 30574), (652, 30403), (671, 30376), (673, 30370), (700, 30247), (730, 30112), (733, 30094), (760, 30013), (796, 29896), (846, 29779), (851, 29755), (877, 29677), (896, 29620), (902, 29608), (906, 29599),

Gene: ManRay\_38 Start: 28632, Stop: 26767, Start Num: 267

Candidate Starts for ManRay\_38:

(Start: 214 @28719 has 4 MA's), (Start: 216 @28716 has 7 MA's), (Start: 267 @28632 has 137 MA's), (Start: 275 @28623 has 5 MA's), (321, 28518), (325, 28509), (338, 28479), (340, 28476), (395, 28356), (397, 28344), (400, 28338), (436, 28233), (445, 28206), (490, 28065), (492, 28059), (494, 28056), (498, 28044), (513, 28017), (516, 28014), (525, 27999), (527, 27993), (530, 27987), (553, 27954), (612, 27825), (634, 27765), (726, 27450), (729, 27441), (730, 27438), (733, 27420), (743, 27378), (745, 27372), (747, 27363), (751, 27348), (768, 27291), (815, 27132), (827, 27102), (828, 27093), (847, 27033), (852, 27009), (863, 26970), (875, 26937), (876, 26925), (893, 26865),

Gene: Mana\_59 Start: 54023, Stop: 52164, Start Num: 196

Candidate Starts for Mana\_59:

(Start: 175 @54047 has 1 MA's), (Start: 196 @54023 has 254 MA's), (Start: 221 @53999 has 2 MA's), (Start: 227 @53993 has 3 MA's), (246, 53951), (259, 53930), (307, 53816), (311, 53810), (326, 53780), (355, 53720), (366, 53699), (386, 53645), (391, 53633), (396, 53615), (398, 53603), (431, 53498), (454, 53441), (466, 53405), (471, 53393), (483, 53366), (491, 53339), (499, 53321), (509, 53303), (533, 53264), (540, 53255), (542, 53252), (695, 52892), (701, 52859), (706, 52838), (727, 52745), (730, 52736), (744, 52673), (760, 52637), (761, 52634), (766, 52619), (790, 52541), (794, 52529), (800, 52508), (817, 52469), (851, 52379), (856, 52361), (858, 52355), (868, 52340), (875, 52316), (877, 52301), (878, 52298), (881, 52286), (890, 52262), (907, 52214), (912, 52190),

Gene: Manad\_60 Start: 54307, Stop: 52448, Start Num: 196

Candidate Starts for Manad\_60:

(Start: 175 @54331 has 1 MA's), (Start: 196 @54307 has 254 MA's), (Start: 221 @54283 has 2 MA's), (Start: 227 @54277 has 3 MA's), (246, 54235), (259, 54214), (307, 54100), (311, 54094), (326, 54064), (355, 54004), (366, 53983), (386, 53929), (391, 53917), (396, 53899), (398, 53887), (431, 53782), (454, 53725), (466, 53689), (471, 53677), (482, 53653), (486, 53641), (491, 53623), (499, 53605), (509, 53587), (533, 53548), (540, 53539), (542, 53536), (544, 53533), (695, 53176), (701, 53143), (706, 53122), (727, 53029), (730, 53020), (744, 52957), (760, 52921), (761, 52918), (766,

52903), (790, 52825), (794, 52813), (800, 52792), (817, 52753), (851, 52663), (856, 52645), (858, 52639), (868, 52624), (875, 52600), (877, 52585), (878, 52582), (881, 52570), (890, 52546), (907, 52498), (912, 52474),

Gene: Manatee\_45 Start: 34036, Stop: 32210, Start Num: 231

Candidate Starts for Manatee\_45:

(Start: 231 @34036 has 845 MA's), (332, 33823), (367, 33760), (378, 33730), (388, 33709), (390, 33703), (392, 33694), (425, 33577), (434, 33550), (487, 33457), (492, 33442), (541, 33358), (543, 33355), (575, 33289), (589, 33259), (598, 33229), (616, 33184), (638, 33145), (700, 32965), (709, 32917), (711, 32914), (720, 32878), (733, 32812), (742, 32773), (755, 32752), (760, 32731), (766, 32713), (786, 32647), (846, 32497), (847, 32494), (855, 32458), (868, 32434), (870, 32425), (874, 32413), (896, 32338), (906, 32317),

Gene: Mandalorian\_37 Start: 28518, Stop: 26617, Start Num: 267

Candidate Starts for Mandalorian\_37:

(Start: 267 @28518 has 137 MA's), (325, 28395), (332, 28380), (338, 28365), (359, 28332), (365, 28323), (370, 28308), (384, 28272), (391, 28257), (397, 28230), (400, 28224), (417, 28173), (430, 28134), (453, 28074), (490, 27948), (494, 27939), (498, 27927), (516, 27897), (527, 27876), (551, 27840), (620, 27693), (634, 27648), (677, 27537), (718, 27342), (726, 27300), (733, 27270), (743, 27228), (751, 27198), (758, 27177), (768, 27141), (847, 26883), (852, 26859), (862, 26826), (863, 26820), (893, 26715),

Gene: Manu\_48 Start: 31753, Stop: 29939, Start Num: 231

Candidate Starts for Manu\_48:

(Start: 231 @31753 has 845 MA's), (248, 31714), (256, 31702), (329, 31549), (333, 31534), (367, 31477), (390, 31420), (392, 31411), (403, 31369), (415, 31318), (434, 31267), (487, 31174), (509, 31126), (524, 31102), (549, 31063), (562, 31036), (575, 31006), (610, 30913), (616, 30901), (641, 30853), (652, 30838), (700, 30682), (711, 30631), (719, 30598), (720, 30595), (733, 30529), (742, 30490), (761, 30418), (772, 30379), (780, 30355), (786, 30337), (796, 30304), (834, 30223), (851, 30163), (856, 30145), (877, 30085), (880, 30076), (896, 30028), (902, 30016), (906, 30007),

Gene: MarQuardt\_48 Start: 31854, Stop: 30040, Start Num: 231

Candidate Starts for MarQuardt\_48:

(Start: 231 @31854 has 845 MA's), (248, 31815), (256, 31803), (329, 31650), (333, 31635), (367, 31578), (390, 31521), (392, 31512), (403, 31470), (415, 31419), (434, 31368), (487, 31275), (509, 31227), (513, 31218), (524, 31203), (549, 31164), (562, 31137), (575, 31107), (610, 31014), (641, 30954), (652, 30939), (700, 30783), (720, 30696), (733, 30630), (742, 30591), (761, 30519), (772, 30480), (780, 30456), (786, 30438), (796, 30405), (806, 30378), (834, 30324), (851, 30264), (877, 30186), (896, 30129), (902, 30117), (906, 30108),

Gene: Marcell\_43 Start: 34431, Stop: 32605, Start Num: 231

Candidate Starts for Marcell\_43:

(Start: 231 @34431 has 845 MA's), (332, 34218), (337, 34203), (367, 34155), (378, 34125), (388, 34104), (390, 34098), (392, 34089), (425, 33972), (434, 33945), (487, 33852), (492, 33837), (541, 33753), (543, 33750), (575, 33684), (589, 33654), (598, 33624), (616, 33579), (638, 33540), (700, 33360), (709, 33312), (711, 33309), (720, 33273), (733, 33207), (742, 33168), (755, 33147), (760, 33126), (766, 33108), (786, 33042), (846, 32892), (847, 32889), (855, 32853), (868, 32829), (870, 32820), (874, 32808), (896, 32733), (906, 32712),

Gene: Marchy\_38 Start: 31191, Stop: 29365, Start Num: 231

Candidate Starts for Marchy\_38:

(Start: 231 @31191 has 845 MA's), (332, 30978), (337, 30963), (378, 30885), (388, 30864), (390, 30858), (392, 30849), (425, 30732), (434, 30705), (487, 30612), (492, 30597), (541, 30513), (543,

30510), (575, 30444), (589, 30414), (598, 30384), (616, 30339), (638, 30300), (700, 30120), (708, 30090), (709, 30072), (711, 30069), (720, 30033), (733, 29967), (760, 29886), (761, 29883), (786, 29802), (846, 29652), (847, 29649), (855, 29613), (868, 29589), (870, 29580), (874, 29568), (880, 29541), (896, 29493), (906, 29472),

Gene: Mareelih\_171 Start: 99155, Stop: 97374, Start Num: 228

Candidate Starts for Mareelih\_171:

(Start: 228 @99155 has 4 MA's), (250, 99110), (Start: 266 @99083 has 4 MA's), (316, 98990), (339, 98930), (348, 98927), (353, 98918), (366, 98894), (381, 98852), (383, 98849), (397, 98804), (413, 98762), (432, 98708), (487, 98624), (530, 98540), (549, 98513), (558, 98498), (626, 98339), (638, 98315), (645, 98300), (652, 98291), (685, 98204), (692, 98177), (693, 98174), (697, 98153), (700, 98132), (710, 98081), (730, 97997), (735, 97970), (739, 97937), (749, 97895), (783, 97784), (792, 97757), (804, 97721), (808, 97712), (810, 97709), (813, 97700), (852, 97580), (858, 97559), (860, 97553), (875, 97520), (878, 97502), (880, 97496), (892, 97463), (896, 97448), (907, 97424), (908, 97421), (916, 97397),

Gene: Margaret\_49 Start: 33864, Stop: 31474, Start Num: 41

Candidate Starts for Margaret\_49:

(14, 33993), (17, 33984), (Start: 41 @33864 has 23 MA's), (Start: 60 @33798 has 1 MA's), (85, 33732), (104, 33675), (119, 33636), (127, 33612), (135, 33591), (157, 33570), (201, 33501), (235, 33453), (241, 33438), (Start: 267 @33390 has 137 MA's), (306, 33309), (312, 33297), (337, 33228), (352, 33204), (365, 33180), (393, 33105), (397, 33084), (418, 33024), (434, 32979), (455, 32931), (488, 32823), (490, 32817), (548, 32736), (576, 32688), (608, 32628), (640, 32556), (660, 32514), (664, 32502), (698, 32361), (703, 32337), (706, 32322), (714, 32286), (733, 32193), (741, 32157), (743, 32151), (746, 32139), (753, 32115), (768, 32058), (773, 32040), (797, 31947), (825, 31878), (833, 31851), (836, 31839), (837, 31836), (847, 31800), (851, 31779), (861, 31746), (868, 31728), (885, 31659), (893, 31632), (901, 31608), (934, 31500), (940, 31488),

Gene: Marge\_45 Start: 35242, Stop: 33455, Start Num: 231

Candidate Starts for Marge\_45:

(Start: 231 @35242 has 845 MA's), (332, 35029), (337, 35014), (378, 34936), (388, 34915), (390, 34909), (392, 34900), (415, 34807), (425, 34783), (434, 34756), (487, 34663), (492, 34648), (509, 34615), (541, 34564), (543, 34561), (575, 34495), (589, 34465), (598, 34435), (616, 34390), (638, 34351), (700, 34171), (709, 34123), (720, 34084), (733, 34018), (758, 33946), (760, 33937), (786, 33853), (818, 33766), (868, 33640), (871, 33628), (896, 33544), (899, 33538),

Gene: Margo\_44 Start: 31623, Stop: 29785, Start Num: 231

Candidate Starts for Margo\_44:

(Start: 231 @31623 has 845 MA's), (256, 31572), (329, 31419), (367, 31347), (378, 31317), (390, 31290), (392, 31281), (434, 31137), (487, 31041), (511, 30993), (549, 30933), (590, 30846), (603, 30801), (613, 30780), (653, 30708), (673, 30666), (683, 30624), (700, 30543), (709, 30495), (720, 30456), (726, 30420), (733, 30390), (739, 30360), (761, 30279), (772, 30240), (780, 30216), (786, 30198), (787, 30195), (834, 30069), (851, 30009), (880, 29922), (896, 29874), (902, 29862), (906, 29853),

Gene: Marie\_48 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for Marie\_48:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (641, 30952), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772, 30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Mariokart\_50 Start: 45633, Stop: 43816, Start Num: 219

Candidate Starts for Mariokart\_50:

(92, 45906), (99, 45873), (Start: 219 @45633 has 12 MA's), (240, 45597), (245, 45585), (246, 45582), (Start: 266 @45552 has 4 MA's), (322, 45426), (347, 45378), (379, 45303), (398, 45246), (424, 45171), (431, 45150), (466, 45057), (526, 44928), (542, 44904), (575, 44838), (590, 44805), (681, 44613), (684, 44592), (689, 44574), (701, 44517), (727, 44403), (730, 44394), (761, 44292), (766, 44277), (790, 44199), (794, 44187), (800, 44166), (803, 44157), (832, 44103), (844, 44070), (851, 44037), (852, 44034), (868, 43998), (875, 43974), (890, 43914), (912, 43842), (917, 43821),

Gene: Marius\_49 Start: 31750, Stop: 29936, Start Num: 231

Candidate Starts for Marius\_49:

(Start: 231 @31750 has 845 MA's), (248, 31711), (256, 31699), (329, 31546), (333, 31531), (367, 31474), (390, 31417), (392, 31408), (403, 31366), (415, 31315), (434, 31264), (487, 31171), (509, 31123), (524, 31099), (549, 31060), (562, 31033), (575, 31003), (610, 30910), (616, 30898), (641, 30850), (652, 30835), (700, 30679), (711, 30628), (719, 30595), (720, 30592), (733, 30526), (742, 30487), (761, 30415), (772, 30376), (780, 30352), (786, 30334), (796, 30301), (834, 30220), (851, 30160), (856, 30142), (877, 30082), (880, 30073), (896, 30025), (902, 30013), (906, 30004),

Gene: Marley1013\_59 Start: 54530, Stop: 52713, Start Num: 223

Candidate Starts for Marley1013\_59:

(59, 54914), (123, 54713), (Start: 223 @54530 has 42 MA's), (240, 54500), (332, 54320), (395, 54167), (397, 54155), (407, 54125), (412, 54119), (431, 54056), (433, 54050), (454, 53999), (466, 53963), (486, 53915), (542, 53810), (589, 53714), (610, 53663), (681, 53519), (689, 53480), (696, 53450), (701, 53423), (704, 53411), (725, 53315), (727, 53309), (730, 53300), (732, 53288), (754, 53216), (760, 53186), (766, 53168), (768, 53159), (790, 53090), (794, 53078), (800, 53057), (834, 52988), (841, 52973), (847, 52949), (858, 52904), (875, 52865), (878, 52847), (881, 52835), (886, 52823), (890, 52811), (904, 52769), (912, 52739),

Gene: Maroc7\_43 Start: 34287, Stop: 32461, Start Num: 231

Candidate Starts for Maroc7\_43:

(Start: 231 @34287 has 845 MA's), (332, 34074), (337, 34059), (367, 34011), (378, 33981), (388, 33960), (390, 33954), (392, 33945), (425, 33828), (434, 33801), (487, 33708), (492, 33693), (509, 33660), (541, 33609), (543, 33606), (575, 33540), (598, 33480), (616, 33435), (638, 33396), (700, 33216), (709, 33168), (720, 33129), (733, 33063), (742, 33024), (755, 33003), (760, 32982), (766, 32964), (786, 32898), (846, 32748), (847, 32745), (855, 32709), (868, 32685), (870, 32676), (874, 32664), (880, 32637), (896, 32589), (906, 32568),

Gene: Marsha\_45 Start: 35798, Stop: 33972, Start Num: 231

Candidate Starts for Marsha\_45:

(Start: 231 @35798 has 845 MA's), (332, 35585), (337, 35570), (367, 35522), (378, 35492), (388, 35471), (390, 35465), (392, 35456), (425, 35339), (434, 35312), (487, 35219), (492, 35204), (541, 35120), (543, 35117), (575, 35051), (598, 34991), (616, 34946), (638, 34907), (700, 34727), (708, 34697), (709, 34679), (711, 34676), (720, 34640), (733, 34574), (760, 34493), (761, 34490), (786, 34409), (846, 34259), (847, 34256), (855, 34220), (868, 34196), (874, 34175), (880, 34148), (896, 34100), (906, 34079),

Gene: Martin\_40 Start: 28939, Stop: 27074, Start Num: 267

Candidate Starts for Martin\_40:

(Start: 214 @29026 has 4 MA's), (Start: 216 @29023 has 7 MA's), (Start: 267 @28939 has 137 MA's), (Start: 275 @28930 has 5 MA's), (321, 28825), (325, 28816), (338, 28786), (340, 28783), (395, 28663), (397, 28651), (400, 28645), (436, 28540), (445, 28513), (490, 28372), (492, 28366), (494, 28363), (498, 28351), (513, 28324), (516, 28321), (525, 28306), (527, 28300), (530, 28294), (553,

28261), (634, 28072), (726, 27757), (729, 27748), (730, 27745), (733, 27727), (743, 27685), (745, 27679), (747, 27670), (751, 27655), (768, 27598), (815, 27439), (827, 27409), (828, 27400), (847, 27340), (852, 27316), (863, 27277), (875, 27244), (876, 27232), (893, 27172),

Gene: Maru\_60 Start: 54462, Stop: 52603, Start Num: 196

Candidate Starts for Maru\_60:

(Start: 175 @54486 has 1 MA's), (Start: 196 @54462 has 254 MA's), (Start: 221 @54438 has 2 MA's), (Start: 227 @54432 has 3 MA's), (246, 54390), (259, 54369), (307, 54255), (311, 54249), (326, 54219), (355, 54159), (366, 54138), (386, 54084), (391, 54072), (396, 54054), (398, 54042), (431, 53937), (454, 53880), (466, 53844), (471, 53832), (483, 53805), (499, 53760), (509, 53742), (533, 53703), (540, 53694), (542, 53691), (544, 53688), (695, 53331), (701, 53298), (706, 53277), (727, 53184), (730, 53175), (744, 53112), (760, 53076), (761, 53073), (766, 53058), (790, 52980), (794, 52968), (800, 52947), (817, 52908), (851, 52818), (856, 52800), (858, 52794), (868, 52779), (875, 52755), (877, 52740), (878, 52737), (881, 52725), (890, 52701), (907, 52653), (912, 52629),

Gene: MaryBeth\_45 Start: 34704, Stop: 32875, Start Num: 231

Candidate Starts for MaryBeth\_45:

(Start: 231 @34704 has 845 MA's), (332, 34491), (337, 34476), (367, 34428), (378, 34398), (388, 34377), (390, 34371), (392, 34362), (403, 34320), (425, 34245), (434, 34218), (487, 34125), (492, 34110), (541, 34026), (543, 34023), (575, 33957), (589, 33927), (598, 33897), (616, 33852), (638, 33813), (700, 33633), (709, 33585), (722, 33537), (730, 33498), (733, 33480), (742, 33441), (755, 33420), (760, 33399), (765, 33384), (803, 33261), (871, 33090), (876, 33066), (893, 33018), (896, 33006), (906, 32985), (908, 32979), (921, 32931), (928, 32916),

Gene: MarysWell\_37 Start: 30459, Stop: 28594, Start Num: 231

Candidate Starts for MarysWell\_37:

(Start: 231 @30459 has 845 MA's), (256, 30408), (317, 30285), (329, 30255), (330, 30252), (363, 30195), (378, 30153), (390, 30126), (392, 30117), (426, 29997), (434, 29973), (487, 29877), (495, 29853), (505, 29832), (561, 29745), (562, 29739), (576, 29706), (594, 29667), (610, 29619), (616, 29607), (638, 29568), (700, 29373), (708, 29343), (709, 29325), (719, 29289), (720, 29286), (722, 29277), (733, 29220), (742, 29181), (760, 29139), (766, 29121), (780, 29073), (782, 29067), (796, 29022), (818, 28968), (823, 28959), (834, 28941), (856, 28863), (876, 28806), (890, 28770), (896, 28746), (902, 28734),

Gene: Maskar\_62 Start: 54257, Stop: 52398, Start Num: 196

Candidate Starts for Maskar\_62:

(Start: 175 @54281 has 1 MA's), (Start: 196 @54257 has 254 MA's), (Start: 221 @54233 has 2 MA's), (Start: 227 @54227 has 3 MA's), (246, 54185), (259, 54164), (307, 54050), (311, 54044), (326, 54014), (355, 53954), (366, 53933), (386, 53879), (391, 53867), (396, 53849), (398, 53837), (431, 53732), (454, 53675), (466, 53639), (471, 53627), (482, 53603), (486, 53591), (491, 53573), (499, 53555), (509, 53537), (533, 53498), (540, 53489), (542, 53486), (544, 53483), (668, 53228), (695, 53126), (701, 53093), (706, 53072), (727, 52979), (730, 52970), (744, 52907), (760, 52871), (761, 52868), (766, 52853), (790, 52775), (794, 52763), (800, 52742), (817, 52703), (851, 52613), (856, 52595), (858, 52589), (868, 52574), (875, 52550), (877, 52535), (878, 52532), (881, 52520), (890, 52496), (895, 52475), (907, 52448), (912, 52424),

Gene: MasterPo\_57 Start: 52506, Stop: 50677, Start Num: 188

Candidate Starts for MasterPo\_57:

(Start: 188 @52506 has 31 MA's), (Start: 227 @52479 has 3 MA's), (242, 52449), (246, 52437), (264, 52410), (Start: 266 @52407 has 4 MA's), (274, 52398), (291, 52380), (330, 52284), (355, 52233), (367, 52209), (375, 52185), (417, 52047), (427, 52023), (431, 52011), (454, 51954), (466, 51918), (471, 51906), (482, 51882), (522, 51798), (540, 51768), (542, 51765), (561, 51735), (624, 51591), (652, 51525), (678, 51486), (681, 51474), (684, 51453), (689, 51435), (701, 51378), (722, 51294),

(727, 51264), (730, 51255), (744, 51189), (758, 51162), (760, 51153), (766, 51135), (772, 51111), (790, 51057), (794, 51045), (800, 51024), (834, 50955), (851, 50895), (856, 50877), (871, 50844), (875, 50832), (877, 50817), (878, 50814), (881, 50802), (890, 50778), (891, 50775), (907, 50727), (908, 50724), (912, 50703), (917, 50682),

Gene: Matalotodo\_60 Start: 54575, Stop: 52716, Start Num: 196

Candidate Starts for Matalotodo\_60:

(Start: 175 @54599 has 1 MA's), (Start: 196 @54575 has 254 MA's), (Start: 221 @54551 has 2 MA's), (Start: 227 @54545 has 3 MA's), (246, 54503), (259, 54482), (307, 54368), (311, 54362), (326, 54332), (355, 54272), (366, 54251), (386, 54197), (391, 54185), (396, 54167), (398, 54155), (431, 54050), (454, 53993), (466, 53957), (471, 53945), (483, 53918), (491, 53891), (499, 53873), (509, 53855), (533, 53816), (540, 53807), (542, 53804), (668, 53546), (695, 53444), (701, 53411), (706, 53390), (727, 53297), (730, 53288), (744, 53225), (760, 53189), (761, 53186), (766, 53171), (790, 53093), (794, 53081), (800, 53060), (817, 53021), (851, 52931), (856, 52913), (858, 52907), (868, 52892), (875, 52868), (877, 52853), (878, 52850), (881, 52838), (890, 52814), (907, 52766), (912, 52742),

Gene: Maureen\_42 Start: 31379, Stop: 33223, Start Num: 231

Candidate Starts for Maureen\_42:

(Start: 145 @31253 has 1 MA's), (147, 31256), (Start: 231 @31379 has 845 MA's), (378, 31676), (489, 31952), (544, 32054), (558, 32075), (613, 32213), (647, 32276), (700, 32471), (702, 32477), (708, 32501), (720, 32558), (731, 32615), (733, 32624), (766, 32741), (780, 32789), (843, 32948), (846, 32960), (873, 33041), (896, 33119), (911, 33164),

Gene: Maverick\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Maverick\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Maxo\_46 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Maxo\_46:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Mayweather\_49 Start: 35337, Stop: 32956, Start Num: 43

Candidate Starts for Mayweather\_49:

(Start: 43 @35337 has 11 MA's), (58, 35277), (91, 35196), (127, 35076), (159, 35031), (Start: 208 @34953 has 3 MA's), (Start: 212 @34947 has 1 MA's), (Start: 214 @34944 has 4 MA's), (237, 34914), (255, 34875), (258, 34866), (280, 34836), (303, 34779), (321, 34740), (331, 34719), (352, 34677), (357, 34668), (365, 34653), (369, 34644), (371, 34632), (384, 34599), (386, 34596), (393, 34578), (397, 34557), (463, 34374), (490, 34299), (519, 34257), (576, 34170), (603, 34122), (617, 34092), (622, 34086), (640, 34041), (642, 34038), (649, 34023), (659, 34002), (683, 33918), (690, 33888), (703, 33828), (705, 33819), (708, 33804), (711, 33789), (714, 33777), (733, 33684), (741, 33648), (743, 33642), (745, 33636), (746, 33630), (761, 33573), (768, 33549), (795, 33444), (796, 33441), (815, 33390), (830, 33348), (836, 33330), (847, 33291), (857, 33249), (865, 33225), (886, 33147), (893, 33123), (908, 33078), (925, 33012), (934, 32991), (936, 32985), (940, 32979),



Gene: Mazhar510\_45 Start: 31571, Stop: 29745, Start Num: 231

Candidate Starts for Mazhar510\_45:

(Start: 231 @31571 has 845 MA's), (240, 31550), (256, 31520), (274, 31490), (350, 31328), (360, 31310), (390, 31238), (392, 31229), (426, 31109), (434, 31085), (487, 30992), (511, 30944), (524, 30923), (549, 30884), (603, 30752), (613, 30731), (638, 30686), (643, 30674), (697, 30521), (700, 30500), (726, 30377), (733, 30347), (742, 30308), (760, 30242), (761, 30239), (766, 30224), (772, 30200), (780, 30176), (851, 29969), (896, 29834), (902, 29822), (906, 29813),

Gene: McFly\_45 Start: 29627, Stop: 27786, Start Num: 231

Candidate Starts for McFly\_45:

(Start: 231 @29627 has 845 MA's), (329, 29423), (367, 29348), (369, 29345), (378, 29318), (384, 29303), (390, 29291), (403, 29240), (430, 29150), (434, 29138), (487, 29045), (502, 29006), (513, 28988), (524, 28973), (562, 28907), (576, 28874), (577, 28871), (619, 28769), (652, 28709), (683, 28625), (700, 28544), (719, 28460), (720, 28457), (722, 28448), (726, 28421), (733, 28391), (755, 28331), (766, 28292), (846, 28076), (847, 28073), (851, 28052), (896, 27917), (902, 27905), (906, 27896), (907, 27893), (939, 27800),

Gene: McGalleon\_41 Start: 30345, Stop: 28477, Start Num: 267

Candidate Starts for McGalleon\_41:

(256, 30360), (Start: 267 @30345 has 137 MA's), (Start: 275 @30336 has 5 MA's), (338, 30192), (340, 30189), (393, 30078), (395, 30069), (397, 30057), (400, 30051), (436, 29946), (467, 29853), (490, 29778), (494, 29769), (498, 29757), (516, 29727), (525, 29712), (527, 29706), (530, 29700), (634, 29478), (726, 29163), (729, 29154), (730, 29151), (733, 29133), (743, 29091), (768, 29001), (775, 28974), (815, 28842), (828, 28803), (847, 28743), (852, 28719), (863, 28680), (875, 28647), (876, 28635),

Gene: McGuire\_45 Start: 34382, Stop: 32553, Start Num: 231

Candidate Starts for McGuire\_45:

(Start: 231 @34382 has 845 MA's), (332, 34169), (367, 34106), (378, 34076), (388, 34055), (390, 34049), (392, 34040), (425, 33923), (434, 33896), (487, 33803), (492, 33788), (509, 33755), (541, 33704), (543, 33701), (570, 33647), (575, 33635), (589, 33605), (598, 33575), (616, 33530), (638, 33491), (700, 33311), (709, 33263), (722, 33215), (730, 33176), (733, 33158), (742, 33119), (755, 33098), (760, 33077), (765, 33062), (803, 32939), (871, 32768), (876, 32744), (893, 32696), (896, 32684), (906, 32663), (908, 32657), (921, 32609), (928, 32594),

Gene: Mcshane\_59 Start: 54021, Stop: 52162, Start Num: 196

Candidate Starts for Mcshane\_59:

(Start: 175 @54045 has 1 MA's), (Start: 196 @54021 has 254 MA's), (Start: 221 @53997 has 2 MA's), (Start: 227 @53991 has 3 MA's), (246, 53949), (259, 53928), (307, 53814), (311, 53808), (326, 53778), (355, 53718), (366, 53697), (386, 53643), (391, 53631), (396, 53613), (398, 53601), (431, 53496), (454, 53439), (466, 53403), (471, 53391), (483, 53364), (491, 53337), (499, 53319), (509, 53301), (533, 53262), (540, 53253), (542, 53250), (668, 52992), (695, 52890), (701, 52857), (706, 52836), (727, 52743), (730, 52734), (744, 52671), (760, 52635), (761, 52632), (766, 52617), (790, 52539), (794, 52527), (800, 52506), (817, 52467), (851, 52377), (856, 52359), (858, 52353), (868, 52338), (875, 52314), (877, 52299), (878, 52296), (881, 52284), (890, 52260), (907, 52212), (912, 52188),

Gene: Mecca\_60 Start: 54586, Stop: 52727, Start Num: 196

Candidate Starts for Mecca\_60:

(Start: 175 @54610 has 1 MA's), (Start: 196 @54586 has 254 MA's), (Start: 221 @54562 has 2 MA's), (Start: 227 @54556 has 3 MA's), (246, 54514), (259, 54493), (307, 54379), (311, 54373), (326, 54343), (355, 54283), (366, 54262), (386, 54208), (391, 54196), (396, 54178), (398, 54166), (431, 54061), (454, 54004), (466, 53968), (471, 53956), (482, 53932), (486, 53920), (491, 53902), (499,

53884), (509, 53866), (533, 53827), (540, 53818), (542, 53815), (544, 53812), (695, 53455), (701, 53422), (706, 53401), (727, 53308), (730, 53299), (744, 53236), (760, 53200), (761, 53197), (766, 53182), (790, 53104), (794, 53092), (800, 53071), (817, 53032), (851, 52942), (856, 52924), (858, 52918), (868, 52903), (875, 52879), (877, 52864), (878, 52861), (881, 52849), (890, 52825), (907, 52777), (912, 52753),

Gene: Medusa\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Medusa\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: MeeZee\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for MeeZee\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Megamind20\_61 Start: 54009, Stop: 52150, Start Num: 196

Candidate Starts for Megamind20\_61:

(Start: 175 @54033 has 1 MA's), (Start: 196 @54009 has 254 MA's), (Start: 221 @53985 has 2 MA's), (Start: 227 @53979 has 3 MA's), (246, 53937), (259, 53916), (307, 53802), (311, 53796), (326, 53766), (355, 53706), (366, 53685), (386, 53631), (391, 53619), (396, 53601), (398, 53589), (431, 53484), (454, 53427), (466, 53391), (471, 53379), (483, 53352), (491, 53325), (499, 53307), (509, 53289), (533, 53250), (540, 53241), (542, 53238), (668, 52980), (695, 52878), (701, 52845), (706, 52824), (727, 52731), (730, 52722), (744, 52659), (760, 52623), (761, 52620), (766, 52605), (790, 52527), (794, 52515), (800, 52494), (817, 52455), (851, 52365), (856, 52347), (858, 52341), (868, 52326), (875, 52302), (877, 52287), (878, 52284), (881, 52272), (890, 52248), (907, 52200), (912, 52176),

Gene: Megatron\_61 Start: 54535, Stop: 52676, Start Num: 196

Candidate Starts for Megatron\_61:

(Start: 175 @54559 has 1 MA's), (Start: 196 @54535 has 254 MA's), (Start: 221 @54511 has 2 MA's), (Start: 227 @54505 has 3 MA's), (246, 54463), (259, 54442), (307, 54328), (311, 54322), (326, 54292), (355, 54232), (366, 54211), (386, 54157), (391, 54145), (396, 54127), (398, 54115), (431, 54010), (454, 53953), (466, 53917), (471, 53905), (483, 53878), (491, 53851), (499, 53833), (509, 53815), (533, 53776), (540, 53767), (542, 53764), (668, 53506), (695, 53404), (701, 53371), (706, 53350), (727, 53257), (730, 53248), (744, 53185), (760, 53149), (761, 53146), (766, 53131), (790, 53053), (794, 53041), (800, 53020), (817, 52981), (851, 52891), (856, 52873), (858, 52867), (868, 52852), (875, 52828), (877, 52813), (878, 52810), (881, 52798), (890, 52774), (907, 52726), (912, 52702),

Gene: Melc17\_60 Start: 54852, Stop: 52993, Start Num: 196

Candidate Starts for Melc17\_60:

(Start: 175 @54876 has 1 MA's), (Start: 196 @54852 has 254 MA's), (Start: 221 @54828 has 2 MA's), (Start: 227 @54822 has 3 MA's), (246, 54780), (259, 54759), (307, 54645), (311, 54639), (326, 54609), (355, 54549), (366, 54528), (386, 54474), (391, 54462), (396, 54444), (398, 54432), (431, 54327), (454, 54270), (466, 54234), (471, 54222), (482, 54198), (486, 54186), (491, 54168), (499, 54150), (509, 54132), (533, 54093), (540, 54084), (542, 54081), (544, 54078), (695, 53721), (701,

53688), (706, 53667), (727, 53574), (730, 53565), (744, 53502), (760, 53466), (761, 53463), (766, 53448), (790, 53370), (794, 53358), (800, 53337), (817, 53298), (851, 53208), (856, 53190), (858, 53184), (868, 53169), (875, 53145), (877, 53130), (878, 53127), (881, 53115), (890, 53091), (907, 53043), (912, 53019),

Gene: MelsMeow\_61 Start: 54310, Stop: 52451, Start Num: 196

Candidate Starts for MelsMeow\_61:

(Start: 175 @54334 has 1 MA's), (Start: 196 @54310 has 254 MA's), (Start: 221 @54286 has 2 MA's), (Start: 227 @54280 has 3 MA's), (246, 54238), (259, 54217), (307, 54103), (311, 54097), (326, 54067), (355, 54007), (366, 53986), (386, 53932), (391, 53920), (396, 53902), (398, 53890), (431, 53785), (454, 53728), (466, 53692), (471, 53680), (483, 53653), (499, 53608), (533, 53551), (540, 53542), (542, 53539), (668, 53281), (695, 53179), (701, 53146), (706, 53125), (727, 53032), (730, 53023), (744, 52960), (760, 52924), (761, 52921), (766, 52906), (790, 52828), (794, 52816), (800, 52795), (817, 52756), (851, 52666), (856, 52648), (858, 52642), (868, 52627), (875, 52603), (877, 52588), (878, 52585), (881, 52573), (890, 52549), (895, 52528), (907, 52501), (912, 52477), (915, 52462),

Gene: Melvin\_47 Start: 31565, Stop: 29739, Start Num: 231

Candidate Starts for Melvin\_47:

(Start: 231 @31565 has 845 MA's), (240, 31544), (256, 31514), (274, 31484), (350, 31322), (360, 31304), (390, 31232), (392, 31223), (426, 31103), (434, 31079), (487, 30986), (511, 30938), (524, 30917), (549, 30878), (603, 30746), (613, 30725), (638, 30680), (643, 30668), (697, 30515), (700, 30494), (726, 30371), (733, 30341), (742, 30302), (760, 30236), (761, 30233), (766, 30218), (772, 30194), (780, 30170), (851, 29963), (896, 29828), (902, 29816), (906, 29807),

Gene: Mercedes\_34 Start: 25967, Stop: 24108, Start Num: 267

Candidate Starts for Mercedes\_34:

(Start: 267 @25967 has 137 MA's), (272, 25961), (314, 25868), (338, 25814), (342, 25808), (393, 25700), (397, 25679), (400, 25673), (417, 25622), (447, 25538), (494, 25403), (498, 25391), (516, 25361), (525, 25346), (527, 25340), (534, 25328), (620, 25157), (643, 25091), (659, 25058), (681, 24989), (683, 24977), (726, 24797), (733, 24767), (761, 24656), (768, 24632), (769, 24629), (775, 24605), (828, 24434), (847, 24374), (852, 24350), (855, 24338), (858, 24329), (875, 24278), (893, 24206),

Gene: Mesh1\_62 Start: 54599, Stop: 52740, Start Num: 196

Candidate Starts for Mesh1\_62:

(Start: 175 @54623 has 1 MA's), (Start: 196 @54599 has 254 MA's), (Start: 221 @54575 has 2 MA's), (Start: 227 @54569 has 3 MA's), (246, 54527), (259, 54506), (307, 54392), (311, 54386), (326, 54356), (355, 54296), (366, 54275), (386, 54221), (391, 54209), (396, 54191), (398, 54179), (431, 54074), (454, 54017), (466, 53981), (471, 53969), (483, 53942), (491, 53915), (499, 53897), (509, 53879), (533, 53840), (540, 53831), (542, 53828), (668, 53570), (695, 53468), (701, 53435), (706, 53414), (727, 53321), (730, 53312), (744, 53249), (760, 53213), (761, 53210), (766, 53195), (790, 53117), (794, 53105), (800, 53084), (817, 53045), (851, 52955), (856, 52937), (858, 52931), (868, 52916), (875, 52892), (877, 52877), (878, 52874), (881, 52862), (890, 52838), (907, 52790), (912, 52766),

Gene: MetalQZJ\_44 Start: 34704, Stop: 32875, Start Num: 231

Candidate Starts for MetalQZJ\_44:

(Start: 231 @34704 has 845 MA's), (332, 34491), (337, 34476), (367, 34428), (378, 34398), (388, 34377), (390, 34371), (392, 34362), (403, 34320), (425, 34245), (434, 34218), (487, 34125), (492, 34110), (541, 34026), (543, 34023), (575, 33957), (589, 33927), (598, 33897), (616, 33852), (638, 33813), (700, 33633), (709, 33585), (722, 33537), (730, 33498), (733, 33480), (742, 33441), (755, 33420), (760, 33399), (765, 33384), (803, 33261), (871, 33090), (876, 33066), (893, 33018), (896,

33006), (906, 32985), (908, 32979), (921, 32931), (928, 32916),

Gene: Methuselah\_45 Start: 31880, Stop: 30066, Start Num: 231

Candidate Starts for Methuselah\_45:

(Start: 231 @31880 has 845 MA's), (248, 31841), (256, 31829), (329, 31676), (333, 31661), (367, 31604), (390, 31547), (392, 31538), (403, 31496), (415, 31445), (434, 31394), (472, 31340), (487, 31301), (509, 31253), (524, 31229), (549, 31190), (562, 31163), (575, 31133), (610, 31040), (616, 31028), (641, 30980), (652, 30965), (700, 30809), (711, 30758), (719, 30725), (720, 30722), (733, 30656), (742, 30617), (761, 30545), (772, 30506), (780, 30482), (786, 30464), (796, 30431), (834, 30350), (851, 30290), (880, 30203), (896, 30155), (902, 30143), (906, 30134), (907, 30131),

Gene: Micasa\_39 Start: 30726, Stop: 28861, Start Num: 231

Candidate Starts for Micasa\_39:

(Start: 231 @30726 has 845 MA's), (256, 30675), (291, 30615), (317, 30552), (329, 30522), (330, 30519), (363, 30462), (367, 30450), (378, 30420), (390, 30393), (434, 30240), (487, 30144), (509, 30096), (561, 30012), (562, 30006), (594, 29934), (603, 29901), (610, 29886), (616, 29874), (668, 29775), (700, 29640), (708, 29610), (709, 29592), (711, 29589), (720, 29553), (722, 29544), (726, 29517), (733, 29487), (742, 29448), (760, 29406), (766, 29388), (780, 29340), (796, 29289), (818, 29235), (823, 29226), (834, 29208), (851, 29148), (856, 29130), (890, 29037), (896, 29013), (902, 29001), (939, 28896),

Gene: MichaelPhcott\_61 Start: 54184, Stop: 52325, Start Num: 196

Candidate Starts for MichaelPhcott\_61:

(Start: 175 @54208 has 1 MA's), (Start: 196 @54184 has 254 MA's), (Start: 221 @54160 has 2 MA's), (Start: 227 @54154 has 3 MA's), (246, 54112), (259, 54091), (307, 53977), (311, 53971), (326, 53941), (355, 53881), (366, 53860), (386, 53806), (391, 53794), (396, 53776), (398, 53764), (431, 53659), (454, 53602), (466, 53566), (471, 53554), (482, 53530), (486, 53518), (491, 53500), (499, 53482), (509, 53464), (533, 53425), (540, 53416), (542, 53413), (544, 53410), (695, 53053), (701, 53020), (706, 52999), (727, 52906), (730, 52897), (744, 52834), (760, 52798), (761, 52795), (766, 52780), (790, 52702), (794, 52690), (800, 52669), (817, 52630), (851, 52540), (856, 52522), (858, 52516), (868, 52501), (875, 52477), (877, 52462), (878, 52459), (881, 52447), (890, 52423), (907, 52375), (912, 52351),

Gene: Michley\_44 Start: 34222, Stop: 32396, Start Num: 231

Candidate Starts for Michley\_44:

(Start: 231 @34222 has 845 MA's), (332, 34009), (378, 33916), (388, 33895), (390, 33889), (392, 33880), (425, 33763), (434, 33736), (487, 33643), (492, 33628), (509, 33595), (541, 33544), (543, 33541), (575, 33475), (589, 33445), (598, 33415), (616, 33370), (638, 33331), (700, 33151), (709, 33103), (720, 33064), (733, 32998), (742, 32959), (755, 32938), (760, 32917), (766, 32899), (786, 32833), (846, 32683), (847, 32680), (855, 32644), (868, 32620), (870, 32611), (874, 32599), (896, 32524), (906, 32503),

Gene: Microwolf\_48 Start: 31854, Stop: 30040, Start Num: 231

Candidate Starts for Microwolf\_48:

(Start: 231 @31854 has 845 MA's), (248, 31815), (256, 31803), (329, 31650), (333, 31635), (367, 31578), (390, 31521), (392, 31512), (403, 31470), (415, 31419), (434, 31368), (487, 31275), (509, 31227), (513, 31218), (524, 31203), (549, 31164), (562, 31137), (575, 31107), (610, 31014), (616, 31002), (641, 30954), (652, 30939), (700, 30783), (720, 30696), (733, 30630), (742, 30591), (761, 30519), (772, 30480), (780, 30456), (786, 30438), (796, 30405), (806, 30378), (834, 30324), (851, 30264), (877, 30186), (896, 30129), (902, 30117), (906, 30108),

Gene: MiculUcigas\_44 Start: 31260, Stop: 29473, Start Num: 231

Candidate Starts for MiculUcigas\_44:

(Start: 231 @31260 has 845 MA's), (329, 31056), (330, 31053), (332, 31047), (350, 31017), (367, 30984), (369, 30981), (378, 30954), (390, 30927), (403, 30876), (434, 30774), (487, 30681), (509, 30633), (513, 30624), (524, 30609), (562, 30543), (595, 30462), (613, 30414), (683, 30270), (700, 30189), (711, 30138), (719, 30105), (733, 30036), (742, 29997), (755, 29976), (760, 29955), (764, 29943), (832, 29763), (834, 29757), (846, 29721), (851, 29697), (877, 29619), (896, 29562), (902, 29550),

Gene: Midas2\_38 Start: 30444, Stop: 28579, Start Num: 231

Candidate Starts for Midas2\_38:

(Start: 231 @30444 has 845 MA's), (256, 30393), (291, 30333), (317, 30270), (329, 30240), (330, 30237), (363, 30180), (367, 30168), (378, 30138), (390, 30111), (434, 29958), (487, 29862), (509, 29814), (561, 29730), (562, 29724), (576, 29691), (594, 29652), (603, 29619), (610, 29604), (616, 29592), (668, 29493), (700, 29358), (708, 29328), (709, 29310), (711, 29307), (720, 29271), (722, 29262), (726, 29235), (733, 29205), (742, 29166), (760, 29124), (766, 29106), (780, 29058), (796, 29007), (818, 28953), (823, 28944), (834, 28926), (851, 28866), (856, 28848), (890, 28755), (896, 28731), (902, 28719), (939, 28614),

Gene: Miko\_43 Start: 31812, Stop: 30025, Start Num: 231

Candidate Starts for Miko\_43:

(Start: 231 @31812 has 845 MA's), (330, 31605), (332, 31599), (350, 31569), (367, 31536), (369, 31533), (384, 31491), (390, 31479), (434, 31326), (487, 31233), (509, 31185), (513, 31176), (524, 31161), (562, 31095), (613, 30966), (683, 30822), (700, 30741), (711, 30690), (719, 30657), (720, 30654), (733, 30588), (742, 30549), (755, 30528), (775, 30453), (780, 30441), (796, 30390), (806, 30363), (823, 30327), (834, 30309), (846, 30273), (851, 30249), (877, 30171), (896, 30114), (902, 30102), (906, 30093),

Gene: Mikota\_59 Start: 53562, Stop: 51703, Start Num: 196

Candidate Starts for Mikota\_59:

(Start: 175 @53586 has 1 MA's), (Start: 196 @53562 has 254 MA's), (Start: 221 @53538 has 2 MA's), (Start: 227 @53532 has 3 MA's), (240, 53505), (246, 53490), (259, 53469), (307, 53355), (311, 53349), (326, 53319), (355, 53259), (366, 53238), (386, 53184), (391, 53172), (396, 53154), (398, 53142), (431, 53037), (454, 52980), (466, 52944), (471, 52932), (483, 52905), (499, 52860), (533, 52803), (540, 52794), (542, 52791), (544, 52788), (695, 52431), (701, 52398), (706, 52377), (727, 52284), (730, 52275), (744, 52212), (760, 52176), (761, 52173), (766, 52158), (790, 52080), (794, 52068), (800, 52047), (817, 52008), (851, 51918), (856, 51900), (858, 51894), (868, 51879), (875, 51855), (877, 51840), (878, 51837), (881, 51825), (890, 51801), (907, 51753), (912, 51729),

Gene: Milcery\_39 Start: 30563, Stop: 28704, Start Num: 231

Candidate Starts for Milcery\_39:

(Start: 231 @30563 has 845 MA's), (256, 30512), (291, 30452), (317, 30389), (329, 30359), (330, 30356), (363, 30299), (367, 30287), (378, 30257), (390, 30230), (434, 30077), (487, 29981), (500, 29948), (509, 29933), (561, 29849), (562, 29843), (594, 29771), (603, 29738), (610, 29723), (616, 29711), (668, 29612), (700, 29477), (708, 29447), (709, 29429), (711, 29426), (720, 29390), (722, 29381), (724, 29360), (727, 29351), (733, 29324), (734, 29321), (755, 29264), (760, 29243), (796, 29126), (818, 29072), (823, 29063), (834, 29045), (851, 28985), (856, 28967), (890, 28874), (896, 28850), (902, 28838), (947, 28721), (948, 28718),

Gene: Millski\_44 Start: 31571, Stop: 29745, Start Num: 231

Candidate Starts for Millski\_44:

(Start: 231 @31571 has 845 MA's), (240, 31550), (256, 31520), (274, 31490), (350, 31328), (360, 31310), (390, 31238), (392, 31229), (426, 31109), (434, 31085), (487, 30992), (511, 30944), (524, 30923), (549, 30884), (603, 30752), (613, 30731), (638, 30686), (643, 30674), (697, 30521), (700, 30500), (726, 30377), (733, 30347), (742, 30308), (760, 30242), (761, 30239), (766, 30224), (772,

30200), (780, 30176), (851, 29969), (896, 29834), (902, 29822), (906, 29813),

Gene: MillyPhilly\_39 Start: 28927, Stop: 27062, Start Num: 267

Candidate Starts for MillyPhilly\_39:

(Start: 214 @29014 has 4 MA's), (Start: 216 @29011 has 7 MA's), (Start: 267 @28927 has 137 MA's), (Start: 275 @28918 has 5 MA's), (321, 28813), (325, 28804), (338, 28774), (340, 28771), (395, 28651), (397, 28639), (400, 28633), (436, 28528), (445, 28501), (490, 28360), (492, 28354), (494, 28351), (498, 28339), (513, 28312), (516, 28309), (525, 28294), (527, 28288), (530, 28282), (553, 28249), (634, 28060), (726, 27745), (729, 27736), (730, 27733), (733, 27715), (743, 27673), (745, 27667), (747, 27658), (751, 27643), (768, 27586), (815, 27427), (827, 27397), (828, 27388), (847, 27328), (852, 27304), (863, 27265), (875, 27232), (876, 27220), (893, 27160),

Gene: Mimi\_105 Start: 77797, Stop: 79593, Start Num: 233

Candidate Starts for Mimi\_105:

(Start: 233 @77797 has 1 MA's), (291, 77893), (391, 78109), (397, 78136), (400, 78142), (425, 78211), (437, 78247), (530, 78394), (534, 78400), (549, 78421), (558, 78436), (638, 78625), (662, 78670), (676, 78703), (680, 78721), (687, 78754), (697, 78793), (700, 78814), (702, 78820), (724, 78934), (741, 79018), (743, 79024), (746, 79036), (759, 79084), (762, 79096), (772, 79132), (783, 79165), (786, 79174), (800, 79219), (807, 79237), (841, 79321), (846, 79342), (852, 79369), (856, 79384), (871, 79417), (876, 79441), (884, 79465), (896, 79501), (907, 79528),

Gene: MinecraftSteve\_48 Start: 29943, Stop: 28153, Start Num: 231

Candidate Starts for MinecraftSteve\_48:

(Start: 231 @29943 has 845 MA's), (317, 29769), (367, 29664), (369, 29661), (378, 29634), (390, 29607), (403, 29556), (434, 29454), (487, 29361), (502, 29322), (513, 29304), (603, 29115), (638, 29049), (674, 28989), (683, 28950), (695, 28899), (697, 28890), (700, 28869), (711, 28818), (719, 28785), (726, 28746), (733, 28716), (755, 28656), (760, 28635), (772, 28593), (781, 28566), (818, 28464), (846, 28401), (847, 28398), (896, 28242), (902, 28230), (907, 28218),

Gene: MiniBoss\_58 Start: 53368, Stop: 51509, Start Num: 196

Candidate Starts for MiniBoss\_58:

(Start: 175 @53392 has 1 MA's), (Start: 196 @53368 has 254 MA's), (Start: 221 @53344 has 2 MA's), (Start: 227 @53338 has 3 MA's), (240, 53311), (246, 53296), (259, 53275), (307, 53161), (311, 53155), (326, 53125), (355, 53065), (366, 53044), (386, 52990), (391, 52978), (396, 52960), (398, 52948), (431, 52843), (454, 52786), (466, 52750), (471, 52738), (483, 52711), (486, 52702), (499, 52666), (533, 52609), (540, 52600), (542, 52597), (544, 52594), (695, 52237), (701, 52204), (706, 52183), (727, 52090), (730, 52081), (744, 52018), (760, 51982), (761, 51979), (766, 51964), (790, 51886), (794, 51874), (800, 51853), (817, 51814), (851, 51724), (856, 51706), (858, 51700), (868, 51685), (875, 51661), (877, 51646), (878, 51643), (881, 51631), (890, 51607), (907, 51559), (912, 51535),

Gene: MiniMommy\_47 Start: 30558, Stop: 32420, Start Num: 231

Candidate Starts for MiniMommy\_47:

(162, 30459), (Start: 173 @30477 has 1 MA's), (Start: 231 @30558 has 845 MA's), (254, 30606), (330, 30765), (332, 30771), (388, 30876), (400, 30921), (483, 31128), (549, 31257), (595, 31362), (613, 31410), (655, 31494), (700, 31668), (719, 31752), (724, 31785), (727, 31794), (738, 31845), (759, 31914), (793, 32025), (820, 32094), (823, 32100), (858, 32205), (896, 32316),

Gene: Miramae\_44 Start: 31710, Stop: 29881, Start Num: 231

Candidate Starts for Miramae\_44:

(Start: 231 @31710 has 845 MA's), (256, 31659), (274, 31629), (350, 31467), (360, 31449), (390, 31377), (392, 31368), (426, 31248), (434, 31224), (487, 31131), (511, 31083), (549, 31023), (570, 30978), (603, 30891), (613, 30870), (638, 30825), (643, 30813), (700, 30639), (722, 30543), (726,

30516), (727, 30513), (733, 30486), (742, 30447), (760, 30378), (761, 30375), (766, 30360), (772, 30336), (777, 30318), (780, 30312), (782, 30306), (851, 30105), (896, 29970), (902, 29958), (906, 29949),

Gene: Misomonster\_49 Start: 31883, Stop: 30069, Start Num: 231

Candidate Starts for Misomonster\_49:

(Start: 231 @31883 has 845 MA's), (248, 31844), (256, 31832), (329, 31679), (333, 31664), (367, 31607), (390, 31550), (392, 31541), (403, 31499), (415, 31448), (434, 31397), (472, 31343), (487, 31304), (509, 31256), (524, 31232), (549, 31193), (562, 31166), (575, 31136), (610, 31043), (616, 31031), (641, 30983), (652, 30968), (700, 30812), (711, 30761), (719, 30728), (720, 30725), (733, 30659), (742, 30620), (761, 30548), (772, 30509), (780, 30485), (786, 30467), (796, 30434), (834, 30353), (851, 30293), (880, 30206), (896, 30158), (902, 30146), (906, 30137), (907, 30134),

Gene: MissSwiss\_41 Start: 28328, Stop: 30193, Start Num: 231

Candidate Starts for MissSwiss\_41:

(Start: 231 @28328 has 845 MA's), (254, 28376), (317, 28502), (378, 28625), (406, 28715), (489, 28922), (492, 28931), (549, 29030), (558, 29045), (576, 29090), (613, 29183), (674, 29321), (700, 29441), (708, 29471), (714, 29504), (716, 29507), (720, 29528), (733, 29594), (759, 29687), (780, 29759), (820, 29867), (846, 29930), (896, 30089), (901, 30098),

Gene: MissWhite\_43 Start: 29746, Stop: 27959, Start Num: 231

Candidate Starts for MissWhite\_43:

(Start: 231 @29746 has 845 MA's), (329, 29542), (330, 29539), (332, 29533), (350, 29503), (363, 29482), (366, 29473), (367, 29470), (378, 29440), (390, 29413), (395, 29392), (403, 29362), (434, 29260), (487, 29167), (509, 29119), (513, 29110), (524, 29095), (562, 29029), (603, 28921), (613, 28900), (700, 28675), (711, 28624), (722, 28579), (733, 28522), (742, 28483), (755, 28462), (775, 28387), (782, 28369), (796, 28324), (823, 28261), (832, 28249), (846, 28207), (851, 28183), (873, 28126), (877, 28105), (896, 28048), (902, 28036), (906, 28027),

Gene: MitKao\_60 Start: 54033, Stop: 52174, Start Num: 196

Candidate Starts for MitKao\_60:

(Start: 175 @54057 has 1 MA's), (Start: 196 @54033 has 254 MA's), (Start: 221 @54009 has 2 MA's), (Start: 227 @54003 has 3 MA's), (246, 53961), (259, 53940), (307, 53826), (311, 53820), (326, 53790), (355, 53730), (366, 53709), (386, 53655), (391, 53643), (396, 53625), (398, 53613), (431, 53508), (454, 53451), (466, 53415), (471, 53403), (483, 53376), (499, 53331), (533, 53274), (540, 53265), (542, 53262), (695, 52902), (701, 52869), (706, 52848), (727, 52755), (730, 52746), (744, 52683), (760, 52647), (761, 52644), (766, 52629), (790, 52551), (794, 52539), (800, 52518), (817, 52479), (851, 52389), (856, 52371), (858, 52365), (868, 52350), (875, 52326), (877, 52311), (878, 52308), (881, 52296), (890, 52272), (907, 52224), (912, 52200),

Gene: Mithril\_53 Start: 54005, Stop: 52182, Start Num: 182

Candidate Starts for Mithril\_53:

(Start: 169 @54023 has 3 MA's), (Start: 182 @54005 has 24 MA's), (Start: 227 @53981 has 3 MA's), (246, 53939), (259, 53918), (301, 53831), (351, 53726), (366, 53699), (371, 53684), (396, 53618), (405, 53588), (407, 53579), (410, 53576), (412, 53573), (454, 53453), (461, 53435), (466, 53417), (471, 53405), (483, 53378), (509, 53315), (533, 53276), (540, 53267), (542, 53264), (561, 53234), (575, 53198), (668, 53012), (681, 52973), (682, 52970), (689, 52934), (695, 52910), (701, 52877), (725, 52769), (727, 52763), (730, 52754), (760, 52655), (761, 52652), (766, 52637), (790, 52559), (794, 52547), (800, 52526), (803, 52517), (817, 52487), (834, 52457), (844, 52430), (851, 52397), (858, 52373), (875, 52334), (878, 52316), (881, 52304), (890, 52280), (904, 52238), (907, 52232), (912, 52208),

Gene: MmasiCarm\_59 Start: 54089, Stop: 52272, Start Num: 223

Candidate Starts for MmasiCarm\_59:

(123, 54272), (Start: 223 @54089 has 42 MA's), (240, 54059), (332, 53879), (395, 53726), (397, 53714), (407, 53684), (412, 53678), (431, 53615), (433, 53609), (454, 53558), (464, 53531), (466, 53522), (486, 53474), (542, 53369), (589, 53273), (610, 53222), (681, 53078), (689, 53039), (696, 53009), (701, 52982), (704, 52970), (725, 52874), (727, 52868), (730, 52859), (732, 52847), (754, 52775), (760, 52745), (766, 52727), (768, 52718), (790, 52649), (794, 52637), (800, 52616), (834, 52547), (841, 52532), (847, 52508), (851, 52487), (856, 52469), (858, 52463), (873, 52430), (875, 52424), (878, 52406), (881, 52394), (886, 52382), (890, 52370), (904, 52328), (912, 52298),

Gene: Molivia\_56 Start: 35308, Stop: 33140, Start Num: 209

Candidate Starts for Molivia\_56:

(Start: 209 @35308 has 11 MA's), (Start: 227 @35281 has 3 MA's), (240, 35254), (286, 35170), (320, 35062), (328, 35044), (329, 35041), (337, 35017), (358, 34981), (362, 34975), (371, 34951), (374, 34942), (393, 34885), (395, 34876), (397, 34864), (403, 34846), (404, 34843), (446, 34693), (448, 34690), (458, 34651), (506, 34456), (514, 34444), (545, 34393), (550, 34387), (559, 34372), (564, 34357), (575, 34330), (633, 34174), (638, 34150), (696, 33988), (707, 33940), (713, 33907), (719, 33883), (727, 33841), (741, 33766), (756, 33706), (777, 33628), (780, 33622), (791, 33589), (814, 33526), (817, 33520), (831, 33481), (846, 33433), (853, 33403), (872, 33349), (875, 33340), (884, 33298), (890, 33280), (893, 33268), (902, 33244), (907, 33229), (915, 33187),

Gene: Molly\_45 Start: 33982, Stop: 32153, Start Num: 231

Candidate Starts for Molly\_45:

(Start: 231 @33982 has 845 MA's), (332, 33769), (337, 33754), (367, 33706), (378, 33676), (388, 33655), (390, 33649), (392, 33640), (425, 33523), (434, 33496), (487, 33403), (492, 33388), (501, 33367), (541, 33304), (543, 33301), (575, 33235), (598, 33175), (616, 33130), (638, 33091), (700, 32911), (709, 32863), (722, 32815), (730, 32776), (733, 32758), (742, 32719), (755, 32698), (760, 32677), (765, 32662), (803, 32539), (871, 32368), (876, 32344), (893, 32296), (896, 32284), (906, 32263), (908, 32257), (921, 32209), (928, 32194),

Gene: MonChoix\_37 Start: 28950, Stop: 27082, Start Num: 267

Candidate Starts for MonChoix\_37:

(165, 29115), (Start: 193 @29070 has 1 MA's), (Start: 221 @29025 has 2 MA's), (Start: 267 @28950 has 137 MA's), (Start: 275 @28941 has 5 MA's), (393, 28683), (394, 28677), (397, 28662), (400, 28656), (445, 28524), (463, 28470), (490, 28383), (494, 28374), (498, 28362), (513, 28335), (516, 28332), (525, 28317), (527, 28311), (534, 28299), (675, 27981), (729, 27759), (730, 27756), (733, 27738), (743, 27696), (768, 27606), (775, 27579), (815, 27447), (827, 27417), (828, 27408), (847, 27348), (852, 27324), (854, 27318), (863, 27285), (875, 27252), (876, 27240),

Gene: Monet\_48 Start: 36234, Stop: 34408, Start Num: 231

Candidate Starts for Monet\_48:

(Start: 231 @36234 has 845 MA's), (332, 36021), (337, 36006), (378, 35928), (388, 35907), (390, 35901), (392, 35892), (425, 35775), (434, 35748), (487, 35655), (492, 35640), (541, 35556), (543, 35553), (575, 35487), (589, 35457), (598, 35427), (616, 35382), (638, 35343), (700, 35163), (709, 35115), (720, 35076), (733, 35010), (742, 34971), (755, 34950), (760, 34929), (766, 34911), (786, 34845), (846, 34695), (847, 34692), (855, 34656), (868, 34632), (874, 34611), (880, 34584), (896, 34536), (906, 34515),

Gene: MoneyMay\_48 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for MoneyMay\_48:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (641, 30952), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772,



30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Moose\_44 Start: 34479, Stop: 32653, Start Num: 231

Candidate Starts for Moose\_44:

(Start: 231 @34479 has 845 MA's), (332, 34266), (337, 34251), (378, 34173), (388, 34152), (390, 34146), (392, 34137), (425, 34020), (434, 33993), (487, 33900), (492, 33885), (501, 33864), (509, 33852), (541, 33801), (543, 33798), (575, 33732), (589, 33702), (598, 33672), (616, 33627), (638, 33588), (700, 33408), (709, 33360), (720, 33321), (733, 33255), (742, 33216), (755, 33195), (760, 33174), (766, 33156), (786, 33090), (846, 32940), (847, 32937), (855, 32901), (868, 32877), (870, 32868), (874, 32856), (896, 32781), (906, 32760),

Gene: Morgushi\_60 Start: 54022, Stop: 52163, Start Num: 196

Candidate Starts for Morgushi\_60:

(Start: 175 @54046 has 1 MA's), (Start: 196 @54022 has 254 MA's), (Start: 221 @53998 has 2 MA's), (Start: 227 @53992 has 3 MA's), (246, 53950), (259, 53929), (307, 53815), (311, 53809), (326, 53779), (355, 53719), (366, 53698), (386, 53644), (391, 53632), (396, 53614), (398, 53602), (431, 53497), (454, 53440), (466, 53404), (471, 53392), (483, 53365), (499, 53320), (533, 53263), (540, 53254), (542, 53251), (695, 52891), (701, 52858), (706, 52837), (727, 52744), (730, 52735), (744, 52672), (760, 52636), (761, 52633), (766, 52618), (790, 52540), (794, 52528), (800, 52507), (817, 52468), (851, 52378), (856, 52360), (858, 52354), (868, 52339), (875, 52315), (877, 52300), (878, 52297), (881, 52285), (890, 52261), (907, 52213), (912, 52189),

Gene: Morpher26\_44 Start: 31543, Stop: 29714, Start Num: 231

Candidate Starts for Morpher26\_44:

(Start: 231 @31543 has 845 MA's), (256, 31492), (274, 31462), (350, 31300), (360, 31282), (367, 31267), (390, 31210), (392, 31201), (426, 31081), (434, 31057), (468, 31015), (487, 30964), (511, 30916), (524, 30895), (549, 30856), (570, 30811), (573, 30805), (603, 30724), (613, 30703), (638, 30658), (697, 30493), (700, 30472), (733, 30319), (742, 30280), (761, 30208), (766, 30193), (772, 30169), (777, 30151), (780, 30145), (782, 30139), (851, 29938), (896, 29803), (902, 29791), (906, 29782),

Gene: Morrigan\_40 Start: 28385, Stop: 26493, Start Num: 267

Candidate Starts for Morrigan\_40:

(Start: 267 @28385 has 137 MA's), (Start: 275 @28376 has 5 MA's), (297, 28319), (314, 28289), (325, 28265), (332, 28250), (338, 28235), (342, 28229), (354, 28211), (370, 28178), (397, 28100), (400, 28094), (467, 27893), (494, 27809), (498, 27797), (516, 27767), (525, 27752), (527, 27746), (530, 27740), (534, 27734), (536, 27731), (661, 27464), (677, 27413), (693, 27347), (733, 27146), (743, 27104), (751, 27074), (758, 27053), (768, 27017), (785, 26945), (828, 26819), (847, 26759), (852, 26735), (855, 26723), (893, 26591),

Gene: Morrissey\_47 Start: 37547, Stop: 35145, Start Num: 4

Candidate Starts for Morrissey\_47:

(Start: 4 @37547 has 5 MA's), (23, 37442), (27, 37418), (39, 37364), (50, 37337), (Start: 51 @37334 has 1 MA's), (62, 37292), (63, 37289), (81, 37244), (87, 37223), (98, 37199), (111, 37160), (118, 37145), (126, 37121), (130, 37112), (131, 37106), (Start: 161 @37043 has 1 MA's), (168, 37031), (205, 36977), (Start: 266 @36869 has 4 MA's), (291, 36842), (296, 36821), (365, 36677), (384, 36623), (386, 36620), (389, 36614), (397, 36584), (403, 36569), (422, 36512), (429, 36491), (431, 36485), (434, 36476), (466, 36395), (489, 36332), (503, 36299), (523, 36272), (542, 36242), (561, 36212), (610, 36092), (613, 36083), (676, 35966), (681, 35948), (687, 35918), (689, 35909), (695, 35885), (701, 35852), (722, 35771), (725, 35747), (727, 35741), (744, 35669), (757, 35642), (766, 35615), (772, 35591), (790, 35537), (794, 35525), (838, 35414), (840, 35411), (877, 35285), (878, 35282), (886, 35258), (890, 35246), (907, 35195), (912, 35171), (917, 35150),

Gene: Morrow\_46 Start: 31576, Stop: 29750, Start Num: 231

Candidate Starts for Morrow\_46:

(Start: 231 @31576 has 845 MA's), (240, 31555), (256, 31525), (274, 31495), (350, 31333), (360, 31315), (390, 31243), (392, 31234), (426, 31114), (434, 31090), (487, 30997), (511, 30949), (524, 30928), (549, 30889), (603, 30757), (613, 30736), (638, 30691), (643, 30679), (697, 30526), (700, 30505), (726, 30382), (733, 30352), (742, 30313), (760, 30247), (761, 30244), (766, 30229), (772, 30205), (780, 30181), (851, 29974), (896, 29839), (902, 29827), (906, 29818),

Gene: Mortcellus\_58 Start: 54744, Stop: 52927, Start Num: 223

Candidate Starts for Mortcellus\_58:

(123, 54927), (Start: 223 @54744 has 42 MA's), (240, 54714), (332, 54534), (395, 54381), (397, 54369), (407, 54339), (412, 54333), (431, 54270), (433, 54264), (454, 54213), (464, 54186), (466, 54177), (486, 54129), (542, 54024), (589, 53928), (610, 53877), (681, 53733), (689, 53694), (696, 53664), (701, 53637), (704, 53625), (725, 53529), (727, 53523), (730, 53514), (732, 53502), (754, 53430), (760, 53400), (766, 53382), (768, 53373), (790, 53304), (794, 53292), (800, 53271), (834, 53202), (841, 53187), (847, 53163), (851, 53142), (858, 53118), (875, 53079), (878, 53061), (881, 53049), (886, 53037), (890, 53025), (904, 52983), (912, 52953),

Gene: Morty\_61 Start: 54544, Stop: 52685, Start Num: 196

Candidate Starts for Morty\_61:

(Start: 175 @54568 has 1 MA's), (Start: 196 @54544 has 254 MA's), (Start: 221 @54520 has 2 MA's), (Start: 227 @54514 has 3 MA's), (246, 54472), (259, 54451), (307, 54337), (311, 54331), (326, 54301), (355, 54241), (366, 54220), (386, 54166), (391, 54154), (396, 54136), (398, 54124), (431, 54019), (454, 53962), (466, 53926), (471, 53914), (482, 53890), (486, 53878), (491, 53860), (499, 53842), (509, 53824), (533, 53785), (540, 53776), (542, 53773), (544, 53770), (695, 53413), (701, 53380), (706, 53359), (727, 53266), (730, 53257), (744, 53194), (760, 53158), (761, 53155), (766, 53140), (790, 53062), (794, 53050), (800, 53029), (817, 52990), (851, 52900), (856, 52882), (858, 52876), (868, 52861), (875, 52837), (877, 52822), (878, 52819), (881, 52807), (890, 52783), (907, 52735), (912, 52711),

Gene: Morty007\_58 Start: 54530, Stop: 52713, Start Num: 223

Candidate Starts for Morty007\_58:

(59, 54914), (123, 54713), (Start: 223 @54530 has 42 MA's), (240, 54500), (332, 54320), (395, 54167), (397, 54155), (407, 54125), (412, 54119), (431, 54056), (433, 54050), (454, 53999), (466, 53963), (486, 53915), (542, 53810), (589, 53714), (610, 53663), (681, 53519), (689, 53480), (696, 53450), (701, 53423), (704, 53411), (725, 53315), (727, 53309), (730, 53300), (732, 53288), (754, 53216), (760, 53186), (766, 53168), (768, 53159), (790, 53090), (794, 53078), (800, 53057), (834, 52988), (841, 52973), (847, 52949), (858, 52904), (875, 52865), (878, 52847), (881, 52835), (886, 52823), (890, 52811), (904, 52769), (912, 52739),

Gene: Mosaic\_59 Start: 54027, Stop: 52168, Start Num: 196

Candidate Starts for Mosaic\_59:

(Start: 175 @54051 has 1 MA's), (Start: 196 @54027 has 254 MA's), (Start: 221 @54003 has 2 MA's), (Start: 227 @53997 has 3 MA's), (246, 53955), (259, 53934), (307, 53820), (311, 53814), (326, 53784), (355, 53724), (366, 53703), (386, 53649), (391, 53637), (396, 53619), (398, 53607), (431, 53502), (454, 53445), (466, 53409), (471, 53397), (483, 53370), (499, 53325), (533, 53268), (540, 53259), (542, 53256), (695, 52896), (701, 52863), (706, 52842), (727, 52749), (730, 52740), (744, 52677), (760, 52641), (761, 52638), (766, 52623), (790, 52545), (794, 52533), (800, 52512), (817, 52473), (851, 52383), (856, 52365), (858, 52359), (868, 52344), (875, 52320), (877, 52305), (878, 52302), (881, 52290), (890, 52266), (907, 52218), (912, 52194),

Gene: MossRose\_53 Start: 47650, Stop: 45833, Start Num: 219

Candidate Starts for MossRose\_53:

(Start: 219 @47650 has 12 MA's), (Start: 227 @47641 has 3 MA's), (240, 47614), (245, 47602), (259, 47578), (Start: 266 @47569 has 4 MA's), (330, 47431), (347, 47395), (379, 47320), (405, 47245), (431, 47167), (454, 47110), (466, 47074), (471, 47062), (482, 47038), (526, 46945), (542, 46921), (555, 46903), (681, 46630), (689, 46591), (696, 46561), (701, 46534), (725, 46426), (727, 46420), (730, 46411), (757, 46321), (760, 46312), (761, 46309), (762, 46306), (766, 46294), (790, 46216), (794, 46204), (795, 46198), (800, 46183), (822, 46135), (844, 46087), (851, 46054), (858, 46030), (875, 45991), (877, 45976), (890, 45931), (912, 45859),

Gene: Moss\_45 Start: 27679, Stop: 29661, Start Num: 231

Candidate Starts for Moss\_45:

(Start: 231 @27679 has 845 MA's), (317, 27853), (329, 27883), (351, 27916), (369, 27949), (395, 28024), (402, 28051), (472, 28252), (549, 28426), (613, 28582), (674, 28720), (694, 28807), (700, 28840), (708, 28870), (720, 28927), (733, 28993), (759, 29086), (851, 29353), (858, 29377), (896, 29488),

Gene: MrGordo\_44 Start: 34016, Stop: 32190, Start Num: 231

Candidate Starts for MrGordo\_44:

(Start: 231 @34016 has 845 MA's), (332, 33803), (337, 33788), (367, 33740), (378, 33710), (388, 33689), (390, 33683), (392, 33674), (425, 33557), (434, 33530), (487, 33437), (492, 33422), (509, 33389), (541, 33338), (543, 33335), (575, 33269), (589, 33239), (598, 33209), (616, 33164), (638, 33125), (700, 32945), (709, 32897), (720, 32858), (733, 32792), (742, 32753), (755, 32732), (760, 32711), (766, 32693), (786, 32627), (846, 32477), (847, 32474), (855, 32438), (868, 32414), (870, 32405), (874, 32393), (880, 32366), (896, 32318), (906, 32297),

Gene: MrPhizzler\_61 Start: 54490, Stop: 52631, Start Num: 196

Candidate Starts for MrPhizzler\_61:

(Start: 175 @54514 has 1 MA's), (Start: 196 @54490 has 254 MA's), (Start: 221 @54466 has 2 MA's), (Start: 227 @54460 has 3 MA's), (246, 54418), (259, 54397), (307, 54283), (311, 54277), (326, 54247), (355, 54187), (366, 54166), (386, 54112), (391, 54100), (396, 54082), (398, 54070), (431, 53965), (454, 53908), (466, 53872), (471, 53860), (482, 53836), (486, 53824), (491, 53806), (499, 53788), (509, 53770), (533, 53731), (540, 53722), (542, 53719), (544, 53716), (668, 53461), (695, 53359), (701, 53326), (706, 53305), (727, 53212), (730, 53203), (744, 53140), (760, 53104), (761, 53101), (766, 53086), (790, 53008), (794, 52996), (800, 52975), (817, 52936), (851, 52846), (856, 52828), (858, 52822), (868, 52807), (875, 52783), (877, 52768), (878, 52765), (881, 52753), (890, 52729), (895, 52708), (907, 52681), (912, 52657),

Gene: MrWorldwide\_39 Start: 28937, Stop: 27072, Start Num: 267

Candidate Starts for MrWorldwide\_39:

(Start: 214 @29024 has 4 MA's), (Start: 216 @29021 has 7 MA's), (Start: 267 @28937 has 137 MA's), (Start: 275 @28928 has 5 MA's), (321, 28823), (325, 28814), (338, 28784), (340, 28781), (395, 28661), (397, 28649), (400, 28643), (436, 28538), (445, 28511), (490, 28370), (492, 28364), (494, 28361), (498, 28349), (513, 28322), (516, 28319), (525, 28304), (527, 28298), (530, 28292), (553, 28259), (612, 28130), (634, 28070), (726, 27755), (729, 27746), (730, 27743), (733, 27725), (743, 27683), (745, 27677), (747, 27668), (751, 27653), (768, 27596), (815, 27437), (827, 27407), (828, 27398), (847, 27338), (852, 27314), (863, 27275), (875, 27242), (876, 27230), (893, 27170),

Gene: Mryolo\_42 Start: 33954, Stop: 32128, Start Num: 231

Candidate Starts for Mryolo\_42:

(Start: 231 @33954 has 845 MA's), (332, 33741), (367, 33678), (378, 33648), (388, 33627), (390, 33621), (392, 33612), (425, 33495), (434, 33468), (487, 33375), (492, 33360), (509, 33327), (541, 33276), (543, 33273), (575, 33207), (589, 33177), (598, 33147), (616, 33102), (638, 33063), (700, 32883), (709, 32835), (720, 32796), (733, 32730), (742, 32691), (755, 32670), (760, 32649), (766,

32631), (786, 32565), (846, 32415), (847, 32412), (855, 32376), (868, 32352), (870, 32343), (874, 32331), (880, 32304), (896, 32256), (906, 32235),

Gene: MuchMore\_51 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for MuchMore\_51:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: Muddy\_44 Start: 34756, Stop: 32411, Start Num: 60

Candidate Starts for Muddy\_44:

(Start: 40 @34822 has 1 MA's), (46, 34813), (Start: 56 @34768 has 1 MA's), (Start: 60 @34756 has 1 MA's), (Start: 74 @34717 has 1 MA's), (127, 34558), (137, 34528), (159, 34498), (263, 34330), (321, 34210), (370, 34108), (397, 34027), (418, 33967), (443, 33901), (490, 33769), (567, 33649), (576, 33640), (582, 33628), (622, 33559), (693, 33346), (703, 33292), (721, 33211), (726, 33178), (741, 33112), (743, 33106), (745, 33100), (746, 33094), (753, 33070), (761, 33037), (766, 33022), (768, 33013), (815, 32854), (827, 32824), (851, 32734), (885, 32614), (893, 32587), (912, 32518),

Gene: Mudpuppy\_39 Start: 29455, Stop: 31320, Start Num: 231

Candidate Starts for Mudpuppy\_39:

(Start: 231 @29455 has 845 MA's), (254, 29503), (378, 29752), (406, 29842), (489, 30049), (492, 30058), (542, 30148), (549, 30157), (558, 30172), (576, 30217), (595, 30262), (613, 30310), (643, 30367), (674, 30448), (694, 30535), (700, 30568), (708, 30598), (720, 30655), (733, 30721), (738, 30745), (759, 30814), (780, 30886), (783, 30895), (820, 30994), (846, 31057), (851, 31081), (890, 31192), (896, 31216), (901, 31225),

Gene: Mudslide\_53 Start: 54263, Stop: 52440, Start Num: 182

Candidate Starts for Mudslide\_53:

(Start: 169 @54281 has 3 MA's), (Start: 182 @54263 has 24 MA's), (Start: 227 @54239 has 3 MA's), (240, 54212), (246, 54197), (259, 54176), (301, 54089), (351, 53984), (371, 53942), (396, 53876), (405, 53846), (407, 53837), (410, 53834), (412, 53831), (417, 53804), (454, 53711), (461, 53693), (466, 53675), (471, 53663), (480, 53648), (483, 53636), (509, 53573), (533, 53534), (540, 53525), (542, 53522), (561, 53492), (575, 53456), (681, 53231), (682, 53228), (689, 53192), (695, 53168), (701, 53135), (725, 53027), (727, 53021), (730, 53012), (760, 52913), (761, 52910), (766, 52895), (790, 52817), (794, 52805), (800, 52784), (803, 52775), (817, 52745), (844, 52688), (851, 52655), (856, 52637), (858, 52631), (875, 52592), (878, 52574), (881, 52562), (890, 52538), (904, 52496), (907, 52490), (912, 52466),

Gene: Mulan\_60 Start: 54261, Stop: 52402, Start Num: 196

Candidate Starts for Mulan\_60:

(Start: 175 @54285 has 1 MA's), (Start: 196 @54261 has 254 MA's), (Start: 221 @54237 has 2 MA's), (Start: 227 @54231 has 3 MA's), (246, 54189), (259, 54168), (307, 54054), (311, 54048), (326, 54018), (355, 53958), (366, 53937), (386, 53883), (391, 53871), (396, 53853), (398, 53841), (431, 53736), (454, 53679), (466, 53643), (471, 53631), (483, 53604), (491, 53577), (499, 53559), (509, 53541), (533, 53502), (540, 53493), (542, 53490), (668, 53232), (695, 53130), (701, 53097), (706, 53076), (727, 52983), (730, 52974), (744, 52911), (760, 52875), (761, 52872), (766, 52857), (790, 52779), (794, 52767), (800, 52746), (817, 52707), (851, 52617), (856, 52599), (858, 52593), (868, 52578), (875, 52554), (877, 52539), (878, 52536), (881, 52524), (890, 52500), (907, 52452), (912, 52428),

Gene: Mulciber\_44 Start: 30327, Stop: 28540, Start Num: 231

Candidate Starts for Mulciber\_44:

(Start: 231 @30327 has 845 MA's), (329, 30123), (367, 30051), (378, 30021), (390, 29994), (489, 29742), (513, 29691), (562, 29610), (582, 29565), (613, 29481), (643, 29424), (672, 29382), (683, 29337), (700, 29256), (711, 29205), (720, 29169), (733, 29103), (755, 29043), (758, 29031), (789, 28929), (796, 28905), (802, 28887), (834, 28824), (844, 28797), (846, 28788), (851, 28764), (896, 28629), (902, 28617), (906, 28608),

Gene: Mule\_42 Start: 32266, Stop: 30440, Start Num: 231

Candidate Starts for Mule\_42:

(Start: 231 @32266 has 845 MA's), (332, 32053), (337, 32038), (378, 31960), (388, 31939), (390, 31933), (392, 31924), (413, 31840), (425, 31807), (434, 31780), (487, 31687), (492, 31672), (501, 31651), (509, 31639), (541, 31588), (543, 31585), (575, 31519), (589, 31489), (598, 31459), (616, 31414), (638, 31375), (700, 31195), (709, 31147), (720, 31108), (733, 31042), (760, 30961), (761, 30958), (786, 30877), (846, 30727), (847, 30724), (855, 30688), (870, 30655), (874, 30643), (889, 30595), (896, 30568), (906, 30547),

Gene: Munch\_45 Start: 30776, Stop: 28989, Start Num: 231

Candidate Starts for Munch\_45:

(Start: 231 @30776 has 845 MA's), (329, 30572), (367, 30500), (378, 30470), (390, 30443), (489, 30191), (513, 30140), (562, 30059), (582, 30014), (643, 29873), (672, 29831), (683, 29786), (700, 29705), (711, 29654), (720, 29618), (733, 29552), (755, 29492), (758, 29480), (789, 29378), (796, 29354), (802, 29336), (834, 29273), (844, 29246), (846, 29237), (851, 29213), (896, 29078), (902, 29066), (906, 29057),

Gene: Mundrea\_44 Start: 31530, Stop: 29701, Start Num: 231

Candidate Starts for Mundrea\_44:

(Start: 231 @31530 has 845 MA's), (256, 31479), (274, 31449), (350, 31287), (360, 31269), (367, 31254), (390, 31197), (392, 31188), (426, 31068), (434, 31044), (487, 30951), (511, 30903), (524, 30882), (549, 30843), (570, 30798), (603, 30711), (607, 30702), (613, 30690), (638, 30645), (643, 30633), (700, 30459), (722, 30363), (726, 30336), (727, 30333), (733, 30306), (739, 30276), (742, 30267), (760, 30198), (761, 30195), (766, 30180), (772, 30156), (780, 30132), (782, 30126), (851, 29925), (896, 29790), (902, 29778), (906, 29769),

Gene: MunkgeeRoachy\_43 Start: 31903, Stop: 29510, Start Num: 33

Candidate Starts for MunkgeeRoachy\_43:

(Start: 33 @31903 has 15 MA's), (Start: 56 @31849 has 1 MA's), (71, 31807), (81, 31783), (119, 31657), (127, 31633), (159, 31588), (191, 31537), (201, 31522), (Start: 214 @31501 has 4 MA's), (243, 31453), (Start: 267 @31411 has 137 MA's), (303, 31336), (308, 31324), (337, 31255), (357, 31222), (365, 31207), (384, 31153), (386, 31150), (393, 31132), (397, 31111), (402, 31096), (418, 31051), (463, 30928), (465, 30922), (490, 30853), (519, 30811), (576, 30724), (588, 30700), (596, 30694), (603, 30670), (607, 30661), (614, 30646), (622, 30634), (639, 30592), (640, 30589), (642, 30586), (679, 30490), (690, 30439), (693, 30427), (705, 30370), (706, 30364), (714, 30328), (724, 30271), (733, 30235), (741, 30199), (743, 30193), (745, 30187), (746, 30181), (761, 30124), (768, 30100), (777, 30055), (825, 29920), (892, 29677), (893, 29674), (908, 29629), (910, 29620), (926, 29560),

Gene: Murdoc\_59 Start: 54023, Stop: 52164, Start Num: 196

Candidate Starts for Murdoc\_59:

(Start: 175 @54047 has 1 MA's), (Start: 196 @54023 has 254 MA's), (Start: 221 @53999 has 2 MA's), (Start: 227 @53993 has 3 MA's), (246, 53951), (259, 53930), (307, 53816), (311, 53810), (326, 53780), (355, 53720), (366, 53699), (386, 53645), (391, 53633), (396, 53615), (398, 53603), (431, 53498), (454, 53441), (466, 53405), (471, 53393), (483, 53366), (491, 53339), (499, 53321), (509,

53303), (533, 53264), (540, 53255), (542, 53252), (544, 53249), (695, 52892), (701, 52859), (706, 52838), (727, 52745), (730, 52736), (744, 52673), (760, 52637), (761, 52634), (766, 52619), (790, 52541), (794, 52529), (800, 52508), (817, 52469), (851, 52379), (856, 52361), (858, 52355), (868, 52340), (875, 52316), (877, 52301), (878, 52298), (881, 52286), (890, 52262), (907, 52214), (912, 52190),

Gene: Museum\_45 Start: 34023, Stop: 32197, Start Num: 231

Candidate Starts for Museum\_45:

(Start: 231 @34023 has 845 MA's), (332, 33810), (337, 33795), (367, 33747), (378, 33717), (388, 33696), (390, 33690), (392, 33681), (425, 33564), (434, 33537), (487, 33444), (492, 33429), (509, 33396), (541, 33345), (543, 33342), (575, 33276), (589, 33246), (598, 33216), (616, 33171), (638, 33132), (700, 32952), (709, 32904), (720, 32865), (733, 32799), (742, 32760), (755, 32739), (760, 32718), (766, 32700), (786, 32634), (846, 32484), (847, 32481), (855, 32445), (868, 32421), (870, 32412), (874, 32400), (896, 32325), (906, 32304),

Gene: Mutante\_60 Start: 54033, Stop: 52174, Start Num: 196

Candidate Starts for Mutante\_60:

(Start: 175 @54057 has 1 MA's), (Start: 196 @54033 has 254 MA's), (Start: 221 @54009 has 2 MA's), (Start: 227 @54003 has 3 MA's), (246, 53961), (259, 53940), (307, 53826), (311, 53820), (326, 53790), (355, 53730), (366, 53709), (386, 53655), (391, 53643), (396, 53625), (398, 53613), (431, 53508), (454, 53451), (466, 53415), (471, 53403), (483, 53376), (491, 53349), (499, 53331), (533, 53274), (540, 53265), (542, 53262), (695, 52902), (701, 52869), (706, 52848), (727, 52755), (730, 52746), (744, 52683), (761, 52644), (766, 52629), (790, 52551), (794, 52539), (800, 52518), (817, 52479), (847, 52410), (851, 52389), (856, 52371), (858, 52365), (868, 52350), (875, 52326), (877, 52311), (878, 52308), (881, 52296), (890, 52272), (907, 52224), (912, 52200),

Gene: MyraDee\_40 Start: 28864, Stop: 27056, Start Num: 231

Candidate Starts for MyraDee\_40:

(Start: 231 @28864 has 845 MA's), (248, 28825), (256, 28813), (316, 28693), (350, 28621), (390, 28531), (392, 28522), (403, 28480), (409, 28462), (415, 28429), (416, 28426), (426, 28402), (434, 28378), (484, 28297), (487, 28285), (497, 28258), (505, 28240), (549, 28174), (570, 28129), (588, 28093), (598, 28060), (607, 28033), (616, 28015), (653, 27949), (673, 27919), (700, 27796), (709, 27748), (733, 27643), (742, 27604), (761, 27535), (772, 27496), (786, 27454), (795, 27424), (856, 27262), (896, 27145), (902, 27133), (906, 27124),

Gene: Mysterious\_58 Start: 54574, Stop: 52745, Start Num: 182

Candidate Starts for Mysterious\_58:

(Start: 182 @54574 has 24 MA's), (Start: 214 @54553 has 4 MA's), (Start: 227 @54544 has 3 MA's), (240, 54517), (246, 54502), (366, 54277), (384, 54226), (395, 54199), (398, 54184), (405, 54166), (410, 54154), (421, 54118), (431, 54088), (466, 53995), (471, 53983), (472, 53980), (482, 53959), (483, 53956), (486, 53947), (491, 53929), (526, 53866), (542, 53842), (593, 53737), (643, 53614), (678, 53563), (681, 53551), (682, 53548), (684, 53530), (689, 53512), (696, 53482), (701, 53455), (713, 53404), (727, 53341), (730, 53332), (754, 53248), (761, 53215), (766, 53200), (784, 53140), (790, 53122), (794, 53110), (800, 53089), (803, 53080), (805, 53077), (851, 52960), (856, 52942), (858, 52936), (875, 52897), (876, 52885), (877, 52882), (881, 52867), (886, 52855), (890, 52843), (904, 52801), (908, 52792), (912, 52771), (917, 52750),

Gene: Myxus\_45 Start: 31483, Stop: 29690, Start Num: 231

Candidate Starts for Myxus\_45:

(Start: 231 @31483 has 845 MA's), (236, 31474), (256, 31432), (316, 31312), (317, 31309), (334, 31261), (369, 31201), (379, 31171), (384, 31159), (390, 31147), (434, 30994), (487, 30901), (562, 30763), (575, 30733), (643, 30574), (652, 30562), (671, 30535), (697, 30427), (700, 30406), (730, 30271), (733, 30253), (760, 30172), (772, 30130), (796, 30055), (832, 29980), (846, 29938), (877,

29836), (896, 29779), (902, 29767), (906, 29758),

Gene: NEHalo\_43 Start: 34014, Stop: 32185, Start Num: 231

Candidate Starts for NEHalo\_43:

(Start: 231 @34014 has 845 MA's), (332, 33801), (367, 33738), (378, 33708), (388, 33687), (390, 33681), (392, 33672), (425, 33555), (434, 33528), (487, 33435), (492, 33420), (509, 33387), (541, 33336), (543, 33333), (570, 33279), (575, 33267), (589, 33237), (598, 33207), (616, 33162), (638, 33123), (700, 32943), (709, 32895), (722, 32847), (730, 32808), (733, 32790), (742, 32751), (755, 32730), (760, 32709), (765, 32694), (803, 32571), (818, 32538), (871, 32400), (876, 32376), (893, 32328), (896, 32316), (906, 32295), (908, 32289), (921, 32241), (928, 32226),

Gene: NHagos\_52 Start: 46533, Stop: 44725, Start Num: 219

Candidate Starts for NHagos\_52:

(Start: 219 @46533 has 12 MA's), (Start: 227 @46524 has 3 MA's), (245, 46485), (246, 46482), (259, 46461), (Start: 266 @46452 has 4 MA's), (286, 46416), (307, 46356), (330, 46314), (350, 46272), (395, 46164), (398, 46149), (405, 46131), (412, 46116), (431, 46053), (454, 45996), (466, 45960), (471, 45948), (526, 45831), (533, 45819), (542, 45807), (555, 45789), (558, 45783), (681, 45516), (682, 45513), (696, 45447), (701, 45420), (717, 45363), (725, 45312), (727, 45306), (730, 45297), (744, 45234), (761, 45195), (766, 45180), (790, 45102), (794, 45090), (800, 45069), (803, 45060), (817, 45030), (844, 44973), (875, 44877), (878, 44859), (890, 44823), (907, 44775), (912, 44751),

Gene: NaSiaTalie\_44 Start: 31357, Stop: 29570, Start Num: 231

Candidate Starts for NaSiaTalie\_44:

(Start: 231 @31357 has 845 MA's), (329, 31153), (330, 31150), (332, 31144), (350, 31114), (367, 31081), (369, 31078), (378, 31051), (390, 31024), (403, 30973), (434, 30871), (487, 30778), (509, 30730), (513, 30721), (524, 30706), (562, 30640), (595, 30559), (613, 30511), (683, 30367), (700, 30286), (711, 30235), (719, 30202), (733, 30133), (742, 30094), (755, 30073), (760, 30052), (764, 30040), (832, 29860), (834, 29854), (846, 29818), (851, 29794), (877, 29716), (896, 29659), (902, 29647),

Gene: Naca\_39 Start: 30726, Stop: 28828, Start Num: 204

Candidate Starts for Naca\_39:

(Start: 204 @30726 has 2 MA's), (Start: 231 @30693 has 845 MA's), (291, 30582), (329, 30489), (330, 30486), (367, 30417), (369, 30414), (378, 30387), (390, 30360), (392, 30351), (413, 30267), (422, 30243), (434, 30207), (475, 30147), (487, 30111), (509, 30063), (523, 30042), (524, 30039), (561, 29979), (594, 29901), (610, 29853), (616, 29841), (641, 29793), (668, 29742), (700, 29607), (709, 29559), (716, 29541), (720, 29520), (722, 29511), (727, 29481), (733, 29454), (734, 29451), (760, 29373), (766, 29355), (780, 29307), (796, 29256), (818, 29202), (823, 29193), (834, 29175), (856, 29097), (890, 29004), (896, 28980), (902, 28968), (939, 28863),

Gene: Nacho\_0062 Start: 54781, Stop: 52922, Start Num: 196

Candidate Starts for Nacho\_0062:

(Start: 175 @54805 has 1 MA's), (Start: 196 @54781 has 254 MA's), (Start: 221 @54757 has 2 MA's), (Start: 227 @54751 has 3 MA's), (246, 54709), (259, 54688), (307, 54574), (311, 54568), (326, 54538), (355, 54478), (366, 54457), (386, 54403), (391, 54391), (396, 54373), (398, 54361), (431, 54256), (454, 54199), (466, 54163), (471, 54151), (483, 54124), (491, 54097), (499, 54079), (509, 54061), (533, 54022), (540, 54013), (542, 54010), (668, 53752), (695, 53650), (701, 53617), (706, 53596), (727, 53503), (730, 53494), (744, 53431), (760, 53395), (761, 53392), (766, 53377), (790, 53299), (794, 53287), (800, 53266), (817, 53227), (851, 53137), (856, 53119), (858, 53113), (868, 53098), (875, 53074), (877, 53059), (878, 53056), (881, 53044), (890, 53020), (907, 52972), (912, 52948),

Gene: Nagem\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Nagem\_39:

(Start: 214 @29017 has 4 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (612, 28123), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: Naiad\_36 Start: 28126, Stop: 26342, Start Num: 231

Candidate Starts for Naiad\_36:

(Start: 231 @28126 has 845 MA's), (345, 27892), (363, 27862), (366, 27853), (367, 27850), (384, 27805), (390, 27793), (403, 27742), (434, 27640), (450, 27619), (487, 27547), (505, 27502), (509, 27499), (535, 27457), (539, 27451), (549, 27436), (562, 27409), (603, 27304), (607, 27295), (616, 27277), (619, 27274), (638, 27238), (700, 27058), (709, 27010), (733, 26905), (734, 26902), (755, 26845), (760, 26824), (798, 26701), (834, 26626), (846, 26590), (851, 26566), (877, 26488), (896, 26431), (902, 26419), (913, 26380), (917, 26362),

Gene: Naira\_46 Start: 36492, Stop: 34705, Start Num: 231

Candidate Starts for Naira\_46:

(Start: 231 @36492 has 845 MA's), (332, 36279), (337, 36264), (367, 36216), (378, 36186), (388, 36165), (390, 36159), (392, 36150), (425, 36033), (434, 36006), (487, 35913), (492, 35898), (541, 35814), (543, 35811), (575, 35745), (589, 35715), (598, 35685), (616, 35640), (638, 35601), (700, 35421), (709, 35373), (720, 35334), (733, 35268), (758, 35196), (760, 35187), (786, 35103), (818, 35016), (868, 34890), (871, 34878), (896, 34794), (899, 34788),

Gene: Naji\_47 Start: 31153, Stop: 29330, Start Num: 231

Candidate Starts for Naji\_47:

(Start: 231 @31153 has 845 MA's), (329, 30949), (337, 30925), (350, 30907), (360, 30889), (367, 30874), (369, 30871), (378, 30844), (390, 30817), (403, 30766), (434, 30664), (487, 30571), (509, 30523), (513, 30514), (523, 30502), (524, 30499), (562, 30433), (589, 30373), (638, 30259), (652, 30235), (672, 30196), (700, 30070), (711, 30019), (720, 29983), (733, 29917), (742, 29878), (761, 29809), (772, 29770), (787, 29725), (796, 29695), (823, 29632), (834, 29614), (851, 29554), (896, 29419), (902, 29407), (906, 29398),

Gene: Nanao\_52 Start: 52988, Stop: 51165, Start Num: 182

Candidate Starts for Nanao\_52:

(Start: 169 @53006 has 3 MA's), (Start: 182 @52988 has 24 MA's), (Start: 227 @52964 has 3 MA's), (240, 52937), (246, 52922), (259, 52901), (301, 52814), (351, 52709), (371, 52667), (396, 52601), (405, 52571), (407, 52562), (410, 52559), (412, 52556), (417, 52529), (454, 52436), (461, 52418), (466, 52400), (471, 52388), (480, 52373), (483, 52361), (540, 52250), (542, 52247), (561, 52217), (575, 52181), (681, 51956), (682, 51953), (689, 51917), (695, 51893), (701, 51860), (725, 51752), (727, 51746), (729, 51740), (730, 51737), (760, 51638), (761, 51635), (766, 51620), (790, 51542), (794, 51530), (800, 51509), (803, 51500), (817, 51470), (832, 51446), (844, 51413), (851, 51380), (856, 51362), (858, 51356), (875, 51317), (878, 51299), (881, 51287), (890, 51263), (904, 51221), (907, 51215), (912, 51191),

Gene: Nancinator\_36 Start: 28114, Stop: 26330, Start Num: 231

Candidate Starts for Nancinator\_36:

(Start: 231 @28114 has 845 MA's), (345, 27880), (363, 27850), (366, 27841), (367, 27838), (384, 27793), (390, 27781), (403, 27730), (434, 27628), (450, 27607), (487, 27535), (505, 27490), (509, 27487), (535, 27445), (539, 27439), (549, 27424), (562, 27397), (603, 27292), (607, 27283), (616, 27265), (638, 27226), (673, 27169), (700, 27046), (709, 26998), (733, 26893), (734, 26890), (755,



26833), (760, 26812), (774, 26764), (798, 26689), (832, 26620), (846, 26578), (851, 26554), (877, 26476), (896, 26419), (902, 26407), (906, 26398), (913, 26368), (917, 26350),

Gene: Nangang\_58 Start: 54780, Stop: 52933, Start Num: 176

Candidate Starts for Nangang\_58:

(Start: 136 @54846 has 1 MA's), (176, 54780), (224, 54732), (240, 54705), (273, 54654), (307, 54579), (355, 54486), (396, 54384), (410, 54342), (421, 54306), (431, 54276), (466, 54183), (482, 54147), (486, 54135), (491, 54117), (542, 54030), (593, 53925), (597, 53916), (643, 53802), (682, 53736), (684, 53718), (696, 53670), (701, 53643), (725, 53535), (727, 53529), (730, 53520), (734, 53499), (754, 53436), (761, 53403), (766, 53388), (784, 53328), (790, 53310), (794, 53298), (800, 53277), (803, 53268), (805, 53265), (811, 53253), (851, 53148), (858, 53124), (875, 53085), (877, 53070), (878, 53067), (886, 53043), (890, 53031), (891, 53028), (912, 52959),

Gene: Natosaleda\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for Natosaleda\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (638, 27225), (673, 27168), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: Nattles\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for Nattles\_38:

(Start: 214 @28706 has 4 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: NearlyHeadless\_43 Start: 30653, Stop: 28809, Start Num: 231

Candidate Starts for NearlyHeadless\_43:

(Start: 231 @30653 has 845 MA's), (256, 30602), (317, 30479), (329, 30449), (350, 30410), (367, 30377), (378, 30347), (388, 30326), (390, 30320), (392, 30311), (403, 30269), (415, 30218), (433, 30170), (434, 30167), (487, 30071), (497, 30044), (505, 30026), (513, 30014), (549, 29960), (562, 29933), (583, 29885), (603, 29828), (616, 29801), (643, 29750), (653, 29735), (697, 29588), (700, 29567), (708, 29537), (709, 29519), (711, 29516), (716, 29501), (720, 29480), (722, 29471), (726, 29444), (730, 29432), (733, 29414), (760, 29333), (764, 29321), (780, 29267), (792, 29231), (803, 29195), (818, 29162), (832, 29141), (834, 29135), (847, 29096), (851, 29075), (856, 29057), (896, 28940), (902, 28928),

Gene: Nebs\_46 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Nebs\_46:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Nebulosus\_46 Start: 29739, Stop: 27949, Start Num: 231

Candidate Starts for Nebulosus\_46:

(Start: 231 @29739 has 845 MA's), (317, 29565), (367, 29460), (369, 29457), (378, 29430), (390, 29403), (403, 29352), (434, 29250), (487, 29157), (505, 29112), (509, 29109), (513, 29100), (603, 28911), (638, 28845), (674, 28785), (683, 28746), (695, 28695), (700, 28665), (711, 28614), (719, 28581), (726, 28542), (733, 28512), (755, 28452), (760, 28431), (772, 28389), (781, 28362), (786, 28347), (818, 28260), (846, 28197), (847, 28194), (896, 28038), (902, 28026), (907, 28014),

Gene: Nebulous\_37 Start: 30025, Stop: 28133, Start Num: 267

Candidate Starts for Nebulous\_37:

(Start: 267 @30025 has 137 MA's), (292, 29980), (314, 29926), (316, 29920), (325, 29902), (340, 29869), (342, 29866), (370, 29815), (371, 29812), (398, 29734), (400, 29731), (416, 29683), (430, 29641), (467, 29539), (477, 29506), (490, 29464), (492, 29458), (494, 29455), (498, 29443), (516, 29413), (534, 29380), (536, 29377), (551, 29356), (620, 29209), (677, 29053), (733, 28786), (741, 28750), (743, 28744), (747, 28729), (766, 28666), (768, 28657), (852, 28375), (853, 28372), (863, 28336), (893, 28231),

Gene: Nedarya\_43 Start: 29505, Stop: 27715, Start Num: 231

Candidate Starts for Nedarya\_43:

(Start: 231 @29505 has 845 MA's), (332, 29292), (367, 29226), (369, 29223), (378, 29196), (390, 29169), (434, 29016), (487, 28923), (505, 28878), (509, 28875), (524, 28851), (616, 28650), (638, 28611), (674, 28551), (683, 28512), (697, 28452), (700, 28431), (711, 28380), (719, 28347), (726, 28308), (733, 28278), (755, 28218), (760, 28197), (782, 28125), (818, 28026), (846, 27963), (895, 27807), (896, 27804), (902, 27792),

Gene: Neeharika16\_45 Start: 29638, Stop: 27797, Start Num: 231

Candidate Starts for Neeharika16\_45:

(Start: 231 @29638 has 845 MA's), (329, 29434), (367, 29359), (369, 29356), (378, 29329), (384, 29314), (390, 29302), (403, 29251), (430, 29161), (434, 29149), (487, 29056), (502, 29017), (513, 28999), (524, 28984), (562, 28918), (576, 28885), (577, 28882), (619, 28780), (652, 28720), (683, 28636), (700, 28555), (719, 28471), (720, 28468), (722, 28459), (726, 28432), (733, 28402), (755, 28342), (766, 28303), (846, 28087), (847, 28084), (851, 28063), (896, 27928), (902, 27916), (906, 27907), (907, 27904), (939, 27811),

Gene: Neferthema\_38 Start: 29229, Stop: 27331, Start Num: 267

Candidate Starts for Neferthema\_38:

(Start: 267 @29229 has 137 MA's), (314, 29130), (316, 29124), (340, 29073), (342, 29070), (370, 29019), (371, 29016), (393, 28962), (394, 28956), (398, 28938), (416, 28887), (453, 28785), (467, 28737), (476, 28716), (477, 28704), (490, 28662), (492, 28656), (494, 28653), (498, 28641), (516, 28611), (527, 28590), (534, 28578), (536, 28575), (551, 28554), (620, 28407), (677, 28251), (733, 27984), (741, 27948), (743, 27942), (747, 27927), (766, 27864), (768, 27855), (777, 27810), (852, 27573), (853, 27570), (863, 27534),

Gene: Nellie\_36 Start: 31889, Stop: 30144, Start Num: 247

Candidate Starts for Nellie\_36:

(237, 31916), (Start: 247 @31889 has 6 MA's), (249, 31886), (269, 31853), (272, 31847), (311, 31754), (327, 31721), (336, 31694), (399, 31559), (437, 31430), (439, 31424), (468, 31400), (473, 31385), (486, 31358), (495, 31328), (549, 31247), (556, 31238), (581, 31178), (593, 31157), (644, 31043), (650, 31025), (743, 30647), (755, 30629), (773, 30563), (777, 30548), (855, 30329), (871, 30287), (896, 30203), (908, 30170),

Gene: Nemo27\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Nemo27\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524,

30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: Neos5\_58 Start: 53992, Stop: 52175, Start Num: 223

Candidate Starts for Neos5\_58:

(59, 54376), (123, 54175), (Start: 223 @53992 has 42 MA's), (240, 53962), (332, 53782), (379, 53677), (395, 53629), (397, 53617), (407, 53587), (412, 53581), (431, 53518), (433, 53512), (454, 53461), (464, 53434), (466, 53425), (486, 53377), (542, 53272), (589, 53176), (610, 53125), (681, 52981), (689, 52942), (696, 52912), (701, 52885), (704, 52873), (725, 52777), (727, 52771), (730, 52762), (732, 52750), (754, 52678), (760, 52648), (766, 52630), (768, 52621), (790, 52552), (794, 52540), (800, 52519), (834, 52450), (841, 52435), (847, 52411), (851, 52390), (856, 52372), (858, 52366), (873, 52333), (875, 52327), (878, 52309), (881, 52297), (886, 52285), (890, 52273), (904, 52231), (912, 52201),

Gene: Nerujay\_46 Start: 35102, Stop: 33276, Start Num: 231

Candidate Starts for Nerujay\_46:

(Start: 231 @35102 has 845 MA's), (332, 34889), (337, 34874), (378, 34796), (382, 34784), (388, 34775), (390, 34769), (392, 34760), (425, 34643), (434, 34616), (487, 34523), (492, 34508), (509, 34475), (541, 34424), (543, 34421), (575, 34355), (598, 34295), (616, 34250), (638, 34211), (700, 34031), (709, 33983), (720, 33944), (733, 33878), (742, 33839), (755, 33818), (760, 33797), (766, 33779), (786, 33713), (846, 33563), (847, 33560), (855, 33524), (868, 33500), (870, 33491), (874, 33479), (880, 33452), (896, 33404), (906, 33383),

Gene: Nesbitt\_42 Start: 30153, Stop: 32018, Start Num: 231

Candidate Starts for Nesbitt\_42:

(Start: 231 @30153 has 845 MA's), (254, 30201), (Start: 266 @30222 has 4 MA's), (302, 30297), (377, 30456), (378, 30459), (379, 30462), (388, 30480), (392, 30495), (400, 30525), (403, 30537), (436, 30645), (501, 30765), (524, 30807), (549, 30846), (558, 30861), (560, 30864), (561, 30867), (578, 30912), (589, 30933), (595, 30951), (598, 30960), (613, 30999), (628, 31029), (631, 31041), (655, 31104), (688, 31221), (700, 31281), (709, 31329), (720, 31368), (724, 31398), (733, 31434), (746, 31488), (761, 31536), (780, 31599), (816, 31698), (820, 31707), (843, 31758), (858, 31818), (869, 31836), (890, 31905), (896, 31929), (908, 31956),

Gene: Newman\_59 Start: 54059, Stop: 52200, Start Num: 196

Candidate Starts for Newman\_59:

(Start: 175 @54083 has 1 MA's), (Start: 196 @54059 has 254 MA's), (Start: 221 @54035 has 2 MA's), (Start: 227 @54029 has 3 MA's), (246, 53987), (259, 53966), (307, 53852), (311, 53846), (326, 53816), (355, 53756), (366, 53735), (386, 53681), (391, 53669), (396, 53651), (398, 53639), (431, 53534), (454, 53477), (466, 53441), (471, 53429), (483, 53402), (486, 53393), (499, 53357), (533, 53300), (540, 53291), (542, 53288), (544, 53285), (695, 52928), (701, 52895), (706, 52874), (727, 52781), (730, 52772), (744, 52709), (760, 52673), (761, 52670), (766, 52655), (790, 52577), (794, 52565), (800, 52544), (817, 52505), (851, 52415), (856, 52397), (858, 52391), (868, 52376), (875, 52352), (877, 52337), (878, 52334), (881, 52322), (890, 52298), (907, 52250), (912, 52226),

Gene: Newrala\_45 Start: 29638, Stop: 27797, Start Num: 231

Candidate Starts for Newrala\_45:

(Start: 231 @29638 has 845 MA's), (329, 29434), (367, 29359), (369, 29356), (378, 29329), (384, 29314), (390, 29302), (403, 29251), (430, 29161), (434, 29149), (487, 29056), (502, 29017), (513, 28999), (524, 28984), (562, 28918), (576, 28885), (577, 28882), (619, 28780), (652, 28720), (683, 28636), (700, 28555), (719, 28471), (720, 28468), (722, 28459), (726, 28432), (733, 28402), (755, 28342), (766, 28303), (846, 28087), (847, 28084), (851, 28063), (896, 27928), (902, 27916), (906, 27907), (907, 27904), (939, 27811),

Gene: Nhonho\_45 Start: 35071, Stop: 33245, Start Num: 231

Candidate Starts for Nhonho\_45:

(Start: 231 @35071 has 845 MA's), (332, 34858), (367, 34795), (378, 34765), (388, 34744), (390, 34738), (392, 34729), (425, 34612), (434, 34585), (487, 34492), (492, 34477), (509, 34444), (541, 34393), (543, 34390), (575, 34324), (589, 34294), (598, 34264), (616, 34219), (638, 34180), (700, 34000), (709, 33952), (720, 33913), (733, 33847), (742, 33808), (755, 33787), (760, 33766), (766, 33748), (786, 33682), (846, 33532), (847, 33529), (855, 33493), (868, 33469), (870, 33460), (874, 33448), (880, 33421), (896, 33373), (906, 33352),

Gene: Nibbles\_39 Start: 31737, Stop: 29380, Start Num: 41

Candidate Starts for Nibbles\_39:

(38, 31746), (Start: 41 @31737 has 23 MA's), (48, 31722), (55, 31686), (105, 31551), (127, 31488), (157, 31446), (166, 31434), (Start: 229 @31332 has 7 MA's), (237, 31329), (278, 31254), (293, 31215), (303, 31194), (329, 31143), (349, 31101), (365, 31071), (384, 31017), (393, 30996), (397, 30975), (419, 30912), (469, 30777), (474, 30762), (485, 30735), (490, 30717), (551, 30633), (567, 30597), (622, 30504), (639, 30462), (640, 30459), (642, 30456), (654, 30432), (660, 30420), (664, 30408), (698, 30267), (705, 30240), (733, 30105), (741, 30069), (743, 30063), (745, 30057), (746, 30051), (753, 30027), (761, 29994), (768, 29970), (777, 29925), (779, 29919), (797, 29859), (836, 29751), (854, 29682), (857, 29670), (865, 29646), (886, 29568), (893, 29544), (912, 29475),

Gene: NickSell\_40 Start: 28930, Stop: 27074, Start Num: 275

Candidate Starts for NickSell\_40:

(2, 29698), (61, 29395), (Start: 189 @29065 has 1 MA's), (213, 29029), (217, 29023), (Start: 267 @28939 has 137 MA's), (Start: 275 @28930 has 5 MA's), (321, 28825), (325, 28816), (338, 28786), (340, 28783), (395, 28663), (397, 28651), (400, 28645), (436, 28540), (445, 28513), (490, 28372), (492, 28366), (494, 28363), (498, 28351), (513, 28324), (516, 28321), (525, 28306), (527, 28300), (530, 28294), (553, 28261), (634, 28072), (726, 27757), (729, 27748), (730, 27745), (733, 27727), (743, 27685), (745, 27679), (747, 27670), (751, 27655), (768, 27598), (815, 27439), (827, 27409), (828, 27400), (847, 27340), (852, 27316), (863, 27277), (875, 27244), (876, 27232), (893, 27172),

Gene: Nicky22\_43 Start: 30033, Stop: 31907, Start Num: 222

Candidate Starts for Nicky22\_43:

(Start: 220 @30030 has 7 MA's), (Start: 222 @30033 has 57 MA's), (Start: 266 @30102 has 4 MA's), (279, 30123), (300, 30174), (392, 30369), (403, 30411), (549, 30705), (603, 30840), (651, 30939), (688, 31062), (700, 31122), (702, 31128), (711, 31173), (718, 31203), (724, 31239), (733, 31275), (759, 31368), (787, 31461), (816, 31539), (846, 31611), (855, 31650), (873, 31692), (876, 31710), (890, 31746), (896, 31770), (906, 31791),

Gene: Nicole21\_61 Start: 54312, Stop: 52453, Start Num: 196

Candidate Starts for Nicole21\_61:

(Start: 175 @54336 has 1 MA's), (Start: 196 @54312 has 254 MA's), (Start: 221 @54288 has 2 MA's), (Start: 227 @54282 has 3 MA's), (246, 54240), (259, 54219), (307, 54105), (311, 54099), (326, 54069), (355, 54009), (366, 53988), (386, 53934), (391, 53922), (396, 53904), (398, 53892), (431, 53787), (454, 53730), (466, 53694), (471, 53682), (482, 53658), (486, 53646), (491, 53628), (499, 53610), (509, 53592), (533, 53553), (540, 53544), (542, 53541), (544, 53538), (695, 53181), (701, 53148), (706, 53127), (727, 53034), (730, 53025), (744, 52962), (760, 52926), (761, 52923), (766, 52908), (790, 52830), (794, 52818), (800, 52797), (817, 52758), (851, 52668), (856, 52650), (858, 52644), (868, 52629), (875, 52605), (877, 52590), (878, 52587), (881, 52575), (890, 52551), (907, 52503), (912, 52479),

Gene: NicoleTera\_45 Start: 32018, Stop: 30231, Start Num: 231

Candidate Starts for NicoleTera\_45:

(Start: 231 @32018 has 845 MA's), (330, 31811), (337, 31790), (350, 31775), (366, 31745), (367, 31742), (378, 31712), (390, 31685), (395, 31664), (403, 31634), (434, 31532), (487, 31439), (509, 31391), (513, 31382), (562, 31301), (595, 31220), (613, 31172), (652, 31103), (700, 30947), (711, 30896), (719, 30863), (720, 30860), (733, 30794), (742, 30755), (755, 30734), (775, 30659), (780, 30647), (796, 30596), (806, 30569), (823, 30533), (834, 30515), (846, 30479), (851, 30455), (873, 30398), (896, 30320), (902, 30308), (906, 30299),

Gene: Nigel\_54 Start: 53588, Stop: 51732, Start Num: 164

Candidate Starts for Nigel\_54:

(Start: 164 @53588 has 2 MA's), (Start: 183 @53561 has 3 MA's), (Start: 227 @53534 has 3 MA's), (240, 53507), (246, 53492), (291, 53420), (292, 53414), (307, 53366), (311, 53360), (318, 53348), (326, 53330), (330, 53321), (355, 53270), (356, 53267), (396, 53168), (405, 53138), (407, 53129), (410, 53126), (417, 53096), (454, 53003), (461, 52985), (466, 52967), (471, 52955), (483, 52928), (540, 52817), (542, 52814), (555, 52796), (561, 52784), (575, 52748), (577, 52742), (586, 52724), (610, 52667), (668, 52562), (681, 52523), (682, 52520), (689, 52484), (701, 52427), (725, 52319), (727, 52313), (730, 52304), (758, 52214), (760, 52205), (761, 52202), (766, 52187), (790, 52109), (794, 52097), (800, 52076), (803, 52067), (834, 52007), (844, 51980), (851, 51947), (856, 51929), (858, 51923), (875, 51884), (877, 51869), (878, 51866), (881, 51854), (890, 51830), (904, 51788), (907, 51782), (912, 51758),

Gene: Nina\_42 Start: 32678, Stop: 30285, Start Num: 33

Candidate Starts for Nina\_42:

(Start: 33 @32678 has 15 MA's), (45, 32672), (Start: 56 @32624 has 1 MA's), (71, 32582), (81, 32558), (119, 32432), (127, 32408), (159, 32363), (191, 32312), (201, 32297), (Start: 214 @32276 has 4 MA's), (243, 32228), (261, 32195), (Start: 267 @32186 has 137 MA's), (303, 32111), (308, 32099), (337, 32030), (354, 32003), (357, 31997), (365, 31982), (384, 31928), (386, 31925), (393, 31907), (397, 31886), (418, 31826), (463, 31703), (465, 31697), (490, 31628), (519, 31586), (576, 31499), (588, 31475), (596, 31469), (603, 31445), (607, 31436), (614, 31421), (622, 31409), (639, 31367), (640, 31364), (642, 31361), (660, 31325), (690, 31214), (705, 31145), (706, 31139), (714, 31103), (724, 31046), (733, 31010), (741, 30974), (743, 30968), (745, 30962), (746, 30956), (761, 30899), (768, 30875), (777, 30830), (893, 30449), (908, 30404), (910, 30395), (926, 30335), (934, 30317),

Gene: Niobe\_39 Start: 30355, Stop: 32220, Start Num: 231

Candidate Starts for Niobe\_39:

(Start: 231 @30355 has 845 MA's), (254, 30403), (348, 30586), (351, 30592), (378, 30652), (388, 30673), (406, 30742), (492, 30958), (542, 31048), (549, 31057), (558, 31072), (576, 31117), (613, 31210), (674, 31348), (700, 31468), (708, 31498), (720, 31555), (731, 31612), (733, 31621), (738, 31645), (759, 31714), (780, 31786), (783, 31795), (820, 31894), (846, 31957), (896, 32116), (901, 32125),

Gene: Nitro\_40 Start: 30212, Stop: 32077, Start Num: 231

Candidate Starts for Nitro\_40:

(Start: 231 @30212 has 845 MA's), (254, 30260), (378, 30509), (406, 30599), (489, 30806), (492, 30815), (540, 30902), (549, 30914), (558, 30929), (595, 31019), (643, 31124), (674, 31205), (700, 31325), (708, 31355), (720, 31412), (733, 31478), (780, 31643), (846, 31814), (851, 31838), (856, 31856), (896, 31973), (901, 31982),

Gene: Niza\_47 Start: 35869, Stop: 34082, Start Num: 231

Candidate Starts for Niza\_47:

(Start: 231 @35869 has 845 MA's), (332, 35656), (337, 35641), (367, 35593), (378, 35563), (388, 35542), (390, 35536), (392, 35527), (425, 35410), (434, 35383), (487, 35290), (492, 35275), (509, 35242), (541, 35191), (543, 35188), (575, 35122), (589, 35092), (598, 35062), (616, 35017), (638, 34978), (700, 34798), (709, 34750), (720, 34711), (733, 34645), (758, 34573), (760, 34564), (786,

34480), (818, 34393), (868, 34267), (871, 34255), (890, 34195), (896, 34171), (899, 34165),

Gene: NoShow\_52 Start: 37810, Stop: 35447, Start Num: 51

Candidate Starts for NoShow\_52:

(36, 37861), (Start: 41 @37840 has 23 MA's), (Start: 51 @37810 has 1 MA's), (Start: 56 @37786 has 1 MA's), (71, 37741), (Start: 74 @37735 has 1 MA's), (108, 37630), (112, 37621), (127, 37576), (159, 37531), (191, 37480), (201, 37465), (Start: 214 @37444 has 4 MA's), (359, 37165), (384, 37099), (418, 36997), (459, 36892), (463, 36874), (469, 36859), (489, 36802), (490, 36799), (497, 36781), (519, 36757), (524, 36751), (565, 36682), (567, 36679), (576, 36670), (627, 36580), (629, 36571), (654, 36511), (659, 36502), (661, 36496), (711, 36283), (712, 36280), (721, 36241), (726, 36208), (741, 36142), (743, 36136), (745, 36130), (746, 36124), (761, 36067), (768, 36043), (849, 35776), (875, 35689), (886, 35641), (893, 35617), (912, 35548),

Gene: Nodigi\_51 Start: 35275, Stop: 32885, Start Num: 41

Candidate Starts for Nodigi\_51:

(14, 35404), (17, 35395), (Start: 41 @35275 has 23 MA's), (85, 35143), (91, 35131), (104, 35086), (127, 35023), (135, 35002), (166, 34969), (201, 34912), (235, 34864), (241, 34849), (Start: 267 @34801 has 137 MA's), (303, 34726), (306, 34720), (308, 34714), (312, 34708), (337, 34639), (352, 34615), (365, 34591), (393, 34516), (397, 34495), (414, 34447), (418, 34435), (434, 34390), (488, 34234), (490, 34228), (576, 34099), (603, 34051), (608, 34039), (640, 33967), (660, 33925), (690, 33814), (698, 33772), (703, 33748), (705, 33739), (714, 33697), (733, 33604), (741, 33568), (743, 33562), (745, 33556), (746, 33550), (761, 33493), (768, 33469), (773, 33451), (797, 33358), (825, 33289), (836, 33250), (847, 33211), (851, 33190), (861, 33157), (868, 33139), (893, 33043), (901, 33019), (934, 32911),

Gene: Noella\_44 Start: 31598, Stop: 29760, Start Num: 231

Candidate Starts for Noella\_44:

(Start: 231 @31598 has 845 MA's), (256, 31547), (329, 31394), (367, 31322), (378, 31292), (390, 31265), (392, 31256), (434, 31112), (487, 31016), (511, 30968), (549, 30908), (590, 30821), (603, 30776), (613, 30755), (653, 30683), (673, 30641), (683, 30599), (700, 30518), (709, 30470), (720, 30431), (726, 30395), (733, 30365), (739, 30335), (761, 30254), (772, 30215), (780, 30191), (786, 30173), (787, 30170), (834, 30044), (851, 29984), (880, 29897), (896, 29849), (902, 29837), (906, 29828),

Gene: Noelle\_45 Start: 31832, Stop: 30003, Start Num: 231

Candidate Starts for Noelle\_45:

(Start: 231 @31832 has 845 MA's), (246, 31796), (329, 31628), (350, 31589), (360, 31571), (363, 31568), (390, 31499), (392, 31490), (426, 31370), (434, 31346), (487, 31253), (511, 31205), (549, 31145), (570, 31100), (573, 31094), (603, 31013), (613, 30992), (638, 30947), (697, 30782), (700, 30761), (722, 30665), (726, 30638), (727, 30635), (733, 30608), (742, 30569), (761, 30497), (766, 30482), (772, 30458), (777, 30440), (780, 30434), (782, 30428), (851, 30227), (896, 30092), (902, 30080), (906, 30071),

Gene: Norbert\_43 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for Norbert\_43:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: NorthStar\_44 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for NorthStar\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Norz\_45 Start: 34915, Stop: 33089, Start Num: 231

Candidate Starts for Norz\_45:

(Start: 231 @34915 has 845 MA's), (332, 34702), (337, 34687), (367, 34639), (378, 34609), (388, 34588), (390, 34582), (392, 34573), (425, 34456), (434, 34429), (487, 34336), (492, 34321), (541, 34237), (543, 34234), (575, 34168), (589, 34138), (598, 34108), (616, 34063), (638, 34024), (700, 33844), (708, 33814), (709, 33796), (720, 33757), (733, 33691), (760, 33610), (761, 33607), (786, 33526), (846, 33376), (847, 33373), (855, 33337), (868, 33313), (870, 33304), (874, 33292), (896, 33217), (906, 33196),

Gene: NotAPhaseMom\_45 Start: 31574, Stop: 29748, Start Num: 231

Candidate Starts for NotAPhaseMom\_45:

(Start: 231 @31574 has 845 MA's), (240, 31553), (256, 31523), (274, 31493), (350, 31331), (360, 31313), (390, 31241), (392, 31232), (426, 31112), (434, 31088), (487, 30995), (511, 30947), (524, 30926), (549, 30887), (603, 30755), (613, 30734), (638, 30689), (643, 30677), (697, 30524), (700, 30503), (726, 30380), (733, 30350), (742, 30311), (760, 30245), (761, 30242), (766, 30227), (772, 30203), (780, 30179), (851, 29972), (896, 29837), (902, 29825), (906, 29816),

Gene: NothingSpecial\_43 Start: 32022, Stop: 30235, Start Num: 231

Candidate Starts for NothingSpecial\_43:

(Start: 231 @32022 has 845 MA's), (330, 31815), (332, 31809), (350, 31779), (367, 31746), (369, 31743), (378, 31716), (390, 31689), (392, 31680), (434, 31536), (487, 31443), (509, 31395), (513, 31386), (524, 31371), (562, 31305), (595, 31224), (613, 31176), (700, 30951), (711, 30900), (719, 30867), (733, 30798), (742, 30759), (755, 30738), (760, 30717), (834, 30519), (846, 30483), (851, 30459), (877, 30381), (896, 30324), (902, 30312), (906, 30303),

Gene: Nozo\_58 Start: 54443, Stop: 52626, Start Num: 223

Candidate Starts for Nozo\_58:

(123, 54626), (Start: 223 @54443 has 42 MA's), (240, 54413), (332, 54233), (379, 54128), (395, 54080), (397, 54068), (407, 54038), (412, 54032), (431, 53969), (433, 53963), (454, 53912), (466, 53876), (486, 53828), (542, 53723), (589, 53627), (610, 53576), (681, 53432), (689, 53393), (696, 53363), (701, 53336), (704, 53324), (725, 53228), (727, 53222), (730, 53213), (732, 53201), (754, 53129), (760, 53099), (766, 53081), (768, 53072), (790, 53003), (794, 52991), (800, 52970), (834, 52901), (841, 52886), (847, 52862), (851, 52841), (856, 52823), (858, 52817), (873, 52784), (875, 52778), (878, 52760), (881, 52748), (886, 52736), (890, 52724), (904, 52682), (912, 52652),

Gene: Nucci\_37 Start: 28513, Stop: 26612, Start Num: 267

Candidate Starts for Nucci\_37:

(Start: 267 @28513 has 137 MA's), (325, 28390), (332, 28375), (338, 28360), (359, 28327), (365, 28318), (370, 28303), (384, 28267), (391, 28252), (397, 28225), (400, 28219), (417, 28168), (430, 28129), (453, 28069), (490, 27943), (494, 27934), (498, 27922), (516, 27892), (527, 27871), (551, 27835), (620, 27688), (634, 27643), (677, 27532), (718, 27337), (726, 27295), (733, 27265), (743, 27223), (751, 27193), (758, 27172), (768, 27136), (847, 26878), (852, 26854), (862, 26821), (863, 26815), (893, 26710),

Gene: Numberten\_60 Start: 54256, Stop: 52397, Start Num: 196

Candidate Starts for Numberten\_60:

(Start: 175 @54280 has 1 MA's), (Start: 196 @54256 has 254 MA's), (Start: 221 @54232 has 2 MA's), (Start: 227 @54226 has 3 MA's), (246, 54184), (259, 54163), (307, 54049), (311, 54043), (326, 54013), (355, 53953), (366, 53932), (386, 53878), (391, 53866), (396, 53848), (398, 53836), (431, 53731), (454, 53674), (466, 53638), (471, 53626), (482, 53602), (486, 53590), (491, 53572), (499, 53554), (509, 53536), (533, 53497), (540, 53488), (542, 53485), (544, 53482), (695, 53125), (701, 53092), (706, 53071), (727, 52978), (730, 52969), (744, 52906), (760, 52870), (761, 52867), (766, 52852), (790, 52774), (794, 52762), (800, 52741), (817, 52702), (851, 52612), (856, 52594), (858, 52588), (868, 52573), (875, 52549), (877, 52534), (878, 52531), (881, 52519), (890, 52495), (907, 52447), (912, 52423),

Gene: Nyala\_59 Start: 54031, Stop: 52172, Start Num: 196

Candidate Starts for Nyala\_59:

(Start: 175 @54055 has 1 MA's), (Start: 196 @54031 has 254 MA's), (Start: 221 @54007 has 2 MA's), (Start: 227 @54001 has 3 MA's), (246, 53959), (259, 53938), (307, 53824), (311, 53818), (326, 53788), (355, 53728), (366, 53707), (386, 53653), (391, 53641), (396, 53623), (398, 53611), (431, 53506), (454, 53449), (466, 53413), (471, 53401), (483, 53374), (491, 53347), (499, 53329), (509, 53311), (533, 53272), (540, 53263), (542, 53260), (695, 52900), (701, 52867), (706, 52846), (727, 52753), (730, 52744), (744, 52681), (760, 52645), (761, 52642), (766, 52627), (790, 52549), (794, 52537), (800, 52516), (817, 52477), (851, 52387), (856, 52369), (858, 52363), (868, 52348), (875, 52324), (877, 52309), (878, 52306), (881, 52294), (890, 52270), (907, 52222), (912, 52198),

Gene: Nyxis\_45 Start: 31460, Stop: 29634, Start Num: 231

Candidate Starts for Nyxis\_45:

(Start: 231 @31460 has 845 MA's), (240, 31439), (256, 31409), (274, 31379), (350, 31217), (360, 31199), (390, 31127), (392, 31118), (426, 30998), (434, 30974), (487, 30881), (511, 30833), (524, 30812), (549, 30773), (603, 30641), (613, 30620), (638, 30575), (643, 30563), (697, 30410), (700, 30389), (726, 30266), (733, 30236), (742, 30197), (760, 30131), (761, 30128), (766, 30113), (772, 30089), (780, 30065), (851, 29858), (896, 29723), (902, 29711), (906, 29702),

Gene: OKCentral2016\_43 Start: 30827, Stop: 28992, Start Num: 231

Candidate Starts for OKCentral2016\_43:

(Start: 231 @30827 has 845 MA's), (256, 30776), (292, 30710), (329, 30623), (337, 30599), (363, 30563), (367, 30551), (390, 30494), (392, 30485), (413, 30401), (426, 30365), (430, 30353), (433, 30344), (434, 30341), (487, 30248), (511, 30200), (549, 30140), (562, 30113), (573, 30089), (602, 30011), (603, 30008), (613, 29987), (616, 29981), (653, 29915), (673, 29873), (700, 29750), (709, 29702), (726, 29627), (733, 29597), (742, 29558), (761, 29486), (772, 29447), (780, 29423), (782, 29417), (786, 29405), (826, 29297), (851, 29216), (858, 29192), (880, 29129), (896, 29081), (902, 29069), (906, 29060),

Gene: OKaNui\_45 Start: 31620, Stop: 29794, Start Num: 231

Candidate Starts for OKaNui\_45:

(Start: 231 @31620 has 845 MA's), (240, 31599), (256, 31569), (274, 31539), (350, 31377), (360, 31359), (390, 31287), (392, 31278), (434, 31134), (487, 31041), (511, 30993), (524, 30972), (549, 30933), (603, 30801), (613, 30780), (638, 30735), (643, 30723), (697, 30570), (700, 30549), (726, 30426), (733, 30396), (742, 30357), (760, 30291), (761, 30288), (766, 30273), (772, 30249), (780, 30225), (851, 30018), (896, 29883), (902, 29871), (906, 29862),

Gene: OSmaximus\_62 Start: 54777, Stop: 52918, Start Num: 196

Candidate Starts for OSmaximus\_62:

(Start: 175 @54801 has 1 MA's), (Start: 196 @54777 has 254 MA's), (Start: 221 @54753 has 2 MA's), (Start: 227 @54747 has 3 MA's), (246, 54705), (259, 54684), (307, 54570), (311, 54564), (326, 54534), (355, 54474), (366, 54453), (386, 54399), (391, 54387), (396, 54369), (398, 54357), (431, 54252), (454, 54195), (466, 54159), (471, 54147), (482, 54123), (486, 54111), (491, 54093), (499,



54075), (509, 54057), (533, 54018), (540, 54009), (542, 54006), (544, 54003), (695, 53646), (701, 53613), (706, 53592), (727, 53499), (730, 53490), (744, 53427), (760, 53391), (761, 53388), (766, 53373), (790, 53295), (794, 53283), (800, 53262), (817, 53223), (851, 53133), (856, 53115), (858, 53109), (868, 53094), (875, 53070), (877, 53055), (878, 53052), (881, 53040), (890, 53016), (907, 52968), (912, 52944),

Gene: Oats\_38 Start: 28632, Stop: 26767, Start Num: 267

Candidate Starts for Oats\_38:

(Start: 214 @28719 has 4 MA's), (Start: 267 @28632 has 137 MA's), (Start: 275 @28623 has 5 MA's), (321, 28518), (325, 28509), (338, 28479), (340, 28476), (395, 28356), (397, 28344), (400, 28338), (436, 28233), (445, 28206), (490, 28065), (492, 28059), (494, 28056), (498, 28044), (513, 28017), (516, 28014), (525, 27999), (527, 27993), (530, 27987), (553, 27954), (634, 27765), (726, 27450), (729, 27441), (730, 27438), (733, 27420), (743, 27378), (745, 27372), (747, 27363), (751, 27348), (768, 27291), (815, 27132), (827, 27102), (828, 27093), (847, 27033), (852, 27009), (863, 26970), (875, 26937), (876, 26925), (893, 26865),

Gene: Obama12\_46 Start: 31994, Stop: 30168, Start Num: 231

Candidate Starts for Obama12\_46:

(Start: 231 @31994 has 845 MA's), (254, 31946), (329, 31790), (367, 31718), (390, 31661), (392, 31652), (426, 31532), (434, 31508), (487, 31415), (511, 31367), (524, 31346), (549, 31307), (570, 31262), (603, 31175), (607, 31166), (613, 31154), (638, 31109), (643, 31097), (697, 30944), (700, 30923), (726, 30800), (733, 30770), (742, 30731), (760, 30665), (761, 30662), (772, 30623), (780, 30599), (851, 30392), (896, 30257), (902, 30245), (906, 30236),

Gene: ObiToo\_46 Start: 30468, Stop: 32333, Start Num: 231

Candidate Starts for ObiToo\_46:

(124, 30285), (Start: 173 @30390 has 1 MA's), (Start: 231 @30468 has 845 MA's), (254, 30516), (332, 30681), (348, 30699), (378, 30765), (388, 30786), (489, 31062), (492, 31071), (549, 31170), (558, 31185), (595, 31275), (613, 31323), (643, 31380), (674, 31461), (700, 31581), (720, 31668), (731, 31725), (733, 31734), (820, 32007), (896, 32229),

Gene: Obutu\_59 Start: 54042, Stop: 52225, Start Num: 223

Candidate Starts for Obutu\_59:

(123, 54225), (Start: 223 @54042 has 42 MA's), (240, 54012), (332, 53832), (395, 53679), (397, 53667), (407, 53637), (412, 53631), (431, 53568), (433, 53562), (454, 53511), (466, 53475), (486, 53427), (542, 53322), (589, 53226), (610, 53175), (681, 53031), (689, 52992), (696, 52962), (701, 52935), (704, 52923), (725, 52827), (727, 52821), (730, 52812), (732, 52800), (754, 52728), (760, 52698), (766, 52680), (768, 52671), (790, 52602), (794, 52590), (800, 52569), (834, 52500), (841, 52485), (847, 52461), (858, 52416), (875, 52377), (878, 52359), (881, 52347), (886, 52335), (890, 52323), (904, 52281), (912, 52251),

Gene: Odin\_44 Start: 30188, Stop: 28356, Start Num: 231

Candidate Starts for Odin\_44:

(Start: 231 @30188 has 845 MA's), (329, 29984), (334, 29966), (369, 29906), (376, 29885), (378, 29879), (382, 29867), (390, 29852), (396, 29828), (434, 29699), (475, 29639), (483, 29621), (487, 29606), (513, 29549), (562, 29468), (583, 29420), (613, 29339), (700, 29114), (720, 29027), (726, 28991), (733, 28961), (742, 28922), (755, 28901), (760, 28880), (766, 28862), (796, 28763), (806, 28736), (823, 28700), (834, 28682), (846, 28646), (851, 28622), (896, 28487), (902, 28475), (906, 28466), (907, 28463), (917, 28418), (932, 28388),

Gene: Ohfah\_46 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Ohfah\_46:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Ohno789\_45 Start: 35178, Stop: 33352, Start Num: 231

Candidate Starts for Ohno789\_45:

(Start: 231 @35178 has 845 MA's), (332, 34965), (367, 34902), (378, 34872), (388, 34851), (390, 34845), (392, 34836), (425, 34719), (434, 34692), (487, 34599), (492, 34584), (541, 34500), (543, 34497), (575, 34431), (598, 34371), (616, 34326), (638, 34287), (700, 34107), (709, 34059), (720, 34020), (733, 33954), (742, 33915), (755, 33894), (760, 33873), (766, 33855), (786, 33789), (846, 33639), (847, 33636), (855, 33600), (868, 33576), (870, 33567), (874, 33555), (896, 33480), (906, 33459),

Gene: Olak\_61 Start: 54034, Stop: 52175, Start Num: 196

Candidate Starts for Olak\_61:

(Start: 175 @54058 has 1 MA's), (Start: 196 @54034 has 254 MA's), (Start: 221 @54010 has 2 MA's), (Start: 227 @54004 has 3 MA's), (246, 53962), (259, 53941), (307, 53827), (311, 53821), (326, 53791), (355, 53731), (366, 53710), (386, 53656), (391, 53644), (396, 53626), (398, 53614), (431, 53509), (454, 53452), (466, 53416), (471, 53404), (483, 53377), (491, 53350), (499, 53332), (509, 53314), (533, 53275), (540, 53266), (542, 53263), (668, 53005), (695, 52903), (701, 52870), (706, 52849), (727, 52756), (730, 52747), (744, 52684), (760, 52648), (761, 52645), (766, 52630), (790, 52552), (794, 52540), (800, 52519), (817, 52480), (851, 52390), (856, 52372), (858, 52366), (868, 52351), (875, 52327), (877, 52312), (878, 52309), (881, 52297), (890, 52273), (907, 52225), (912, 52201),

Gene: OlanP\_47 Start: 31923, Stop: 30109, Start Num: 231

Candidate Starts for OlanP\_47:

(Start: 231 @31923 has 845 MA's), (248, 31884), (256, 31872), (329, 31719), (333, 31704), (367, 31647), (390, 31590), (392, 31581), (403, 31539), (415, 31488), (434, 31437), (487, 31344), (509, 31296), (524, 31272), (549, 31233), (562, 31206), (575, 31176), (610, 31083), (616, 31071), (641, 31023), (643, 31020), (652, 31008), (700, 30852), (711, 30801), (719, 30768), (720, 30765), (733, 30699), (742, 30660), (761, 30588), (772, 30549), (780, 30525), (786, 30507), (796, 30474), (834, 30393), (851, 30333), (856, 30315), (877, 30255), (880, 30246), (896, 30198), (902, 30186), (906, 30177),

Gene: OldNelly\_39 Start: 28936, Stop: 27071, Start Num: 267

Candidate Starts for OldNelly\_39:

(Start: 214 @29023 has 4 MA's), (Start: 267 @28936 has 137 MA's), (Start: 275 @28927 has 5 MA's), (321, 28822), (325, 28813), (338, 28783), (340, 28780), (395, 28660), (397, 28648), (400, 28642), (436, 28537), (445, 28510), (490, 28369), (492, 28363), (494, 28360), (498, 28348), (513, 28321), (516, 28318), (525, 28303), (527, 28297), (530, 28291), (553, 28258), (612, 28129), (634, 28069), (726, 27754), (729, 27745), (730, 27742), (733, 27724), (743, 27682), (745, 27676), (747, 27667), (751, 27652), (768, 27595), (815, 27436), (827, 27406), (828, 27397), (847, 27337), (852, 27313), (863, 27274), (875, 27241), (876, 27229), (893, 27169),

Gene: Oline\_61 Start: 54135, Stop: 52276, Start Num: 196

Candidate Starts for Oline\_61:

(Start: 175 @54159 has 1 MA's), (Start: 196 @54135 has 254 MA's), (Start: 221 @54111 has 2 MA's), (Start: 227 @54105 has 3 MA's), (246, 54063), (259, 54042), (307, 53928), (311, 53922), (326, 53892), (355, 53832), (366, 53811), (386, 53757), (391, 53745), (396, 53727), (398, 53715), (431, 53610), (454, 53553), (466, 53517), (471, 53505), (482, 53481), (486, 53469), (491, 53451), (499,

53433), (509, 53415), (533, 53376), (540, 53367), (542, 53364), (544, 53361), (695, 53004), (701, 52971), (706, 52950), (727, 52857), (730, 52848), (744, 52785), (760, 52749), (761, 52746), (766, 52731), (790, 52653), (794, 52641), (800, 52620), (817, 52581), (851, 52491), (856, 52473), (858, 52467), (868, 52452), (875, 52428), (877, 52413), (878, 52410), (881, 52398), (890, 52374), (907, 52326), (912, 52302), (915, 52287),

Gene: Olive\_60 Start: 54247, Stop: 52388, Start Num: 196

Candidate Starts for Olive\_60:

(Start: 175 @54271 has 1 MA's), (Start: 196 @54247 has 254 MA's), (Start: 221 @54223 has 2 MA's), (Start: 227 @54217 has 3 MA's), (246, 54175), (259, 54154), (307, 54040), (311, 54034), (326, 54004), (355, 53944), (366, 53923), (386, 53869), (391, 53857), (396, 53839), (398, 53827), (431, 53722), (454, 53665), (466, 53629), (471, 53617), (482, 53593), (486, 53581), (491, 53563), (499, 53545), (509, 53527), (533, 53488), (540, 53479), (542, 53476), (544, 53473), (695, 53116), (701, 53083), (706, 53062), (727, 52969), (730, 52960), (744, 52897), (760, 52861), (761, 52858), (766, 52843), (790, 52765), (794, 52753), (800, 52732), (817, 52693), (851, 52603), (856, 52585), (858, 52579), (868, 52564), (875, 52540), (877, 52525), (878, 52522), (881, 52510), (890, 52486), (907, 52438), (912, 52414),

Gene: OliverWalter\_59 Start: 54066, Stop: 52207, Start Num: 196

Candidate Starts for OliverWalter\_59:

(Start: 175 @54090 has 1 MA's), (Start: 196 @54066 has 254 MA's), (Start: 221 @54042 has 2 MA's), (Start: 227 @54036 has 3 MA's), (246, 53994), (259, 53973), (307, 53859), (311, 53853), (326, 53823), (355, 53763), (366, 53742), (386, 53688), (391, 53676), (396, 53658), (398, 53646), (431, 53541), (454, 53484), (466, 53448), (471, 53436), (483, 53409), (486, 53400), (499, 53364), (533, 53307), (540, 53298), (542, 53295), (544, 53292), (695, 52935), (701, 52902), (706, 52881), (727, 52788), (730, 52779), (744, 52716), (760, 52680), (761, 52677), (766, 52662), (790, 52584), (794, 52572), (800, 52551), (817, 52512), (851, 52422), (856, 52404), (858, 52398), (868, 52383), (875, 52359), (877, 52344), (878, 52341), (881, 52329), (890, 52305), (907, 52257), (912, 52233),

Gene: Ollie\_48 Start: 31724, Stop: 29910, Start Num: 231

Candidate Starts for Ollie\_48:

(Start: 231 @31724 has 845 MA's), (248, 31685), (256, 31673), (329, 31520), (333, 31505), (367, 31448), (390, 31391), (392, 31382), (403, 31340), (415, 31289), (434, 31238), (487, 31145), (509, 31097), (513, 31088), (524, 31073), (549, 31034), (562, 31007), (575, 30977), (610, 30884), (616, 30872), (641, 30824), (652, 30809), (700, 30653), (709, 30605), (720, 30566), (733, 30500), (742, 30461), (761, 30389), (772, 30350), (780, 30326), (786, 30308), (796, 30275), (806, 30248), (834, 30194), (851, 30134), (877, 30056), (896, 29999), (902, 29987), (906, 29978),

Gene: Olliecat\_40 Start: 28106, Stop: 29989, Start Num: 224

Candidate Starts for Olliecat\_40:

(224, 28106), (240, 28127), (Start: 266 @28175 has 4 MA's), (279, 28196), (329, 28313), (367, 28376), (378, 28406), (388, 28427), (392, 28442), (395, 28454), (422, 28535), (427, 28550), (500, 28706), (518, 28736), (549, 28787), (561, 28808), (563, 28817), (601, 28916), (700, 29204), (702, 29210), (716, 29270), (720, 29291), (724, 29321), (727, 29330), (733, 29357), (759, 29450), (766, 29474), (786, 29540), (787, 29543), (816, 29621), (818, 29627), (841, 29672), (858, 29741), (873, 29774), (875, 29780), (876, 29792), (877, 29795), (896, 29852), (903, 29867), (906, 29873), (935, 29954),

Gene: Omniscient\_61 Start: 54894, Stop: 53035, Start Num: 196

Candidate Starts for Omniscient\_61:

(Start: 175 @54918 has 1 MA's), (Start: 196 @54894 has 254 MA's), (Start: 221 @54870 has 2 MA's), (Start: 227 @54864 has 3 MA's), (246, 54822), (259, 54801), (307, 54687), (311, 54681), (326, 54651), (355, 54591), (366, 54570), (386, 54516), (391, 54504), (396, 54486), (398, 54474), (431,

54369), (454, 54312), (466, 54276), (471, 54264), (482, 54240), (486, 54228), (491, 54210), (499, 54192), (509, 54174), (533, 54135), (540, 54126), (542, 54123), (544, 54120), (695, 53763), (701, 53730), (706, 53709), (727, 53616), (730, 53607), (744, 53544), (760, 53508), (761, 53505), (766, 53490), (790, 53412), (794, 53400), (800, 53379), (817, 53340), (851, 53250), (856, 53232), (858, 53226), (868, 53211), (875, 53187), (877, 53172), (878, 53169), (881, 53157), (890, 53133), (907, 53085), (912, 53061),

Gene: Oofda\_48 Start: 29834, Stop: 28044, Start Num: 231

Candidate Starts for Oofda\_48:

(Start: 231 @29834 has 845 MA's), (367, 29555), (369, 29552), (378, 29525), (390, 29498), (403, 29447), (434, 29345), (487, 29252), (502, 29213), (513, 29195), (603, 29006), (638, 28940), (674, 28880), (683, 28841), (695, 28790), (697, 28781), (700, 28760), (711, 28709), (719, 28676), (724, 28643), (726, 28637), (733, 28607), (755, 28547), (760, 28526), (772, 28484), (781, 28457), (818, 28355), (846, 28292), (847, 28289), (896, 28133), (902, 28121), (907, 28109),

Gene: Oogway\_42 Start: 33561, Stop: 31732, Start Num: 231

Candidate Starts for Oogway\_42:

(Start: 231 @33561 has 845 MA's), (332, 33348), (337, 33333), (378, 33255), (388, 33234), (390, 33228), (392, 33219), (425, 33102), (434, 33075), (487, 32982), (492, 32967), (509, 32934), (541, 32883), (543, 32880), (575, 32814), (589, 32784), (598, 32754), (616, 32709), (638, 32670), (700, 32490), (709, 32442), (722, 32394), (730, 32355), (733, 32337), (742, 32298), (755, 32277), (760, 32256), (765, 32241), (803, 32118), (871, 31947), (876, 31923), (893, 31875), (896, 31863), (906, 31842), (908, 31836), (921, 31788), (928, 31773),

Gene: Oosterbaan\_60 Start: 54313, Stop: 52454, Start Num: 196

Candidate Starts for Oosterbaan\_60:

(Start: 175 @54337 has 1 MA's), (Start: 196 @54313 has 254 MA's), (Start: 221 @54289 has 2 MA's), (Start: 227 @54283 has 3 MA's), (246, 54241), (259, 54220), (307, 54106), (311, 54100), (326, 54070), (355, 54010), (366, 53989), (386, 53935), (391, 53923), (396, 53905), (398, 53893), (431, 53788), (454, 53731), (466, 53695), (471, 53683), (483, 53656), (491, 53629), (499, 53611), (509, 53593), (533, 53554), (540, 53545), (542, 53542), (668, 53284), (695, 53182), (701, 53149), (706, 53128), (727, 53035), (730, 53026), (744, 52963), (760, 52927), (761, 52924), (766, 52909), (790, 52831), (794, 52819), (800, 52798), (817, 52759), (851, 52669), (856, 52651), (858, 52645), (868, 52630), (875, 52606), (877, 52591), (878, 52588), (881, 52576), (890, 52552), (907, 52504), (912, 52480),

Gene: Opia\_57 Start: 52500, Stop: 50671, Start Num: 188

Candidate Starts for Opia\_57:

(Start: 188 @52500 has 31 MA's), (Start: 227 @52473 has 3 MA's), (242, 52443), (246, 52431), (264, 52404), (Start: 266 @52401 has 4 MA's), (274, 52392), (291, 52374), (330, 52278), (355, 52227), (367, 52203), (375, 52179), (417, 52041), (427, 52017), (431, 52005), (454, 51948), (466, 51912), (471, 51900), (482, 51876), (522, 51792), (540, 51762), (542, 51759), (561, 51729), (624, 51585), (652, 51519), (678, 51480), (681, 51468), (684, 51447), (689, 51429), (701, 51372), (717, 51315), (722, 51288), (727, 51258), (730, 51249), (744, 51183), (758, 51156), (760, 51147), (766, 51129), (772, 51105), (790, 51051), (794, 51039), (800, 51018), (834, 50949), (851, 50889), (856, 50871), (871, 50838), (875, 50826), (877, 50811), (878, 50808), (881, 50796), (890, 50772), (891, 50769), (907, 50721), (908, 50718), (912, 50697), (917, 50676),

Gene: Orange\_44 Start: 30325, Stop: 28538, Start Num: 231

Candidate Starts for Orange\_44:

(Start: 231 @30325 has 845 MA's), (329, 30121), (367, 30049), (378, 30019), (390, 29992), (489, 29740), (513, 29689), (562, 29608), (582, 29563), (613, 29479), (643, 29422), (672, 29380), (683, 29335), (700, 29254), (711, 29203), (720, 29167), (733, 29101), (755, 29041), (758, 29029), (789,

28927), (796, 28903), (802, 28885), (834, 28822), (844, 28795), (846, 28786), (851, 28762), (896, 28627), (902, 28615), (906, 28606),

Gene: OrangeOswald\_58 Start: 53684, Stop: 51867, Start Num: 223

Candidate Starts for OrangeOswald\_58:

(123, 53867), (Start: 223 @53684 has 42 MA's), (240, 53654), (332, 53474), (379, 53369), (395, 53321), (397, 53309), (407, 53279), (412, 53273), (431, 53210), (433, 53204), (454, 53153), (466, 53117), (486, 53069), (542, 52964), (589, 52868), (610, 52817), (681, 52673), (689, 52634), (696, 52604), (701, 52577), (704, 52565), (725, 52469), (727, 52463), (730, 52454), (732, 52442), (754, 52370), (760, 52340), (766, 52322), (768, 52313), (790, 52244), (794, 52232), (800, 52211), (834, 52142), (841, 52127), (847, 52103), (851, 52082), (856, 52064), (858, 52058), (873, 52025), (875, 52019), (878, 52001), (881, 51989), (886, 51977), (890, 51965), (904, 51923), (912, 51893),

Gene: Orfeu\_60 Start: 54570, Stop: 52711, Start Num: 196

Candidate Starts for Orfeu\_60:

(Start: 175 @54594 has 1 MA's), (Start: 196 @54570 has 254 MA's), (Start: 221 @54546 has 2 MA's), (Start: 227 @54540 has 3 MA's), (246, 54498), (259, 54477), (307, 54363), (311, 54357), (326, 54327), (355, 54267), (366, 54246), (386, 54192), (391, 54180), (396, 54162), (398, 54150), (431, 54045), (454, 53988), (466, 53952), (471, 53940), (483, 53913), (491, 53886), (499, 53868), (509, 53850), (533, 53811), (540, 53802), (542, 53799), (544, 53796), (695, 53439), (701, 53406), (706, 53385), (727, 53292), (730, 53283), (744, 53220), (760, 53184), (761, 53181), (766, 53166), (790, 53088), (794, 53076), (800, 53055), (817, 53016), (851, 52926), (856, 52908), (858, 52902), (868, 52887), (875, 52863), (877, 52848), (878, 52845), (881, 52833), (890, 52809), (907, 52761), (912, 52737),

Gene: Orion\_62 Start: 53975, Stop: 52116, Start Num: 196

Candidate Starts for Orion\_62:

(Start: 175 @53999 has 1 MA's), (Start: 196 @53975 has 254 MA's), (Start: 221 @53951 has 2 MA's), (Start: 227 @53945 has 3 MA's), (246, 53903), (259, 53882), (307, 53768), (311, 53762), (326, 53732), (355, 53672), (366, 53651), (386, 53597), (391, 53585), (396, 53567), (398, 53555), (431, 53450), (454, 53393), (466, 53357), (471, 53345), (483, 53318), (491, 53291), (499, 53273), (509, 53255), (533, 53216), (540, 53207), (542, 53204), (668, 52946), (695, 52844), (701, 52811), (706, 52790), (727, 52697), (730, 52688), (744, 52625), (760, 52589), (761, 52586), (766, 52571), (790, 52493), (794, 52481), (800, 52460), (817, 52421), (851, 52331), (856, 52313), (858, 52307), (868, 52292), (875, 52268), (877, 52253), (878, 52250), (881, 52238), (890, 52214), (907, 52166), (912, 52142),

Gene: Orla\_51 Start: 35183, Stop: 32787, Start Num: 41

Candidate Starts for Orla\_51:

(14, 35312), (17, 35303), (Start: 41 @35183 has 23 MA's), (85, 35051), (91, 35039), (104, 34994), (127, 34931), (135, 34910), (166, 34877), (201, 34820), (235, 34772), (241, 34757), (Start: 267 @34709 has 137 MA's), (303, 34634), (306, 34628), (308, 34622), (312, 34616), (337, 34547), (352, 34523), (365, 34499), (393, 34424), (397, 34403), (414, 34355), (418, 34343), (434, 34298), (488, 34142), (490, 34136), (576, 34007), (603, 33959), (608, 33947), (640, 33875), (660, 33833), (690, 33722), (698, 33680), (703, 33656), (705, 33647), (714, 33605), (733, 33512), (741, 33476), (743, 33470), (745, 33464), (746, 33458), (761, 33401), (768, 33377), (773, 33359), (797, 33266), (825, 33197), (836, 33158), (847, 33119), (851, 33098), (861, 33065), (868, 33047), (893, 32951), (901, 32927), (911, 32888), (934, 32819),

Gene: Orwigg\_61 Start: 53955, Stop: 52096, Start Num: 196

Candidate Starts for Orwigg\_61:

(Start: 175 @53979 has 1 MA's), (Start: 196 @53955 has 254 MA's), (Start: 221 @53931 has 2 MA's), (Start: 227 @53925 has 3 MA's), (246, 53883), (259, 53862), (307, 53748), (311, 53742), (326,

53712), (355, 53652), (366, 53631), (386, 53577), (391, 53565), (396, 53547), (398, 53535), (431, 53430), (454, 53373), (466, 53337), (471, 53325), (482, 53301), (486, 53289), (491, 53271), (499, 53253), (509, 53235), (533, 53196), (540, 53187), (542, 53184), (544, 53181), (668, 52926), (695, 52824), (701, 52791), (706, 52770), (727, 52677), (730, 52668), (744, 52605), (760, 52569), (761, 52566), (766, 52551), (790, 52473), (794, 52461), (800, 52440), (817, 52401), (851, 52311), (856, 52293), (858, 52287), (868, 52272), (875, 52248), (877, 52233), (878, 52230), (881, 52218), (890, 52194), (907, 52146), (912, 52122),

Gene: Oxtober96\_39 Start: 28935, Stop: 27070, Start Num: 267

Candidate Starts for Oxtober96\_39:

(Start: 214 @29022 has 4 MA's), (Start: 216 @29019 has 7 MA's), (256, 28950), (Start: 267 @28935 has 137 MA's), (Start: 275 @28926 has 5 MA's), (321, 28821), (325, 28812), (338, 28782), (340, 28779), (395, 28659), (397, 28647), (400, 28641), (436, 28536), (445, 28509), (490, 28368), (494, 28359), (498, 28347), (513, 28320), (516, 28317), (525, 28302), (527, 28296), (530, 28290), (553, 28257), (634, 28068), (726, 27753), (729, 27744), (730, 27741), (733, 27723), (743, 27681), (745, 27675), (751, 27651), (768, 27594), (815, 27435), (827, 27405), (828, 27396), (847, 27336), (852, 27312), (863, 27273), (875, 27240), (876, 27228), (893, 27168),

Gene: P28Green\_49 Start: 31855, Stop: 30041, Start Num: 231

Candidate Starts for P28Green\_49:

(Start: 231 @31855 has 845 MA's), (248, 31816), (256, 31804), (329, 31651), (333, 31636), (367, 31579), (390, 31522), (392, 31513), (403, 31471), (415, 31420), (434, 31369), (487, 31276), (509, 31228), (513, 31219), (524, 31204), (549, 31165), (562, 31138), (575, 31108), (610, 31015), (641, 30955), (652, 30940), (700, 30784), (720, 30697), (733, 30631), (742, 30592), (761, 30520), (772, 30481), (780, 30457), (786, 30439), (796, 30406), (806, 30379), (834, 30325), (851, 30265), (877, 30187), (896, 30130), (902, 30118), (906, 30109),

Gene: PG1\_61 Start: 54546, Stop: 52687, Start Num: 196

Candidate Starts for PG1\_61:

(Start: 175 @54570 has 1 MA's), (Start: 196 @54546 has 254 MA's), (Start: 221 @54522 has 2 MA's), (Start: 227 @54516 has 3 MA's), (246, 54474), (259, 54453), (307, 54339), (311, 54333), (326, 54303), (355, 54243), (366, 54222), (386, 54168), (391, 54156), (396, 54138), (398, 54126), (431, 54021), (454, 53964), (466, 53928), (471, 53916), (483, 53889), (491, 53862), (499, 53844), (509, 53826), (533, 53787), (540, 53778), (542, 53775), (668, 53517), (695, 53415), (701, 53382), (706, 53361), (727, 53268), (730, 53259), (744, 53196), (760, 53160), (761, 53157), (766, 53142), (790, 53064), (794, 53052), (800, 53031), (817, 52992), (851, 52902), (856, 52884), (858, 52878), (868, 52863), (875, 52839), (877, 52824), (878, 52821), (881, 52809), (890, 52785), (907, 52737), (912, 52713),

Gene: PGHhamlin\_50 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for PGHhamlin\_50:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: PP\_46 Start: 35109, Stop: 33271, Start Num: 231

Candidate Starts for PP\_46:

(Start: 231 @35109 has 845 MA's), (256, 35058), (329, 34905), (332, 34896), (337, 34881), (363, 34845), (390, 34776), (392, 34767), (395, 34755), (434, 34623), (487, 34527), (511, 34479), (513, 34473), (549, 34419), (613, 34266), (638, 34221), (700, 34029), (708, 33999), (730, 33894), (733,

33876), (734, 33873), (742, 33837), (761, 33765), (766, 33750), (785, 33687), (832, 33561), (851, 33495), (896, 33360), (902, 33348), (906, 33339),

Gene: PSullivan\_44 Start: 33947, Stop: 32121, Start Num: 231

Candidate Starts for PSullivan\_44:

(Start: 231 @33947 has 845 MA's), (332, 33734), (337, 33719), (367, 33671), (378, 33641), (388, 33620), (390, 33614), (392, 33605), (425, 33488), (434, 33461), (487, 33368), (492, 33353), (501, 33332), (541, 33269), (543, 33266), (575, 33200), (589, 33170), (598, 33140), (616, 33095), (638, 33056), (700, 32876), (708, 32846), (709, 32828), (711, 32825), (720, 32789), (733, 32723), (742, 32684), (755, 32663), (760, 32642), (766, 32624), (786, 32558), (846, 32408), (847, 32405), (855, 32369), (870, 32336), (874, 32324), (896, 32249), (906, 32228),

Gene: PacerPaul\_45 Start: 34817, Stop: 32991, Start Num: 231

Candidate Starts for PacerPaul\_45:

(Start: 231 @34817 has 845 MA's), (332, 34604), (337, 34589), (378, 34511), (388, 34490), (390, 34484), (392, 34475), (425, 34358), (434, 34331), (487, 34238), (492, 34223), (509, 34190), (541, 34139), (543, 34136), (575, 34070), (589, 34040), (598, 34010), (616, 33965), (638, 33926), (700, 33746), (708, 33716), (709, 33698), (711, 33695), (720, 33659), (733, 33593), (760, 33512), (761, 33509), (786, 33428), (842, 33293), (846, 33278), (847, 33275), (855, 33239), (868, 33215), (870, 33206), (874, 33194), (880, 33167), (896, 33119), (906, 33098),

Gene: Pacifista\_63 Start: 54030, Stop: 52171, Start Num: 196

Candidate Starts for Pacifista\_63:

(Start: 175 @54054 has 1 MA's), (Start: 196 @54030 has 254 MA's), (Start: 221 @54006 has 2 MA's), (Start: 227 @54000 has 3 MA's), (246, 53958), (259, 53937), (307, 53823), (311, 53817), (326, 53787), (355, 53727), (366, 53706), (386, 53652), (391, 53640), (396, 53622), (398, 53610), (431, 53505), (454, 53448), (466, 53412), (471, 53400), (482, 53376), (486, 53364), (491, 53346), (499, 53328), (509, 53310), (533, 53271), (540, 53262), (542, 53259), (544, 53256), (695, 52899), (701, 52866), (706, 52845), (727, 52752), (730, 52743), (744, 52680), (760, 52644), (761, 52641), (766, 52626), (790, 52548), (794, 52536), (800, 52515), (817, 52476), (851, 52386), (856, 52368), (858, 52362), (868, 52347), (875, 52323), (877, 52308), (878, 52305), (881, 52293), (890, 52269), (907, 52221), (912, 52197),

Gene: PackMan\_44 Start: 31483, Stop: 29690, Start Num: 231

Candidate Starts for PackMan\_44:

(Start: 231 @31483 has 845 MA's), (236, 31474), (256, 31432), (316, 31312), (317, 31309), (334, 31261), (369, 31201), (379, 31171), (384, 31159), (390, 31147), (434, 30994), (487, 30901), (562, 30763), (575, 30733), (643, 30574), (652, 30562), (671, 30535), (697, 30427), (700, 30406), (730, 30271), (733, 30253), (760, 30172), (772, 30130), (796, 30055), (832, 29980), (846, 29938), (877, 29836), (896, 29779), (902, 29767), (906, 29758),

Gene: PainterBoy\_45 Start: 30908, Stop: 29076, Start Num: 231

Candidate Starts for PainterBoy\_45:

(Start: 231 @30908 has 845 MA's), (329, 30704), (330, 30701), (350, 30665), (367, 30632), (369, 30629), (378, 30602), (388, 30581), (390, 30575), (392, 30566), (403, 30524), (426, 30446), (434, 30422), (487, 30329), (575, 30161), (671, 29963), (700, 29834), (722, 29738), (730, 29699), (733, 29681), (758, 29609), (760, 29600), (803, 29462), (844, 29375), (846, 29366), (877, 29264), (896, 29207), (902, 29195), (939, 29090),

Gene: Pajaza\_35 Start: 27722, Stop: 25905, Start Num: 266

Candidate Starts for Pajaza\_35:

(Start: 266 @27722 has 4 MA's), (277, 27707), (397, 27431), (400, 27425), (463, 27290), (469, 27275), (492, 27197), (494, 27194), (498, 27182), (516, 27152), (551, 27095), (620, 26948), (683,

26768), (718, 26630), (729, 26579), (730, 26576), (733, 26558), (734, 26555), (743, 26516), (768, 26429), (775, 26402), (815, 26270), (852, 26147), (862, 26114), (863, 26108), (868, 26099), (893, 26003), (894, 25997),

Gene: Palestino\_44 Start: 31570, Stop: 29741, Start Num: 231

Candidate Starts for Palestino\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (570, 30838), (573, 30832), (603, 30751), (613, 30730), (638, 30685), (697, 30520), (700, 30499), (733, 30346), (741, 30310), (742, 30307), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Panamaxus\_42 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for Panamaxus\_42:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Papafritta\_38 Start: 28640, Stop: 26775, Start Num: 267

Candidate Starts for Papafritta\_38:

(Start: 214 @28727 has 4 MA's), (Start: 216 @28724 has 7 MA's), (Start: 267 @28640 has 137 MA's), (Start: 275 @28631 has 5 MA's), (321, 28526), (325, 28517), (338, 28487), (340, 28484), (395, 28364), (397, 28352), (400, 28346), (436, 28241), (445, 28214), (490, 28073), (492, 28067), (494, 28064), (498, 28052), (513, 28025), (516, 28022), (525, 28007), (527, 28001), (530, 27995), (553, 27962), (612, 27833), (634, 27773), (726, 27458), (729, 27449), (730, 27446), (733, 27428), (743, 27386), (745, 27380), (747, 27371), (751, 27356), (768, 27299), (815, 27140), (827, 27110), (828, 27101), (847, 27041), (852, 27017), (863, 26978), (875, 26945), (876, 26933), (893, 26873),

Gene: Papez\_47 Start: 36969, Stop: 35152, Start Num: 231

Candidate Starts for Papez\_47:

(Start: 231 @36969 has 845 MA's), (332, 36756), (367, 36693), (378, 36663), (388, 36642), (390, 36636), (392, 36627), (415, 36534), (425, 36510), (434, 36483), (487, 36390), (492, 36375), (509, 36342), (541, 36291), (543, 36288), (575, 36222), (598, 36162), (616, 36117), (638, 36078), (700, 35898), (709, 35850), (719, 35814), (720, 35811), (733, 35745), (742, 35706), (755, 35685), (760, 35664), (766, 35646), (786, 35580), (846, 35430), (847, 35427), (855, 35391), (868, 35367), (870, 35358), (874, 35346), (896, 35271), (906, 35250),

Gene: Paphu\_43 Start: 34328, Stop: 32499, Start Num: 231

Candidate Starts for Paphu\_43:

(Start: 231 @34328 has 845 MA's), (332, 34115), (337, 34100), (378, 34022), (388, 34001), (390, 33995), (392, 33986), (425, 33869), (434, 33842), (487, 33749), (492, 33734), (509, 33701), (541, 33650), (543, 33647), (575, 33581), (589, 33551), (598, 33521), (616, 33476), (638, 33437), (700, 33257), (709, 33209), (722, 33161), (730, 33122), (733, 33104), (742, 33065), (755, 33044), (760, 33023), (765, 33008), (803, 32885), (871, 32714), (876, 32690), (893, 32642), (896, 32630), (906, 32609), (908, 32603), (921, 32555), (928, 32540),

Gene: Paraselene\_43 Start: 34680, Stop: 32854, Start Num: 231

Candidate Starts for Paraselene\_43:

(Start: 231 @34680 has 845 MA's), (332, 34467), (337, 34452), (367, 34404), (378, 34374), (388, 34353), (390, 34347), (392, 34338), (425, 34221), (434, 34194), (487, 34101), (492, 34086), (509,



34053), (541, 34002), (543, 33999), (575, 33933), (589, 33903), (598, 33873), (616, 33828), (638, 33789), (700, 33609), (709, 33561), (720, 33522), (733, 33456), (742, 33417), (755, 33396), (760, 33375), (766, 33357), (786, 33291), (846, 33141), (847, 33138), (855, 33102), (868, 33078), (870, 33069), (874, 33057), (896, 32982), (906, 32961),

Gene: Pari\_45 Start: 34105, Stop: 32279, Start Num: 231

Candidate Starts for Pari\_45:

(Start: 231 @34105 has 845 MA's), (332, 33892), (337, 33877), (367, 33829), (378, 33799), (388, 33778), (390, 33772), (392, 33763), (425, 33646), (434, 33619), (487, 33526), (492, 33511), (541, 33427), (543, 33424), (575, 33358), (589, 33328), (598, 33298), (616, 33253), (638, 33214), (700, 33034), (709, 32986), (720, 32947), (733, 32881), (742, 32842), (755, 32821), (760, 32800), (766, 32782), (786, 32716), (846, 32566), (847, 32563), (855, 32527), (870, 32494), (874, 32482), (896, 32407), (906, 32386),

Gene: ParleG\_39 Start: 28937, Stop: 27072, Start Num: 267

Candidate Starts for ParleG\_39:

(Start: 214 @29024 has 4 MA's), (Start: 216 @29021 has 7 MA's), (Start: 267 @28937 has 137 MA's), (Start: 275 @28928 has 5 MA's), (321, 28823), (325, 28814), (338, 28784), (340, 28781), (395, 28661), (397, 28649), (400, 28643), (436, 28538), (445, 28511), (490, 28370), (492, 28364), (494, 28361), (498, 28349), (513, 28322), (516, 28319), (525, 28304), (527, 28298), (530, 28292), (553, 28259), (612, 28130), (634, 28070), (726, 27755), (729, 27746), (730, 27743), (733, 27725), (743, 27683), (745, 27677), (747, 27668), (751, 27653), (768, 27596), (815, 27437), (827, 27407), (828, 27398), (847, 27338), (852, 27314), (863, 27275), (875, 27242), (876, 27230), (893, 27170),

Gene: Parliament\_44 Start: 34876, Stop: 33050, Start Num: 231

Candidate Starts for Parliament\_44:

(Start: 231 @34876 has 845 MA's), (332, 34663), (367, 34600), (378, 34570), (388, 34549), (390, 34543), (392, 34534), (425, 34417), (434, 34390), (487, 34297), (492, 34282), (541, 34198), (543, 34195), (575, 34129), (589, 34099), (598, 34069), (616, 34024), (638, 33985), (700, 33805), (709, 33757), (711, 33754), (720, 33718), (733, 33652), (742, 33613), (755, 33592), (760, 33571), (766, 33553), (786, 33487), (846, 33337), (847, 33334), (855, 33298), (868, 33274), (870, 33265), (874, 33253), (896, 33178), (906, 33157),

Gene: Partridge\_36 Start: 28196, Stop: 26412, Start Num: 231

Candidate Starts for Partridge\_36:

(Start: 231 @28196 has 845 MA's), (316, 28025), (345, 27962), (366, 27923), (384, 27875), (390, 27863), (392, 27854), (434, 27710), (487, 27617), (509, 27569), (549, 27506), (562, 27479), (603, 27374), (616, 27347), (638, 27308), (700, 27128), (709, 27080), (733, 26975), (734, 26972), (755, 26915), (760, 26894), (774, 26846), (798, 26771), (832, 26702), (846, 26660), (847, 26657), (851, 26636), (855, 26621), (877, 26558), (896, 26501), (902, 26489), (913, 26450), (917, 26432),

Gene: PascalRango\_45 Start: 34446, Stop: 32620, Start Num: 231

Candidate Starts for PascalRango\_45:

(Start: 231 @34446 has 845 MA's), (332, 34233), (337, 34218), (367, 34170), (378, 34140), (388, 34119), (390, 34113), (392, 34104), (425, 33987), (434, 33960), (487, 33867), (492, 33852), (541, 33768), (543, 33765), (575, 33699), (589, 33669), (598, 33639), (616, 33594), (638, 33555), (700, 33375), (708, 33345), (709, 33327), (720, 33288), (733, 33222), (760, 33141), (761, 33138), (786, 33057), (846, 32907), (847, 32904), (855, 32868), (868, 32844), (870, 32835), (874, 32823), (896, 32748), (906, 32727),

Gene: Patbob\_100 Start: 78526, Stop: 80328, Start Num: 233

Candidate Starts for Patbob\_100:

(Start: 233 @78526 has 1 MA's), (Start: 266 @78589 has 4 MA's), (274, 78601), (323, 78712), (355, 78766), (391, 78847), (397, 78874), (400, 78880), (425, 78949), (437, 78985), (487, 79054), (530, 79132), (549, 79159), (558, 79174), (638, 79363), (662, 79408), (673, 79432), (676, 79441), (680, 79459), (687, 79492), (697, 79531), (700, 79552), (702, 79558), (724, 79672), (741, 79756), (746, 79774), (759, 79822), (762, 79834), (772, 79870), (783, 79903), (786, 79912), (800, 79957), (807, 79975), (841, 80059), (846, 80080), (852, 80107), (876, 80179), (884, 80203), (896, 80239), (907, 80266),

Gene: PattyP\_45 Start: 34329, Stop: 32500, Start Num: 231

Candidate Starts for PattyP\_45:

(Start: 231 @34329 has 845 MA's), (332, 34116), (337, 34101), (367, 34053), (378, 34023), (388, 34002), (390, 33996), (392, 33987), (413, 33903), (425, 33870), (434, 33843), (487, 33750), (492, 33735), (541, 33651), (543, 33648), (575, 33582), (589, 33552), (598, 33522), (616, 33477), (638, 33438), (700, 33258), (709, 33210), (722, 33162), (730, 33123), (733, 33105), (742, 33066), (755, 33045), (760, 33024), (765, 33009), (803, 32886), (871, 32715), (876, 32691), (893, 32643), (896, 32631), (906, 32610), (908, 32604), (921, 32556), (928, 32541),

Gene: PauloDiaboli\_117 Start: 81175, Stop: 79307, Start Num: 231

Candidate Starts for PauloDiaboli\_117:

(Start: 182 @81250 has 24 MA's), (218, 81196), (Start: 222 @81187 has 57 MA's), (Start: 231 @81175 has 845 MA's), (319, 80977), (330, 80950), (355, 80911), (381, 80848), (391, 80830), (397, 80803), (400, 80797), (437, 80689), (490, 80611), (498, 80590), (515, 80557), (530, 80527), (549, 80500), (576, 80440), (621, 80335), (638, 80302), (673, 80233), (676, 80224), (700, 80113), (723, 79999), (739, 79915), (744, 79900), (772, 79789), (774, 79783), (777, 79771), (783, 79756), (819, 79654), (824, 79645), (851, 79555), (868, 79516), (871, 79504), (877, 79477), (896, 79420), (906, 79396),

Gene: Pawn\_48 Start: 31757, Stop: 29943, Start Num: 231

Candidate Starts for Pawn\_48:

(Start: 231 @31757 has 845 MA's), (248, 31718), (256, 31706), (329, 31553), (333, 31538), (367, 31481), (390, 31424), (392, 31415), (403, 31373), (415, 31322), (434, 31271), (487, 31178), (509, 31130), (524, 31106), (549, 31067), (562, 31040), (575, 31010), (610, 30917), (616, 30905), (641, 30857), (652, 30842), (700, 30686), (711, 30635), (719, 30602), (720, 30599), (733, 30533), (742, 30494), (761, 30422), (772, 30383), (780, 30359), (786, 30341), (796, 30308), (834, 30227), (851, 30167), (856, 30149), (877, 30089), (880, 30080), (896, 30032), (902, 30020), (906, 30011),

Gene: Payneful\_43 Start: 33908, Stop: 32082, Start Num: 231

Candidate Starts for Payneful\_43:

(Start: 231 @33908 has 845 MA's), (332, 33695), (337, 33680), (378, 33602), (388, 33581), (390, 33575), (392, 33566), (425, 33449), (434, 33422), (487, 33329), (492, 33314), (541, 33230), (543, 33227), (575, 33161), (589, 33131), (598, 33101), (616, 33056), (638, 33017), (700, 32837), (708, 32807), (709, 32789), (711, 32786), (720, 32750), (733, 32684), (760, 32603), (761, 32600), (786, 32519), (846, 32369), (847, 32366), (855, 32330), (868, 32306), (870, 32297), (874, 32285), (880, 32258), (896, 32210), (906, 32189),

Gene: PeaceMeal1\_42 Start: 30387, Stop: 28555, Start Num: 231

Candidate Starts for PeaceMeal1\_42:

(Start: 231 @30387 has 845 MA's), (256, 30336), (292, 30270), (329, 30183), (332, 30174), (363, 30123), (367, 30111), (390, 30054), (411, 29973), (413, 29961), (415, 29952), (426, 29925), (434, 29901), (487, 29808), (502, 29769), (549, 29700), (562, 29673), (616, 29541), (700, 29313), (716, 29247), (726, 29190), (733, 29160), (742, 29121), (761, 29049), (766, 29034), (772, 29010), (786, 28968), (796, 28935), (851, 28779), (858, 28755), (880, 28692), (896, 28644), (902, 28632), (906, 28623),

Gene: Peaches\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Peaches\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: Peep\_39 Start: 28922, Stop: 27057, Start Num: 267

Candidate Starts for Peep\_39:

(Start: 214 @29009 has 4 MA's), (Start: 216 @29006 has 7 MA's), (Start: 267 @28922 has 137 MA's), (Start: 275 @28913 has 5 MA's), (321, 28808), (325, 28799), (338, 28769), (340, 28766), (395, 28646), (397, 28634), (400, 28628), (436, 28523), (445, 28496), (490, 28355), (492, 28349), (494, 28346), (498, 28334), (513, 28307), (516, 28304), (525, 28289), (527, 28283), (530, 28277), (553, 28244), (612, 28115), (634, 28055), (690, 27890), (726, 27740), (729, 27731), (730, 27728), (733, 27710), (743, 27668), (745, 27662), (747, 27653), (751, 27638), (768, 27581), (815, 27422), (827, 27392), (828, 27383), (847, 27323), (852, 27299), (863, 27260), (875, 27227), (876, 27215), (893, 27155),

Gene: Pelly\_44 Start: 34856, Stop: 33030, Start Num: 231

Candidate Starts for Pelly\_44:

(Start: 231 @34856 has 845 MA's), (337, 34628), (367, 34580), (378, 34550), (388, 34529), (390, 34523), (392, 34514), (425, 34397), (434, 34370), (487, 34277), (492, 34262), (509, 34229), (541, 34178), (543, 34175), (570, 34121), (575, 34109), (589, 34079), (598, 34049), (616, 34004), (638, 33965), (700, 33785), (709, 33737), (720, 33698), (733, 33632), (742, 33593), (755, 33572), (760, 33551), (766, 33533), (786, 33467), (846, 33317), (847, 33314), (855, 33278), (868, 33254), (874, 33233), (880, 33206), (896, 33158), (906, 33137),

Gene: Pembroke\_48 Start: 31854, Stop: 30040, Start Num: 231

Candidate Starts for Pembroke\_48:

(Start: 231 @31854 has 845 MA's), (248, 31815), (256, 31803), (329, 31650), (333, 31635), (367, 31578), (390, 31521), (392, 31512), (403, 31470), (415, 31419), (434, 31368), (487, 31275), (509, 31227), (513, 31218), (524, 31203), (549, 31164), (562, 31137), (575, 31107), (610, 31014), (616, 31002), (641, 30954), (652, 30939), (700, 30783), (720, 30696), (733, 30630), (742, 30591), (761, 30519), (772, 30480), (780, 30456), (786, 30438), (796, 30405), (806, 30378), (834, 30324), (851, 30264), (877, 30186), (896, 30129), (902, 30117), (906, 30108),

Gene: PenguinLover67\_56 Start: 54688, Stop: 52865, Start Num: 212

Candidate Starts for PenguinLover67\_56:

(Start: 209 @54691 has 11 MA's), (Start: 212 @54688 has 1 MA's), (Start: 227 @54667 has 3 MA's), (240, 54640), (Start: 266 @54595 has 4 MA's), (281, 54586), (291, 54568), (330, 54475), (391, 54337), (397, 54313), (405, 54292), (431, 54205), (454, 54148), (466, 54112), (471, 54100), (482, 54076), (483, 54073), (486, 54064), (540, 53956), (542, 53953), (544, 53950), (561, 53923), (645, 53722), (681, 53656), (682, 53653), (684, 53635), (689, 53617), (695, 53593), (696, 53587), (701, 53560), (725, 53452), (727, 53446), (730, 53437), (760, 53338), (761, 53335), (766, 53320), (790, 53242), (794, 53230), (800, 53209), (807, 53191), (822, 53161), (841, 53125), (851, 53080), (856, 53062), (858, 53056), (864, 53047), (875, 53017), (876, 53005), (877, 53002), (890, 52963), (896, 52939), (907, 52915), (912, 52891), (917, 52870),

Gene: Penny1\_49 Start: 31856, Stop: 30042, Start Num: 231

Candidate Starts for Penny1\_49:

(Start: 231 @31856 has 845 MA's), (248, 31817), (256, 31805), (329, 31652), (333, 31637), (367, 31580), (390, 31523), (392, 31514), (403, 31472), (415, 31421), (434, 31370), (487, 31277), (509, 31229), (513, 31220), (524, 31205), (549, 31166), (562, 31139), (575, 31109), (610, 31016), (641, 30956), (652, 30941), (700, 30785), (720, 30698), (733, 30632), (742, 30593), (761, 30521), (772, 30482), (780, 30458), (786, 30440), (796, 30407), (806, 30380), (834, 30326), (851, 30266), (877, 30188), (896, 30131), (902, 30119), (906, 30110),

Gene: Pepe\_42 Start: 33016, Stop: 31229, Start Num: 231

Candidate Starts for Pepe\_42:

(Start: 231 @33016 has 845 MA's), (332, 32803), (337, 32788), (367, 32740), (378, 32710), (388, 32689), (390, 32683), (392, 32674), (425, 32557), (434, 32530), (487, 32437), (492, 32422), (541, 32338), (543, 32335), (575, 32269), (589, 32239), (598, 32209), (616, 32164), (638, 32125), (700, 31945), (709, 31897), (720, 31858), (733, 31792), (758, 31720), (760, 31711), (786, 31627), (818, 31540), (868, 31414), (871, 31402), (890, 31342), (896, 31318), (899, 31312),

Gene: Peppino\_38 Start: 29047, Stop: 27182, Start Num: 267

Candidate Starts for Peppino\_38:

(Start: 267 @29047 has 137 MA's), (Start: 275 @29038 has 5 MA's), (394, 28774), (397, 28759), (400, 28753), (445, 28621), (463, 28567), (490, 28480), (494, 28471), (498, 28459), (513, 28432), (516, 28429), (525, 28414), (527, 28408), (675, 28078), (726, 27865), (729, 27856), (730, 27853), (733, 27835), (743, 27793), (747, 27778), (768, 27706), (775, 27679), (815, 27547), (827, 27517), (847, 27448), (852, 27424), (854, 27418), (863, 27385), (875, 27352), (876, 27340),

Gene: Percival\_49 Start: 32475, Stop: 34340, Start Num: 229

Candidate Starts for Percival\_49:

(148, 32349), (192, 32418), (Start: 229 @32475 has 7 MA's), (378, 32772), (422, 32916), (489, 33069), (549, 33177), (562, 33204), (589, 33264), (610, 33324), (613, 33330), (643, 33387), (647, 33393), (683, 33507), (700, 33588), (714, 33651), (724, 33705), (726, 33711), (774, 33888), (780, 33906), (783, 33915), (787, 33927), (818, 34011), (856, 34119), (875, 34164), (896, 34236), (923, 34314), (934, 34335),

Gene: Perplexer\_44 Start: 31519, Stop: 29690, Start Num: 231

Candidate Starts for Perplexer\_44:

(Start: 231 @31519 has 845 MA's), (256, 31468), (274, 31438), (350, 31276), (360, 31258), (367, 31243), (390, 31186), (392, 31177), (426, 31057), (434, 31033), (468, 30991), (487, 30940), (511, 30892), (524, 30871), (549, 30832), (570, 30787), (573, 30781), (603, 30700), (613, 30679), (638, 30634), (697, 30469), (700, 30448), (733, 30295), (742, 30256), (761, 30184), (766, 30169), (772, 30145), (777, 30127), (780, 30121), (782, 30115), (851, 29914), (896, 29779), (902, 29767), (906, 29758),

Gene: Perseus\_45 Start: 35152, Stop: 33323, Start Num: 231

Candidate Starts for Perseus\_45:

(Start: 231 @35152 has 845 MA's), (332, 34939), (337, 34924), (378, 34846), (388, 34825), (390, 34819), (392, 34810), (413, 34726), (425, 34693), (434, 34666), (487, 34573), (492, 34558), (501, 34537), (509, 34525), (541, 34474), (543, 34471), (575, 34405), (589, 34375), (598, 34345), (616, 34300), (638, 34261), (700, 34081), (709, 34033), (722, 33985), (730, 33946), (733, 33928), (742, 33889), (755, 33868), (760, 33847), (765, 33832), (803, 33709), (871, 33538), (876, 33514), (893, 33466), (896, 33454), (906, 33433), (908, 33427), (921, 33379), (928, 33364),

Gene: PeterPeter\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for PeterPeter\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524,

30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Petersenfast\_43 Start: 30332, Stop: 28545, Start Num: 231

Candidate Starts for Petersenfast\_43:

(Start: 231 @30332 has 845 MA's), (329, 30128), (367, 30056), (378, 30026), (390, 29999), (489, 29747), (513, 29696), (562, 29615), (582, 29570), (583, 29567), (613, 29486), (643, 29429), (672, 29387), (683, 29342), (700, 29261), (711, 29210), (720, 29174), (733, 29108), (755, 29048), (758, 29036), (789, 28934), (796, 28910), (802, 28892), (834, 28829), (844, 28802), (846, 28793), (851, 28769), (896, 28634), (902, 28622), (906, 28613),

Gene: Peterson\_48 Start: 37027, Stop: 35201, Start Num: 231

Candidate Starts for Peterson\_48:

(Start: 231 @37027 has 845 MA's), (332, 36814), (337, 36799), (378, 36721), (390, 36694), (425, 36568), (434, 36541), (487, 36448), (492, 36433), (509, 36400), (541, 36349), (543, 36346), (575, 36280), (589, 36250), (598, 36220), (616, 36175), (638, 36136), (700, 35956), (709, 35908), (720, 35869), (733, 35803), (742, 35764), (755, 35743), (760, 35722), (766, 35704), (786, 35638), (846, 35488), (847, 35485), (855, 35449), (868, 35425), (870, 35416), (874, 35404), (896, 35329), (906, 35308),

Gene: PetiteSangsue\_44 Start: 31522, Stop: 29693, Start Num: 231

Candidate Starts for PetiteSangsue\_44:

(Start: 231 @31522 has 845 MA's), (256, 31471), (274, 31441), (350, 31279), (360, 31261), (367, 31246), (390, 31189), (392, 31180), (426, 31060), (434, 31036), (468, 30994), (487, 30943), (511, 30895), (524, 30874), (549, 30835), (570, 30790), (573, 30784), (603, 30703), (613, 30682), (638, 30637), (697, 30472), (700, 30451), (733, 30298), (742, 30259), (761, 30187), (766, 30172), (772, 30148), (777, 30130), (780, 30124), (782, 30118), (851, 29917), (896, 29782), (902, 29770), (906, 29761),

Gene: Petp2012\_45 Start: 34941, Stop: 33115, Start Num: 231

Candidate Starts for Petp2012\_45:

(Start: 231 @34941 has 845 MA's), (332, 34728), (337, 34713), (367, 34665), (378, 34635), (388, 34614), (390, 34608), (392, 34599), (425, 34482), (434, 34455), (487, 34362), (492, 34347), (501, 34326), (541, 34263), (543, 34260), (575, 34194), (589, 34164), (598, 34134), (616, 34089), (638, 34050), (700, 33870), (709, 33822), (720, 33783), (733, 33717), (742, 33678), (755, 33657), (760, 33636), (766, 33618), (786, 33552), (846, 33402), (847, 33399), (855, 33363), (868, 33339), (870, 33330), (874, 33318), (896, 33243), (906, 33222),

Gene: Petruchio\_45 Start: 34801, Stop: 32972, Start Num: 231

Candidate Starts for Petruchio\_45:

(Start: 231 @34801 has 845 MA's), (332, 34588), (337, 34573), (367, 34525), (378, 34495), (388, 34474), (390, 34468), (392, 34459), (425, 34342), (434, 34315), (487, 34222), (492, 34207), (509, 34174), (541, 34123), (543, 34120), (570, 34066), (575, 34054), (589, 34024), (598, 33994), (616, 33949), (638, 33910), (700, 33730), (709, 33682), (722, 33634), (730, 33595), (733, 33577), (742, 33538), (755, 33517), (760, 33496), (765, 33481), (803, 33358), (871, 33187), (876, 33163), (893, 33115), (896, 33103), (906, 33082), (908, 33076), (921, 33028), (928, 33013),

Gene: PetterN\_40 Start: 30056, Stop: 28191, Start Num: 231

Candidate Starts for PetterN\_40:

(Start: 177 @30131 has 1 MA's), (Start: 204 @30089 has 2 MA's), (Start: 231 @30056 has 845 MA's), (291, 29945), (329, 29852), (330, 29849), (367, 29780), (369, 29777), (378, 29750), (390, 29723), (392, 29714), (413, 29630), (415, 29621), (422, 29606), (434, 29570), (475, 29510), (487, 29474),

(509, 29426), (523, 29405), (524, 29402), (561, 29342), (594, 29264), (610, 29216), (616, 29204), (641, 29156), (668, 29105), (700, 28970), (709, 28922), (720, 28883), (722, 28874), (727, 28844), (733, 28817), (734, 28814), (760, 28736), (766, 28718), (780, 28670), (796, 28619), (818, 28565), (823, 28556), (834, 28538), (856, 28460), (896, 28343), (902, 28331), (939, 28226),

Gene: Ph8s\_46 Start: 30526, Stop: 28739, Start Num: 231

Candidate Starts for Ph8s\_46:

(Start: 231 @30526 has 845 MA's), (329, 30322), (367, 30250), (369, 30247), (378, 30220), (390, 30193), (395, 30172), (434, 30040), (487, 29947), (509, 29899), (562, 29809), (583, 29761), (700, 29455), (719, 29371), (720, 29368), (726, 29332), (733, 29302), (742, 29263), (755, 29242), (758, 29230), (760, 29221), (764, 29209), (796, 29104), (806, 29077), (823, 29041), (834, 29023), (846, 28987), (851, 28963), (896, 28828), (902, 28816), (906, 28807),

Gene: Phacado\_45 Start: 31569, Stop: 29743, Start Num: 231

Candidate Starts for Phacado\_45:

(Start: 231 @31569 has 845 MA's), (240, 31548), (256, 31518), (274, 31488), (350, 31326), (360, 31308), (390, 31236), (392, 31227), (426, 31107), (434, 31083), (487, 30990), (511, 30942), (524, 30921), (549, 30882), (603, 30750), (613, 30729), (638, 30684), (643, 30672), (697, 30519), (700, 30498), (726, 30375), (733, 30345), (742, 30306), (760, 30240), (761, 30237), (766, 30222), (772, 30198), (780, 30174), (851, 29967), (896, 29832), (902, 29820), (906, 29811),

Gene: Phaded\_46 Start: 32625, Stop: 30835, Start Num: 231

Candidate Starts for Phaded\_46:

(Start: 231 @32625 has 845 MA's), (329, 32421), (332, 32412), (369, 32343), (378, 32316), (390, 32289), (434, 32136), (487, 32043), (509, 31995), (513, 31986), (524, 31971), (562, 31905), (576, 31872), (607, 31788), (652, 31707), (672, 31677), (700, 31551), (708, 31521), (711, 31500), (726, 31428), (733, 31398), (742, 31359), (755, 31338), (760, 31317), (764, 31305), (823, 31137), (846, 31083), (851, 31059), (873, 31002), (877, 30981), (896, 30924), (902, 30912), (906, 30903),

Gene: Phaeder\_45 Start: 31483, Stop: 29690, Start Num: 231

Candidate Starts for Phaeder\_45:

(Start: 231 @31483 has 845 MA's), (236, 31474), (256, 31432), (316, 31312), (317, 31309), (334, 31261), (369, 31201), (379, 31171), (384, 31159), (390, 31147), (434, 30994), (487, 30901), (562, 30763), (575, 30733), (643, 30574), (652, 30562), (671, 30535), (697, 30427), (700, 30406), (730, 30271), (733, 30253), (760, 30172), (772, 30130), (796, 30055), (832, 29980), (846, 29938), (877, 29836), (896, 29779), (902, 29767), (906, 29758),

Gene: Phaerdrus\_54 Start: 53117, Stop: 51300, Start Num: 223

Candidate Starts for Phaerdrus\_54:

(123, 53300), (Start: 223 @53117 has 42 MA's), (240, 53087), (332, 52907), (395, 52754), (397, 52742), (407, 52712), (412, 52706), (431, 52643), (433, 52637), (454, 52586), (464, 52559), (466, 52550), (486, 52502), (542, 52397), (589, 52301), (610, 52250), (681, 52106), (689, 52067), (696, 52037), (701, 52010), (704, 51998), (725, 51902), (727, 51896), (730, 51887), (732, 51875), (754, 51803), (760, 51773), (766, 51755), (768, 51746), (790, 51677), (794, 51665), (800, 51644), (834, 51575), (841, 51560), (847, 51536), (851, 51515), (858, 51491), (875, 51452), (878, 51434), (881, 51422), (886, 51410), (890, 51398), (904, 51356), (912, 51326),

Gene: PhailMary\_35 Start: 28435, Stop: 26651, Start Num: 231

Candidate Starts for PhailMary\_35:

(Start: 231 @28435 has 845 MA's), (345, 28201), (363, 28171), (366, 28162), (367, 28159), (384, 28114), (390, 28102), (392, 28093), (403, 28051), (434, 27949), (450, 27928), (487, 27856), (505, 27811), (509, 27808), (535, 27766), (539, 27760), (549, 27745), (562, 27718), (603, 27613), (607, 27604), (616, 27586), (638, 27547), (673, 27490), (700, 27367), (709, 27319), (733, 27214), (734,

27211), (755, 27154), (760, 27133), (774, 27085), (798, 27010), (832, 26941), (846, 26899), (851, 26875), (877, 26797), (896, 26740), (902, 26728), (917, 26671),

Gene: Phamished\_62 Start: 54237, Stop: 52378, Start Num: 196

Candidate Starts for Phamished\_62:

(Start: 175 @54261 has 1 MA's), (Start: 196 @54237 has 254 MA's), (Start: 221 @54213 has 2 MA's), (Start: 227 @54207 has 3 MA's), (246, 54165), (259, 54144), (307, 54030), (311, 54024), (326, 53994), (355, 53934), (366, 53913), (386, 53859), (391, 53847), (396, 53829), (398, 53817), (431, 53712), (454, 53655), (466, 53619), (471, 53607), (482, 53583), (486, 53571), (491, 53553), (499, 53535), (509, 53517), (533, 53478), (540, 53469), (542, 53466), (544, 53463), (695, 53106), (701, 53073), (706, 53052), (727, 52959), (730, 52950), (744, 52887), (760, 52851), (761, 52848), (766, 52833), (790, 52755), (794, 52743), (800, 52722), (817, 52683), (851, 52593), (856, 52575), (858, 52569), (868, 52554), (875, 52530), (877, 52515), (878, 52512), (881, 52500), (890, 52476), (907, 52428), (912, 52404),

Gene: Phantasmagoria\_57 Start: 52498, Stop: 50669, Start Num: 188

Candidate Starts for Phantasmagoria\_57:

(Start: 188 @52498 has 31 MA's), (Start: 227 @52471 has 3 MA's), (242, 52441), (246, 52429), (264, 52402), (Start: 266 @52399 has 4 MA's), (274, 52390), (291, 52372), (330, 52276), (355, 52225), (367, 52201), (375, 52177), (417, 52039), (424, 52024), (427, 52015), (431, 52003), (454, 51946), (466, 51910), (471, 51898), (482, 51874), (522, 51790), (540, 51760), (542, 51757), (561, 51727), (624, 51583), (652, 51517), (681, 51466), (684, 51445), (689, 51427), (701, 51370), (717, 51313), (722, 51286), (727, 51256), (730, 51247), (744, 51181), (758, 51154), (760, 51145), (766, 51127), (772, 51103), (790, 51049), (794, 51037), (800, 51016), (834, 50947), (851, 50887), (856, 50869), (871, 50836), (875, 50824), (877, 50809), (878, 50806), (881, 50794), (890, 50770), (891, 50767), (907, 50719), (908, 50716), (912, 50695), (917, 50674),

Gene: Phantastic\_46 Start: 31173, Stop: 29335, Start Num: 231

Candidate Starts for Phantastic\_46:

(Start: 182 @31245 has 24 MA's), (Start: 231 @31173 has 845 MA's), (256, 31122), (329, 30969), (367, 30897), (390, 30840), (392, 30831), (395, 30819), (426, 30711), (434, 30687), (487, 30591), (511, 30543), (549, 30483), (577, 30420), (603, 30351), (613, 30330), (652, 30261), (673, 30216), (700, 30093), (709, 30045), (726, 29970), (733, 29940), (761, 29829), (766, 29814), (772, 29790), (780, 29766), (786, 29748), (832, 29625), (834, 29619), (844, 29592), (851, 29559), (896, 29424), (902, 29412), (906, 29403),

Gene: Pharaoh\_39 Start: 30968, Stop: 29124, Start Num: 231

Candidate Starts for Pharaoh\_39:

(Start: 231 @30968 has 845 MA's), (240, 30947), (246, 30932), (254, 30920), (332, 30755), (350, 30722), (367, 30689), (369, 30686), (378, 30659), (390, 30632), (395, 30611), (434, 30479), (487, 30386), (509, 30338), (513, 30329), (524, 30314), (549, 30275), (562, 30248), (583, 30200), (607, 30131), (652, 30050), (672, 30008), (687, 29945), (700, 29882), (711, 29831), (720, 29795), (726, 29759), (733, 29729), (742, 29690), (755, 29669), (760, 29648), (796, 29531), (823, 29468), (846, 29414), (851, 29390), (873, 29333), (877, 29312), (896, 29255), (902, 29243), (917, 29186),

Gene: Phareon\_59 Start: 53752, Stop: 51893, Start Num: 196

Candidate Starts for Phareon\_59:

(Start: 175 @53776 has 1 MA's), (Start: 196 @53752 has 254 MA's), (Start: 221 @53728 has 2 MA's), (Start: 227 @53722 has 3 MA's), (246, 53680), (259, 53659), (307, 53545), (311, 53539), (326, 53509), (355, 53449), (366, 53428), (386, 53374), (391, 53362), (396, 53344), (398, 53332), (431, 53227), (454, 53170), (466, 53134), (471, 53122), (482, 53098), (486, 53086), (491, 53068), (499, 53050), (509, 53032), (533, 52993), (540, 52984), (542, 52981), (544, 52978), (695, 52621), (701, 52588), (706, 52567), (727, 52474), (730, 52465), (744, 52402), (760, 52366), (761, 52363), (766,

52348), (790, 52270), (794, 52258), (800, 52237), (817, 52198), (851, 52108), (856, 52090), (858, 52084), (868, 52069), (875, 52045), (877, 52030), (878, 52027), (881, 52015), (890, 51991), (907, 51943), (912, 51919),

Gene: PhatCats2014\_61 Start: 54551, Stop: 52692, Start Num: 196

Candidate Starts for PhatCats2014\_61:

(Start: 175 @54575 has 1 MA's), (Start: 196 @54551 has 254 MA's), (Start: 221 @54527 has 2 MA's), (Start: 227 @54521 has 3 MA's), (246, 54479), (259, 54458), (307, 54344), (311, 54338), (326, 54308), (355, 54248), (366, 54227), (386, 54173), (391, 54161), (396, 54143), (398, 54131), (431, 54026), (454, 53969), (466, 53933), (471, 53921), (483, 53894), (491, 53867), (499, 53849), (509, 53831), (533, 53792), (540, 53783), (542, 53780), (668, 53522), (695, 53420), (701, 53387), (706, 53366), (727, 53273), (730, 53264), (744, 53201), (760, 53165), (761, 53162), (766, 53147), (790, 53069), (794, 53057), (800, 53036), (817, 52997), (851, 52907), (856, 52889), (858, 52883), (868, 52868), (875, 52844), (877, 52829), (878, 52826), (881, 52814), (890, 52790), (907, 52742), (912, 52718),

Gene: PhatLouie\_62 Start: 54569, Stop: 52710, Start Num: 196

Candidate Starts for PhatLouie\_62:

(Start: 175 @54593 has 1 MA's), (Start: 196 @54569 has 254 MA's), (Start: 221 @54545 has 2 MA's), (Start: 227 @54539 has 3 MA's), (246, 54497), (259, 54476), (307, 54362), (311, 54356), (326, 54326), (355, 54266), (366, 54245), (386, 54191), (391, 54179), (396, 54161), (398, 54149), (431, 54044), (454, 53987), (466, 53951), (471, 53939), (482, 53915), (486, 53903), (491, 53885), (499, 53867), (509, 53849), (533, 53810), (540, 53801), (542, 53798), (544, 53795), (695, 53438), (701, 53405), (706, 53384), (727, 53291), (730, 53282), (744, 53219), (760, 53183), (761, 53180), (766, 53165), (790, 53087), (794, 53075), (800, 53054), (817, 53015), (851, 52925), (856, 52907), (858, 52901), (868, 52886), (875, 52862), (877, 52847), (878, 52844), (881, 52832), (890, 52808), (907, 52760), (912, 52736),

Gene: Phayeta\_60 Start: 53944, Stop: 52127, Start Num: 223

Candidate Starts for Phayeta\_60:

(123, 54127), (Start: 223 @53944 has 42 MA's), (240, 53914), (332, 53734), (395, 53581), (397, 53569), (407, 53539), (412, 53533), (431, 53470), (433, 53464), (454, 53413), (466, 53377), (486, 53329), (542, 53224), (589, 53128), (610, 53077), (681, 52933), (689, 52894), (696, 52864), (701, 52837), (704, 52825), (725, 52729), (727, 52723), (730, 52714), (732, 52702), (754, 52630), (760, 52600), (766, 52582), (768, 52573), (790, 52504), (794, 52492), (800, 52471), (834, 52402), (841, 52387), (847, 52363), (851, 52342), (856, 52324), (858, 52318), (873, 52285), (875, 52279), (878, 52261), (881, 52249), (886, 52237), (890, 52225), (904, 52183), (912, 52153),

Gene: Phelemich\_56 Start: 54570, Stop: 52741, Start Num: 182

Candidate Starts for Phelemich\_56:

(Start: 182 @54570 has 24 MA's), (Start: 214 @54549 has 4 MA's), (Start: 227 @54540 has 3 MA's), (240, 54513), (246, 54498), (291, 54441), (366, 54273), (395, 54195), (398, 54180), (405, 54162), (410, 54150), (421, 54114), (431, 54084), (466, 53991), (471, 53979), (472, 53976), (482, 53955), (483, 53952), (486, 53943), (491, 53925), (526, 53862), (542, 53838), (593, 53733), (643, 53610), (668, 53586), (678, 53559), (681, 53547), (682, 53544), (684, 53526), (689, 53508), (696, 53478), (701, 53451), (713, 53400), (727, 53337), (730, 53328), (754, 53244), (761, 53211), (766, 53196), (784, 53136), (790, 53118), (794, 53106), (800, 53085), (803, 53076), (805, 53073), (851, 52956), (856, 52938), (858, 52932), (875, 52893), (876, 52881), (877, 52878), (881, 52863), (886, 52851), (890, 52839), (904, 52797), (908, 52788), (912, 52767), (917, 52746),

Gene: Phelipe\_46 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Phelipe\_46:



(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Phendrix\_176 Start: 96123, Stop: 94333, Start Num: 226

Candidate Starts for Phendrix\_176:

(Start: 226 @96123 has 2 MA's), (274, 96036), (296, 95994), (322, 95937), (383, 95814), (385, 95811), (394, 95784), (402, 95754), (413, 95727), (432, 95673), (437, 95658), (472, 95628), (487, 95589), (495, 95565), (502, 95553), (530, 95505), (549, 95478), (558, 95463), (579, 95409), (598, 95364), (616, 95319), (674, 95220), (676, 95214), (697, 95118), (700, 95097), (710, 95046), (724, 94980), (749, 94860), (759, 94830), (770, 94791), (772, 94782), (777, 94764), (783, 94749), (786, 94740), (788, 94734), (790, 94728), (804, 94686), (813, 94665), (842, 94587), (844, 94581), (860, 94518), (872, 94494), (893, 94419), (896, 94407), (916, 94356),

Gene: PhenghisKhan\_61 Start: 54194, Stop: 52335, Start Num: 196

Candidate Starts for PhenghisKhan\_61:

(Start: 175 @54218 has 1 MA's), (Start: 196 @54194 has 254 MA's), (Start: 221 @54170 has 2 MA's), (Start: 227 @54164 has 3 MA's), (246, 54122), (259, 54101), (307, 53987), (311, 53981), (326, 53951), (355, 53891), (366, 53870), (386, 53816), (391, 53804), (396, 53786), (398, 53774), (431, 53669), (454, 53612), (466, 53576), (471, 53564), (482, 53540), (486, 53528), (491, 53510), (499, 53492), (509, 53474), (533, 53435), (540, 53426), (542, 53423), (544, 53420), (668, 53165), (695, 53063), (701, 53030), (706, 53009), (727, 52916), (730, 52907), (744, 52844), (760, 52808), (761, 52805), (766, 52790), (790, 52712), (794, 52700), (800, 52679), (817, 52640), (851, 52550), (856, 52532), (858, 52526), (868, 52511), (875, 52487), (877, 52472), (878, 52469), (881, 52457), (890, 52433), (895, 52412), (907, 52385), (912, 52361),

Gene: Pherbot\_37 Start: 28480, Stop: 26630, Start Num: 265

Candidate Starts for Pherbot\_37:

(Start: 265 @28480 has 17 MA's), (325, 28357), (340, 28324), (393, 28213), (397, 28192), (400, 28186), (417, 28135), (476, 27979), (490, 27925), (492, 27919), (494, 27916), (498, 27904), (516, 27874), (551, 27817), (620, 27670), (675, 27523), (726, 27313), (730, 27301), (733, 27283), (743, 27241), (747, 27226), (758, 27190), (768, 27154), (827, 26965), (828, 26956), (847, 26896), (852, 26872), (858, 26851), (862, 26839), (893, 26728),

Gene: Pherdinand\_62 Start: 54314, Stop: 52455, Start Num: 196

Candidate Starts for Pherdinand\_62:

(Start: 175 @54338 has 1 MA's), (Start: 196 @54314 has 254 MA's), (Start: 221 @54290 has 2 MA's), (Start: 227 @54284 has 3 MA's), (246, 54242), (259, 54221), (307, 54107), (311, 54101), (326, 54071), (355, 54011), (366, 53990), (386, 53936), (391, 53924), (396, 53906), (398, 53894), (431, 53789), (454, 53732), (466, 53696), (471, 53684), (482, 53660), (486, 53648), (491, 53630), (499, 53612), (509, 53594), (533, 53555), (540, 53546), (542, 53543), (544, 53540), (695, 53183), (701, 53150), (706, 53129), (727, 53036), (730, 53027), (744, 52964), (760, 52928), (761, 52925), (766, 52910), (790, 52832), (794, 52820), (800, 52799), (817, 52760), (851, 52670), (856, 52652), (858, 52646), (868, 52631), (875, 52607), (877, 52592), (878, 52589), (881, 52577), (890, 52553), (907, 52505), (912, 52481),

Gene: Pherferi\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Pherferi\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494,

28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: Phergie\_62 Start: 54186, Stop: 52327, Start Num: 196

Candidate Starts for Phergie\_62:

(Start: 175 @54210 has 1 MA's), (Start: 196 @54186 has 254 MA's), (Start: 221 @54162 has 2 MA's), (Start: 227 @54156 has 3 MA's), (246, 54114), (259, 54093), (307, 53979), (311, 53973), (326, 53943), (355, 53883), (366, 53862), (386, 53808), (391, 53796), (396, 53778), (398, 53766), (431, 53661), (454, 53604), (466, 53568), (471, 53556), (482, 53532), (486, 53520), (491, 53502), (499, 53484), (509, 53466), (533, 53427), (540, 53418), (542, 53415), (544, 53412), (668, 53157), (695, 53055), (701, 53022), (706, 53001), (727, 52908), (730, 52899), (744, 52836), (760, 52800), (761, 52797), (766, 52782), (790, 52704), (794, 52692), (800, 52671), (817, 52632), (851, 52542), (856, 52524), (858, 52518), (868, 52503), (875, 52479), (877, 52464), (878, 52461), (881, 52449), (890, 52425), (895, 52404), (907, 52377), (912, 52353),

Gene: PherrisBueller\_44 Start: 33917, Stop: 32091, Start Num: 231

Candidate Starts for PherrisBueller\_44:

(Start: 231 @33917 has 845 MA's), (332, 33704), (337, 33689), (367, 33641), (378, 33611), (388, 33590), (390, 33584), (392, 33575), (425, 33458), (434, 33431), (487, 33338), (492, 33323), (541, 33239), (543, 33236), (575, 33170), (589, 33140), (598, 33110), (616, 33065), (638, 33026), (700, 32846), (709, 32798), (720, 32759), (733, 32693), (742, 32654), (755, 32633), (760, 32612), (766, 32594), (786, 32528), (846, 32378), (847, 32375), (855, 32339), (868, 32315), (870, 32306), (874, 32294), (880, 32267), (896, 32219), (906, 32198),

Gene: Phiderman\_39 Start: 28927, Stop: 27062, Start Num: 267

Candidate Starts for Phiderman\_39:

(Start: 214 @29014 has 4 MA's), (Start: 216 @29011 has 7 MA's), (Start: 267 @28927 has 137 MA's), (Start: 275 @28918 has 5 MA's), (321, 28813), (325, 28804), (338, 28774), (340, 28771), (395, 28651), (397, 28639), (400, 28633), (436, 28528), (445, 28501), (490, 28360), (492, 28354), (494, 28351), (498, 28339), (513, 28312), (516, 28309), (525, 28294), (527, 28288), (530, 28282), (553, 28249), (634, 28060), (726, 27745), (729, 27736), (730, 27733), (733, 27715), (743, 27673), (745, 27667), (747, 27658), (751, 27643), (768, 27586), (815, 27427), (827, 27397), (828, 27388), (847, 27328), (852, 27304), (863, 27265), (875, 27232), (876, 27220), (893, 27160),

Gene: Phighter1804\_45 Start: 31612, Stop: 29786, Start Num: 231

Candidate Starts for Phighter1804\_45:

(Start: 231 @31612 has 845 MA's), (240, 31591), (256, 31561), (274, 31531), (350, 31369), (360, 31351), (390, 31279), (392, 31270), (426, 31150), (434, 31126), (487, 31033), (511, 30985), (524, 30964), (549, 30925), (603, 30793), (613, 30772), (638, 30727), (643, 30715), (697, 30562), (700, 30541), (726, 30418), (733, 30388), (742, 30349), (760, 30283), (761, 30280), (766, 30265), (772, 30241), (780, 30217), (851, 30010), (896, 29875), (902, 29863), (906, 29854),

Gene: Phillis\_44 Start: 30925, Stop: 29081, Start Num: 231

Candidate Starts for Phillis\_44:

(134, 31090), (155, 31042), (Start: 231 @30925 has 845 MA's), (256, 30874), (317, 30751), (329, 30721), (350, 30682), (378, 30619), (388, 30598), (390, 30592), (392, 30583), (403, 30541), (415, 30490), (434, 30439), (487, 30343), (491, 30331), (497, 30316), (505, 30298), (509, 30295), (513, 30286), (549, 30232), (562, 30205), (583, 30157), (603, 30100), (616, 30073), (643, 30022), (653, 30007), (674, 29959), (697, 29860), (700, 29839), (708, 29809), (709, 29791), (711, 29788), (716, 29773), (720, 29752), (722, 29743), (726, 29716), (730, 29704), (733, 29686), (760, 29605), (764, 29593), (780, 29539), (792, 29503), (803, 29467), (818, 29434), (832, 29413), (834, 29407), (847,

29368), (856, 29329), (896, 29212), (902, 29200),

Gene: Philly\_57 Start: 53504, Stop: 51687, Start Num: 223

Candidate Starts for Philly\_57:

(123, 53687), (Start: 223 @53504 has 42 MA's), (240, 53474), (332, 53294), (395, 53141), (397, 53129), (407, 53099), (412, 53093), (431, 53030), (433, 53024), (454, 52973), (464, 52946), (466, 52937), (486, 52889), (542, 52784), (589, 52688), (610, 52637), (681, 52493), (689, 52454), (696, 52424), (701, 52397), (704, 52385), (725, 52289), (727, 52283), (730, 52274), (732, 52262), (754, 52190), (760, 52160), (766, 52142), (768, 52133), (790, 52064), (794, 52052), (800, 52031), (834, 51962), (841, 51947), (847, 51923), (851, 51902), (856, 51884), (858, 51878), (873, 51845), (875, 51839), (878, 51821), (881, 51809), (886, 51797), (890, 51785), (904, 51743), (912, 51713),

Gene: Phipps\_60 Start: 53823, Stop: 51964, Start Num: 196

Candidate Starts for Phipps\_60:

(Start: 175 @53847 has 1 MA's), (Start: 196 @53823 has 254 MA's), (Start: 221 @53799 has 2 MA's), (Start: 227 @53793 has 3 MA's), (246, 53751), (259, 53730), (307, 53616), (311, 53610), (326, 53580), (355, 53520), (366, 53499), (386, 53445), (391, 53433), (396, 53415), (398, 53403), (431, 53298), (454, 53241), (466, 53205), (471, 53193), (483, 53166), (491, 53139), (499, 53121), (509, 53103), (533, 53064), (540, 53055), (542, 53052), (668, 52794), (695, 52692), (701, 52659), (706, 52638), (727, 52545), (730, 52536), (744, 52473), (760, 52437), (761, 52434), (766, 52419), (790, 52341), (794, 52329), (800, 52308), (817, 52269), (851, 52179), (856, 52161), (858, 52155), (868, 52140), (875, 52116), (877, 52101), (878, 52098), (881, 52086), (890, 52062), (907, 52014), (912, 51990),

Gene: Phireproof\_39 Start: 28936, Stop: 27071, Start Num: 267

Candidate Starts for Phireproof\_39:

(Start: 214 @29023 has 4 MA's), (Start: 216 @29020 has 7 MA's), (Start: 267 @28936 has 137 MA's), (Start: 275 @28927 has 5 MA's), (321, 28822), (325, 28813), (338, 28783), (340, 28780), (395, 28660), (397, 28648), (400, 28642), (436, 28537), (445, 28510), (490, 28369), (492, 28363), (494, 28360), (498, 28348), (513, 28321), (516, 28318), (525, 28303), (527, 28297), (530, 28291), (553, 28258), (634, 28069), (726, 27754), (729, 27745), (730, 27742), (733, 27724), (743, 27682), (745, 27676), (751, 27652), (768, 27595), (815, 27436), (827, 27406), (828, 27397), (847, 27337), (852, 27313), (863, 27274), (875, 27241), (876, 27229), (893, 27169),

Gene: Phisb\_43 Start: 29630, Stop: 31504, Start Num: 222

Candidate Starts for Phisb\_43:

(Start: 220 @29627 has 7 MA's), (Start: 222 @29630 has 57 MA's), (Start: 266 @29699 has 4 MA's), (279, 29720), (329, 29837), (367, 29900), (392, 29966), (403, 30008), (549, 30302), (603, 30437), (651, 30536), (688, 30659), (700, 30719), (702, 30725), (711, 30770), (718, 30800), (724, 30836), (733, 30872), (759, 30965), (787, 31058), (816, 31136), (846, 31208), (855, 31247), (873, 31289), (876, 31307), (896, 31367), (906, 31388),

Gene: PhishRPhriends\_46 Start: 30931, Stop: 29117, Start Num: 231

Candidate Starts for PhishRPhriends\_46:

(Start: 231 @30931 has 845 MA's), (248, 30892), (256, 30880), (329, 30727), (333, 30712), (367, 30655), (390, 30598), (392, 30589), (403, 30547), (415, 30496), (434, 30445), (487, 30352), (509, 30304), (524, 30280), (549, 30241), (562, 30214), (575, 30184), (610, 30091), (616, 30079), (641, 30031), (652, 30016), (700, 29860), (711, 29809), (719, 29776), (720, 29773), (733, 29707), (742, 29668), (761, 29596), (772, 29557), (780, 29533), (786, 29515), (796, 29482), (834, 29401), (851, 29341), (856, 29323), (877, 29263), (880, 29254), (896, 29206), (902, 29194), (906, 29185),

Gene: Phives\_43 Start: 31162, Stop: 33027, Start Num: 231

Candidate Starts for Phives\_43:

(Start: 231 @31162 has 845 MA's), (254, 31210), (329, 31366), (378, 31459), (406, 31549), (489, 31756), (542, 31855), (549, 31864), (558, 31879), (562, 31891), (595, 31969), (613, 32017), (643, 32074), (674, 32155), (700, 32275), (708, 32305), (720, 32362), (733, 32428), (759, 32521), (780, 32593), (820, 32701), (846, 32764), (896, 32923), (901, 32932), (929, 33010),

Gene: Phlei\_33 Start: 30919, Stop: 29120, Start Num: 231

Candidate Starts for Phlei\_33:

(Start: 231 @30919 has 845 MA's), (291, 30808), (292, 30802), (317, 30745), (329, 30715), (334, 30697), (369, 30637), (378, 30610), (390, 30583), (415, 30481), (434, 30430), (484, 30349), (487, 30337), (501, 30301), (509, 30289), (562, 30199), (591, 30133), (626, 30049), (668, 29971), (669, 29968), (697, 29857), (700, 29836), (711, 29785), (720, 29749), (730, 29701), (733, 29683), (742, 29644), (760, 29602), (770, 29569), (846, 29368), (851, 29344), (855, 29329), (858, 29320), (873, 29287), (896, 29209), (902, 29197), (906, 29188), (917, 29140),

Gene: Phleuron\_61 Start: 54187, Stop: 52328, Start Num: 196

Candidate Starts for Phleuron\_61:

(Start: 175 @54211 has 1 MA's), (Start: 196 @54187 has 254 MA's), (Start: 221 @54163 has 2 MA's), (Start: 227 @54157 has 3 MA's), (246, 54115), (259, 54094), (307, 53980), (311, 53974), (326, 53944), (355, 53884), (366, 53863), (386, 53809), (391, 53797), (396, 53779), (398, 53767), (431, 53662), (454, 53605), (466, 53569), (471, 53557), (482, 53533), (486, 53521), (491, 53503), (499, 53485), (509, 53467), (533, 53428), (540, 53419), (542, 53416), (544, 53413), (695, 53056), (701, 53023), (706, 53002), (727, 52909), (730, 52900), (744, 52837), (760, 52801), (761, 52798), (766, 52783), (790, 52705), (794, 52693), (800, 52672), (817, 52633), (851, 52543), (856, 52525), (858, 52519), (868, 52504), (875, 52480), (877, 52465), (878, 52462), (881, 52450), (890, 52426), (907, 52378), (912, 52354),

Gene: Phlorence\_37 Start: 30134, Stop: 28275, Start Num: 231

Candidate Starts for Phlorence\_37:

(Start: 231 @30134 has 845 MA's), (256, 30083), (291, 30023), (317, 29960), (329, 29930), (330, 29927), (363, 29870), (367, 29858), (378, 29828), (390, 29801), (434, 29648), (487, 29552), (509, 29504), (523, 29483), (561, 29420), (562, 29414), (594, 29342), (603, 29309), (610, 29294), (616, 29282), (668, 29183), (700, 29048), (708, 29018), (709, 29000), (716, 28982), (720, 28961), (722, 28952), (733, 28895), (742, 28856), (760, 28814), (766, 28796), (780, 28748), (796, 28697), (818, 28643), (823, 28634), (834, 28616), (851, 28556), (856, 28538), (890, 28445), (896, 28421), (902, 28409), (947, 28292), (948, 28289),

Gene: Phlyer\_58 Start: 54386, Stop: 52569, Start Num: 223

Candidate Starts for Phlyer\_58:

(123, 54569), (Start: 223 @54386 has 42 MA's), (240, 54356), (332, 54176), (395, 54023), (397, 54011), (407, 53981), (412, 53975), (431, 53912), (433, 53906), (454, 53855), (464, 53828), (466, 53819), (486, 53771), (542, 53666), (589, 53570), (610, 53519), (681, 53375), (689, 53336), (696, 53306), (701, 53279), (704, 53267), (725, 53171), (727, 53165), (730, 53156), (732, 53144), (754, 53072), (760, 53042), (766, 53024), (768, 53015), (790, 52946), (794, 52934), (800, 52913), (834, 52844), (841, 52829), (847, 52805), (851, 52784), (856, 52766), (858, 52760), (873, 52727), (875, 52721), (878, 52703), (881, 52691), (886, 52679), (890, 52667), (904, 52625), (912, 52595),

Gene: Phoebe\_49 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for Phoebe\_49:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877,

30177), (896, 30120), (902, 30108), (906, 30099),

Gene: Phonnegut\_45 Start: 31538, Stop: 29745, Start Num: 231

Candidate Starts for Phonnegut\_45:

(Start: 231 @31538 has 845 MA's), (236, 31529), (256, 31487), (316, 31367), (317, 31364), (334, 31316), (369, 31256), (379, 31226), (384, 31214), (390, 31202), (434, 31049), (487, 30956), (562, 30818), (575, 30788), (643, 30629), (652, 30617), (671, 30590), (697, 30482), (700, 30461), (730, 30326), (733, 30308), (760, 30227), (772, 30185), (796, 30110), (832, 30035), (846, 29993), (877, 29891), (896, 29834), (902, 29822), (906, 29813),

Gene: Phontbonne\_45 Start: 31461, Stop: 29635, Start Num: 231

Candidate Starts for Phontbonne\_45:

(Start: 231 @31461 has 845 MA's), (240, 31440), (256, 31410), (274, 31380), (350, 31218), (360, 31200), (390, 31128), (392, 31119), (426, 30999), (434, 30975), (487, 30882), (511, 30834), (524, 30813), (549, 30774), (603, 30642), (613, 30621), (638, 30576), (643, 30564), (697, 30411), (700, 30390), (726, 30267), (733, 30237), (742, 30198), (760, 30132), (761, 30129), (766, 30114), (772, 30090), (780, 30066), (851, 29859), (896, 29724), (902, 29712), (906, 29703),

Gene: Phoxy\_48 Start: 31881, Stop: 30067, Start Num: 231

Candidate Starts for Phoxy\_48:

(Start: 231 @31881 has 845 MA's), (248, 31842), (256, 31830), (329, 31677), (333, 31662), (367, 31605), (390, 31548), (392, 31539), (403, 31497), (415, 31446), (434, 31395), (472, 31341), (487, 31302), (509, 31254), (524, 31230), (549, 31191), (562, 31164), (575, 31134), (610, 31041), (616, 31029), (641, 30981), (652, 30966), (700, 30810), (711, 30759), (719, 30726), (720, 30723), (733, 30657), (742, 30618), (761, 30546), (772, 30507), (780, 30483), (786, 30465), (796, 30432), (834, 30351), (851, 30291), (880, 30204), (896, 30156), (902, 30144), (906, 30135), (907, 30132),

Gene: PhrankReynolds\_60 Start: 54191, Stop: 52332, Start Num: 196

Candidate Starts for PhrankReynolds\_60:

(Start: 175 @54215 has 1 MA's), (Start: 196 @54191 has 254 MA's), (Start: 221 @54167 has 2 MA's), (Start: 227 @54161 has 3 MA's), (246, 54119), (259, 54098), (307, 53984), (311, 53978), (326, 53948), (355, 53888), (366, 53867), (386, 53813), (391, 53801), (396, 53783), (398, 53771), (431, 53666), (454, 53609), (466, 53573), (471, 53561), (482, 53537), (486, 53525), (491, 53507), (499, 53489), (509, 53471), (533, 53432), (540, 53423), (542, 53420), (544, 53417), (668, 53162), (695, 53060), (701, 53027), (706, 53006), (727, 52913), (730, 52904), (744, 52841), (760, 52805), (761, 52802), (766, 52787), (790, 52709), (794, 52697), (800, 52676), (817, 52637), (851, 52547), (856, 52529), (858, 52523), (868, 52508), (875, 52484), (877, 52469), (878, 52466), (881, 52454), (890, 52430), (895, 52409), (907, 52382), (912, 52358),

Gene: Phrankenstein\_36 Start: 28059, Stop: 26275, Start Num: 231

Candidate Starts for Phrankenstein\_36:

(Start: 231 @28059 has 845 MA's), (345, 27825), (363, 27795), (366, 27786), (367, 27783), (384, 27738), (390, 27726), (403, 27675), (434, 27573), (450, 27552), (487, 27480), (505, 27435), (509, 27432), (535, 27390), (539, 27384), (549, 27369), (562, 27342), (603, 27237), (607, 27228), (616, 27210), (619, 27207), (638, 27171), (673, 27114), (700, 26991), (709, 26943), (733, 26838), (734, 26835), (755, 26778), (760, 26757), (774, 26709), (798, 26634), (832, 26565), (846, 26523), (851, 26499), (877, 26421), (896, 26364), (902, 26352), (906, 26343), (913, 26313), (917, 26295),

Gene: Phranny\_49 Start: 31739, Stop: 29925, Start Num: 231

Candidate Starts for Phranny\_49:

(Start: 231 @31739 has 845 MA's), (248, 31700), (256, 31688), (329, 31535), (333, 31520), (367, 31463), (390, 31406), (392, 31397), (403, 31355), (415, 31304), (434, 31253), (487, 31160), (509, 31112), (524, 31088), (549, 31049), (562, 31022), (575, 30992), (610, 30899), (616, 30887), (641,

30839), (652, 30824), (700, 30668), (711, 30617), (719, 30584), (720, 30581), (733, 30515), (742, 30476), (761, 30404), (772, 30365), (780, 30341), (786, 30323), (796, 30290), (834, 30209), (851, 30149), (856, 30131), (877, 30071), (880, 30062), (896, 30014), (902, 30002), (906, 29993),

Gene: PhredFlintston\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for PhredFlintston\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: Phriends\_39 Start: 28936, Stop: 27071, Start Num: 267

Candidate Starts for Phriends\_39:

(Start: 214 @29023 has 4 MA's), (Start: 267 @28936 has 137 MA's), (Start: 275 @28927 has 5 MA's), (321, 28822), (325, 28813), (338, 28783), (340, 28780), (395, 28660), (397, 28648), (400, 28642), (436, 28537), (445, 28510), (490, 28369), (492, 28363), (494, 28360), (498, 28348), (513, 28321), (516, 28318), (525, 28303), (527, 28297), (530, 28291), (553, 28258), (612, 28129), (634, 28069), (726, 27754), (729, 27745), (730, 27742), (733, 27724), (743, 27682), (745, 27676), (747, 27667), (751, 27652), (768, 27595), (815, 27436), (827, 27406), (828, 27397), (847, 27337), (852, 27313), (863, 27274), (875, 27241), (876, 27229), (893, 27169),

Gene: PhrodoBaggins\_61 Start: 54411, Stop: 52552, Start Num: 196

Candidate Starts for PhrodoBaggins\_61:

(Start: 175 @54435 has 1 MA's), (Start: 196 @54411 has 254 MA's), (Start: 221 @54387 has 2 MA's), (Start: 227 @54381 has 3 MA's), (246, 54339), (259, 54318), (307, 54204), (311, 54198), (326, 54168), (355, 54108), (366, 54087), (386, 54033), (391, 54021), (396, 54003), (398, 53991), (431, 53886), (454, 53829), (466, 53793), (471, 53781), (483, 53754), (491, 53727), (499, 53709), (509, 53691), (533, 53652), (540, 53643), (542, 53640), (544, 53637), (695, 53280), (701, 53247), (706, 53226), (727, 53133), (730, 53124), (744, 53061), (760, 53025), (761, 53022), (766, 53007), (790, 52929), (794, 52917), (800, 52896), (817, 52857), (851, 52767), (856, 52749), (858, 52743), (868, 52728), (875, 52704), (877, 52689), (878, 52686), (881, 52674), (890, 52650), (907, 52602), (912, 52578),

Gene: PhrostyMug\_44 Start: 34431, Stop: 32605, Start Num: 231

Candidate Starts for PhrostyMug\_44:

(Start: 231 @34431 has 845 MA's), (332, 34218), (337, 34203), (378, 34125), (388, 34104), (390, 34098), (392, 34089), (425, 33972), (434, 33945), (487, 33852), (492, 33837), (501, 33816), (509, 33804), (541, 33753), (543, 33750), (575, 33684), (589, 33654), (598, 33624), (616, 33579), (638, 33540), (700, 33360), (708, 33330), (709, 33312), (720, 33273), (733, 33207), (760, 33126), (761, 33123), (786, 33042), (846, 32892), (847, 32889), (855, 32853), (868, 32829), (870, 32820), (874, 32808), (880, 32781), (896, 32733), (906, 32712),

Gene: Phunky\_59 Start: 54049, Stop: 52190, Start Num: 196

Candidate Starts for Phunky\_59:

(Start: 175 @54073 has 1 MA's), (Start: 196 @54049 has 254 MA's), (Start: 221 @54025 has 2 MA's), (Start: 227 @54019 has 3 MA's), (246, 53977), (259, 53956), (307, 53842), (311, 53836), (326, 53806), (355, 53746), (366, 53725), (386, 53671), (391, 53659), (396, 53641), (398, 53629), (431, 53524), (454, 53467), (466, 53431), (471, 53419), (482, 53395), (486, 53383), (491, 53365), (499, 53347), (509, 53329), (533, 53290), (540, 53281), (542, 53278), (544, 53275), (695, 52918), (701, 52885), (706, 52864), (727, 52771), (730, 52762), (744, 52699), (760, 52663), (761, 52660), (766,

52645), (790, 52567), (794, 52555), (800, 52534), (817, 52495), (851, 52405), (856, 52387), (858, 52381), (868, 52366), (875, 52342), (877, 52327), (878, 52324), (881, 52312), (890, 52288), (907, 52240), (912, 52216),

Gene: PickleBack\_38 Start: 30260, Stop: 28416, Start Num: 231

Candidate Starts for PickleBack\_38:

(Start: 231 @30260 has 845 MA's), (256, 30209), (291, 30149), (317, 30086), (329, 30056), (330, 30053), (363, 29996), (367, 29984), (378, 29954), (390, 29927), (415, 29825), (422, 29810), (434, 29774), (475, 29714), (487, 29678), (509, 29630), (561, 29546), (562, 29540), (594, 29468), (603, 29435), (610, 29420), (616, 29408), (668, 29309), (700, 29174), (708, 29144), (709, 29126), (711, 29123), (720, 29087), (722, 29078), (724, 29057), (727, 29048), (733, 29021), (734, 29018), (755, 28961), (760, 28940), (796, 28823), (818, 28769), (823, 28760), (834, 28742), (856, 28664), (876, 28607), (890, 28571), (896, 28547), (902, 28535),

Gene: Piglet\_0060 Start: 54547, Stop: 52664, Start Num: 175

Candidate Starts for Piglet\_0060:

(Start: 175 @54547 has 1 MA's), (Start: 196 @54523 has 254 MA's), (Start: 221 @54499 has 2 MA's), (Start: 227 @54493 has 3 MA's), (246, 54451), (259, 54430), (307, 54316), (311, 54310), (326, 54280), (355, 54220), (366, 54199), (386, 54145), (391, 54133), (396, 54115), (398, 54103), (431, 53998), (454, 53941), (466, 53905), (471, 53893), (483, 53866), (491, 53839), (499, 53821), (509, 53803), (533, 53764), (540, 53755), (542, 53752), (668, 53494), (695, 53392), (701, 53359), (706, 53338), (727, 53245), (730, 53236), (744, 53173), (760, 53137), (761, 53134), (766, 53119), (790, 53041), (794, 53029), (800, 53008), (817, 52969), (851, 52879), (856, 52861), (858, 52855), (868, 52840), (875, 52816), (877, 52801), (878, 52798), (881, 52786), (890, 52762), (907, 52714), (912, 52690),

Gene: Pikmin\_35 Start: 27722, Stop: 25905, Start Num: 266

Candidate Starts for Pikmin\_35:

(Start: 266 @27722 has 4 MA's), (277, 27707), (397, 27431), (400, 27425), (463, 27290), (469, 27275), (492, 27197), (494, 27194), (498, 27182), (516, 27152), (551, 27095), (620, 26948), (683, 26768), (718, 26630), (729, 26579), (730, 26576), (733, 26558), (734, 26555), (743, 26516), (768, 26429), (775, 26402), (815, 26270), (852, 26147), (862, 26114), (863, 26108), (868, 26099), (893, 26003), (894, 25997),

Gene: Pine5\_49 Start: 43969, Stop: 42167, Start Num: 220

Candidate Starts for Pine5\_49:

(Start: 220 @43969 has 7 MA's), (246, 43918), (333, 43756), (386, 43642), (393, 43627), (398, 43603), (400, 43600), (403, 43591), (407, 43576), (410, 43573), (415, 43549), (417, 43543), (421, 43537), (423, 43531), (427, 43519), (433, 43501), (434, 43498), (523, 43291), (529, 43279), (542, 43261), (561, 43231), (565, 43216), (576, 43195), (610, 43120), (645, 43036), (657, 43027), (706, 42856), (721, 42799), (730, 42754), (772, 42613), (790, 42559), (794, 42547), (838, 42436), (875, 42322), (877, 42307), (890, 42268), (895, 42247), (917, 42172),

Gene: PinheadLarry\_61 Start: 54548, Stop: 52689, Start Num: 196

Candidate Starts for PinheadLarry\_61:

(Start: 175 @54572 has 1 MA's), (Start: 196 @54548 has 254 MA's), (Start: 221 @54524 has 2 MA's), (Start: 227 @54518 has 3 MA's), (246, 54476), (259, 54455), (307, 54341), (311, 54335), (326, 54305), (355, 54245), (366, 54224), (386, 54170), (391, 54158), (396, 54140), (398, 54128), (431, 54023), (454, 53966), (466, 53930), (471, 53918), (483, 53891), (491, 53864), (499, 53846), (509, 53828), (533, 53789), (540, 53780), (542, 53777), (668, 53519), (695, 53417), (701, 53384), (706, 53363), (727, 53270), (730, 53261), (744, 53198), (760, 53162), (761, 53159), (766, 53144), (790, 53066), (794, 53054), (800, 53033), (817, 52994), (851, 52904), (856, 52886), (858, 52880), (868, 52865), (875, 52841), (877, 52826), (878, 52823), (881, 52811), (890, 52787), (907, 52739), (912,

52715),

Gene: PinkPlastic\_43 Start: 34151, Stop: 32325, Start Num: 231

Candidate Starts for PinkPlastic\_43:

(Start: 231 @34151 has 845 MA's), (332, 33938), (337, 33923), (367, 33875), (378, 33845), (388, 33824), (390, 33818), (392, 33809), (403, 33767), (425, 33692), (434, 33665), (487, 33572), (492, 33557), (509, 33524), (541, 33473), (543, 33470), (575, 33404), (589, 33374), (598, 33344), (616, 33299), (638, 33260), (700, 33080), (709, 33032), (720, 32993), (733, 32927), (742, 32888), (755, 32867), (760, 32846), (766, 32828), (786, 32762), (846, 32612), (847, 32609), (855, 32573), (870, 32540), (874, 32528), (880, 32501), (896, 32453), (906, 32432),

Gene: Pinkman\_60 Start: 54129, Stop: 52270, Start Num: 196

Candidate Starts for Pinkman\_60:

(Start: 175 @54153 has 1 MA's), (Start: 196 @54129 has 254 MA's), (Start: 221 @54105 has 2 MA's), (Start: 227 @54099 has 3 MA's), (246, 54057), (259, 54036), (307, 53922), (311, 53916), (326, 53886), (355, 53826), (366, 53805), (386, 53751), (391, 53739), (396, 53721), (398, 53709), (431, 53604), (454, 53547), (466, 53511), (471, 53499), (483, 53472), (499, 53427), (533, 53370), (540, 53361), (542, 53358), (668, 53100), (695, 52998), (701, 52965), (706, 52944), (727, 52851), (730, 52842), (744, 52779), (760, 52743), (761, 52740), (766, 52725), (790, 52647), (794, 52635), (800, 52614), (817, 52575), (851, 52485), (856, 52467), (858, 52461), (868, 52446), (875, 52422), (877, 52407), (878, 52404), (881, 52392), (890, 52368), (895, 52347), (907, 52320), (912, 52296), (915, 52281),

Gene: Pinto\_45 Start: 34258, Stop: 32429, Start Num: 231

Candidate Starts for Pinto\_45:

(Start: 231 @34258 has 845 MA's), (332, 34045), (337, 34030), (367, 33982), (378, 33952), (388, 33931), (390, 33925), (392, 33916), (425, 33799), (434, 33772), (487, 33679), (492, 33664), (509, 33631), (541, 33580), (543, 33577), (570, 33523), (575, 33511), (589, 33481), (598, 33451), (616, 33406), (638, 33367), (700, 33187), (709, 33139), (722, 33091), (730, 33052), (733, 33034), (742, 32995), (755, 32974), (760, 32953), (765, 32938), (803, 32815), (871, 32644), (876, 32620), (893, 32572), (896, 32560), (906, 32539), (908, 32533), (921, 32485), (928, 32470),

Gene: Pioneer\_45 Start: 31538, Stop: 29745, Start Num: 231

Candidate Starts for Pioneer\_45:

(Start: 231 @31538 has 845 MA's), (236, 31529), (256, 31487), (316, 31367), (317, 31364), (334, 31316), (369, 31256), (379, 31226), (384, 31214), (390, 31202), (434, 31049), (487, 30956), (562, 30818), (575, 30788), (643, 30629), (652, 30617), (671, 30590), (697, 30482), (700, 30461), (730, 30326), (733, 30308), (760, 30227), (772, 30185), (796, 30110), (832, 30035), (846, 29993), (877, 29891), (896, 29834), (902, 29822), (906, 29813),

Gene: Pipcraft\_43 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Pipcraft\_43:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Pipefish\_59 Start: 54415, Stop: 52598, Start Num: 223

Candidate Starts for Pipefish\_59:

(123, 54598), (Start: 223 @54415 has 42 MA's), (240, 54385), (332, 54205), (395, 54052), (397, 54040), (407, 54010), (412, 54004), (431, 53941), (433, 53935), (454, 53884), (466, 53848), (486, 53800), (542, 53695), (589, 53599), (610, 53548), (681, 53404), (689, 53365), (696, 53335), (701,



53308), (704, 53296), (725, 53200), (727, 53194), (730, 53185), (732, 53173), (754, 53101), (760, 53071), (766, 53053), (768, 53044), (790, 52975), (794, 52963), (800, 52942), (834, 52873), (841, 52858), (847, 52834), (858, 52789), (873, 52756), (875, 52750), (878, 52732), (881, 52720), (886, 52708), (890, 52696), (904, 52654), (912, 52624),

Gene: Pippin\_47 Start: 35168, Stop: 33381, Start Num: 231

Candidate Starts for Pippin\_47:

(Start: 231 @35168 has 845 MA's), (332, 34955), (337, 34940), (367, 34892), (378, 34862), (388, 34841), (390, 34835), (392, 34826), (425, 34709), (434, 34682), (487, 34589), (492, 34574), (509, 34541), (541, 34490), (543, 34487), (575, 34421), (589, 34391), (598, 34361), (616, 34316), (638, 34277), (700, 34097), (709, 34049), (720, 34010), (733, 33944), (758, 33872), (760, 33863), (786, 33779), (818, 33692), (868, 33566), (871, 33554), (896, 33470), (899, 33464),

Gene: Pipsqueak\_59 Start: 53979, Stop: 52120, Start Num: 196

Candidate Starts for Pipsqueak\_59:

(Start: 175 @54003 has 1 MA's), (Start: 196 @53979 has 254 MA's), (Start: 221 @53955 has 2 MA's), (Start: 227 @53949 has 3 MA's), (246, 53907), (259, 53886), (307, 53772), (311, 53766), (326, 53736), (355, 53676), (366, 53655), (386, 53601), (391, 53589), (396, 53571), (398, 53559), (431, 53454), (454, 53397), (466, 53361), (471, 53349), (482, 53325), (486, 53313), (491, 53295), (499, 53277), (509, 53259), (533, 53220), (540, 53211), (542, 53208), (544, 53205), (695, 52848), (701, 52815), (706, 52794), (727, 52701), (730, 52692), (744, 52629), (760, 52593), (761, 52590), (766, 52575), (790, 52497), (794, 52485), (800, 52464), (817, 52425), (851, 52335), (856, 52317), (858, 52311), (868, 52296), (875, 52272), (877, 52257), (878, 52254), (881, 52242), (890, 52218), (907, 52170), (912, 52146),

Gene: Piro94\_44 Start: 31722, Stop: 29935, Start Num: 231

Candidate Starts for Piro94\_44:

(Start: 231 @31722 has 845 MA's), (329, 31518), (330, 31515), (332, 31509), (350, 31479), (367, 31446), (369, 31443), (378, 31416), (390, 31389), (403, 31338), (434, 31236), (487, 31143), (509, 31095), (513, 31086), (524, 31071), (562, 31005), (595, 30924), (613, 30876), (683, 30732), (700, 30651), (711, 30600), (719, 30567), (733, 30498), (742, 30459), (755, 30438), (760, 30417), (764, 30405), (832, 30225), (834, 30219), (846, 30183), (851, 30159), (877, 30081), (896, 30024), (902, 30012),

Gene: Pistachio\_47 Start: 31102, Stop: 29264, Start Num: 231

Candidate Starts for Pistachio\_47:

(Start: 231 @31102 has 845 MA's), (256, 31051), (292, 30985), (329, 30898), (363, 30838), (367, 30826), (390, 30769), (392, 30760), (426, 30640), (434, 30616), (487, 30520), (511, 30472), (549, 30412), (577, 30349), (603, 30280), (613, 30259), (653, 30187), (673, 30145), (683, 30103), (700, 30022), (709, 29974), (726, 29899), (733, 29869), (739, 29839), (761, 29758), (772, 29719), (780, 29695), (786, 29677), (834, 29548), (851, 29488), (896, 29353), (902, 29341), (906, 29332),

Gene: Pita2\_47 Start: 35444, Stop: 33618, Start Num: 231

Candidate Starts for Pita2\_47:

(Start: 231 @35444 has 845 MA's), (332, 35231), (337, 35216), (367, 35168), (378, 35138), (388, 35117), (390, 35111), (392, 35102), (425, 34985), (434, 34958), (487, 34865), (492, 34850), (501, 34829), (541, 34766), (543, 34763), (575, 34697), (589, 34667), (598, 34637), (616, 34592), (638, 34553), (700, 34373), (708, 34343), (709, 34325), (711, 34322), (720, 34286), (733, 34220), (742, 34181), (755, 34160), (760, 34139), (766, 34121), (786, 34055), (846, 33905), (847, 33902), (855, 33866), (870, 33833), (874, 33821), (896, 33746), (906, 33725),

Gene: Pixelle\_42 Start: 30386, Stop: 32251, Start Num: 231

Candidate Starts for Pixelle\_42:

(Start: 231 @30386 has 845 MA's), (254, 30434), (348, 30617), (351, 30623), (378, 30683), (406, 30773), (489, 30980), (492, 30989), (549, 31088), (558, 31103), (613, 31241), (674, 31379), (694, 31466), (700, 31499), (714, 31562), (720, 31586), (733, 31652), (759, 31745), (820, 31925), (846, 31988), (851, 32012), (896, 32147), (901, 32156),

Gene: Placalicious\_61 Start: 55080, Stop: 53221, Start Num: 196

Candidate Starts for Placalicious\_61:

(Start: 175 @55104 has 1 MA's), (Start: 196 @55080 has 254 MA's), (Start: 221 @55056 has 2 MA's), (Start: 227 @55050 has 3 MA's), (246, 55008), (259, 54987), (307, 54873), (311, 54867), (326, 54837), (355, 54777), (366, 54756), (386, 54702), (391, 54690), (396, 54672), (431, 54555), (454, 54498), (466, 54462), (471, 54450), (483, 54423), (491, 54396), (499, 54378), (509, 54360), (533, 54321), (540, 54312), (542, 54309), (668, 54051), (695, 53949), (701, 53916), (706, 53895), (727, 53802), (730, 53793), (744, 53730), (760, 53694), (761, 53691), (766, 53676), (790, 53598), (794, 53586), (800, 53565), (817, 53526), (851, 53436), (856, 53418), (858, 53412), (868, 53397), (875, 53373), (877, 53358), (878, 53355), (881, 53343), (890, 53319), (907, 53271), (912, 53247),

Gene: Plmatters\_59 Start: 54053, Stop: 52194, Start Num: 196

Candidate Starts for Plmatters\_59:

(Start: 175 @54077 has 1 MA's), (Start: 196 @54053 has 254 MA's), (Start: 221 @54029 has 2 MA's), (Start: 227 @54023 has 3 MA's), (246, 53981), (259, 53960), (307, 53846), (311, 53840), (326, 53810), (355, 53750), (366, 53729), (386, 53675), (391, 53663), (396, 53645), (398, 53633), (431, 53528), (454, 53471), (466, 53435), (471, 53423), (483, 53396), (491, 53369), (499, 53351), (509, 53333), (533, 53294), (540, 53285), (542, 53282), (668, 53024), (695, 52922), (701, 52889), (706, 52868), (727, 52775), (730, 52766), (744, 52703), (760, 52667), (761, 52664), (766, 52649), (790, 52571), (794, 52559), (800, 52538), (817, 52499), (851, 52409), (856, 52391), (858, 52385), (868, 52370), (875, 52346), (877, 52331), (878, 52328), (881, 52316), (890, 52292), (907, 52244), (912, 52220),

Gene: Pmask\_45 Start: 29639, Stop: 27798, Start Num: 231

Candidate Starts for Pmask\_45:

(Start: 231 @29639 has 845 MA's), (329, 29435), (367, 29360), (369, 29357), (378, 29330), (384, 29315), (390, 29303), (403, 29252), (430, 29162), (434, 29150), (487, 29057), (502, 29018), (513, 29000), (524, 28985), (562, 28919), (576, 28886), (577, 28883), (619, 28781), (652, 28721), (683, 28637), (700, 28556), (719, 28472), (720, 28469), (722, 28460), (726, 28433), (733, 28403), (755, 28343), (766, 28304), (846, 28088), (847, 28085), (851, 28064), (896, 27929), (902, 27917), (906, 27908), (907, 27905), (939, 27812),

Gene: Pocahontas\_44 Start: 31594, Stop: 29756, Start Num: 231

Candidate Starts for Pocahontas\_44:

(Start: 231 @31594 has 845 MA's), (256, 31543), (329, 31390), (367, 31318), (378, 31288), (390, 31261), (392, 31252), (434, 31108), (487, 31012), (511, 30964), (549, 30904), (590, 30817), (603, 30772), (613, 30751), (653, 30679), (673, 30637), (683, 30595), (700, 30514), (709, 30466), (720, 30427), (726, 30391), (733, 30361), (739, 30331), (761, 30250), (772, 30211), (780, 30187), (786, 30169), (787, 30166), (834, 30040), (851, 29980), (880, 29893), (896, 29845), (902, 29833), (906, 29824),

Gene: Pocket\_38 Start: 28623, Stop: 26758, Start Num: 267

Candidate Starts for Pocket\_38:

(Start: 214 @28710 has 4 MA's), (Start: 267 @28623 has 137 MA's), (Start: 275 @28614 has 5 MA's), (321, 28509), (325, 28500), (338, 28470), (340, 28467), (395, 28347), (397, 28335), (400, 28329), (436, 28224), (445, 28197), (490, 28056), (492, 28050), (494, 28047), (498, 28035), (513, 28008), (516, 28005), (525, 27990), (527, 27984), (530, 27978), (553, 27945), (612, 27816), (634, 27756), (726, 27441), (729, 27432), (730, 27429), (733, 27411), (743, 27369), (745, 27363), (751, 27339),

(768, 27282), (815, 27123), (827, 27093), (828, 27084), (847, 27024), (852, 27000), (863, 26961), (875, 26928), (876, 26916), (893, 26856),

Gene: Podrick\_59 Start: 53832, Stop: 51973, Start Num: 196

Candidate Starts for Podrick\_59:

(Start: 175 @53856 has 1 MA's), (Start: 196 @53832 has 254 MA's), (Start: 221 @53808 has 2 MA's), (Start: 227 @53802 has 3 MA's), (246, 53760), (259, 53739), (307, 53625), (311, 53619), (326, 53589), (355, 53529), (366, 53508), (386, 53454), (391, 53442), (396, 53424), (398, 53412), (431, 53307), (454, 53250), (466, 53214), (471, 53202), (483, 53175), (491, 53148), (499, 53130), (509, 53112), (533, 53073), (540, 53064), (542, 53061), (668, 52803), (695, 52701), (701, 52668), (706, 52647), (727, 52554), (730, 52545), (744, 52482), (760, 52446), (761, 52443), (766, 52428), (790, 52350), (794, 52338), (800, 52317), (817, 52278), (851, 52188), (856, 52170), (858, 52164), (868, 52149), (875, 52125), (877, 52110), (878, 52107), (881, 52095), (890, 52071), (907, 52023), (912, 51999),

Gene: Polymorphads\_46 Start: 31563, Stop: 29737, Start Num: 231

Candidate Starts for Polymorphads\_46:

(Start: 231 @31563 has 845 MA's), (240, 31542), (256, 31512), (274, 31482), (350, 31320), (360, 31302), (390, 31230), (392, 31221), (426, 31101), (434, 31077), (487, 30984), (511, 30936), (524, 30915), (549, 30876), (603, 30744), (613, 30723), (638, 30678), (643, 30666), (697, 30513), (700, 30492), (726, 30369), (733, 30339), (742, 30300), (760, 30234), (761, 30231), (766, 30216), (772, 30192), (780, 30168), (851, 29961), (896, 29826), (902, 29814), (906, 29805),

Gene: Pomar16\_47 Start: 31194, Stop: 29371, Start Num: 231

Candidate Starts for Pomar16\_47:

(Start: 231 @31194 has 845 MA's), (329, 30990), (337, 30966), (350, 30948), (360, 30930), (367, 30915), (369, 30912), (378, 30885), (390, 30858), (403, 30807), (434, 30705), (487, 30612), (509, 30564), (513, 30555), (523, 30543), (524, 30540), (562, 30474), (589, 30414), (638, 30300), (652, 30276), (672, 30237), (700, 30111), (711, 30060), (720, 30024), (733, 29958), (742, 29919), (761, 29850), (772, 29811), (787, 29766), (796, 29736), (823, 29673), (832, 29661), (834, 29655), (851, 29595), (896, 29460), (902, 29448), (906, 29439),

Gene: Pons\_46 Start: 34228, Stop: 31850, Start Num: 43

Candidate Starts for Pons\_46:

(Start: 43 @34228 has 11 MA's), (58, 34168), (91, 34087), (127, 33967), (159, 33922), (Start: 208 @33844 has 3 MA's), (Start: 212 @33838 has 1 MA's), (Start: 214 @33835 has 4 MA's), (237, 33805), (255, 33766), (258, 33757), (278, 33730), (280, 33727), (303, 33670), (321, 33631), (352, 33568), (365, 33544), (369, 33535), (371, 33523), (384, 33490), (386, 33487), (393, 33469), (397, 33448), (418, 33388), (463, 33265), (490, 33190), (519, 33148), (576, 33061), (603, 33013), (617, 32983), (622, 32977), (640, 32932), (642, 32929), (649, 32914), (659, 32893), (679, 32830), (690, 32779), (703, 32719), (705, 32710), (708, 32695), (711, 32680), (714, 32668), (733, 32575), (741, 32539), (743, 32533), (745, 32527), (746, 32521), (761, 32464), (768, 32440), (795, 32335), (796, 32332), (815, 32281), (830, 32239), (836, 32221), (847, 32182), (857, 32140), (865, 32116), (875, 32086), (886, 32038), (889, 32029), (893, 32014), (908, 31969), (920, 31915), (934, 31882), (940, 31870),

Gene: Poompha\_43 Start: 30385, Stop: 28553, Start Num: 231

Candidate Starts for Poompha\_43:

(Start: 231 @30385 has 845 MA's), (256, 30334), (292, 30268), (329, 30181), (332, 30172), (363, 30121), (367, 30109), (390, 30052), (411, 29971), (413, 29959), (415, 29950), (426, 29923), (434, 29899), (487, 29806), (549, 29698), (562, 29671), (616, 29539), (700, 29311), (716, 29245), (726, 29188), (733, 29158), (742, 29119), (761, 29047), (766, 29032), (772, 29008), (786, 28966), (796, 28933), (851, 28777), (858, 28753), (880, 28690), (896, 28642), (902, 28630), (906, 28621),

Gene: Popcicle\_44 Start: 31594, Stop: 29756, Start Num: 231

Candidate Starts for Popcicle\_44:

(Start: 231 @31594 has 845 MA's), (256, 31543), (329, 31390), (367, 31318), (378, 31288), (390, 31261), (392, 31252), (434, 31108), (487, 31012), (511, 30964), (549, 30904), (590, 30817), (603, 30772), (613, 30751), (653, 30679), (673, 30637), (683, 30595), (700, 30514), (709, 30466), (720, 30427), (726, 30391), (733, 30361), (739, 30331), (761, 30250), (772, 30211), (780, 30187), (786, 30169), (787, 30166), (834, 30040), (851, 29980), (880, 29893), (896, 29845), (902, 29833), (906, 29824),

Gene: Pops\_60 Start: 54238, Stop: 52379, Start Num: 196

Candidate Starts for Pops\_60:

(Start: 175 @54262 has 1 MA's), (Start: 196 @54238 has 254 MA's), (Start: 221 @54214 has 2 MA's), (Start: 227 @54208 has 3 MA's), (246, 54166), (259, 54145), (307, 54031), (311, 54025), (326, 53995), (355, 53935), (366, 53914), (386, 53860), (391, 53848), (396, 53830), (398, 53818), (431, 53713), (454, 53656), (466, 53620), (471, 53608), (482, 53584), (486, 53572), (491, 53554), (499, 53536), (509, 53518), (533, 53479), (540, 53470), (542, 53467), (544, 53464), (695, 53107), (701, 53074), (706, 53053), (727, 52960), (730, 52951), (744, 52888), (760, 52852), (761, 52849), (766, 52834), (790, 52756), (794, 52744), (800, 52723), (817, 52684), (851, 52594), (856, 52576), (858, 52570), (868, 52555), (875, 52531), (877, 52516), (878, 52513), (881, 52501), (890, 52477), (907, 52429), (912, 52405),

Gene: Poster\_52 Start: 52989, Stop: 51166, Start Num: 182

Candidate Starts for Poster\_52:

(Start: 169 @53007 has 3 MA's), (Start: 182 @52989 has 24 MA's), (Start: 227 @52965 has 3 MA's), (240, 52938), (246, 52923), (259, 52902), (301, 52815), (351, 52710), (371, 52668), (396, 52602), (405, 52572), (407, 52563), (410, 52560), (412, 52557), (417, 52530), (454, 52437), (461, 52419), (466, 52401), (471, 52389), (480, 52374), (483, 52362), (540, 52251), (542, 52248), (561, 52218), (575, 52182), (681, 51957), (682, 51954), (689, 51918), (695, 51894), (701, 51861), (725, 51753), (727, 51747), (729, 51741), (730, 51738), (760, 51639), (761, 51636), (766, 51621), (790, 51543), (794, 51531), (800, 51510), (803, 51501), (817, 51471), (832, 51447), (844, 51414), (851, 51381), (856, 51363), (858, 51357), (875, 51318), (878, 51300), (881, 51288), (890, 51264), (904, 51222), (907, 51216), (912, 51192),

Gene: PotPie\_44 Start: 34903, Stop: 32528, Start Num: 43

Candidate Starts for PotPie\_44:

(Start: 43 @34903 has 11 MA's), (58, 34843), (79, 34801), (91, 34762), (127, 34642), (135, 34621), (159, 34597), (Start: 208 @34519 has 3 MA's), (Start: 212 @34513 has 1 MA's), (Start: 214 @34510 has 4 MA's), (237, 34480), (258, 34432), (278, 34405), (280, 34402), (303, 34345), (321, 34306), (331, 34285), (352, 34243), (365, 34219), (369, 34210), (370, 34204), (371, 34198), (384, 34165), (393, 34144), (397, 34123), (463, 33940), (490, 33865), (519, 33823), (576, 33736), (596, 33712), (603, 33688), (607, 33679), (617, 33658), (640, 33607), (642, 33604), (649, 33589), (659, 33568), (693, 33442), (703, 33394), (705, 33385), (714, 33343), (733, 33250), (741, 33214), (743, 33208), (745, 33202), (746, 33196), (761, 33139), (768, 33115), (795, 33010), (796, 33007), (830, 32914), (836, 32896), (847, 32857), (857, 32815), (865, 32791), (875, 32761), (886, 32713), (893, 32689), (908, 32644), (936, 32557),

Gene: PotatoSplit\_50 Start: 31856, Stop: 30042, Start Num: 231

Candidate Starts for PotatoSplit\_50:

(Start: 231 @31856 has 845 MA's), (248, 31817), (256, 31805), (329, 31652), (333, 31637), (367, 31580), (390, 31523), (392, 31514), (403, 31472), (415, 31421), (434, 31370), (487, 31277), (509, 31229), (513, 31220), (524, 31205), (549, 31166), (562, 31139), (575, 31109), (610, 31016), (641, 30956), (652, 30941), (700, 30785), (720, 30698), (733, 30632), (742, 30593), (761, 30521), (772, 30482), (780, 30458), (786, 30440), (796, 30407), (806, 30380), (834, 30326), (851, 30266), (877,

30188), (896, 30131), (902, 30119), (906, 30110),

Gene: Potter\_59 Start: 54044, Stop: 52185, Start Num: 196

Candidate Starts for Potter\_59:

(Start: 175 @54068 has 1 MA's), (Start: 196 @54044 has 254 MA's), (Start: 221 @54020 has 2 MA's), (Start: 227 @54014 has 3 MA's), (246, 53972), (259, 53951), (307, 53837), (311, 53831), (326, 53801), (355, 53741), (366, 53720), (386, 53666), (391, 53654), (396, 53636), (398, 53624), (431, 53519), (454, 53462), (466, 53426), (471, 53414), (483, 53387), (499, 53342), (533, 53285), (540, 53276), (542, 53273), (695, 52913), (701, 52880), (706, 52859), (727, 52766), (730, 52757), (744, 52694), (760, 52658), (761, 52655), (766, 52640), (790, 52562), (794, 52550), (800, 52529), (817, 52490), (851, 52400), (856, 52382), (858, 52376), (868, 52361), (875, 52337), (877, 52322), (878, 52319), (881, 52307), (890, 52283), (907, 52235), (912, 52211),

Gene: Power\_43 Start: 31319, Stop: 29532, Start Num: 231

Candidate Starts for Power\_43:

(102, 31574), (Start: 231 @31319 has 845 MA's), (329, 31115), (330, 31112), (332, 31106), (337, 31091), (350, 31076), (367, 31043), (369, 31040), (378, 31013), (390, 30986), (395, 30965), (403, 30935), (434, 30833), (437, 30824), (487, 30740), (509, 30692), (513, 30683), (524, 30668), (562, 30602), (595, 30521), (613, 30473), (616, 30467), (652, 30404), (683, 30329), (700, 30248), (711, 30197), (719, 30164), (720, 30161), (733, 30095), (742, 30056), (755, 30035), (786, 29930), (796, 29897), (806, 29870), (823, 29834), (832, 29822), (834, 29816), (846, 29780), (851, 29756), (877, 29678), (896, 29621), (902, 29609), (906, 29600),

Gene: Powerpuff\_43 Start: 30792, Stop: 32657, Start Num: 231

Candidate Starts for Powerpuff\_43:

(Start: 231 @30792 has 845 MA's), (254, 30840), (378, 31089), (406, 31179), (489, 31386), (492, 31395), (542, 31485), (549, 31494), (558, 31509), (576, 31554), (595, 31599), (613, 31647), (643, 31704), (674, 31785), (694, 31872), (700, 31905), (708, 31935), (720, 31992), (733, 32058), (738, 32082), (759, 32151), (780, 32223), (783, 32232), (820, 32331), (846, 32394), (851, 32418), (890, 32529), (896, 32553), (901, 32562),

Gene: Priamo\_47 Start: 29939, Stop: 28098, Start Num: 231

Candidate Starts for Priamo\_47:

(Start: 231 @29939 has 845 MA's), (329, 29735), (367, 29660), (369, 29657), (378, 29630), (384, 29615), (390, 29603), (403, 29552), (434, 29450), (487, 29357), (502, 29318), (513, 29300), (562, 29219), (577, 29183), (619, 29081), (652, 29021), (683, 28937), (700, 28856), (719, 28772), (720, 28769), (722, 28760), (726, 28733), (733, 28703), (755, 28643), (766, 28604), (772, 28580), (846, 28388), (847, 28385), (851, 28364), (896, 28229), (902, 28217), (906, 28208), (907, 28205), (939, 28112),

Gene: Prickles\_62 Start: 54544, Stop: 52685, Start Num: 196

Candidate Starts for Prickles\_62:

(Start: 175 @54568 has 1 MA's), (Start: 196 @54544 has 254 MA's), (Start: 221 @54520 has 2 MA's), (Start: 227 @54514 has 3 MA's), (246, 54472), (259, 54451), (307, 54337), (311, 54331), (326, 54301), (355, 54241), (366, 54220), (386, 54166), (391, 54154), (396, 54136), (398, 54124), (431, 54019), (454, 53962), (466, 53926), (471, 53914), (483, 53887), (486, 53878), (499, 53842), (533, 53785), (540, 53776), (542, 53773), (544, 53770), (695, 53413), (701, 53380), (706, 53359), (727, 53266), (730, 53257), (744, 53194), (760, 53158), (761, 53155), (766, 53140), (790, 53062), (794, 53050), (800, 53029), (817, 52990), (851, 52900), (856, 52882), (858, 52876), (868, 52861), (875, 52837), (877, 52822), (878, 52819), (881, 52807), (890, 52783), (907, 52735), (912, 52711),

Gene: PrincePhergus\_37 Start: 28495, Stop: 26645, Start Num: 265

Candidate Starts for PrincePhergus\_37:

(Start: 265 @28495 has 17 MA's), (325, 28372), (340, 28339), (393, 28228), (397, 28207), (400, 28201), (402, 28192), (417, 28150), (476, 27994), (490, 27940), (492, 27934), (494, 27931), (498, 27919), (516, 27889), (551, 27832), (620, 27685), (675, 27538), (726, 27328), (729, 27319), (730, 27316), (733, 27298), (743, 27256), (747, 27241), (768, 27169), (827, 26980), (828, 26971), (847, 26911), (852, 26887), (862, 26854), (893, 26743),

Gene: Prince\_54 Start: 54119, Stop: 52347, Start Num: 240

Candidate Starts for Prince\_54:

(Start: 169 @54188 has 3 MA's), (Start: 182 @54170 has 24 MA's), (Start: 227 @54146 has 3 MA's), (240, 54119), (246, 54104), (259, 54083), (301, 53996), (351, 53891), (371, 53849), (396, 53783), (405, 53753), (407, 53744), (410, 53741), (412, 53738), (454, 53618), (461, 53600), (466, 53582), (471, 53570), (480, 53555), (483, 53543), (540, 53432), (542, 53429), (561, 53399), (575, 53363), (681, 53138), (682, 53135), (689, 53099), (695, 53075), (701, 53042), (725, 52934), (727, 52928), (730, 52919), (760, 52820), (761, 52817), (766, 52802), (790, 52724), (794, 52712), (800, 52691), (803, 52682), (817, 52652), (844, 52595), (851, 52562), (856, 52544), (858, 52538), (875, 52499), (878, 52481), (881, 52469), (890, 52445), (904, 52403), (907, 52397), (912, 52373),

Gene: Priya\_45 Start: 31550, Stop: 29757, Start Num: 231

Candidate Starts for Priya\_45:

(Start: 231 @31550 has 845 MA's), (236, 31541), (256, 31499), (316, 31379), (317, 31376), (334, 31328), (369, 31268), (379, 31238), (384, 31226), (390, 31214), (434, 31061), (487, 30968), (562, 30830), (575, 30800), (643, 30641), (652, 30629), (671, 30602), (697, 30494), (700, 30473), (730, 30338), (733, 30320), (760, 30239), (772, 30197), (796, 30122), (832, 30047), (846, 30005), (877, 29903), (896, 29846), (902, 29834), (906, 29825),

Gene: ProfessorX\_60 Start: 54043, Stop: 52184, Start Num: 196

Candidate Starts for ProfessorX\_60:

(Start: 175 @54067 has 1 MA's), (Start: 196 @54043 has 254 MA's), (Start: 221 @54019 has 2 MA's), (Start: 227 @54013 has 3 MA's), (246, 53971), (259, 53950), (307, 53836), (311, 53830), (326, 53800), (355, 53740), (366, 53719), (386, 53665), (391, 53653), (396, 53635), (398, 53623), (431, 53518), (454, 53461), (466, 53425), (471, 53413), (482, 53389), (486, 53377), (491, 53359), (499, 53341), (509, 53323), (533, 53284), (540, 53275), (542, 53272), (544, 53269), (695, 52912), (701, 52879), (706, 52858), (727, 52765), (730, 52756), (744, 52693), (760, 52657), (761, 52654), (766, 52639), (790, 52561), (794, 52549), (800, 52528), (817, 52489), (851, 52399), (856, 52381), (858, 52375), (868, 52360), (875, 52336), (877, 52321), (878, 52318), (881, 52306), (890, 52282), (907, 52234), (912, 52210),

Gene: PsychoKiller\_42 Start: 32441, Stop: 30048, Start Num: 33

Candidate Starts for PsychoKiller\_42:

(Start: 33 @32441 has 15 MA's), (45, 32435), (Start: 56 @32387 has 1 MA's), (71, 32345), (81, 32321), (119, 32195), (127, 32171), (159, 32126), (191, 32075), (201, 32060), (Start: 214 @32039 has 4 MA's), (243, 31991), (261, 31958), (Start: 267 @31949 has 137 MA's), (303, 31874), (308, 31862), (337, 31793), (354, 31766), (357, 31760), (365, 31745), (384, 31691), (386, 31688), (393, 31670), (397, 31649), (418, 31589), (463, 31466), (465, 31460), (490, 31391), (519, 31349), (576, 31262), (588, 31238), (596, 31232), (603, 31208), (607, 31199), (614, 31184), (622, 31172), (639, 31130), (640, 31127), (642, 31124), (690, 30977), (698, 30935), (705, 30908), (706, 30902), (733, 30773), (741, 30737), (743, 30731), (745, 30725), (746, 30719), (761, 30662), (768, 30638), (777, 30593), (892, 30215), (893, 30212), (908, 30167), (910, 30158), (926, 30098),

Gene: Puhltonio\_60 Start: 54318, Stop: 52459, Start Num: 196

Candidate Starts for Puhltonio\_60:

(Start: 175 @54342 has 1 MA's), (Start: 196 @54318 has 254 MA's), (Start: 221 @54294 has 2 MA's), (Start: 227 @54288 has 3 MA's), (246, 54246), (259, 54225), (307, 54111), (311, 54105), (326,

54075), (355, 54015), (366, 53994), (386, 53940), (391, 53928), (396, 53910), (398, 53898), (431, 53793), (454, 53736), (466, 53700), (471, 53688), (483, 53661), (491, 53634), (499, 53616), (509, 53598), (533, 53559), (540, 53550), (542, 53547), (668, 53289), (695, 53187), (701, 53154), (706, 53133), (727, 53040), (730, 53031), (744, 52968), (760, 52932), (761, 52929), (766, 52914), (790, 52836), (794, 52824), (800, 52803), (817, 52764), (851, 52674), (856, 52656), (858, 52650), (868, 52635), (875, 52611), (877, 52596), (878, 52593), (881, 52581), (890, 52557), (907, 52509), (912, 52485),

Gene: Pukovnik\_43 Start: 32125, Stop: 30323, Start Num: 231

Candidate Starts for Pukovnik\_43:

(Start: 231 @32125 has 845 MA's), (329, 31921), (330, 31918), (369, 31843), (378, 31816), (390, 31789), (395, 31768), (430, 31648), (434, 31636), (487, 31543), (509, 31495), (513, 31486), (524, 31471), (562, 31405), (607, 31288), (638, 31231), (652, 31207), (672, 31165), (687, 31102), (700, 31039), (711, 30988), (720, 30952), (726, 30916), (733, 30886), (742, 30847), (755, 30826), (760, 30805), (796, 30688), (823, 30625), (846, 30571), (851, 30547), (873, 30490), (877, 30469), (896, 30412), (902, 30400), (906, 30391),

Gene: Pumbaa\_45 Start: 31515, Stop: 29686, Start Num: 231

Candidate Starts for Pumbaa\_45:

(Start: 231 @31515 has 845 MA's), (240, 31494), (256, 31464), (274, 31434), (350, 31272), (360, 31254), (390, 31182), (392, 31173), (426, 31053), (434, 31029), (487, 30936), (511, 30888), (524, 30867), (549, 30828), (603, 30696), (613, 30675), (638, 30630), (643, 30618), (700, 30444), (730, 30309), (733, 30291), (742, 30252), (761, 30180), (772, 30141), (780, 30117), (782, 30111), (787, 30096), (851, 29910), (896, 29775), (902, 29763), (906, 29754),

Gene: Pumpnickel\_113 Start: 82450, Stop: 80615, Start Num: 222

Candidate Starts for Pumpnickel\_113:

(Start: 222 @82450 has 57 MA's), (248, 82408), (330, 82222), (365, 82165), (391, 82102), (397, 82075), (421, 82012), (490, 81886), (498, 81865), (508, 81847), (530, 81802), (549, 81775), (570, 81730), (576, 81715), (585, 81697), (590, 81685), (603, 81640), (607, 81631), (700, 81385), (716, 81319), (723, 81271), (744, 81172), (770, 81076), (772, 81067), (783, 81034), (786, 81025), (796, 80992), (811, 80956), (856, 80815), (871, 80782), (875, 80770), (885, 80731), (896, 80698),

Gene: Pumpkins\_40 Start: 29815, Stop: 31680, Start Num: 231

Candidate Starts for Pumpkins\_40:

(Start: 231 @29815 has 845 MA's), (254, 29863), (378, 30112), (413, 30232), (489, 30409), (549, 30517), (558, 30532), (613, 30670), (674, 30808), (700, 30928), (720, 31015), (733, 31081), (759, 31174), (846, 31417), (896, 31576), (901, 31585),

Gene: Puppies\_42 Start: 34640, Stop: 32244, Start Num: 4

Candidate Starts for Puppies\_42:

(Start: 4 @34640 has 5 MA's), (5, 34631), (23, 34535), (144, 34199), (Start: 161 @34169 has 1 MA's), (168, 34157), (205, 34103), (274, 33983), (291, 33962), (304, 33917), (328, 33869), (334, 33848), (403, 33686), (424, 33623), (431, 33602), (434, 33593), (466, 33512), (471, 33500), (490, 33446), (503, 33416), (523, 33389), (540, 33362), (542, 33359), (544, 33356), (610, 33209), (645, 33125), (676, 33074), (684, 33035), (687, 33026), (689, 33017), (701, 32960), (722, 32879), (727, 32849), (752, 32759), (757, 32747), (766, 32720), (790, 32642), (794, 32630), (803, 32600), (840, 32510), (844, 32495), (851, 32462), (873, 32405), (877, 32384), (878, 32381), (886, 32357), (890, 32345), (907, 32294), (912, 32270),

Gene: Puppy\_47 Start: 31175, Stop: 29337, Start Num: 231

Candidate Starts for Puppy\_47:

(Start: 231 @31175 has 845 MA's), (256, 31124), (292, 31058), (329, 30971), (363, 30911), (367, 30899), (390, 30842), (392, 30833), (426, 30713), (434, 30689), (487, 30593), (511, 30545), (549, 30485), (577, 30422), (603, 30353), (613, 30332), (653, 30260), (673, 30218), (683, 30176), (700, 30095), (709, 30047), (726, 29972), (733, 29942), (739, 29912), (761, 29831), (772, 29792), (780, 29768), (786, 29750), (834, 29621), (851, 29561), (896, 29426), (902, 29414), (906, 29405),

Gene: PuppyEggo\_39 Start: 28937, Stop: 27072, Start Num: 267

Candidate Starts for PuppyEggo\_39:

(Start: 214 @29024 has 4 MA's), (Start: 216 @29021 has 7 MA's), (Start: 267 @28937 has 137 MA's), (Start: 275 @28928 has 5 MA's), (321, 28823), (325, 28814), (338, 28784), (340, 28781), (395, 28661), (397, 28649), (400, 28643), (436, 28538), (445, 28511), (490, 28370), (492, 28364), (494, 28361), (498, 28349), (513, 28322), (516, 28319), (525, 28304), (527, 28298), (530, 28292), (553, 28259), (612, 28130), (634, 28070), (666, 27995), (726, 27755), (729, 27746), (730, 27743), (733, 27725), (743, 27683), (745, 27677), (747, 27668), (751, 27653), (768, 27596), (815, 27437), (827, 27407), (828, 27398), (847, 27338), (852, 27314), (863, 27275), (875, 27242), (876, 27230), (893, 27170),

Gene: PurpleHaze\_48 Start: 31752, Stop: 29938, Start Num: 231

Candidate Starts for PurpleHaze\_48:

(Start: 231 @31752 has 845 MA's), (248, 31713), (256, 31701), (329, 31548), (333, 31533), (367, 31476), (390, 31419), (392, 31410), (403, 31368), (415, 31317), (434, 31266), (487, 31173), (509, 31125), (524, 31101), (549, 31062), (562, 31035), (575, 31005), (610, 30912), (616, 30900), (641, 30852), (652, 30837), (700, 30681), (711, 30630), (719, 30597), (720, 30594), (733, 30528), (742, 30489), (761, 30417), (772, 30378), (780, 30354), (786, 30336), (796, 30303), (834, 30222), (851, 30162), (856, 30144), (877, 30084), (880, 30075), (896, 30027), (902, 30015), (906, 30006),

Gene: QMacho\_45 Start: 30268, Stop: 32142, Start Num: 222

Candidate Starts for QMacho\_45:

(Start: 220 @30265 has 7 MA's), (Start: 222 @30268 has 57 MA's), (Start: 266 @30337 has 4 MA's), (279, 30358), (291, 30382), (367, 30538), (392, 30604), (549, 30940), (603, 31075), (651, 31174), (688, 31297), (700, 31357), (702, 31363), (711, 31408), (718, 31438), (724, 31474), (733, 31510), (759, 31603), (787, 31696), (816, 31774), (846, 31846), (855, 31885), (873, 31927), (876, 31945), (896, 32005), (906, 32026),

Gene: QTRlifeCrisis\_45 Start: 35266, Stop: 33440, Start Num: 231

Candidate Starts for QTRlifeCrisis\_45:

(Start: 231 @35266 has 845 MA's), (332, 35053), (367, 34990), (378, 34960), (388, 34939), (390, 34933), (392, 34924), (425, 34807), (434, 34780), (487, 34687), (492, 34672), (509, 34639), (541, 34588), (543, 34585), (575, 34519), (589, 34489), (598, 34459), (616, 34414), (638, 34375), (700, 34195), (709, 34147), (720, 34108), (733, 34042), (742, 34003), (755, 33982), (760, 33961), (766, 33943), (786, 33877), (846, 33727), (847, 33724), (855, 33688), (868, 33664), (870, 33655), (874, 33643), (896, 33568), (906, 33547),

Gene: Qobbit\_45 Start: 31512, Stop: 29719, Start Num: 231

Candidate Starts for Qobbit\_45:

(Start: 231 @31512 has 845 MA's), (236, 31503), (256, 31461), (316, 31341), (317, 31338), (334, 31290), (369, 31230), (379, 31200), (384, 31188), (390, 31176), (434, 31023), (487, 30930), (562, 30792), (575, 30762), (643, 30603), (652, 30591), (671, 30564), (697, 30456), (700, 30435), (730, 30300), (733, 30282), (760, 30201), (772, 30159), (796, 30084), (832, 30009), (846, 29967), (877, 29865), (896, 29808), (902, 29796), (906, 29787),

Gene: QuadZero\_37 Start: 27017, Stop: 25152, Start Num: 267

Candidate Starts for QuadZero\_37:



(Start: 267 @27017 has 137 MA's), (272, 27011), (316, 26912), (321, 26903), (332, 26879), (338, 26864), (342, 26858), (370, 26807), (371, 26804), (400, 26723), (453, 26573), (456, 26570), (484, 26471), (492, 26444), (494, 26441), (498, 26429), (516, 26399), (527, 26378), (551, 26342), (620, 26195), (683, 26015), (726, 25835), (733, 25805), (746, 25751), (751, 25733), (768, 25676), (775, 25649), (784, 25607), (796, 25568), (827, 25487), (828, 25478), (847, 25418), (852, 25394), (855, 25382), (858, 25373), (863, 25355), (875, 25322), (893, 25250),

Gene: Quartz\_38 Start: 28631, Stop: 26730, Start Num: 267

Candidate Starts for Quartz\_38:

(Start: 267 @28631 has 137 MA's), (325, 28508), (332, 28493), (338, 28478), (359, 28445), (365, 28436), (370, 28421), (384, 28385), (391, 28370), (397, 28343), (400, 28337), (417, 28286), (430, 28247), (453, 28187), (490, 28061), (494, 28052), (498, 28040), (516, 28010), (551, 27953), (620, 27806), (634, 27761), (677, 27650), (718, 27455), (726, 27413), (733, 27383), (743, 27341), (751, 27311), (758, 27290), (768, 27254), (847, 26996), (852, 26972), (862, 26939), (863, 26933), (893, 26828),

Gene: Quasar\_43 Start: 33103, Stop: 30710, Start Num: 33

Candidate Starts for Quasar\_43:

(Start: 33 @33103 has 15 MA's), (45, 33097), (Start: 56 @33049 has 1 MA's), (71, 33007), (81, 32983), (119, 32857), (127, 32833), (159, 32788), (191, 32737), (201, 32722), (Start: 214 @32701 has 4 MA's), (243, 32653), (261, 32620), (Start: 267 @32611 has 137 MA's), (303, 32536), (308, 32524), (337, 32455), (354, 32428), (357, 32422), (365, 32407), (384, 32353), (386, 32350), (393, 32332), (397, 32311), (418, 32251), (463, 32128), (465, 32122), (490, 32053), (519, 32011), (576, 31924), (588, 31900), (596, 31894), (603, 31870), (607, 31861), (614, 31846), (622, 31834), (639, 31792), (640, 31789), (642, 31786), (660, 31750), (690, 31639), (705, 31570), (706, 31564), (714, 31528), (733, 31435), (735, 31426), (741, 31399), (743, 31393), (745, 31387), (746, 31381), (761, 31324), (766, 31309), (768, 31300), (777, 31255), (892, 30877), (893, 30874), (908, 30829), (910, 30820), (926, 30760),

Gene: QueenB2\_44 Start: 31390, Stop: 29603, Start Num: 231

Candidate Starts for QueenB2\_44:

(Start: 231 @31390 has 845 MA's), (330, 31183), (332, 31177), (337, 31162), (350, 31147), (367, 31114), (369, 31111), (378, 31084), (390, 31057), (395, 31036), (434, 30904), (487, 30811), (501, 30775), (509, 30763), (513, 30754), (524, 30739), (562, 30673), (595, 30592), (613, 30544), (616, 30538), (652, 30475), (700, 30319), (711, 30268), (719, 30235), (720, 30232), (733, 30166), (742, 30127), (755, 30106), (775, 30031), (780, 30019), (823, 29905), (834, 29887), (846, 29851), (851, 29827), (877, 29749), (896, 29692), (902, 29680), (906, 29671),

Gene: QueenBeane\_60 Start: 54350, Stop: 52491, Start Num: 196

Candidate Starts for QueenBeane\_60:

(Start: 175 @54374 has 1 MA's), (Start: 196 @54350 has 254 MA's), (Start: 221 @54326 has 2 MA's), (Start: 227 @54320 has 3 MA's), (246, 54278), (259, 54257), (307, 54143), (311, 54137), (326, 54107), (355, 54047), (366, 54026), (386, 53972), (391, 53960), (396, 53942), (398, 53930), (431, 53825), (454, 53768), (466, 53732), (471, 53720), (483, 53693), (499, 53648), (533, 53591), (540, 53582), (542, 53579), (695, 53219), (701, 53186), (706, 53165), (727, 53072), (730, 53063), (744, 53000), (760, 52964), (761, 52961), (766, 52946), (790, 52868), (794, 52856), (800, 52835), (817, 52796), (851, 52706), (856, 52688), (858, 52682), (868, 52667), (875, 52643), (877, 52628), (878, 52625), (881, 52613), (890, 52589), (907, 52541), (912, 52517),

Gene: QueenBeesly\_44 Start: 31266, Stop: 29479, Start Num: 231

Candidate Starts for QueenBeesly\_44:

(102, 31521), (Start: 231 @31266 has 845 MA's), (329, 31062), (330, 31059), (332, 31053), (337, 31038), (350, 31023), (367, 30990), (369, 30987), (378, 30960), (390, 30933), (395, 30912), (403,

30882), (434, 30780), (487, 30687), (509, 30639), (513, 30630), (524, 30615), (562, 30549), (595, 30468), (613, 30420), (616, 30414), (652, 30351), (683, 30276), (700, 30195), (711, 30144), (719, 30111), (720, 30108), (733, 30042), (742, 30003), (755, 29982), (775, 29907), (782, 29889), (796, 29844), (806, 29817), (823, 29781), (832, 29769), (834, 29763), (846, 29727), (851, 29703), (877, 29625), (896, 29568), (902, 29556), (906, 29547),

Gene: Quenya\_42 Start: 30106, Stop: 31977, Start Num: 231

Candidate Starts for Quenya\_42:

(198, 30058), (Start: 231 @30106 has 845 MA's), (239, 30124), (Start: 266 @30175 has 4 MA's), (329, 30313), (395, 30454), (396, 30457), (422, 30538), (500, 30697), (522, 30733), (549, 30778), (558, 30793), (589, 30865), (595, 30886), (700, 31192), (711, 31243), (716, 31258), (724, 31309), (727, 31318), (733, 31345), (759, 31438), (787, 31531), (816, 31609), (846, 31681), (851, 31705), (873, 31762), (890, 31816), (896, 31840), (906, 31861),

Gene: Quesadilla\_58 Start: 54997, Stop: 53174, Start Num: 208

Candidate Starts for Quesadilla\_58:

(Start: 208 @54997 has 3 MA's), (240, 54943), (Start: 266 @54898 has 4 MA's), (281, 54889), (291, 54871), (307, 54817), (330, 54778), (375, 54679), (391, 54640), (397, 54616), (416, 54547), (431, 54508), (454, 54451), (466, 54415), (471, 54403), (482, 54379), (483, 54376), (486, 54367), (542, 54256), (555, 54238), (561, 54226), (575, 54190), (678, 53977), (681, 53965), (682, 53962), (684, 53944), (689, 53926), (695, 53902), (696, 53896), (701, 53869), (727, 53755), (730, 53746), (760, 53647), (761, 53644), (766, 53629), (790, 53551), (794, 53539), (800, 53518), (807, 53500), (822, 53470), (841, 53434), (851, 53389), (856, 53371), (858, 53365), (875, 53326), (876, 53314), (877, 53311), (890, 53272), (907, 53224), (912, 53200),

Gene: QuinnKiro\_43 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for QuinnKiro\_43:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Quisquilliae\_61 Start: 54311, Stop: 52452, Start Num: 196

Candidate Starts for Quisquilliae\_61:

(Start: 175 @54335 has 1 MA's), (Start: 196 @54311 has 254 MA's), (Start: 221 @54287 has 2 MA's), (Start: 227 @54281 has 3 MA's), (246, 54239), (259, 54218), (307, 54104), (311, 54098), (326, 54068), (355, 54008), (366, 53987), (386, 53933), (391, 53921), (396, 53903), (398, 53891), (431, 53786), (454, 53729), (466, 53693), (471, 53681), (482, 53657), (486, 53645), (491, 53627), (499, 53609), (509, 53591), (533, 53552), (540, 53543), (542, 53540), (544, 53537), (695, 53180), (701, 53147), (727, 53033), (730, 53024), (744, 52961), (760, 52925), (761, 52922), (766, 52907), (790, 52829), (794, 52817), (800, 52796), (817, 52757), (851, 52667), (856, 52649), (858, 52643), (868, 52628), (875, 52604), (877, 52589), (878, 52586), (881, 52574), (890, 52550), (907, 52502), (912, 52478),

Gene: Qyrzula\_52 Start: 52584, Stop: 50782, Start Num: 227

Candidate Starts for Qyrzula\_52:

(Start: 188 @52611 has 31 MA's), (Start: 227 @52584 has 3 MA's), (242, 52554), (246, 52542), (264, 52515), (Start: 266 @52512 has 4 MA's), (274, 52503), (291, 52485), (330, 52389), (355, 52338), (367, 52314), (417, 52152), (427, 52128), (431, 52116), (454, 52059), (466, 52023), (471, 52011), (482, 51987), (516, 51909), (522, 51903), (526, 51894), (540, 51873), (542, 51870), (561, 51840), (624, 51696), (652, 51630), (678, 51591), (681, 51579), (684, 51558), (689, 51540), (701, 51483),

(717, 51426), (722, 51399), (727, 51369), (730, 51360), (744, 51294), (758, 51267), (760, 51258), (766, 51240), (772, 51216), (790, 51162), (794, 51150), (800, 51129), (834, 51060), (851, 51000), (856, 50982), (871, 50949), (875, 50937), (877, 50922), (878, 50919), (881, 50907), (890, 50883), (891, 50880), (907, 50832), (908, 50829), (912, 50808), (917, 50787),

Gene: RER2\_29 Start: 24985, Stop: 23201, Start Num: 231

Candidate Starts for RER2\_29:

(Start: 231 @24985 has 845 MA's), (345, 24751), (363, 24721), (366, 24712), (367, 24709), (384, 24664), (390, 24652), (392, 24643), (403, 24601), (434, 24499), (450, 24478), (487, 24406), (505, 24361), (509, 24358), (535, 24316), (539, 24310), (549, 24295), (562, 24268), (603, 24163), (616, 24136), (638, 24097), (700, 23917), (709, 23869), (733, 23764), (734, 23761), (755, 23704), (760, 23683), (774, 23635), (798, 23560), (832, 23491), (846, 23449), (851, 23425), (877, 23347), (896, 23290), (902, 23278), (917, 23221),

Gene: RGL3\_31 Start: 25970, Stop: 24174, Start Num: 231

Candidate Starts for RGL3\_31:

(Start: 231 @25970 has 845 MA's), (329, 25766), (332, 25757), (350, 25727), (363, 25706), (388, 25643), (392, 25628), (395, 25616), (426, 25508), (434, 25484), (437, 25475), (471, 25433), (472, 25430), (487, 25391), (505, 25346), (509, 25343), (549, 25280), (561, 25259), (562, 25253), (603, 25148), (616, 25121), (638, 25082), (641, 25073), (653, 25055), (673, 25013), (700, 24890), (709, 24842), (733, 24737), (760, 24656), (764, 24644), (832, 24464), (834, 24458), (846, 24422), (847, 24419), (851, 24398), (896, 24263), (902, 24251), (906, 24242), (913, 24212), (917, 24194),

Gene: Raccoon\_38 Start: 29022, Stop: 27157, Start Num: 267

Candidate Starts for Raccoon\_38:

(Start: 267 @29022 has 137 MA's), (Start: 275 @29013 has 5 MA's), (394, 28749), (397, 28734), (400, 28728), (445, 28596), (463, 28542), (490, 28455), (494, 28446), (498, 28434), (513, 28407), (516, 28404), (525, 28389), (527, 28383), (675, 28053), (726, 27840), (729, 27831), (730, 27828), (733, 27810), (743, 27768), (747, 27753), (768, 27681), (775, 27654), (815, 27522), (827, 27492), (847, 27423), (852, 27399), (863, 27360), (876, 27315),

Gene: Racecar\_100 Start: 78450, Stop: 80246, Start Num: 233

Candidate Starts for Racecar\_100:

(Start: 233 @78450 has 1 MA's), (291, 78546), (391, 78762), (397, 78789), (400, 78795), (425, 78864), (437, 78900), (530, 79047), (534, 79053), (549, 79074), (558, 79089), (638, 79278), (662, 79323), (676, 79356), (680, 79374), (687, 79407), (697, 79446), (700, 79467), (702, 79473), (724, 79587), (741, 79671), (743, 79677), (746, 79689), (759, 79737), (762, 79749), (772, 79785), (783, 79818), (786, 79827), (800, 79872), (807, 79890), (841, 79974), (846, 79995), (852, 80022), (856, 80037), (871, 80070), (876, 80094), (884, 80118), (896, 80154), (907, 80181),

Gene: Rachaly\_45 Start: 31989, Stop: 30202, Start Num: 231

Candidate Starts for Rachaly\_45:

(Start: 231 @31989 has 845 MA's), (330, 31782), (332, 31776), (350, 31746), (367, 31713), (369, 31710), (384, 31668), (390, 31656), (434, 31503), (487, 31410), (509, 31362), (513, 31353), (524, 31338), (562, 31272), (613, 31143), (683, 30999), (700, 30918), (711, 30867), (719, 30834), (720, 30831), (733, 30765), (742, 30726), (755, 30705), (775, 30630), (780, 30618), (806, 30540), (823, 30504), (834, 30486), (846, 30450), (851, 30426), (877, 30348), (896, 30291), (902, 30279), (906, 30270),

Gene: RagingRooster\_57 Start: 53332, Stop: 51515, Start Num: 223

Candidate Starts for RagingRooster\_57:

(123, 53515), (Start: 223 @53332 has 42 MA's), (240, 53302), (332, 53122), (395, 52969), (397, 52957), (407, 52927), (412, 52921), (431, 52858), (433, 52852), (454, 52801), (464, 52774), (466,

52765), (486, 52717), (542, 52612), (589, 52516), (610, 52465), (681, 52321), (689, 52282), (696, 52252), (701, 52225), (704, 52213), (725, 52117), (727, 52111), (730, 52102), (732, 52090), (754, 52018), (760, 51988), (766, 51970), (768, 51961), (790, 51892), (794, 51880), (800, 51859), (834, 51790), (841, 51775), (847, 51751), (851, 51730), (856, 51712), (858, 51706), (873, 51673), (875, 51667), (878, 51649), (881, 51637), (886, 51625), (890, 51613), (904, 51571), (912, 51541),

Gene: Rahalelujah\_44 Start: 30731, Stop: 28938, Start Num: 231

Candidate Starts for Rahalelujah\_44:

(Start: 231 @30731 has 845 MA's), (236, 30722), (256, 30680), (300, 30593), (329, 30527), (332, 30518), (334, 30509), (347, 30491), (369, 30449), (378, 30422), (384, 30407), (390, 30395), (403, 30344), (434, 30242), (483, 30164), (487, 30149), (513, 30092), (575, 29981), (611, 29885), (643, 29822), (671, 29783), (673, 29777), (700, 29654), (722, 29558), (726, 29531), (733, 29501), (742, 29462), (760, 29420), (796, 29303), (832, 29228), (846, 29186), (877, 29084), (896, 29027), (902, 29015), (906, 29006),

Gene: Rajelicia\_46 Start: 35200, Stop: 33413, Start Num: 231

Candidate Starts for Rajelicia\_46:

(Start: 231 @35200 has 845 MA's), (332, 34987), (337, 34972), (378, 34894), (388, 34873), (390, 34867), (392, 34858), (425, 34741), (434, 34714), (487, 34621), (492, 34606), (541, 34522), (543, 34519), (575, 34453), (589, 34423), (598, 34393), (616, 34348), (638, 34309), (700, 34129), (709, 34081), (720, 34042), (733, 33976), (758, 33904), (760, 33895), (786, 33811), (818, 33724), (868, 33598), (871, 33586), (896, 33502), (899, 33496),

Gene: Rapheph\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Rapheph\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (612, 28123), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: Raptor\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for Raptor\_39:

(Start: 214 @29021 has 4 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (492, 28361), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612, 28127), (634, 28067), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Rasputia\_89 Start: 56570, Stop: 58606, Start Num: 197

Candidate Starts for Rasputia\_89:

(Start: 197 @56570 has 4 MA's), (Start: 204 @56582 has 2 MA's), (Start: 232 @56627 has 1 MA's), (252, 56669), (277, 56711), (352, 56894), (354, 56897), (361, 56909), (374, 56948), (376, 56954), (418, 57086), (428, 57116), (467, 57230), (498, 57323), (513, 57350), (555, 57416), (571, 57458), (580, 57473), (600, 57512), (606, 57524), (609, 57530), (616, 57545), (637, 57611), (708, 57812), (733, 57926), (768, 58061), (786, 58136), (796, 58169), (825, 58241), (837, 58283), (844, 58307), (847, 58319), (852, 58343), (854, 58349), (858, 58364), (867, 58394), (872, 58412), (878, 58439), (880, 58445), (887, 58472), (893, 58493), (898, 58511), (902, 58523), (908, 58541), (924, 58601),

Gene: Rasputin\_36 Start: 28083, Stop: 26299, Start Num: 231

Candidate Starts for Rasputin\_36:

(Start: 231 @28083 has 845 MA's), (345, 27849), (363, 27819), (366, 27810), (367, 27807), (384, 27762), (390, 27750), (403, 27699), (434, 27597), (450, 27576), (487, 27504), (505, 27459), (509, 27456), (535, 27414), (539, 27408), (549, 27393), (562, 27366), (603, 27261), (607, 27252), (616, 27234), (638, 27195), (673, 27138), (700, 27015), (709, 26967), (733, 26862), (734, 26859), (755, 26802), (760, 26781), (774, 26733), (798, 26658), (832, 26589), (846, 26547), (851, 26523), (877, 26445), (896, 26388), (902, 26376), (906, 26367), (913, 26337), (917, 26319),

Gene: RawrgerThat\_54 Start: 54025, Stop: 52202, Start Num: 182

Candidate Starts for RawrgerThat\_54:

(Start: 169 @54043 has 3 MA's), (Start: 182 @54025 has 24 MA's), (Start: 227 @54001 has 3 MA's), (240, 53974), (246, 53959), (259, 53938), (301, 53851), (351, 53746), (366, 53719), (371, 53704), (396, 53638), (405, 53608), (407, 53599), (410, 53596), (412, 53593), (417, 53566), (431, 53530), (454, 53473), (461, 53455), (466, 53437), (471, 53425), (483, 53398), (509, 53335), (533, 53296), (540, 53287), (542, 53284), (561, 53254), (575, 53218), (681, 52993), (682, 52990), (689, 52954), (701, 52897), (725, 52789), (727, 52783), (730, 52774), (760, 52675), (761, 52672), (766, 52657), (790, 52579), (794, 52567), (800, 52546), (803, 52537), (817, 52507), (834, 52477), (844, 52450), (851, 52417), (858, 52393), (875, 52354), (878, 52336), (881, 52324), (890, 52300), (904, 52258), (907, 52252), (912, 52228),

Gene: ReMo\_46 Start: 29740, Stop: 27950, Start Num: 231

Candidate Starts for ReMo\_46:

(Start: 231 @29740 has 845 MA's), (317, 29566), (367, 29461), (369, 29458), (378, 29431), (390, 29404), (403, 29353), (434, 29251), (487, 29158), (505, 29113), (509, 29110), (513, 29101), (595, 28939), (603, 28912), (613, 28891), (616, 28885), (674, 28786), (683, 28747), (695, 28696), (700, 28666), (711, 28615), (719, 28582), (724, 28549), (726, 28543), (733, 28513), (755, 28453), (760, 28432), (772, 28390), (781, 28363), (786, 28348), (818, 28261), (846, 28198), (847, 28195), (896, 28039), (902, 28027), (907, 28015),

Gene: Reba\_48 Start: 31412, Stop: 29598, Start Num: 231

Candidate Starts for Reba\_48:

(Start: 231 @31412 has 845 MA's), (248, 31373), (256, 31361), (329, 31208), (333, 31193), (367, 31136), (390, 31079), (392, 31070), (403, 31028), (415, 30977), (434, 30926), (487, 30833), (509, 30785), (524, 30761), (549, 30722), (562, 30695), (575, 30665), (610, 30572), (616, 30560), (641, 30512), (652, 30497), (700, 30341), (711, 30290), (719, 30257), (720, 30254), (733, 30188), (742, 30149), (761, 30077), (772, 30038), (780, 30014), (786, 29996), (796, 29963), (834, 29882), (851, 29822), (856, 29804), (877, 29744), (880, 29735), (896, 29687), (902, 29675), (906, 29666),

Gene: Rebeuca\_44 Start: 31493, Stop: 29658, Start Num: 231

Candidate Starts for Rebeuca\_44:

(Start: 231 @31493 has 845 MA's), (256, 31442), (292, 31376), (329, 31289), (337, 31265), (363, 31229), (367, 31217), (390, 31160), (392, 31151), (434, 31007), (468, 30965), (487, 30914), (511, 30866), (549, 30806), (602, 30677), (603, 30674), (613, 30653), (616, 30647), (673, 30539), (700, 30416), (709, 30368), (726, 30293), (733, 30263), (742, 30224), (760, 30155), (761, 30152), (772, 30113), (780, 30089), (782, 30083), (786, 30071), (851, 29882), (858, 29858), (880, 29795), (896, 29747), (902, 29735), (906, 29726),

Gene: RedBaron\_45 Start: 32770, Stop: 30377, Start Num: 33

Candidate Starts for RedBaron\_45:

(Start: 33 @32770 has 15 MA's), (45, 32764), (Start: 56 @32716 has 1 MA's), (71, 32674), (81, 32650), (119, 32524), (127, 32500), (159, 32455), (191, 32404), (201, 32389), (Start: 214 @32368 has 4 MA's), (243, 32320), (Start: 267 @32278 has 137 MA's), (303, 32203), (308, 32191), (337, 32122),

(357, 32089), (365, 32074), (384, 32020), (386, 32017), (393, 31999), (397, 31978), (418, 31918), (463, 31795), (465, 31789), (490, 31720), (519, 31678), (576, 31591), (588, 31567), (596, 31561), (603, 31537), (607, 31528), (614, 31513), (622, 31501), (639, 31459), (640, 31456), (642, 31453), (690, 31306), (705, 31237), (706, 31231), (714, 31195), (733, 31102), (735, 31093), (741, 31066), (743, 31060), (745, 31054), (746, 31048), (761, 30991), (768, 30967), (777, 30922), (892, 30544), (893, 30541), (908, 30496), (910, 30487), (926, 30427),

Gene: RedMaple\_62 Start: 54786, Stop: 52927, Start Num: 196

Candidate Starts for RedMaple\_62:

(Start: 175 @54810 has 1 MA's), (Start: 196 @54786 has 254 MA's), (Start: 221 @54762 has 2 MA's), (Start: 227 @54756 has 3 MA's), (246, 54714), (259, 54693), (307, 54579), (311, 54573), (326, 54543), (355, 54483), (366, 54462), (386, 54408), (391, 54396), (396, 54378), (398, 54366), (431, 54261), (454, 54204), (466, 54168), (471, 54156), (482, 54132), (486, 54120), (491, 54102), (499, 54084), (509, 54066), (533, 54027), (540, 54018), (542, 54015), (544, 54012), (695, 53655), (701, 53622), (706, 53601), (727, 53508), (730, 53499), (744, 53436), (760, 53400), (761, 53397), (766, 53382), (790, 53304), (794, 53292), (800, 53271), (817, 53232), (851, 53142), (856, 53124), (858, 53118), (868, 53103), (875, 53079), (877, 53064), (878, 53061), (881, 53049), (890, 53025), (907, 52977), (912, 52953),

Gene: RedRock\_46 Start: 32469, Stop: 30682, Start Num: 231

Candidate Starts for RedRock\_46:

(Start: 231 @32469 has 845 MA's), (329, 32265), (330, 32262), (337, 32241), (350, 32226), (367, 32193), (378, 32163), (390, 32136), (395, 32115), (434, 31983), (487, 31890), (509, 31842), (513, 31833), (524, 31818), (562, 31752), (595, 31671), (613, 31623), (653, 31551), (683, 31479), (700, 31398), (711, 31347), (719, 31314), (720, 31311), (733, 31245), (742, 31206), (755, 31185), (760, 31164), (834, 30966), (846, 30930), (847, 30927), (851, 30906), (873, 30849), (877, 30828), (896, 30771), (902, 30759), (906, 30750),

Gene: Redfield\_38 Start: 29054, Stop: 27189, Start Num: 267

Candidate Starts for Redfield\_38:

(Start: 267 @29054 has 137 MA's), (Start: 275 @29045 has 5 MA's), (394, 28781), (397, 28766), (400, 28760), (445, 28628), (463, 28574), (490, 28487), (494, 28478), (498, 28466), (513, 28439), (516, 28436), (525, 28421), (527, 28415), (675, 28085), (726, 27872), (729, 27863), (730, 27860), (733, 27842), (743, 27800), (753, 27770), (768, 27713), (815, 27554), (827, 27524), (847, 27455), (852, 27431), (854, 27425), (863, 27392), (875, 27359), (876, 27347),

Gene: Reedo\_40 Start: 27887, Stop: 29797, Start Num: 231

Candidate Starts for Reedo\_40:

(97, 27626), (141, 27752), (Start: 231 @27887 has 845 MA's), (254, 27935), (317, 28061), (329, 28091), (378, 28184), (388, 28205), (406, 28274), (489, 28526), (492, 28535), (549, 28634), (558, 28649), (613, 28787), (674, 28925), (683, 28964), (700, 29045), (720, 29132), (726, 29168), (731, 29189), (733, 29198), (780, 29363), (783, 29372), (896, 29693), (901, 29702),

Gene: Refuge\_44 Start: 32644, Stop: 30800, Start Num: 231

Candidate Starts for Refuge\_44:

(Start: 231 @32644 has 845 MA's), (246, 32608), (254, 32596), (256, 32593), (291, 32533), (292, 32527), (317, 32470), (332, 32431), (367, 32365), (369, 32362), (390, 32308), (395, 32287), (430, 32167), (434, 32155), (487, 32062), (509, 32014), (513, 32005), (524, 31990), (562, 31924), (583, 31876), (607, 31807), (652, 31726), (672, 31684), (683, 31639), (689, 31612), (700, 31558), (711, 31507), (720, 31471), (733, 31405), (742, 31366), (755, 31345), (760, 31324), (823, 31144), (846, 31090), (847, 31087), (851, 31066), (873, 31009), (877, 30988), (896, 30931), (902, 30919), (917, 30862),

Gene: Relief\_44 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Relief\_44:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Remus\_47 Start: 29659, Stop: 27869, Start Num: 231

Candidate Starts for Remus\_47:

(Start: 231 @29659 has 845 MA's), (317, 29485), (367, 29380), (369, 29377), (378, 29350), (390, 29323), (403, 29272), (434, 29170), (487, 29077), (505, 29032), (509, 29029), (513, 29020), (595, 28858), (603, 28831), (613, 28810), (616, 28804), (674, 28705), (683, 28666), (695, 28615), (700, 28585), (711, 28534), (719, 28501), (726, 28462), (733, 28432), (755, 28372), (760, 28351), (772, 28309), (781, 28282), (818, 28180), (846, 28117), (847, 28114), (896, 27958), (902, 27946), (907, 27934),

Gene: RemusLoopin\_36 Start: 28123, Stop: 30075, Start Num: 231

Candidate Starts for RemusLoopin\_36:

(Start: 231 @28123 has 845 MA's), (240, 28144), (274, 28204), (329, 28333), (360, 28390), (378, 28435), (379, 28438), (436, 28621), (478, 28672), (489, 28711), (517, 28768), (524, 28783), (541, 28810), (547, 28819), (549, 28822), (552, 28825), (560, 28840), (573, 28873), (603, 28954), (613, 28975), (621, 28987), (668, 29119), (700, 29254), (709, 29302), (720, 29341), (721, 29344), (724, 29371), (731, 29398), (733, 29407), (739, 29437), (746, 29461), (766, 29524), (820, 29680), (841, 29722), (844, 29734), (851, 29767), (855, 29782), (858, 29791), (871, 29818), (896, 29902), (902, 29914), (921, 29977),

Gene: Renzie\_39 Start: 28913, Stop: 27057, Start Num: 275

Candidate Starts for Renzie\_39:

(Start: 214 @29009 has 4 MA's), (Start: 267 @28922 has 137 MA's), (Start: 275 @28913 has 5 MA's), (321, 28808), (325, 28799), (338, 28769), (340, 28766), (395, 28646), (397, 28634), (400, 28628), (436, 28523), (445, 28496), (490, 28355), (492, 28349), (494, 28346), (498, 28334), (513, 28307), (516, 28304), (525, 28289), (527, 28283), (530, 28277), (553, 28244), (612, 28115), (634, 28055), (726, 27740), (729, 27731), (730, 27728), (733, 27710), (743, 27668), (745, 27662), (751, 27638), (768, 27581), (815, 27422), (827, 27392), (828, 27383), (847, 27323), (852, 27299), (863, 27260), (875, 27227), (876, 27215), (893, 27155),

Gene: Reprobate\_57 Start: 54575, Stop: 52746, Start Num: 182

Candidate Starts for Reprobate\_57:

(Start: 182 @54575 has 24 MA's), (Start: 214 @54554 has 4 MA's), (Start: 227 @54545 has 3 MA's), (240, 54518), (246, 54503), (291, 54446), (366, 54278), (395, 54200), (398, 54185), (405, 54167), (410, 54155), (421, 54119), (431, 54089), (466, 53996), (471, 53984), (472, 53981), (482, 53960), (483, 53957), (486, 53948), (491, 53930), (526, 53867), (542, 53843), (593, 53738), (643, 53615), (668, 53591), (678, 53564), (681, 53552), (682, 53549), (684, 53531), (689, 53513), (696, 53483), (701, 53456), (713, 53405), (727, 53342), (730, 53333), (754, 53249), (761, 53216), (766, 53201), (784, 53141), (790, 53123), (794, 53111), (800, 53090), (803, 53081), (805, 53078), (851, 52961), (856, 52943), (858, 52937), (875, 52898), (876, 52886), (877, 52883), (881, 52868), (886, 52856), (890, 52844), (904, 52802), (908, 52793), (912, 52772), (917, 52751),

Gene: ResDef\_45 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for ResDef\_45:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603,

30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Retro23\_45 Start: 31674, Stop: 29887, Start Num: 231

Candidate Starts for Retro23\_45:

(Start: 231 @31674 has 845 MA's), (329, 31470), (330, 31467), (332, 31461), (337, 31446), (350, 31431), (367, 31398), (369, 31395), (378, 31368), (390, 31341), (395, 31320), (434, 31188), (487, 31095), (501, 31059), (509, 31047), (513, 31038), (524, 31023), (562, 30957), (595, 30876), (613, 30828), (616, 30822), (652, 30759), (700, 30603), (711, 30552), (719, 30519), (720, 30516), (733, 30450), (742, 30411), (755, 30390), (775, 30315), (780, 30303), (823, 30189), (834, 30171), (846, 30135), (851, 30111), (877, 30033), (896, 29976), (902, 29964), (906, 29955),

Gene: RexFury\_36 Start: 28144, Stop: 26360, Start Num: 231

Candidate Starts for RexFury\_36:

(Start: 231 @28144 has 845 MA's), (345, 27910), (363, 27880), (366, 27871), (367, 27868), (384, 27823), (390, 27811), (403, 27760), (434, 27658), (450, 27637), (487, 27565), (505, 27520), (509, 27517), (535, 27475), (539, 27469), (549, 27454), (562, 27427), (603, 27322), (607, 27313), (616, 27295), (619, 27292), (638, 27256), (673, 27199), (700, 27076), (709, 27028), (733, 26923), (734, 26920), (755, 26863), (760, 26842), (761, 26839), (774, 26794), (798, 26719), (832, 26650), (846, 26608), (851, 26584), (877, 26506), (896, 26449), (902, 26437), (906, 26428), (913, 26398), (917, 26380),

Gene: Rhinoforte\_57 Start: 52610, Stop: 50781, Start Num: 188

Candidate Starts for Rhinoforte\_57:

(Start: 188 @52610 has 31 MA's), (Start: 227 @52583 has 3 MA's), (242, 52553), (246, 52541), (264, 52514), (Start: 266 @52511 has 4 MA's), (274, 52502), (291, 52484), (330, 52388), (355, 52337), (367, 52313), (375, 52289), (417, 52151), (427, 52127), (431, 52115), (454, 52058), (466, 52022), (471, 52010), (482, 51986), (522, 51902), (540, 51872), (542, 51869), (561, 51839), (624, 51695), (652, 51629), (678, 51590), (681, 51578), (684, 51557), (689, 51539), (701, 51482), (717, 51425), (722, 51398), (727, 51368), (730, 51359), (744, 51293), (758, 51266), (760, 51257), (766, 51239), (772, 51215), (790, 51161), (794, 51149), (800, 51128), (834, 51059), (851, 50999), (856, 50981), (871, 50948), (875, 50936), (877, 50921), (878, 50918), (881, 50906), (890, 50882), (891, 50879), (907, 50831), (908, 50828), (912, 50807), (917, 50786),

Gene: Rhodalysa\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for Rhodalysa\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: RhynO\_45 Start: 31292, Stop: 29457, Start Num: 231

Candidate Starts for RhynO\_45:

(Start: 231 @31292 has 845 MA's), (256, 31241), (292, 31175), (329, 31088), (337, 31064), (363, 31028), (367, 31016), (390, 30959), (392, 30950), (413, 30866), (426, 30830), (430, 30818), (434, 30806), (487, 30713), (511, 30665), (549, 30605), (602, 30476), (603, 30473), (613, 30452), (616, 30446), (673, 30338), (700, 30215), (709, 30167), (726, 30092), (733, 30062), (742, 30023), (760, 29954), (761, 29951), (772, 29912), (780, 29888), (782, 29882), (786, 29870), (826, 29762), (851, 29681), (858, 29657), (880, 29594), (896, 29546), (902, 29534), (906, 29525),



Gene: Rhynn\_44 Start: 34513, Stop: 32687, Start Num: 231

Candidate Starts for Rhynn\_44:

(Start: 231 @34513 has 845 MA's), (332, 34300), (367, 34237), (378, 34207), (388, 34186), (390, 34180), (392, 34171), (425, 34054), (434, 34027), (487, 33934), (492, 33919), (509, 33886), (541, 33835), (543, 33832), (575, 33766), (589, 33736), (598, 33706), (616, 33661), (638, 33622), (700, 33442), (709, 33394), (720, 33355), (733, 33289), (742, 33250), (755, 33229), (760, 33208), (766, 33190), (786, 33124), (846, 32974), (847, 32971), (855, 32935), (868, 32911), (870, 32902), (874, 32890), (896, 32815), (906, 32794),

Gene: Rich\_58 Start: 55836, Stop: 53983, Start Num: 182

Candidate Starts for Rich\_58:

(108, 55995), (Start: 136 @55914 has 1 MA's), (Start: 182 @55836 has 24 MA's), (Start: 214 @55791 has 4 MA's), (240, 55755), (282, 55695), (331, 55584), (396, 55434), (410, 55392), (421, 55356), (431, 55326), (466, 55233), (471, 55221), (482, 55197), (486, 55185), (491, 55167), (526, 55104), (542, 55080), (593, 54975), (682, 54786), (684, 54768), (696, 54720), (701, 54693), (706, 54672), (725, 54585), (727, 54579), (730, 54570), (734, 54549), (754, 54486), (761, 54453), (766, 54438), (784, 54378), (790, 54360), (794, 54348), (800, 54327), (803, 54318), (805, 54315), (851, 54198), (858, 54174), (875, 54135), (877, 54120), (878, 54117), (890, 54081), (891, 54078), (912, 54009),

Gene: Ricotta\_60 Start: 54043, Stop: 52184, Start Num: 196

Candidate Starts for Ricotta\_60:

(Start: 175 @54067 has 1 MA's), (Start: 196 @54043 has 254 MA's), (Start: 221 @54019 has 2 MA's), (Start: 227 @54013 has 3 MA's), (246, 53971), (259, 53950), (307, 53836), (311, 53830), (326, 53800), (355, 53740), (366, 53719), (386, 53665), (391, 53653), (396, 53635), (398, 53623), (431, 53518), (454, 53461), (466, 53425), (471, 53413), (482, 53389), (486, 53377), (491, 53359), (499, 53341), (509, 53323), (533, 53284), (540, 53275), (542, 53272), (544, 53269), (668, 53014), (695, 52912), (701, 52879), (706, 52858), (727, 52765), (730, 52756), (744, 52693), (760, 52657), (761, 52654), (766, 52639), (790, 52561), (794, 52549), (800, 52528), (817, 52489), (851, 52399), (856, 52381), (858, 52375), (868, 52360), (875, 52336), (877, 52321), (878, 52318), (881, 52306), (890, 52282), (907, 52234), (912, 52210),

Gene: RidgeCB\_44 Start: 34287, Stop: 32458, Start Num: 231

Candidate Starts for RidgeCB\_44:

(Start: 231 @34287 has 845 MA's), (332, 34074), (367, 34011), (378, 33981), (388, 33960), (390, 33954), (425, 33828), (434, 33801), (487, 33708), (492, 33693), (541, 33609), (543, 33606), (575, 33540), (589, 33510), (598, 33480), (616, 33435), (638, 33396), (700, 33216), (709, 33168), (722, 33120), (730, 33081), (733, 33063), (742, 33024), (755, 33003), (760, 32982), (765, 32967), (803, 32844), (871, 32673), (876, 32649), (893, 32601), (896, 32589), (906, 32568), (908, 32562), (921, 32514), (928, 32499),

Gene: Rifter\_47 Start: 29753, Stop: 27954, Start Num: 231

Candidate Starts for Rifter\_47:

(Start: 231 @29753 has 845 MA's), (329, 29549), (332, 29540), (367, 29474), (369, 29471), (378, 29444), (384, 29429), (390, 29417), (403, 29366), (430, 29276), (434, 29264), (487, 29171), (509, 29123), (513, 29114), (601, 28931), (678, 28781), (700, 28676), (711, 28619), (720, 28583), (722, 28574), (726, 28547), (733, 28517), (742, 28478), (755, 28457), (764, 28424), (766, 28418), (796, 28319), (823, 28256), (846, 28202), (851, 28178), (873, 28121), (896, 28043), (902, 28031), (906, 28022), (907, 28019),

Gene: Riggan\_61 Start: 54343, Stop: 52484, Start Num: 196

Candidate Starts for Riggan\_61:

(Start: 175 @54367 has 1 MA's), (Start: 196 @54343 has 254 MA's), (Start: 221 @54319 has 2 MA's), (Start: 227 @54313 has 3 MA's), (246, 54271), (259, 54250), (307, 54136), (311, 54130), (326, 54100), (355, 54040), (366, 54019), (386, 53965), (391, 53953), (396, 53935), (398, 53923), (431, 53818), (454, 53761), (466, 53725), (471, 53713), (483, 53686), (491, 53659), (499, 53641), (509, 53623), (533, 53584), (540, 53575), (542, 53572), (668, 53314), (695, 53212), (701, 53179), (706, 53158), (727, 53065), (730, 53056), (744, 52993), (760, 52957), (761, 52954), (766, 52939), (790, 52861), (794, 52849), (800, 52828), (817, 52789), (851, 52699), (856, 52681), (858, 52675), (868, 52660), (875, 52636), (877, 52621), (878, 52618), (881, 52606), (890, 52582), (907, 52534), (912, 52510),

Gene: Rimu\_63 Start: 54511, Stop: 52652, Start Num: 196

Candidate Starts for Rimu\_63:

(Start: 175 @54535 has 1 MA's), (Start: 196 @54511 has 254 MA's), (Start: 221 @54487 has 2 MA's), (Start: 227 @54481 has 3 MA's), (246, 54439), (259, 54418), (307, 54304), (311, 54298), (326, 54268), (355, 54208), (366, 54187), (386, 54133), (391, 54121), (396, 54103), (398, 54091), (431, 53986), (454, 53929), (466, 53893), (471, 53881), (482, 53857), (486, 53845), (491, 53827), (499, 53809), (509, 53791), (533, 53752), (540, 53743), (542, 53740), (544, 53737), (668, 53482), (695, 53380), (701, 53347), (706, 53326), (727, 53233), (730, 53224), (744, 53161), (760, 53125), (761, 53122), (766, 53107), (790, 53029), (794, 53017), (800, 52996), (817, 52957), (851, 52867), (856, 52849), (858, 52843), (868, 52828), (875, 52804), (877, 52789), (878, 52786), (881, 52774), (890, 52750), (895, 52729), (907, 52702), (912, 52678),

Gene: Ringer\_46 Start: 35532, Stop: 33745, Start Num: 231

Candidate Starts for Ringer\_46:

(Start: 231 @35532 has 845 MA's), (332, 35319), (337, 35304), (378, 35226), (388, 35205), (390, 35199), (392, 35190), (425, 35073), (434, 35046), (487, 34953), (492, 34938), (509, 34905), (541, 34854), (543, 34851), (575, 34785), (589, 34755), (598, 34725), (616, 34680), (638, 34641), (700, 34461), (709, 34413), (720, 34374), (733, 34308), (758, 34236), (760, 34227), (786, 34143), (818, 34056), (868, 33930), (871, 33918), (896, 33834), (899, 33828),

Gene: Rings\_55 Start: 36927, Stop: 34759, Start Num: 209

Candidate Starts for Rings\_55:

(207, 36930), (Start: 209 @36927 has 11 MA's), (240, 36873), (286, 36789), (328, 36663), (337, 36636), (343, 36627), (367, 36582), (393, 36504), (395, 36495), (398, 36480), (403, 36465), (404, 36462), (417, 36405), (446, 36312), (458, 36270), (514, 36063), (521, 36057), (531, 36033), (545, 36012), (559, 35991), (564, 35976), (566, 35970), (592, 35907), (607, 35856), (638, 35769), (670, 35709), (683, 35661), (707, 35559), (708, 35553), (713, 35526), (714, 35523), (719, 35502), (727, 35460), (729, 35454), (734, 35430), (740, 35388), (741, 35385), (748, 35358), (756, 35325), (759, 35313), (769, 35277), (775, 35253), (777, 35247), (780, 35241), (797, 35187), (817, 35139), (818, 35136), (840, 35076), (846, 35052), (853, 35022), (872, 34968), (890, 34899), (893, 34887), (907, 34848),

Gene: Rita1961\_59 Start: 54042, Stop: 52225, Start Num: 223

Candidate Starts for Rita1961\_59:

(123, 54225), (Start: 223 @54042 has 42 MA's), (240, 54012), (332, 53832), (395, 53679), (397, 53667), (407, 53637), (412, 53631), (431, 53568), (433, 53562), (454, 53511), (466, 53475), (486, 53427), (542, 53322), (589, 53226), (610, 53175), (681, 53031), (689, 52992), (696, 52962), (701, 52935), (704, 52923), (725, 52827), (727, 52821), (730, 52812), (732, 52800), (754, 52728), (760, 52698), (766, 52680), (768, 52671), (790, 52602), (794, 52590), (800, 52569), (834, 52500), (841, 52485), (847, 52461), (858, 52416), (875, 52377), (878, 52359), (881, 52347), (886, 52335), (890, 52323), (904, 52281), (912, 52251),

Gene: Riyhil\_39 Start: 28940, Stop: 27075, Start Num: 267

Candidate Starts for Riyhil\_39:

(Start: 214 @29027 has 4 MA's), (Start: 216 @29024 has 7 MA's), (Start: 267 @28940 has 137 MA's), (Start: 275 @28931 has 5 MA's), (321, 28826), (325, 28817), (338, 28787), (340, 28784), (395, 28664), (397, 28652), (400, 28646), (436, 28541), (445, 28514), (490, 28373), (492, 28367), (494, 28364), (498, 28352), (513, 28325), (516, 28322), (525, 28307), (527, 28301), (530, 28295), (553, 28262), (612, 28133), (634, 28073), (726, 27758), (729, 27749), (730, 27746), (733, 27728), (743, 27686), (745, 27680), (747, 27671), (751, 27656), (768, 27599), (815, 27440), (827, 27410), (828, 27401), (847, 27341), (852, 27317), (863, 27278), (875, 27245), (876, 27233), (893, 27173),

Gene: Roary\_43 Start: 30556, Stop: 28712, Start Num: 231

Candidate Starts for Roary\_43:

(134, 30721), (Start: 231 @30556 has 845 MA's), (256, 30505), (317, 30382), (329, 30352), (350, 30313), (367, 30280), (378, 30250), (388, 30229), (390, 30223), (392, 30214), (415, 30121), (434, 30070), (487, 29974), (491, 29962), (497, 29947), (505, 29929), (509, 29926), (513, 29917), (549, 29863), (562, 29836), (583, 29788), (616, 29704), (643, 29653), (653, 29638), (697, 29491), (700, 29470), (708, 29440), (709, 29422), (711, 29419), (716, 29404), (720, 29383), (722, 29374), (726, 29347), (730, 29335), (733, 29317), (760, 29236), (764, 29224), (780, 29170), (792, 29134), (818, 29065), (832, 29044), (834, 29038), (847, 28999), (851, 28978), (856, 28960), (896, 28843), (902, 28831),

Gene: Robinson\_39 Start: 28928, Stop: 27063, Start Num: 267

Candidate Starts for Robinson\_39:

(Start: 214 @29015 has 4 MA's), (Start: 216 @29012 has 7 MA's), (Start: 267 @28928 has 137 MA's), (Start: 275 @28919 has 5 MA's), (321, 28814), (325, 28805), (338, 28775), (340, 28772), (395, 28652), (397, 28640), (400, 28634), (436, 28529), (445, 28502), (490, 28361), (492, 28355), (494, 28352), (498, 28340), (513, 28313), (516, 28310), (525, 28295), (527, 28289), (530, 28283), (553, 28250), (612, 28121), (634, 28061), (726, 27746), (729, 27737), (730, 27734), (733, 27716), (743, 27674), (745, 27668), (747, 27659), (751, 27644), (768, 27587), (815, 27428), (827, 27398), (828, 27389), (847, 27329), (852, 27305), (863, 27266), (875, 27233), (876, 27221), (893, 27161),

Gene: Robyn\_60 Start: 54190, Stop: 52331, Start Num: 196

Candidate Starts for Robyn\_60:

(42, 54586), (69, 54499), (73, 54484), (76, 54478), (82, 54463), (86, 54445), (Start: 175 @54214 has 1 MA's), (Start: 196 @54190 has 254 MA's), (Start: 221 @54166 has 2 MA's), (Start: 227 @54160 has 3 MA's), (246, 54118), (259, 54097), (307, 53983), (311, 53977), (326, 53947), (355, 53887), (366, 53866), (386, 53812), (391, 53800), (398, 53770), (431, 53665), (454, 53608), (466, 53572), (471, 53560), (483, 53533), (486, 53524), (499, 53488), (509, 53470), (533, 53431), (540, 53422), (542, 53419), (695, 53059), (701, 53026), (706, 53005), (727, 52912), (730, 52903), (744, 52840), (760, 52804), (761, 52801), (766, 52786), (790, 52708), (794, 52696), (800, 52675), (817, 52636), (851, 52546), (856, 52528), (858, 52522), (868, 52507), (875, 52483), (877, 52468), (878, 52465), (881, 52453), (890, 52429), (907, 52381), (912, 52357),

Gene: Rockstar\_45 Start: 30972, Stop: 29134, Start Num: 231

Candidate Starts for Rockstar\_45:

(Start: 182 @31044 has 24 MA's), (Start: 231 @30972 has 845 MA's), (256, 30921), (329, 30768), (350, 30729), (367, 30696), (390, 30639), (392, 30630), (395, 30618), (426, 30510), (434, 30486), (487, 30390), (511, 30342), (549, 30282), (603, 30150), (613, 30129), (652, 30060), (673, 30015), (683, 29973), (700, 29892), (720, 29805), (726, 29769), (733, 29739), (761, 29628), (772, 29589), (780, 29565), (786, 29547), (832, 29424), (834, 29418), (851, 29358), (896, 29223), (902, 29211), (906, 29202),

Gene: Rog141\_38 Start: 28619, Stop: 26754, Start Num: 267

Candidate Starts for Rog141\_38:

(Start: 214 @28706 has 4 MA's), (Start: 216 @28703 has 7 MA's), (Start: 267 @28619 has 137 MA's), (Start: 275 @28610 has 5 MA's), (321, 28505), (325, 28496), (338, 28466), (340, 28463), (395, 28343), (397, 28331), (400, 28325), (436, 28220), (445, 28193), (490, 28052), (492, 28046), (494, 28043), (498, 28031), (513, 28004), (516, 28001), (525, 27986), (527, 27980), (530, 27974), (553, 27941), (612, 27812), (634, 27752), (726, 27437), (729, 27428), (730, 27425), (733, 27407), (743, 27365), (745, 27359), (747, 27350), (751, 27335), (768, 27278), (815, 27119), (827, 27089), (828, 27080), (847, 27020), (852, 26996), (863, 26957), (875, 26924), (876, 26912), (893, 26852),

Gene: Rohr\_45 Start: 34984, Stop: 33155, Start Num: 231

Candidate Starts for Rohr\_45:

(Start: 231 @34984 has 845 MA's), (332, 34771), (337, 34756), (367, 34708), (378, 34678), (388, 34657), (390, 34651), (392, 34642), (425, 34525), (434, 34498), (487, 34405), (492, 34390), (541, 34306), (543, 34303), (575, 34237), (589, 34207), (598, 34177), (616, 34132), (638, 34093), (700, 33913), (709, 33865), (722, 33817), (730, 33778), (733, 33760), (742, 33721), (755, 33700), (760, 33679), (803, 33541), (871, 33370), (876, 33346), (889, 33313), (893, 33298), (896, 33286), (906, 33265), (908, 33259), (921, 33211), (928, 33196),

Gene: Roksolana\_46 Start: 29675, Stop: 27834, Start Num: 231

Candidate Starts for Roksolana\_46:

(Start: 210 @29705 has 1 MA's), (Start: 231 @29675 has 845 MA's), (329, 29471), (367, 29396), (369, 29393), (378, 29366), (384, 29351), (390, 29339), (403, 29288), (430, 29198), (434, 29186), (487, 29093), (502, 29054), (513, 29036), (524, 29021), (562, 28955), (576, 28922), (577, 28919), (619, 28817), (652, 28757), (683, 28673), (700, 28592), (719, 28508), (720, 28505), (722, 28496), (726, 28469), (733, 28439), (755, 28379), (766, 28340), (846, 28124), (847, 28121), (851, 28100), (896, 27965), (902, 27953), (906, 27944), (907, 27941), (939, 27848),

Gene: Roliet\_58 Start: 53385, Stop: 51526, Start Num: 196

Candidate Starts for Roliet\_58:

(Start: 175 @53409 has 1 MA's), (Start: 196 @53385 has 254 MA's), (Start: 221 @53361 has 2 MA's), (Start: 227 @53355 has 3 MA's), (246, 53313), (259, 53292), (307, 53178), (311, 53172), (326, 53142), (355, 53082), (366, 53061), (386, 53007), (391, 52995), (396, 52977), (398, 52965), (431, 52860), (454, 52803), (466, 52767), (471, 52755), (483, 52728), (486, 52719), (499, 52683), (533, 52626), (540, 52617), (542, 52614), (544, 52611), (668, 52356), (695, 52254), (701, 52221), (706, 52200), (727, 52107), (730, 52098), (744, 52035), (760, 51999), (761, 51996), (766, 51981), (790, 51903), (794, 51891), (800, 51870), (817, 51831), (851, 51741), (856, 51723), (858, 51717), (868, 51702), (875, 51678), (877, 51663), (878, 51660), (881, 51648), (890, 51624), (907, 51576), (912, 51552),

Gene: Rollins\_40 Start: 27521, Stop: 29389, Start Num: 220

Candidate Starts for Rollins\_40:

(Start: 220 @27521 has 7 MA's), (Start: 222 @27524 has 57 MA's), (225, 27527), (Start: 266 @27596 has 4 MA's), (396, 27878), (403, 27905), (422, 27959), (502, 28124), (549, 28199), (561, 28220), (688, 28574), (700, 28634), (711, 28685), (724, 28751), (733, 28787), (759, 28880), (816, 29051), (846, 29123), (873, 29204), (895, 29279), (896, 29282), (906, 29303), (930, 29372),

Gene: RomaT\_58 Start: 54241, Stop: 52424, Start Num: 223

Candidate Starts for RomaT\_58:

(123, 54424), (Start: 223 @54241 has 42 MA's), (240, 54211), (332, 54031), (395, 53878), (397, 53866), (407, 53836), (412, 53830), (431, 53767), (433, 53761), (454, 53710), (464, 53683), (466, 53674), (486, 53626), (542, 53521), (589, 53425), (610, 53374), (681, 53230), (689, 53191), (696, 53161), (701, 53134), (704, 53122), (725, 53026), (727, 53020), (730, 53011), (732, 52999), (754, 52927), (760, 52897), (766, 52879), (768, 52870), (790, 52801), (794, 52789), (800, 52768), (834, 52699), (841, 52684), (847, 52660), (851, 52639), (856, 52621), (858, 52615), (873, 52582), (875,

52576), (878, 52558), (881, 52546), (886, 52534), (890, 52522), (904, 52480), (912, 52450),

Gene: Romney\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Romney\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Rona\_40 Start: 29912, Stop: 31783, Start Num: 222

Candidate Starts for Rona\_40:

(Start: 222 @29912 has 57 MA's), (319, 30095), (337, 30134), (351, 30152), (382, 30224), (392, 30248), (395, 30260), (396, 30263), (422, 30344), (520, 30536), (549, 30584), (590, 30674), (651, 30815), (688, 30938), (700, 30998), (716, 31064), (718, 31079), (724, 31115), (727, 31124), (733, 31151), (759, 31244), (787, 31337), (816, 31415), (846, 31487), (855, 31526), (873, 31568), (890, 31622), (896, 31646), (906, 31667), (911, 31691),

Gene: Roosevelt\_44 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Roosevelt\_44:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Rosalind\_46 Start: 29862, Stop: 28072, Start Num: 231

Candidate Starts for Rosalind\_46:

(Start: 231 @29862 has 845 MA's), (317, 29688), (367, 29583), (369, 29580), (378, 29553), (390, 29526), (403, 29475), (434, 29373), (487, 29280), (505, 29235), (509, 29232), (513, 29223), (595, 29061), (603, 29034), (613, 29013), (616, 29007), (674, 28908), (683, 28869), (695, 28818), (700, 28788), (711, 28737), (719, 28704), (724, 28671), (726, 28665), (733, 28635), (755, 28575), (760, 28554), (772, 28512), (781, 28485), (786, 28470), (818, 28383), (846, 28320), (847, 28317), (896, 28161), (902, 28149), (907, 28137),

Gene: Roscoe\_61 Start: 54489, Stop: 52630, Start Num: 196

Candidate Starts for Roscoe\_61:

(Start: 175 @54513 has 1 MA's), (Start: 196 @54489 has 254 MA's), (Start: 221 @54465 has 2 MA's), (Start: 227 @54459 has 3 MA's), (246, 54417), (259, 54396), (307, 54282), (311, 54276), (326, 54246), (355, 54186), (366, 54165), (386, 54111), (391, 54099), (396, 54081), (398, 54069), (431, 53964), (454, 53907), (466, 53871), (471, 53859), (483, 53832), (486, 53823), (499, 53787), (533, 53730), (540, 53721), (542, 53718), (544, 53715), (695, 53358), (701, 53325), (706, 53304), (727, 53211), (730, 53202), (744, 53139), (760, 53103), (761, 53100), (766, 53085), (790, 53007), (794, 52995), (800, 52974), (817, 52935), (851, 52845), (856, 52827), (858, 52821), (868, 52806), (875, 52782), (877, 52767), (878, 52764), (881, 52752), (890, 52728), (907, 52680), (912, 52656),

Gene: Rosebush\_56 Start: 52637, Stop: 50808, Start Num: 188

Candidate Starts for Rosebush\_56:

(Start: 188 @52637 has 31 MA's), (Start: 227 @52610 has 3 MA's), (242, 52580), (246, 52568), (264, 52541), (Start: 266 @52538 has 4 MA's), (274, 52529), (291, 52511), (330, 52415), (355, 52364), (367, 52340), (417, 52178), (427, 52154), (431, 52142), (454, 52085), (466, 52049), (471, 52037), (482, 52013), (516, 51935), (522, 51929), (526, 51920), (540, 51899), (542, 51896), (561, 51866), (624, 51722), (652, 51656), (681, 51605), (684, 51584), (689, 51566), (701, 51509), (717, 51452),

(722, 51425), (727, 51395), (730, 51386), (744, 51320), (758, 51293), (760, 51284), (766, 51266), (772, 51242), (790, 51188), (794, 51176), (800, 51155), (834, 51086), (851, 51026), (856, 51008), (871, 50975), (875, 50963), (877, 50948), (878, 50945), (881, 50933), (890, 50909), (891, 50906), (907, 50858), (908, 50855), (912, 50834), (917, 50813),

Gene: Rowa\_41 Start: 29682, Stop: 31553, Start Num: 231

Candidate Starts for Rowa\_41:

(Start: 208 @29652 has 3 MA's), (217, 29661), (Start: 231 @29682 has 845 MA's), (378, 29994), (392, 30045), (416, 30141), (422, 30153), (483, 30264), (512, 30333), (513, 30336), (549, 30396), (558, 30411), (560, 30414), (595, 30501), (598, 30510), (613, 30549), (643, 30612), (645, 30615), (687, 30753), (688, 30756), (693, 30774), (695, 30786), (697, 30795), (700, 30816), (702, 30822), (709, 30864), (719, 30900), (720, 30903), (726, 30939), (727, 30942), (731, 30960), (733, 30969), (739, 30999), (746, 31023), (783, 31143), (787, 31155), (793, 31173), (796, 31185), (799, 31194), (816, 31233), (817, 31236), (820, 31242), (823, 31248), (844, 31296), (868, 31368), (876, 31404), (896, 31464), (927, 31548),

Gene: Roy17\_59 Start: 53743, Stop: 51884, Start Num: 196

Candidate Starts for Roy17\_59:

(Start: 175 @53767 has 1 MA's), (Start: 196 @53743 has 254 MA's), (Start: 221 @53719 has 2 MA's), (Start: 227 @53713 has 3 MA's), (246, 53671), (259, 53650), (307, 53536), (311, 53530), (326, 53500), (355, 53440), (366, 53419), (386, 53365), (391, 53353), (396, 53335), (398, 53323), (431, 53218), (454, 53161), (466, 53125), (471, 53113), (483, 53086), (491, 53059), (499, 53041), (509, 53023), (533, 52984), (540, 52975), (542, 52972), (544, 52969), (695, 52612), (701, 52579), (706, 52558), (727, 52465), (730, 52456), (744, 52393), (760, 52357), (761, 52354), (766, 52339), (790, 52261), (794, 52249), (800, 52228), (817, 52189), (851, 52099), (856, 52081), (858, 52075), (868, 52060), (875, 52036), (877, 52021), (878, 52018), (881, 52006), (890, 51982), (907, 51934), (912, 51910),

Gene: Rubeus\_45 Start: 33074, Stop: 31248, Start Num: 231

Candidate Starts for Rubeus\_45:

(Start: 231 @33074 has 845 MA's), (332, 32861), (367, 32798), (378, 32768), (388, 32747), (390, 32741), (392, 32732), (425, 32615), (434, 32588), (487, 32495), (492, 32480), (541, 32396), (543, 32393), (575, 32327), (589, 32297), (598, 32267), (616, 32222), (638, 32183), (700, 32003), (709, 31955), (720, 31916), (733, 31850), (742, 31811), (755, 31790), (760, 31769), (766, 31751), (786, 31685), (846, 31535), (847, 31532), (855, 31496), (868, 31472), (870, 31463), (874, 31451), (896, 31376), (906, 31355),

Gene: Rufus\_45 Start: 34607, Stop: 32778, Start Num: 231

Candidate Starts for Rufus\_45:

(Start: 231 @34607 has 845 MA's), (332, 34394), (367, 34331), (378, 34301), (388, 34280), (390, 34274), (392, 34265), (425, 34148), (434, 34121), (487, 34028), (492, 34013), (541, 33929), (543, 33926), (575, 33860), (589, 33830), (598, 33800), (616, 33755), (638, 33716), (700, 33536), (709, 33488), (722, 33440), (730, 33401), (733, 33383), (742, 33344), (755, 33323), (760, 33302), (803, 33164), (871, 32993), (876, 32969), (889, 32936), (893, 32921), (896, 32909), (906, 32888), (908, 32882), (921, 32834), (928, 32819),

Gene: Ruin\_45 Start: 31563, Stop: 29737, Start Num: 231

Candidate Starts for Ruin\_45:

(Start: 231 @31563 has 845 MA's), (240, 31542), (256, 31512), (274, 31482), (350, 31320), (360, 31302), (390, 31230), (392, 31221), (426, 31101), (434, 31077), (487, 30984), (511, 30936), (524, 30915), (549, 30876), (603, 30744), (613, 30723), (638, 30678), (643, 30666), (697, 30513), (700, 30492), (726, 30369), (733, 30339), (742, 30300), (760, 30234), (761, 30231), (766, 30216), (772, 30192), (780, 30168), (851, 29961), (896, 29826), (902, 29814), (906, 29805),

Gene: Rummer\_47 Start: 31884, Stop: 30070, Start Num: 231

Candidate Starts for Rummer\_47:

(Start: 231 @31884 has 845 MA's), (248, 31845), (256, 31833), (329, 31680), (333, 31665), (367, 31608), (390, 31551), (392, 31542), (403, 31500), (415, 31449), (434, 31398), (472, 31344), (487, 31305), (509, 31257), (524, 31233), (549, 31194), (562, 31167), (575, 31137), (610, 31044), (616, 31032), (641, 30984), (652, 30969), (700, 30813), (711, 30762), (719, 30729), (720, 30726), (733, 30660), (742, 30621), (761, 30549), (772, 30510), (780, 30486), (786, 30468), (796, 30435), (834, 30354), (851, 30294), (880, 30207), (896, 30159), (902, 30147), (906, 30138), (907, 30135),

Gene: Ruotula\_48 Start: 36337, Stop: 34550, Start Num: 231

Candidate Starts for Ruotula\_48:

(Start: 231 @36337 has 845 MA's), (332, 36124), (337, 36109), (367, 36061), (378, 36031), (388, 36010), (390, 36004), (392, 35995), (425, 35878), (434, 35851), (487, 35758), (492, 35743), (509, 35710), (541, 35659), (543, 35656), (575, 35590), (589, 35560), (598, 35530), (616, 35485), (638, 35446), (700, 35266), (709, 35218), (720, 35179), (733, 35113), (758, 35041), (760, 35032), (786, 34948), (818, 34861), (868, 34735), (871, 34723), (890, 34663), (896, 34639), (899, 34633),

Gene: Rutherferd\_47 Start: 35726, Stop: 33900, Start Num: 231

Candidate Starts for Rutherferd\_47:

(Start: 231 @35726 has 845 MA's), (345, 35492), (367, 35450), (378, 35420), (388, 35399), (390, 35393), (392, 35384), (425, 35267), (434, 35240), (487, 35147), (492, 35132), (509, 35099), (541, 35048), (543, 35045), (575, 34979), (589, 34949), (598, 34919), (616, 34874), (638, 34835), (700, 34655), (709, 34607), (720, 34568), (733, 34502), (742, 34463), (755, 34442), (760, 34421), (766, 34403), (786, 34337), (846, 34187), (847, 34184), (855, 34148), (868, 34124), (874, 34103), (896, 34028), (906, 34007),

Gene: SDcharge11\_60 Start: 53557, Stop: 51698, Start Num: 196

Candidate Starts for SDcharge11\_60:

(Start: 175 @53581 has 1 MA's), (Start: 196 @53557 has 254 MA's), (Start: 221 @53533 has 2 MA's), (Start: 227 @53527 has 3 MA's), (240, 53500), (246, 53485), (259, 53464), (307, 53350), (311, 53344), (326, 53314), (355, 53254), (366, 53233), (386, 53179), (391, 53167), (396, 53149), (398, 53137), (431, 53032), (454, 52975), (466, 52939), (471, 52927), (483, 52900), (486, 52891), (499, 52855), (533, 52798), (540, 52789), (542, 52786), (544, 52783), (695, 52426), (701, 52393), (706, 52372), (727, 52279), (730, 52270), (744, 52207), (760, 52171), (761, 52168), (766, 52153), (790, 52075), (794, 52063), (800, 52042), (817, 52003), (851, 51913), (856, 51895), (858, 51889), (868, 51874), (875, 51850), (877, 51835), (878, 51832), (881, 51820), (890, 51796), (907, 51748), (912, 51724),

Gene: SJReid\_106 Start: 70795, Stop: 72594, Start Num: 234

Candidate Starts for SJReid\_106:

(207, 70753), (234, 70795), (Start: 266 @70858 has 4 MA's), (286, 70888), (291, 70891), (355, 71026), (391, 71107), (397, 71134), (400, 71140), (437, 71245), (484, 71302), (530, 71392), (549, 71419), (558, 71434), (668, 71680), (680, 71719), (687, 71752), (697, 71791), (700, 71812), (702, 71818), (719, 71902), (723, 71929), (724, 71935), (741, 72019), (746, 72037), (759, 72085), (762, 72097), (772, 72133), (783, 72166), (800, 72220), (852, 72370), (856, 72385), (871, 72418), (873, 72424), (876, 72442), (884, 72466), (895, 72499), (896, 72502),

Gene: SJay\_39 Start: 28931, Stop: 27066, Start Num: 267

Candidate Starts for SJay\_39:

(Start: 214 @29018 has 4 MA's), (Start: 267 @28931 has 137 MA's), (Start: 275 @28922 has 5 MA's), (321, 28817), (325, 28808), (338, 28778), (340, 28775), (395, 28655), (397, 28643), (400, 28637), (436, 28532), (445, 28505), (490, 28364), (492, 28358), (494, 28355), (498, 28343), (513, 28316),

(516, 28313), (525, 28298), (527, 28292), (530, 28286), (553, 28253), (612, 28124), (634, 28064), (726, 27749), (729, 27740), (730, 27737), (733, 27719), (743, 27677), (745, 27671), (751, 27647), (768, 27590), (815, 27431), (827, 27401), (828, 27392), (847, 27332), (852, 27308), (863, 27269), (875, 27236), (876, 27224), (893, 27164),

Gene: STLscum\_46 Start: 35717, Stop: 33930, Start Num: 231

Candidate Starts for STLscum\_46:

(Start: 231 @35717 has 845 MA's), (332, 35504), (367, 35441), (378, 35411), (388, 35390), (390, 35384), (392, 35375), (425, 35258), (434, 35231), (487, 35138), (492, 35123), (541, 35039), (543, 35036), (575, 34970), (589, 34940), (598, 34910), (616, 34865), (638, 34826), (700, 34646), (709, 34598), (720, 34559), (733, 34493), (758, 34421), (760, 34412), (786, 34328), (818, 34241), (868, 34115), (871, 34103), (890, 34043), (896, 34019), (899, 34013),

Gene: Sabella\_56 Start: 52482, Stop: 50653, Start Num: 188

Candidate Starts for Sabella\_56:

(Start: 188 @52482 has 31 MA's), (Start: 227 @52455 has 3 MA's), (242, 52425), (246, 52413), (264, 52386), (Start: 266 @52383 has 4 MA's), (274, 52374), (291, 52356), (330, 52260), (355, 52209), (367, 52185), (417, 52023), (424, 52008), (427, 51999), (431, 51987), (454, 51930), (466, 51894), (471, 51882), (482, 51858), (522, 51774), (540, 51744), (542, 51741), (561, 51711), (624, 51567), (652, 51501), (681, 51450), (684, 51429), (689, 51411), (701, 51354), (722, 51270), (727, 51240), (730, 51231), (744, 51165), (758, 51138), (760, 51129), (766, 51111), (772, 51087), (790, 51033), (794, 51021), (800, 51000), (834, 50931), (851, 50871), (856, 50853), (871, 50820), (875, 50808), (877, 50793), (878, 50790), (881, 50778), (890, 50754), (891, 50751), (907, 50703), (908, 50700), (912, 50679), (917, 50658),

Gene: Sabertooth\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Sabertooth\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700, 30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Sabia\_48 Start: 31846, Stop: 30032, Start Num: 231

Candidate Starts for Sabia\_48:

(Start: 231 @31846 has 845 MA's), (248, 31807), (256, 31795), (329, 31642), (333, 31627), (367, 31570), (390, 31513), (392, 31504), (403, 31462), (415, 31411), (434, 31360), (487, 31267), (509, 31219), (513, 31210), (524, 31195), (549, 31156), (562, 31129), (575, 31099), (610, 31006), (641, 30946), (652, 30931), (700, 30775), (720, 30688), (733, 30622), (742, 30583), (761, 30511), (772, 30472), (780, 30448), (786, 30430), (796, 30397), (806, 30370), (834, 30316), (851, 30256), (877, 30178), (896, 30121), (902, 30109), (906, 30100),

Gene: Sabinator\_47 Start: 31851, Stop: 30037, Start Num: 231

Candidate Starts for Sabinator\_47:

(Start: 231 @31851 has 845 MA's), (248, 31812), (256, 31800), (329, 31647), (333, 31632), (367, 31575), (390, 31518), (392, 31509), (403, 31467), (415, 31416), (434, 31365), (487, 31272), (509, 31224), (513, 31215), (524, 31200), (549, 31161), (562, 31134), (575, 31104), (610, 31011), (652, 30936), (700, 30780), (720, 30693), (733, 30627), (742, 30588), (761, 30516), (772, 30477), (780, 30453), (786, 30435), (796, 30402), (806, 30375), (834, 30321), (851, 30261), (877, 30183), (896, 30126), (902, 30114), (906, 30105),

Gene: Sagefire\_48 Start: 36086, Stop: 34299, Start Num: 231

Candidate Starts for Sagefire\_48:



(Start: 231 @36086 has 845 MA's), (332, 35873), (378, 35780), (388, 35759), (390, 35753), (392, 35744), (425, 35627), (434, 35600), (487, 35507), (492, 35492), (509, 35459), (541, 35408), (543, 35405), (575, 35339), (589, 35309), (598, 35279), (616, 35234), (638, 35195), (700, 35015), (709, 34967), (720, 34928), (733, 34862), (758, 34790), (760, 34781), (786, 34697), (818, 34610), (868, 34484), (871, 34472), (896, 34388), (899, 34382),

Gene: Saguaro\_58 Start: 54786, Stop: 52945, Start Num: 208

Candidate Starts for Saguaro\_58:

(Start: 208 @54786 has 3 MA's), (240, 54732), (259, 54696), (318, 54576), (341, 54522), (397, 54387), (398, 54384), (405, 54366), (431, 54279), (454, 54222), (466, 54186), (471, 54174), (482, 54150), (540, 54030), (542, 54027), (555, 54009), (561, 53997), (610, 53880), (671, 53769), (681, 53736), (682, 53733), (684, 53715), (696, 53667), (701, 53640), (713, 53589), (725, 53532), (727, 53526), (730, 53517), (739, 53469), (744, 53454), (760, 53418), (761, 53415), (766, 53400), (790, 53322), (794, 53310), (800, 53289), (807, 53271), (816, 53253), (834, 53220), (851, 53160), (856, 53142), (858, 53136), (875, 53097), (876, 53085), (877, 53082), (878, 53079), (881, 53067), (886, 53055), (890, 53043), (904, 53001), (907, 52995), (912, 52971), (917, 52950),

Gene: Saintus\_38 Start: 27584, Stop: 25740, Start Num: 231

Candidate Starts for Saintus\_38:

(Start: 231 @27584 has 845 MA's), (256, 27533), (317, 27410), (329, 27380), (350, 27341), (367, 27308), (378, 27278), (388, 27257), (390, 27251), (392, 27242), (403, 27200), (415, 27149), (433, 27101), (434, 27098), (487, 27002), (491, 26990), (497, 26975), (505, 26957), (513, 26945), (549, 26891), (562, 26864), (583, 26816), (603, 26759), (608, 26747), (616, 26732), (643, 26681), (653, 26666), (697, 26519), (700, 26498), (708, 26468), (709, 26450), (711, 26447), (716, 26432), (720, 26411), (722, 26402), (726, 26375), (730, 26363), (733, 26345), (760, 26264), (764, 26252), (780, 26198), (792, 26162), (803, 26126), (818, 26093), (832, 26072), (834, 26066), (847, 26027), (851, 26006), (856, 25988), (896, 25871), (902, 25859),

Gene: Salz\_44 Start: 30686, Stop: 28899, Start Num: 231

Candidate Starts for Salz\_44:

(Start: 231 @30686 has 845 MA's), (329, 30482), (367, 30410), (378, 30380), (390, 30353), (489, 30101), (513, 30050), (562, 29969), (582, 29924), (613, 29840), (643, 29783), (672, 29741), (683, 29696), (700, 29615), (711, 29564), (720, 29528), (733, 29462), (755, 29402), (758, 29390), (789, 29288), (796, 29264), (802, 29246), (834, 29183), (844, 29156), (846, 29147), (851, 29123), (896, 28988), (902, 28976), (906, 28967),

Gene: Samaymay\_60 Start: 54350, Stop: 52491, Start Num: 196

Candidate Starts for Samaymay\_60:

(Start: 175 @54374 has 1 MA's), (Start: 196 @54350 has 254 MA's), (Start: 221 @54326 has 2 MA's), (Start: 227 @54320 has 3 MA's), (246, 54278), (259, 54257), (307, 54143), (311, 54137), (326, 54107), (355, 54047), (366, 54026), (386, 53972), (391, 53960), (396, 53942), (398, 53930), (431, 53825), (454, 53768), (466, 53732), (471, 53720), (483, 53693), (499, 53648), (533, 53591), (540, 53582), (542, 53579), (695, 53219), (701, 53186), (706, 53165), (727, 53072), (730, 53063), (744, 53000), (760, 52964), (761, 52961), (766, 52946), (790, 52868), (794, 52856), (800, 52835), (817, 52796), (851, 52706), (856, 52688), (858, 52682), (868, 52667), (875, 52643), (877, 52628), (878, 52625), (881, 52613), (890, 52589), (907, 52541), (912, 52517),

Gene: Samora\_36 Start: 27510, Stop: 29363, Start Num: 231

Candidate Starts for Samora\_36:

(Start: 231 @27510 has 845 MA's), (245, 27543), (274, 27591), (292, 27624), (345, 27741), (378, 27813), (379, 27816), (388, 27834), (392, 27849), (447, 28011), (517, 28146), (523, 28158), (541, 28188), (549, 28200), (560, 28218), (574, 28254), (608, 28344), (613, 28353), (643, 28410), (645, 28413), (649, 28422), (695, 28581), (700, 28611), (708, 28644), (709, 28662), (720, 28704), (724,

28734), (726, 28740), (727, 28743), (730, 28752), (733, 28770), (741, 28815), (758, 28869), (817, 29046), (820, 29052), (823, 29058), (844, 29106), (855, 29154), (858, 29163), (871, 29190), (873, 29196), (877, 29217), (896, 29274), (899, 29280), (906, 29295),

Gene: Samy\_65 Start: 41466, Stop: 43436, Start Num: 231

Candidate Starts for Samy\_65:

(Start: 231 @41466 has 845 MA's), (239, 41484), (292, 41583), (317, 41643), (319, 41649), (367, 41745), (388, 41799), (397, 41838), (436, 41964), (491, 42060), (549, 42165), (595, 42270), (613, 42318), (625, 42336), (697, 42576), (700, 42597), (702, 42603), (731, 42741), (733, 42750), (765, 42864), (780, 42915), (796, 42966), (816, 43014), (817, 43017), (823, 43029), (843, 43074), (852, 43113), (858, 43134), (896, 43245), (906, 43266), (921, 43320), (951, 43407),

Gene: SanaSana\_45 Start: 31138, Stop: 33012, Start Num: 222

Candidate Starts for SanaSana\_45:

(Start: 222 @31138 has 57 MA's), (Start: 266 @31207 has 4 MA's), (279, 31228), (392, 31474), (396, 31489), (403, 31516), (549, 31810), (651, 32044), (687, 32164), (688, 32167), (700, 32227), (702, 32233), (711, 32278), (716, 32293), (718, 32308), (724, 32344), (733, 32380), (759, 32473), (787, 32566), (816, 32644), (817, 32647), (846, 32716), (851, 32740), (855, 32755), (873, 32797), (876, 32815), (896, 32875), (906, 32896),

Gene: Sandaddy\_44 Start: 34872, Stop: 33046, Start Num: 231

Candidate Starts for Sandaddy\_44:

(Start: 231 @34872 has 845 MA's), (332, 34659), (337, 34644), (378, 34566), (388, 34545), (390, 34539), (392, 34530), (425, 34413), (434, 34386), (487, 34293), (492, 34278), (509, 34245), (541, 34194), (543, 34191), (575, 34125), (589, 34095), (598, 34065), (616, 34020), (638, 33981), (700, 33801), (709, 33753), (720, 33714), (733, 33648), (760, 33567), (761, 33564), (786, 33483), (846, 33333), (847, 33330), (855, 33294), (868, 33270), (870, 33261), (874, 33249), (896, 33174), (906, 33153),

Gene: SansAfet\_43 Start: 29492, Stop: 31366, Start Num: 222

Candidate Starts for SansAfet\_43:

(Start: 222 @29492 has 57 MA's), (Start: 266 @29561 has 4 MA's), (279, 29582), (392, 29828), (396, 29843), (403, 29870), (549, 30164), (603, 30299), (651, 30398), (688, 30521), (700, 30581), (702, 30587), (711, 30632), (716, 30647), (718, 30662), (724, 30698), (733, 30734), (759, 30827), (787, 30920), (816, 30998), (846, 31070), (855, 31109), (873, 31151), (876, 31169), (890, 31205), (896, 31229), (906, 31250),

Gene: Sansa\_37 Start: 28809, Stop: 26944, Start Num: 267

Candidate Starts for Sansa\_37:

(Start: 267 @28809 has 137 MA's), (292, 28764), (314, 28710), (342, 28650), (370, 28599), (393, 28542), (397, 28521), (400, 28515), (415, 28470), (416, 28467), (417, 28464), (430, 28425), (453, 28365), (490, 28242), (494, 28233), (498, 28221), (507, 28209), (516, 28191), (527, 28170), (534, 28158), (551, 28134), (608, 28008), (620, 27987), (681, 27819), (722, 27654), (729, 27618), (733, 27597), (743, 27555), (768, 27468), (777, 27423), (811, 27324), (827, 27279), (828, 27270), (847, 27210), (852, 27186), (862, 27153), (893, 27042),

Gene: Sanya\_43 Start: 35162, Stop: 33336, Start Num: 231

Candidate Starts for Sanya\_43:

(Start: 231 @35162 has 845 MA's), (332, 34949), (367, 34886), (378, 34856), (388, 34835), (390, 34829), (392, 34820), (425, 34703), (434, 34676), (487, 34583), (492, 34568), (541, 34484), (543, 34481), (575, 34415), (589, 34385), (598, 34355), (616, 34310), (638, 34271), (700, 34091), (709, 34043), (720, 34004), (733, 33938), (742, 33899), (755, 33878), (760, 33857), (766, 33839), (786, 33773), (846, 33623), (847, 33620), (855, 33584), (870, 33551), (874, 33539), (880, 33512), (896,

33464), (906, 33443),

Gene: SarBear\_42 Start: 29278, Stop: 31152, Start Num: 222

Candidate Starts for SarBear\_42:

(Start: 220 @29275 has 7 MA's), (Start: 222 @29278 has 57 MA's), (Start: 266 @29347 has 4 MA's), (279, 29368), (329, 29485), (367, 29548), (392, 29614), (403, 29656), (549, 29950), (603, 30085), (651, 30184), (688, 30307), (700, 30367), (702, 30373), (711, 30418), (716, 30433), (718, 30448), (724, 30484), (733, 30520), (759, 30613), (787, 30706), (816, 30784), (846, 30856), (855, 30895), (873, 30937), (876, 30955), (896, 31015), (906, 31036),

Gene: SarFire\_43 Start: 34438, Stop: 32612, Start Num: 231

Candidate Starts for SarFire\_43:

(Start: 231 @34438 has 845 MA's), (332, 34225), (337, 34210), (378, 34132), (388, 34111), (390, 34105), (392, 34096), (425, 33979), (434, 33952), (487, 33859), (492, 33844), (541, 33760), (543, 33757), (575, 33691), (589, 33661), (598, 33631), (616, 33586), (638, 33547), (700, 33367), (709, 33319), (720, 33280), (733, 33214), (742, 33175), (755, 33154), (760, 33133), (766, 33115), (786, 33049), (846, 32899), (847, 32896), (855, 32860), (870, 32827), (874, 32815), (889, 32767), (896, 32740), (906, 32719),

Gene: Saratos\_38 Start: 28717, Stop: 26852, Start Num: 267

Candidate Starts for Saratos\_38:

(Start: 267 @28717 has 137 MA's), (292, 28672), (314, 28618), (342, 28558), (370, 28507), (397, 28429), (400, 28423), (415, 28378), (416, 28375), (417, 28372), (430, 28333), (453, 28273), (490, 28150), (494, 28141), (498, 28129), (507, 28117), (516, 28099), (527, 28078), (534, 28066), (551, 28042), (620, 27895), (681, 27727), (722, 27562), (729, 27526), (733, 27505), (743, 27463), (768, 27376), (777, 27331), (811, 27232), (827, 27187), (828, 27178), (847, 27118), (852, 27094), (862, 27061), (893, 26950),

Gene: SassyCat97\_59 Start: 54035, Stop: 52176, Start Num: 196

Candidate Starts for SassyCat97\_59:

(Start: 175 @54059 has 1 MA's), (Start: 196 @54035 has 254 MA's), (Start: 221 @54011 has 2 MA's), (Start: 227 @54005 has 3 MA's), (246, 53963), (259, 53942), (307, 53828), (311, 53822), (326, 53792), (355, 53732), (366, 53711), (386, 53657), (391, 53645), (396, 53627), (398, 53615), (431, 53510), (454, 53453), (466, 53417), (471, 53405), (483, 53378), (491, 53351), (499, 53333), (509, 53315), (533, 53276), (540, 53267), (542, 53264), (668, 53006), (695, 52904), (701, 52871), (706, 52850), (727, 52757), (730, 52748), (744, 52685), (760, 52649), (761, 52646), (766, 52631), (790, 52553), (794, 52541), (800, 52520), (817, 52481), (851, 52391), (856, 52373), (858, 52367), (868, 52352), (875, 52328), (877, 52313), (878, 52310), (881, 52298), (890, 52274), (907, 52226), (912, 52202),

Gene: SaturnRing\_46 Start: 31555, Stop: 29717, Start Num: 231

Candidate Starts for SaturnRing\_46:

(Start: 231 @31555 has 845 MA's), (256, 31504), (292, 31438), (329, 31351), (363, 31291), (367, 31279), (390, 31222), (392, 31213), (426, 31093), (434, 31069), (487, 30973), (511, 30925), (549, 30865), (577, 30802), (603, 30733), (613, 30712), (653, 30640), (673, 30598), (683, 30556), (700, 30475), (709, 30427), (726, 30352), (733, 30322), (739, 30292), (761, 30211), (772, 30172), (780, 30148), (786, 30130), (834, 30001), (851, 29941), (896, 29806), (902, 29794), (906, 29785),

Gene: Scamp\_45 Start: 31572, Stop: 29746, Start Num: 231

Candidate Starts for Scamp\_45:

(Start: 231 @31572 has 845 MA's), (240, 31551), (256, 31521), (274, 31491), (350, 31329), (360, 31311), (390, 31239), (392, 31230), (426, 31110), (434, 31086), (487, 30993), (511, 30945), (524, 30924), (549, 30885), (603, 30753), (613, 30732), (638, 30687), (643, 30675), (697, 30522), (700,

30501), (726, 30378), (733, 30348), (742, 30309), (760, 30243), (761, 30240), (766, 30225), (772, 30201), (780, 30177), (851, 29970), (896, 29835), (902, 29823), (906, 29814),

Gene: Schadenfreude\_60 Start: 53915, Stop: 52056, Start Num: 196

Candidate Starts for Schadenfreude\_60:

(Start: 175 @53939 has 1 MA's), (Start: 196 @53915 has 254 MA's), (Start: 221 @53891 has 2 MA's), (Start: 227 @53885 has 3 MA's), (246, 53843), (259, 53822), (307, 53708), (311, 53702), (326, 53672), (355, 53612), (366, 53591), (386, 53537), (391, 53525), (396, 53507), (398, 53495), (431, 53390), (454, 53333), (466, 53297), (471, 53285), (482, 53261), (486, 53249), (491, 53231), (499, 53213), (509, 53195), (533, 53156), (540, 53147), (542, 53144), (544, 53141), (695, 52784), (701, 52751), (706, 52730), (727, 52637), (730, 52628), (744, 52565), (760, 52529), (761, 52526), (766, 52511), (790, 52433), (794, 52421), (800, 52400), (817, 52361), (851, 52271), (856, 52253), (858, 52247), (868, 52232), (875, 52208), (877, 52193), (878, 52190), (881, 52178), (890, 52154), (907, 52106), (912, 52082),

Gene: Scherzo\_45 Start: 31727, Stop: 29934, Start Num: 231

Candidate Starts for Scherzo\_45:

(Start: 231 @31727 has 845 MA's), (236, 31718), (256, 31676), (316, 31556), (317, 31553), (334, 31505), (369, 31445), (379, 31415), (384, 31403), (390, 31391), (434, 31238), (487, 31145), (562, 31007), (575, 30977), (643, 30818), (652, 30806), (671, 30779), (697, 30671), (700, 30650), (730, 30515), (733, 30497), (760, 30416), (772, 30374), (796, 30299), (803, 30278), (832, 30224), (846, 30182), (877, 30080), (896, 30023), (902, 30011), (906, 30002),

Gene: Schimmels22\_37 Start: 27687, Stop: 25789, Start Num: 265

Candidate Starts for Schimmels22\_37:

(6, 28425), (8, 28419), (54, 28164), (238, 27738), (Start: 265 @27687 has 17 MA's), (295, 27624), (321, 27573), (338, 27534), (370, 27477), (393, 27420), (395, 27411), (397, 27399), (400, 27393), (417, 27342), (430, 27303), (456, 27240), (467, 27195), (490, 27120), (494, 27111), (498, 27099), (516, 27069), (527, 27048), (534, 27036), (551, 27012), (622, 26862), (699, 26601), (722, 26499), (724, 26478), (733, 26442), (741, 26406), (743, 26400), (768, 26313), (775, 26286), (815, 26154), (828, 26115), (836, 26094), (847, 26055), (852, 26031), (854, 26025), (862, 25998), (893, 25887),

Gene: Schnapsidee\_38 Start: 29060, Stop: 27195, Start Num: 267

Candidate Starts for Schnapsidee\_38:

(Start: 267 @29060 has 137 MA's), (Start: 275 @29051 has 5 MA's), (394, 28787), (397, 28772), (400, 28766), (445, 28634), (463, 28580), (490, 28493), (494, 28484), (498, 28472), (513, 28445), (516, 28442), (525, 28427), (527, 28421), (675, 28091), (726, 27878), (729, 27869), (730, 27866), (733, 27848), (743, 27806), (747, 27791), (768, 27719), (775, 27692), (815, 27560), (827, 27530), (847, 27461), (852, 27437), (854, 27431), (863, 27398), (875, 27365), (876, 27353),

Gene: Schubert\_36 Start: 28339, Stop: 26486, Start Num: 265

Candidate Starts for Schubert\_36:

(Start: 226 @28408 has 2 MA's), (Start: 265 @28339 has 17 MA's), (338, 28186), (340, 28183), (371, 28126), (397, 28051), (400, 28045), (415, 28000), (430, 27955), (440, 27925), (476, 27838), (494, 27775), (498, 27763), (516, 27733), (527, 27712), (534, 27700), (675, 27382), (724, 27175), (726, 27169), (730, 27157), (733, 27139), (743, 27097), (747, 27082), (768, 27010), (777, 26965), (847, 26752), (852, 26728), (855, 26716), (858, 26707), (862, 26695), (886, 26608), (893, 26584), (894, 26578),

Gene: Schueller\_62 Start: 54272, Stop: 52413, Start Num: 196

Candidate Starts for Schueller\_62:

(Start: 175 @54296 has 1 MA's), (Start: 196 @54272 has 254 MA's), (Start: 221 @54248 has 2 MA's), (Start: 227 @54242 has 3 MA's), (246, 54200), (259, 54179), (307, 54065), (311, 54059), (326,

54029), (355, 53969), (366, 53948), (386, 53894), (391, 53882), (396, 53864), (398, 53852), (431, 53747), (454, 53690), (466, 53654), (471, 53642), (482, 53618), (486, 53606), (491, 53588), (499, 53570), (509, 53552), (533, 53513), (540, 53504), (542, 53501), (544, 53498), (668, 53243), (695, 53141), (701, 53108), (706, 53087), (727, 52994), (730, 52985), (744, 52922), (760, 52886), (761, 52883), (766, 52868), (790, 52790), (794, 52778), (800, 52757), (817, 52718), (851, 52628), (856, 52610), (858, 52604), (868, 52589), (875, 52565), (877, 52550), (878, 52547), (881, 52535), (890, 52511), (895, 52490), (907, 52463), (912, 52439), (915, 52424),

Gene: Scoot17C\_61 Start: 53977, Stop: 52118, Start Num: 196

Candidate Starts for Scoot17C\_61:

(Start: 175 @54001 has 1 MA's), (Start: 196 @53977 has 254 MA's), (Start: 221 @53953 has 2 MA's), (Start: 227 @53947 has 3 MA's), (246, 53905), (259, 53884), (307, 53770), (311, 53764), (326, 53734), (355, 53674), (366, 53653), (386, 53599), (391, 53587), (396, 53569), (398, 53557), (431, 53452), (454, 53395), (466, 53359), (471, 53347), (483, 53320), (491, 53293), (499, 53275), (509, 53257), (533, 53218), (540, 53209), (542, 53206), (668, 52948), (695, 52846), (701, 52813), (706, 52792), (727, 52699), (730, 52690), (744, 52627), (760, 52591), (761, 52588), (766, 52573), (790, 52495), (794, 52483), (800, 52462), (817, 52423), (851, 52333), (856, 52315), (858, 52309), (868, 52294), (875, 52270), (877, 52255), (878, 52252), (881, 52240), (890, 52216), (907, 52168), (912, 52144),

Gene: Scorpia\_40 Start: 30133, Stop: 28268, Start Num: 231

Candidate Starts for Scorpia\_40:

(Start: 204 @30166 has 2 MA's), (Start: 231 @30133 has 845 MA's), (291, 30022), (330, 29926), (367, 29857), (369, 29854), (378, 29827), (390, 29800), (392, 29791), (413, 29707), (415, 29698), (422, 29683), (434, 29647), (475, 29587), (487, 29551), (509, 29503), (523, 29482), (524, 29479), (561, 29419), (594, 29341), (610, 29293), (616, 29281), (641, 29233), (668, 29182), (700, 29047), (709, 28999), (716, 28981), (720, 28960), (722, 28951), (727, 28921), (733, 28894), (734, 28891), (760, 28813), (766, 28795), (780, 28747), (796, 28696), (818, 28642), (823, 28633), (834, 28615), (856, 28537), (896, 28420), (902, 28408), (939, 28303),

Gene: Scout\_45 Start: 30682, Stop: 28844, Start Num: 231

Candidate Starts for Scout\_45:

(Start: 182 @30754 has 24 MA's), (Start: 231 @30682 has 845 MA's), (256, 30631), (329, 30478), (363, 30418), (367, 30406), (390, 30349), (392, 30340), (395, 30328), (426, 30220), (434, 30196), (487, 30100), (511, 30052), (549, 29992), (577, 29929), (603, 29860), (613, 29839), (652, 29770), (656, 29764), (673, 29725), (700, 29602), (720, 29515), (726, 29479), (733, 29449), (739, 29419), (761, 29338), (772, 29299), (780, 29275), (786, 29257), (834, 29128), (851, 29068), (896, 28933), (902, 28921), (906, 28912),

Gene: Scowl\_45 Start: 35221, Stop: 33395, Start Num: 231

Candidate Starts for Scowl\_45:

(Start: 231 @35221 has 845 MA's), (332, 35008), (337, 34993), (367, 34945), (378, 34915), (388, 34894), (390, 34888), (392, 34879), (425, 34762), (434, 34735), (487, 34642), (492, 34627), (541, 34543), (543, 34540), (575, 34474), (589, 34444), (598, 34414), (616, 34369), (638, 34330), (700, 34150), (709, 34102), (720, 34063), (733, 33997), (742, 33958), (755, 33937), (760, 33916), (766, 33898), (786, 33832), (846, 33682), (847, 33679), (855, 33643), (868, 33619), (870, 33610), (874, 33598), (880, 33571), (896, 33523), (906, 33502),

Gene: Scrick\_61 Start: 54049, Stop: 52190, Start Num: 196

Candidate Starts for Scrick\_61:

(Start: 175 @54073 has 1 MA's), (Start: 196 @54049 has 254 MA's), (Start: 221 @54025 has 2 MA's), (Start: 227 @54019 has 3 MA's), (246, 53977), (259, 53956), (307, 53842), (311, 53836), (326, 53806), (355, 53746), (366, 53725), (386, 53671), (391, 53659), (396, 53641), (398, 53629), (431,

53524), (454, 53467), (466, 53431), (471, 53419), (482, 53395), (486, 53383), (491, 53365), (499, 53347), (509, 53329), (533, 53290), (540, 53281), (542, 53278), (544, 53275), (695, 52918), (701, 52885), (706, 52864), (727, 52771), (730, 52762), (744, 52699), (760, 52663), (761, 52660), (766, 52645), (790, 52567), (794, 52555), (800, 52534), (817, 52495), (851, 52405), (856, 52387), (858, 52381), (868, 52366), (875, 52342), (877, 52327), (878, 52324), (881, 52312), (890, 52288), (907, 52240), (912, 52216),

Gene: Seabiscuit\_46 Start: 34373, Stop: 32547, Start Num: 231

Candidate Starts for Seabiscuit\_46:

(Start: 231 @34373 has 845 MA's), (332, 34160), (367, 34097), (378, 34067), (388, 34046), (390, 34040), (392, 34031), (425, 33914), (434, 33887), (487, 33794), (492, 33779), (509, 33746), (541, 33695), (543, 33692), (575, 33626), (598, 33566), (616, 33521), (638, 33482), (700, 33302), (709, 33254), (720, 33215), (733, 33149), (742, 33110), (755, 33089), (760, 33068), (766, 33050), (786, 32984), (846, 32834), (847, 32831), (855, 32795), (870, 32762), (874, 32750), (889, 32702), (896, 32675), (906, 32654),

Gene: Seanderson\_47 Start: 35777, Stop: 33948, Start Num: 231

Candidate Starts for Seanderson\_47:

(Start: 231 @35777 has 845 MA's), (332, 35564), (337, 35549), (367, 35501), (378, 35471), (388, 35450), (390, 35444), (392, 35435), (425, 35318), (434, 35291), (487, 35198), (492, 35183), (541, 35099), (543, 35096), (575, 35030), (598, 34970), (616, 34925), (638, 34886), (700, 34706), (709, 34658), (722, 34610), (730, 34571), (733, 34553), (742, 34514), (755, 34493), (760, 34472), (765, 34457), (803, 34334), (871, 34163), (876, 34139), (893, 34091), (896, 34079), (906, 34058), (908, 34052), (921, 34004), (928, 33989),

Gene: Sebastisaurus\_36 Start: 27845, Stop: 29776, Start Num: 231

Candidate Starts for Sebastisaurus\_36:

(211, 27815), (Start: 231 @27845 has 845 MA's), (274, 27926), (317, 28025), (351, 28097), (355, 28103), (378, 28157), (379, 28160), (484, 28415), (489, 28433), (517, 28490), (524, 28505), (541, 28532), (547, 28541), (549, 28544), (552, 28547), (560, 28562), (613, 28697), (638, 28742), (649, 28766), (700, 28955), (702, 28961), (709, 29003), (720, 29042), (724, 29072), (731, 29099), (733, 29108), (739, 29138), (746, 29162), (766, 29225), (817, 29375), (820, 29381), (841, 29423), (844, 29435), (851, 29468), (855, 29483), (858, 29492), (871, 29519), (873, 29525), (876, 29543), (880, 29555), (896, 29603), (902, 29615), (921, 29678),

Gene: Sedgewig\_38 Start: 28617, Stop: 26752, Start Num: 267

Candidate Starts for Sedgewig\_38:

(Start: 214 @28704 has 4 MA's), (Start: 216 @28701 has 7 MA's), (Start: 267 @28617 has 137 MA's), (Start: 275 @28608 has 5 MA's), (321, 28503), (325, 28494), (338, 28464), (340, 28461), (395, 28341), (397, 28329), (400, 28323), (436, 28218), (445, 28191), (490, 28050), (492, 28044), (494, 28041), (498, 28029), (513, 28002), (516, 27999), (525, 27984), (527, 27978), (530, 27972), (553, 27939), (612, 27810), (634, 27750), (726, 27435), (729, 27426), (730, 27423), (733, 27405), (743, 27363), (745, 27357), (747, 27348), (751, 27333), (768, 27276), (815, 27117), (827, 27087), (828, 27078), (847, 27018), (852, 26994), (863, 26955), (875, 26922), (876, 26910), (893, 26850),

Gene: Selr12\_62 Start: 54059, Stop: 52200, Start Num: 196

Candidate Starts for Selr12\_62:

(Start: 175 @54083 has 1 MA's), (Start: 196 @54059 has 254 MA's), (Start: 221 @54035 has 2 MA's), (Start: 227 @54029 has 3 MA's), (246, 53987), (259, 53966), (307, 53852), (311, 53846), (326, 53816), (355, 53756), (366, 53735), (386, 53681), (391, 53669), (396, 53651), (398, 53639), (431, 53534), (454, 53477), (466, 53441), (471, 53429), (483, 53402), (491, 53375), (499, 53357), (509, 53339), (533, 53300), (540, 53291), (542, 53288), (695, 52928), (701, 52895), (706, 52874), (727, 52781), (730, 52772), (744, 52709), (760, 52673), (761, 52670), (766, 52655), (790, 52577), (794,

52565), (800, 52544), (817, 52505), (851, 52415), (856, 52397), (858, 52391), (868, 52376), (875, 52352), (877, 52337), (878, 52334), (881, 52322), (890, 52298), (907, 52250), (912, 52226),

Gene: SemperFi\_45 Start: 31534, Stop: 29747, Start Num: 231

Candidate Starts for SemperFi\_45:

(102, 31789), (Start: 231 @31534 has 845 MA's), (329, 31330), (330, 31327), (332, 31321), (337, 31306), (350, 31291), (367, 31258), (369, 31255), (378, 31228), (390, 31201), (395, 31180), (403, 31150), (434, 31048), (487, 30955), (509, 30907), (513, 30898), (524, 30883), (562, 30817), (595, 30736), (613, 30688), (616, 30682), (652, 30619), (683, 30544), (700, 30463), (711, 30412), (719, 30379), (720, 30376), (733, 30310), (742, 30271), (755, 30250), (775, 30175), (782, 30157), (796, 30112), (806, 30085), (823, 30049), (832, 30037), (834, 30031), (846, 29995), (851, 29971), (877, 29893), (896, 29836), (902, 29824), (906, 29815),

Gene: Serendipitous\_56 Start: 53740, Stop: 51905, Start Num: 183

Candidate Starts for Serendipitous\_56:

(Start: 169 @53764 has 3 MA's), (Start: 183 @53740 has 3 MA's), (Start: 227 @53704 has 3 MA's), (396, 53356), (405, 53326), (410, 53314), (421, 53278), (431, 53248), (466, 53155), (471, 53143), (475, 53134), (482, 53119), (486, 53107), (491, 53089), (526, 53026), (542, 53002), (593, 52897), (682, 52708), (684, 52690), (696, 52642), (701, 52615), (725, 52507), (727, 52501), (730, 52492), (754, 52408), (761, 52375), (766, 52360), (784, 52300), (790, 52282), (794, 52270), (800, 52249), (803, 52240), (805, 52237), (858, 52096), (864, 52087), (875, 52057), (877, 52042), (878, 52039), (886, 52015), (890, 52003), (891, 52000), (904, 51961), (912, 51931), (917, 51910),

Gene: Serendipity\_60 Start: 54332, Stop: 52473, Start Num: 196

Candidate Starts for Serendipity\_60:

(Start: 175 @54356 has 1 MA's), (Start: 196 @54332 has 254 MA's), (Start: 221 @54308 has 2 MA's), (Start: 227 @54302 has 3 MA's), (246, 54260), (259, 54239), (307, 54125), (311, 54119), (326, 54089), (355, 54029), (366, 54008), (386, 53954), (391, 53942), (396, 53924), (398, 53912), (431, 53807), (454, 53750), (466, 53714), (471, 53702), (483, 53675), (499, 53630), (533, 53573), (540, 53564), (542, 53561), (695, 53201), (701, 53168), (706, 53147), (727, 53054), (730, 53045), (744, 52982), (760, 52946), (761, 52943), (766, 52928), (790, 52850), (794, 52838), (800, 52817), (817, 52778), (851, 52688), (856, 52670), (858, 52664), (868, 52649), (875, 52625), (877, 52610), (878, 52607), (881, 52595), (890, 52571), (907, 52523), (912, 52499),

Gene: Serenity\_45 Start: 30497, Stop: 28668, Start Num: 231

Candidate Starts for Serenity\_45:

(Start: 231 @30497 has 845 MA's), (329, 30293), (330, 30290), (332, 30284), (337, 30269), (350, 30254), (366, 30224), (367, 30221), (378, 30191), (390, 30164), (395, 30143), (403, 30113), (434, 30011), (487, 29918), (509, 29870), (513, 29861), (524, 29846), (562, 29780), (595, 29699), (613, 29651), (638, 29606), (700, 29426), (709, 29378), (711, 29375), (720, 29339), (733, 29273), (742, 29234), (755, 29213), (775, 29138), (782, 29120), (796, 29075), (806, 29048), (823, 29012), (834, 28994), (846, 28958), (851, 28934), (877, 28856), (896, 28799), (902, 28787), (906, 28778), (917, 28730), (933, 28700), (940, 28682), (942, 28679),

Gene: Serpentine\_0060 Start: 54415, Stop: 52556, Start Num: 196

Candidate Starts for Serpentine\_0060:

(Start: 175 @54439 has 1 MA's), (Start: 196 @54415 has 254 MA's), (Start: 221 @54391 has 2 MA's), (Start: 227 @54385 has 3 MA's), (246, 54343), (259, 54322), (307, 54208), (311, 54202), (326, 54172), (355, 54112), (366, 54091), (386, 54037), (391, 54025), (396, 54007), (398, 53995), (431, 53890), (454, 53833), (466, 53797), (471, 53785), (483, 53758), (491, 53731), (499, 53713), (509, 53695), (533, 53656), (540, 53647), (542, 53644), (668, 53386), (695, 53284), (701, 53251), (706, 53230), (727, 53137), (730, 53128), (744, 53065), (760, 53029), (761, 53026), (766, 53011), (790, 52933), (794, 52921), (800, 52900), (817, 52861), (851, 52771), (856, 52753), (858, 52747), (868,

52732), (875, 52708), (877, 52693), (878, 52690), (881, 52678), (890, 52654), (907, 52606), (912, 52582),

Gene: Severus\_42 Start: 30385, Stop: 28553, Start Num: 231

Candidate Starts for Severus\_42:

(Start: 231 @30385 has 845 MA's), (256, 30334), (292, 30268), (329, 30181), (332, 30172), (363, 30121), (367, 30109), (390, 30052), (411, 29971), (413, 29959), (415, 29950), (426, 29923), (434, 29899), (487, 29806), (502, 29767), (549, 29698), (562, 29671), (616, 29539), (700, 29311), (716, 29245), (726, 29188), (733, 29158), (742, 29119), (761, 29047), (766, 29032), (772, 29008), (786, 28966), (796, 28933), (851, 28777), (858, 28753), (880, 28690), (896, 28642), (902, 28630), (906, 28621),

Gene: ShaiHulud\_39 Start: 28925, Stop: 27069, Start Num: 275

Candidate Starts for ShaiHulud\_39:

(Start: 214 @29021 has 4 MA's), (Start: 216 @29018 has 7 MA's), (Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (492, 28361), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612, 28127), (634, 28067), (666, 27992), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (747, 27665), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Shaka\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Shaka\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: ShakeltOph\_47 Start: 30557, Stop: 32419, Start Num: 231

Candidate Starts for ShakeltOph\_47:

(162, 30458), (Start: 173 @30476 has 1 MA's), (Start: 231 @30557 has 845 MA's), (254, 30605), (330, 30764), (332, 30770), (388, 30875), (400, 30920), (483, 31127), (549, 31256), (595, 31361), (613, 31409), (655, 31493), (700, 31667), (719, 31751), (724, 31784), (727, 31793), (738, 31844), (759, 31913), (793, 32024), (820, 32093), (823, 32099), (858, 32204), (896, 32315),

Gene: Sham4\_44 Start: 30331, Stop: 28544, Start Num: 231

Candidate Starts for Sham4\_44:

(Start: 231 @30331 has 845 MA's), (329, 30127), (367, 30055), (378, 30025), (390, 29998), (489, 29746), (513, 29695), (562, 29614), (582, 29569), (583, 29566), (613, 29485), (643, 29428), (672, 29386), (683, 29341), (700, 29260), (711, 29209), (720, 29173), (733, 29107), (755, 29047), (758, 29035), (789, 28933), (796, 28909), (802, 28891), (834, 28828), (844, 28801), (846, 28792), (851, 28768), (896, 28633), (902, 28621), (906, 28612),

Gene: Shamu\_38 Start: 28738, Stop: 26873, Start Num: 267

Candidate Starts for Shamu\_38:

(Start: 267 @28738 has 137 MA's), (292, 28693), (314, 28639), (342, 28579), (370, 28528), (397, 28450), (400, 28444), (415, 28399), (416, 28396), (417, 28393), (430, 28354), (453, 28294), (490, 28171), (494, 28162), (498, 28150), (507, 28138), (516, 28120), (527, 28099), (534, 28087), (620, 27916), (681, 27748), (722, 27583), (729, 27547), (733, 27526), (743, 27484), (768, 27397), (777, 27352), (811, 27253), (827, 27208), (828, 27199), (847, 27139), (852, 27115), (862, 27082), (893,



26971),

Gene: Sharkboy\_41 Start: 30011, Stop: 31882, Start Num: 222

Candidate Starts for Sharkboy\_41:

(Start: 222 @30011 has 57 MA's), (319, 30194), (337, 30233), (351, 30251), (382, 30323), (392, 30347), (395, 30359), (396, 30362), (422, 30443), (520, 30635), (549, 30683), (590, 30773), (651, 30914), (688, 31037), (700, 31097), (716, 31163), (718, 31178), (724, 31214), (727, 31223), (733, 31250), (759, 31343), (787, 31436), (816, 31514), (846, 31586), (855, 31625), (873, 31667), (890, 31721), (896, 31745), (906, 31766), (911, 31790),

Gene: Shatter\_51 Start: 45981, Stop: 44164, Start Num: 219

Candidate Starts for Shatter\_51:

(66, 46302), (75, 46278), (Start: 219 @45981 has 12 MA's), (240, 45945), (246, 45930), (Start: 266 @45900 has 4 MA's), (322, 45774), (379, 45651), (387, 45636), (398, 45594), (431, 45498), (466, 45405), (526, 45276), (542, 45252), (684, 44940), (689, 44922), (701, 44865), (727, 44751), (730, 44742), (744, 44679), (761, 44640), (766, 44625), (790, 44547), (794, 44535), (800, 44514), (803, 44505), (844, 44418), (852, 44382), (855, 44370), (872, 44331), (875, 44322), (877, 44307), (890, 44262), (912, 44190),

Gene: Shawty\_33 Start: 26720, Stop: 28573, Start Num: 231

Candidate Starts for Shawty\_33:

(Start: 231 @26720 has 845 MA's), (274, 26801), (329, 26921), (388, 27044), (392, 27059), (489, 27299), (500, 27326), (517, 27356), (523, 27368), (541, 27398), (549, 27410), (560, 27428), (574, 27464), (608, 27554), (613, 27563), (645, 27623), (649, 27632), (695, 27791), (700, 27821), (708, 27854), (709, 27872), (714, 27887), (720, 27914), (724, 27944), (726, 27950), (727, 27953), (730, 27962), (731, 27971), (733, 27980), (736, 27995), (741, 28025), (758, 28079), (793, 28193), (817, 28256), (820, 28262), (823, 28268), (841, 28304), (844, 28316), (851, 28349), (855, 28364), (856, 28367), (858, 28373), (871, 28400), (873, 28406), (877, 28427), (896, 28484), (899, 28490), (902, 28496), (906, 28505),

Gene: ShayRa\_48 Start: 29944, Stop: 28154, Start Num: 231

Candidate Starts for ShayRa\_48:

(Start: 231 @29944 has 845 MA's), (317, 29770), (367, 29665), (369, 29662), (378, 29635), (390, 29608), (403, 29557), (434, 29455), (487, 29362), (505, 29317), (509, 29314), (513, 29305), (595, 29143), (603, 29116), (613, 29095), (616, 29089), (674, 28990), (683, 28951), (695, 28900), (700, 28870), (711, 28819), (719, 28786), (724, 28753), (726, 28747), (733, 28717), (755, 28657), (760, 28636), (772, 28594), (781, 28567), (786, 28552), (818, 28465), (846, 28402), (847, 28399), (896, 28243), (902, 28231), (907, 28219),

Gene: Shayna\_42 Start: 28849, Stop: 30720, Start Num: 231

Candidate Starts for Shayna\_42:

(Start: 231 @28849 has 845 MA's), (254, 28897), (Start: 266 @28918 has 4 MA's), (279, 28939), (392, 29182), (395, 29194), (397, 29206), (400, 29212), (422, 29278), (520, 29473), (549, 29521), (667, 29800), (700, 29938), (732, 30085), (733, 30091), (759, 30184), (775, 30244), (816, 30355), (818, 30361), (858, 30475), (872, 30505), (873, 30508), (896, 30586), (901, 30595),

Gene: SheaKeira\_43 Start: 30794, Stop: 29001, Start Num: 231

Candidate Starts for SheaKeira\_43:

(Start: 231 @30794 has 845 MA's), (236, 30785), (256, 30743), (316, 30623), (317, 30620), (332, 30581), (334, 30572), (369, 30512), (378, 30485), (384, 30470), (390, 30458), (403, 30407), (434, 30305), (487, 30212), (495, 30188), (505, 30167), (575, 30044), (643, 29885), (645, 29882), (671, 29846), (673, 29840), (700, 29717), (716, 29651), (726, 29594), (730, 29582), (733, 29564), (755, 29504), (760, 29483), (766, 29465), (796, 29366), (823, 29303), (846, 29249), (873, 29168), (877,

29147), (896, 29090), (902, 29078), (906, 29069),

Gene: SheckWes\_48 Start: 33927, Stop: 31552, Start Num: 43

Candidate Starts for SheckWes\_48:

(Start: 43 @33927 has 11 MA's), (58, 33867), (91, 33786), (127, 33666), (159, 33621), (Start: 208 @33543 has 3 MA's), (Start: 212 @33537 has 1 MA's), (Start: 214 @33534 has 4 MA's), (237, 33504), (243, 33486), (258, 33456), (278, 33429), (280, 33426), (303, 33369), (313, 33348), (321, 33330), (352, 33267), (365, 33243), (369, 33234), (371, 33222), (384, 33189), (393, 33168), (397, 33147), (463, 32964), (490, 32889), (498, 32868), (519, 32847), (576, 32760), (603, 32712), (617, 32682), (622, 32676), (640, 32631), (642, 32628), (649, 32613), (659, 32592), (660, 32589), (683, 32508), (690, 32478), (703, 32418), (705, 32409), (708, 32394), (711, 32379), (714, 32367), (733, 32274), (741, 32238), (743, 32232), (745, 32226), (746, 32220), (761, 32163), (768, 32139), (795, 32034), (796, 32031), (815, 31980), (830, 31938), (836, 31920), (847, 31881), (857, 31839), (865, 31815), (875, 31785), (886, 31737), (889, 31728), (893, 31713), (901, 31689), (908, 31668), (920, 31614), (934, 31581),

Gene: Shee\_39 Start: 28927, Stop: 27062, Start Num: 267

Candidate Starts for Shee\_39:

(Start: 214 @29014 has 4 MA's), (Start: 216 @29011 has 7 MA's), (Start: 267 @28927 has 137 MA's), (Start: 275 @28918 has 5 MA's), (321, 28813), (325, 28804), (338, 28774), (340, 28771), (395, 28651), (397, 28639), (400, 28633), (436, 28528), (445, 28501), (490, 28360), (492, 28354), (494, 28351), (498, 28339), (513, 28312), (516, 28309), (525, 28294), (527, 28288), (530, 28282), (553, 28249), (634, 28060), (726, 27745), (729, 27736), (730, 27733), (733, 27715), (743, 27673), (745, 27667), (747, 27658), (751, 27643), (768, 27586), (815, 27427), (827, 27397), (828, 27388), (847, 27328), (852, 27304), (863, 27265), (875, 27232), (876, 27220), (893, 27160),

Gene: Sheen\_44 Start: 33301, Stop: 31466, Start Num: 231

Candidate Starts for Sheen\_44:

(Start: 231 @33301 has 845 MA's), (240, 33280), (291, 33190), (353, 33052), (388, 32974), (390, 32968), (434, 32815), (484, 32731), (487, 32719), (505, 32674), (511, 32671), (549, 32611), (573, 32560), (577, 32548), (613, 32458), (638, 32413), (673, 32344), (683, 32302), (697, 32242), (700, 32221), (709, 32173), (722, 32125), (726, 32098), (727, 32095), (733, 32068), (742, 32029), (761, 31960), (772, 31921), (786, 31879), (787, 31876), (796, 31846), (834, 31750), (844, 31723), (855, 31675), (856, 31672), (896, 31555), (902, 31543), (906, 31534),

Gene: Sheila\_58 Start: 53417, Stop: 51558, Start Num: 196

Candidate Starts for Sheila\_58:

(Start: 175 @53441 has 1 MA's), (Start: 196 @53417 has 254 MA's), (Start: 221 @53393 has 2 MA's), (Start: 227 @53387 has 3 MA's), (240, 53360), (246, 53345), (259, 53324), (311, 53204), (326, 53174), (355, 53114), (366, 53093), (386, 53039), (391, 53027), (396, 53009), (398, 52997), (431, 52892), (454, 52835), (466, 52799), (471, 52787), (483, 52760), (499, 52715), (533, 52658), (540, 52649), (542, 52646), (544, 52643), (668, 52388), (695, 52286), (701, 52253), (706, 52232), (727, 52139), (730, 52130), (744, 52067), (760, 52031), (761, 52028), (766, 52013), (790, 51935), (794, 51923), (800, 51902), (817, 51863), (851, 51773), (856, 51755), (858, 51749), (868, 51734), (875, 51710), (877, 51695), (878, 51692), (881, 51680), (890, 51656), (907, 51608), (912, 51584),

Gene: SheldonCooper\_47 Start: 31993, Stop: 30167, Start Num: 231

Candidate Starts for SheldonCooper\_47:

(Start: 231 @31993 has 845 MA's), (254, 31945), (329, 31789), (367, 31717), (390, 31660), (392, 31651), (426, 31531), (434, 31507), (487, 31414), (511, 31366), (524, 31345), (549, 31306), (570, 31261), (603, 31174), (607, 31165), (613, 31153), (638, 31108), (643, 31096), (697, 30943), (700, 30922), (726, 30799), (733, 30769), (742, 30730), (760, 30664), (761, 30661), (772, 30622), (780, 30598), (851, 30391), (896, 30256), (902, 30244), (906, 30235),

Gene: ShiVal\_58 Start: 54054, Stop: 52195, Start Num: 196

Candidate Starts for ShiVal\_58:

(Start: 175 @54078 has 1 MA's), (Start: 196 @54054 has 254 MA's), (Start: 221 @54030 has 2 MA's), (Start: 227 @54024 has 3 MA's), (246, 53982), (259, 53961), (307, 53847), (311, 53841), (326, 53811), (355, 53751), (366, 53730), (386, 53676), (391, 53664), (396, 53646), (398, 53634), (431, 53529), (454, 53472), (466, 53436), (471, 53424), (483, 53397), (491, 53370), (499, 53352), (509, 53334), (533, 53295), (540, 53286), (542, 53283), (668, 53025), (695, 52923), (701, 52890), (706, 52869), (727, 52776), (730, 52767), (744, 52704), (760, 52668), (761, 52665), (766, 52650), (790, 52572), (794, 52560), (800, 52539), (817, 52500), (851, 52410), (856, 52392), (858, 52386), (868, 52371), (875, 52347), (877, 52332), (878, 52329), (881, 52317), (890, 52293), (907, 52245), (912, 52221),

Gene: Shocker\_43 Start: 33276, Stop: 31243, Start Num: 260

Candidate Starts for Shocker\_43:

(Start: 260 @33276 has 1 MA's), (324, 33123), (337, 33090), (348, 33072), (368, 33033), (401, 32913), (404, 32904), (481, 32709), (493, 32664), (540, 32583), (544, 32577), (549, 32571), (561, 32550), (575, 32511), (589, 32481), (598, 32454), (615, 32412), (621, 32403), (646, 32343), (674, 32268), (728, 32001), (743, 31935), (789, 31803), (801, 31764), (835, 31668), (845, 31632), (848, 31617), (850, 31608), (861, 31566), (866, 31551), (879, 31497), (880, 31494), (896, 31440), (938, 31302), (943, 31293),

Gene: ShortQueendom\_39 Start: 30936, Stop: 29110, Start Num: 231

Candidate Starts for ShortQueendom\_39:

(Start: 231 @30936 has 845 MA's), (332, 30723), (337, 30708), (367, 30660), (378, 30630), (388, 30609), (390, 30603), (392, 30594), (425, 30477), (434, 30450), (487, 30357), (492, 30342), (509, 30309), (541, 30258), (543, 30255), (575, 30189), (589, 30159), (598, 30129), (616, 30084), (638, 30045), (700, 29865), (708, 29835), (709, 29817), (711, 29814), (720, 29778), (733, 29712), (760, 29631), (761, 29628), (786, 29547), (846, 29397), (847, 29394), (855, 29358), (868, 29334), (870, 29325), (874, 29313), (896, 29238), (906, 29217),

Gene: Shuman\_36 Start: 28126, Stop: 26342, Start Num: 231

Candidate Starts for Shuman\_36:

(Start: 231 @28126 has 845 MA's), (345, 27892), (363, 27862), (366, 27853), (367, 27850), (384, 27805), (390, 27793), (403, 27742), (434, 27640), (450, 27619), (487, 27547), (505, 27502), (509, 27499), (535, 27457), (539, 27451), (549, 27436), (562, 27409), (603, 27304), (607, 27295), (616, 27277), (638, 27238), (673, 27181), (700, 27058), (709, 27010), (733, 26905), (734, 26902), (755, 26845), (760, 26824), (774, 26776), (798, 26701), (832, 26632), (846, 26590), (851, 26566), (877, 26488), (896, 26431), (902, 26419), (906, 26410), (913, 26380), (917, 26362),

Gene: Shygu2\_44 Start: 31522, Stop: 29693, Start Num: 231

Candidate Starts for Shygu2\_44:

(Start: 231 @31522 has 845 MA's), (256, 31471), (274, 31441), (350, 31279), (360, 31261), (367, 31246), (390, 31189), (392, 31180), (395, 31168), (426, 31060), (434, 31036), (487, 30943), (511, 30895), (524, 30874), (549, 30835), (603, 30703), (613, 30682), (638, 30637), (643, 30625), (697, 30472), (700, 30451), (733, 30298), (741, 30262), (742, 30259), (761, 30187), (766, 30172), (772, 30148), (777, 30130), (780, 30124), (782, 30118), (851, 29917), (896, 29782), (902, 29770), (906, 29761),

Gene: Sibs6\_45 Start: 33579, Stop: 31753, Start Num: 231

Candidate Starts for Sibs6\_45:

(Start: 231 @33579 has 845 MA's), (332, 33366), (337, 33351), (367, 33303), (378, 33273), (388, 33252), (390, 33246), (392, 33237), (425, 33120), (434, 33093), (487, 33000), (492, 32985), (541,

32901), (543, 32898), (575, 32832), (589, 32802), (598, 32772), (616, 32727), (638, 32688), (700, 32508), (709, 32460), (720, 32421), (733, 32355), (742, 32316), (755, 32295), (760, 32274), (766, 32256), (786, 32190), (846, 32040), (847, 32037), (855, 32001), (868, 31977), (870, 31968), (874, 31956), (889, 31908), (896, 31881), (906, 31860),

Gene: Sigman\_61 Start: 54010, Stop: 52151, Start Num: 196

Candidate Starts for Sigman\_61:

(Start: 175 @54034 has 1 MA's), (Start: 196 @54010 has 254 MA's), (Start: 221 @53986 has 2 MA's), (Start: 227 @53980 has 3 MA's), (246, 53938), (259, 53917), (307, 53803), (311, 53797), (326, 53767), (355, 53707), (366, 53686), (386, 53632), (391, 53620), (396, 53602), (398, 53590), (431, 53485), (454, 53428), (466, 53392), (471, 53380), (482, 53356), (486, 53344), (491, 53326), (499, 53308), (509, 53290), (533, 53251), (540, 53242), (542, 53239), (544, 53236), (695, 52879), (701, 52846), (706, 52825), (727, 52732), (730, 52723), (744, 52660), (760, 52624), (761, 52621), (766, 52606), (790, 52528), (794, 52516), (800, 52495), (817, 52456), (851, 52366), (856, 52348), (858, 52342), (868, 52327), (875, 52303), (877, 52288), (878, 52285), (881, 52273), (890, 52249), (907, 52201), (912, 52177),

Gene: Simielle\_60 Start: 54014, Stop: 52155, Start Num: 196

Candidate Starts for Simielle\_60:

(Start: 175 @54038 has 1 MA's), (Start: 196 @54014 has 254 MA's), (Start: 221 @53990 has 2 MA's), (Start: 227 @53984 has 3 MA's), (246, 53942), (259, 53921), (307, 53807), (311, 53801), (326, 53771), (355, 53711), (366, 53690), (386, 53636), (391, 53624), (396, 53606), (398, 53594), (431, 53489), (454, 53432), (466, 53396), (471, 53384), (483, 53357), (499, 53312), (533, 53255), (540, 53246), (542, 53243), (668, 52985), (695, 52883), (701, 52850), (706, 52829), (727, 52736), (730, 52727), (744, 52664), (760, 52628), (761, 52625), (766, 52610), (790, 52532), (794, 52520), (800, 52499), (817, 52460), (851, 52370), (856, 52352), (858, 52346), (868, 52331), (875, 52307), (877, 52292), (878, 52289), (881, 52277), (890, 52253), (907, 52205), (912, 52181),

Gene: Simpson\_43 Start: 29708, Stop: 31573, Start Num: 231

Candidate Starts for Simpson\_43:

(Start: 231 @29708 has 845 MA's), (254, 29756), (378, 30005), (395, 30053), (406, 30095), (489, 30302), (492, 30311), (542, 30401), (549, 30410), (558, 30425), (576, 30470), (595, 30515), (613, 30563), (643, 30620), (674, 30701), (694, 30788), (700, 30821), (708, 30851), (720, 30908), (733, 30974), (759, 31067), (780, 31139), (820, 31247), (846, 31310), (851, 31334), (890, 31445), (896, 31469), (901, 31478),

Gene: Sinatra\_37 Start: 28491, Stop: 26641, Start Num: 265

Candidate Starts for Sinatra\_37:

(Start: 265 @28491 has 17 MA's), (325, 28368), (340, 28335), (393, 28224), (397, 28203), (400, 28197), (417, 28146), (476, 27990), (490, 27936), (492, 27930), (494, 27927), (498, 27915), (516, 27885), (530, 27858), (551, 27828), (620, 27681), (675, 27534), (726, 27324), (730, 27312), (733, 27294), (743, 27252), (747, 27237), (758, 27201), (768, 27165), (827, 26976), (828, 26967), (847, 26907), (852, 26883), (858, 26862), (862, 26850), (893, 26739),

Gene: SirJeffery\_57 Start: 54475, Stop: 52676, Start Num: 227

Candidate Starts for SirJeffery\_57:

(121, 54625), (Start: 145 @54559 has 1 MA's), (Start: 182 @54505 has 24 MA's), (Start: 214 @54484 has 4 MA's), (Start: 227 @54475 has 3 MA's), (240, 54448), (270, 54400), (323, 54289), (331, 54277), (396, 54127), (405, 54097), (410, 54085), (421, 54049), (431, 54019), (466, 53926), (471, 53914), (472, 53911), (482, 53890), (486, 53878), (491, 53860), (526, 53797), (542, 53773), (593, 53668), (643, 53545), (668, 53521), (678, 53494), (681, 53482), (682, 53479), (684, 53461), (696, 53413), (701, 53386), (713, 53335), (727, 53272), (730, 53263), (754, 53179), (761, 53146), (766, 53131), (784, 53071), (790, 53053), (794, 53041), (800, 53020), (803, 53011), (805, 53008), (851, 52891),

(856, 52873), (858, 52867), (875, 52828), (876, 52816), (877, 52813), (881, 52798), (886, 52786), (890, 52774), (891, 52771), (904, 52732), (908, 52723), (912, 52702), (917, 52681),

Gene: SirVictor\_37 Start: 28567, Stop: 26717, Start Num: 265

Candidate Starts for SirVictor\_37:

(181, 28708), (238, 28618), (Start: 265 @28567 has 17 MA's), (314, 28468), (325, 28444), (340, 28411), (393, 28300), (397, 28279), (400, 28273), (415, 28228), (417, 28222), (476, 28066), (494, 28003), (498, 27991), (516, 27961), (551, 27904), (675, 27610), (726, 27400), (729, 27391), (730, 27388), (733, 27370), (743, 27328), (768, 27241), (847, 26983), (852, 26959), (853, 26956), (862, 26926), (893, 26815),

Gene: Sisko\_49 Start: 45974, Stop: 44160, Start Num: 216

Candidate Starts for Sisko\_49:

(151, 46064), (154, 46058), (Start: 216 @45974 has 7 MA's), (Start: 227 @45965 has 3 MA's), (246, 45923), (307, 45797), (330, 45755), (350, 45713), (379, 45644), (395, 45605), (397, 45593), (398, 45590), (424, 45515), (431, 45494), (466, 45401), (524, 45275), (533, 45260), (542, 45248), (586, 45158), (684, 44936), (701, 44861), (727, 44747), (730, 44738), (744, 44675), (761, 44636), (766, 44621), (790, 44543), (794, 44531), (795, 44525), (800, 44510), (803, 44501), (807, 44492), (844, 44414), (851, 44381), (852, 44378), (873, 44324), (875, 44318), (882, 44282), (890, 44258), (912, 44186),

Gene: Sixama\_172 Start: 99122, Stop: 97338, Start Num: 227

Candidate Starts for Sixama\_172:

(Start: 183 @99188 has 3 MA's), (203, 99161), (Start: 227 @99122 has 3 MA's), (291, 99014), (316, 98954), (329, 98921), (366, 98858), (383, 98813), (397, 98768), (398, 98765), (427, 98687), (432, 98672), (433, 98669), (437, 98657), (487, 98588), (530, 98504), (549, 98477), (558, 98462), (626, 98303), (638, 98279), (693, 98138), (697, 98117), (700, 98096), (737, 97916), (749, 97859), (780, 97757), (783, 97748), (804, 97685), (810, 97673), (813, 97664), (852, 97544), (855, 97532), (858, 97523), (860, 97517), (871, 97496), (873, 97490), (875, 97484), (878, 97466), (880, 97460), (896, 97412), (916, 97361),

Gene: SketchMex\_43 Start: 32515, Stop: 30125, Start Num: 33

Candidate Starts for SketchMex\_43:

(Start: 33 @32515 has 15 MA's), (58, 32452), (65, 32434), (71, 32419), (91, 32365), (94, 32353), (98, 32332), (109, 32299), (119, 32272), (127, 32248), (147, 32221), (Start: 214 @32116 has 4 MA's), (243, 32068), (303, 31951), (337, 31870), (354, 31843), (365, 31822), (384, 31768), (386, 31765), (393, 31747), (397, 31726), (418, 31666), (490, 31468), (519, 31426), (576, 31339), (588, 31315), (596, 31309), (617, 31255), (622, 31249), (639, 31207), (640, 31204), (642, 31201), (690, 31054), (698, 31012), (705, 30985), (714, 30943), (733, 30850), (741, 30814), (743, 30808), (745, 30802), (746, 30796), (753, 30772), (761, 30739), (768, 30715), (777, 30670), (795, 30610), (847, 30457), (893, 30289), (908, 30244), (910, 30235), (911, 30226),

Gene: SkiPole\_47 Start: 35312, Stop: 33483, Start Num: 231

Candidate Starts for SkiPole\_47:

(Start: 231 @35312 has 845 MA's), (332, 35099), (337, 35084), (367, 35036), (378, 35006), (388, 34985), (390, 34979), (392, 34970), (425, 34853), (434, 34826), (487, 34733), (492, 34718), (541, 34634), (543, 34631), (575, 34565), (598, 34505), (616, 34460), (638, 34421), (700, 34241), (709, 34193), (722, 34145), (730, 34106), (733, 34088), (742, 34049), (755, 34028), (760, 34007), (765, 33992), (803, 33869), (871, 33698), (876, 33674), (893, 33626), (896, 33614), (906, 33593), (908, 33587), (921, 33539), (928, 33524),

Gene: Skipitt\_44 Start: 31564, Stop: 29738, Start Num: 231

Candidate Starts for Skipitt\_44:

(Start: 231 @31564 has 845 MA's), (240, 31543), (256, 31513), (274, 31483), (350, 31321), (360, 31303), (390, 31231), (392, 31222), (426, 31102), (434, 31078), (487, 30985), (511, 30937), (524, 30916), (549, 30877), (603, 30745), (613, 30724), (638, 30679), (643, 30667), (697, 30514), (700, 30493), (726, 30370), (733, 30340), (742, 30301), (760, 30235), (761, 30232), (766, 30217), (772, 30193), (780, 30169), (851, 29962), (896, 29827), (902, 29815), (906, 29806),

Gene: Skippy\_61 Start: 54268, Stop: 52409, Start Num: 196

Candidate Starts for Skippy\_61:

(Start: 175 @54292 has 1 MA's), (Start: 196 @54268 has 254 MA's), (Start: 221 @54244 has 2 MA's), (Start: 227 @54238 has 3 MA's), (246, 54196), (259, 54175), (307, 54061), (311, 54055), (326, 54025), (355, 53965), (366, 53944), (386, 53890), (391, 53878), (396, 53860), (398, 53848), (431, 53743), (454, 53686), (466, 53650), (471, 53638), (482, 53614), (486, 53602), (491, 53584), (499, 53566), (509, 53548), (533, 53509), (540, 53500), (542, 53497), (544, 53494), (668, 53239), (695, 53137), (701, 53104), (706, 53083), (727, 52990), (730, 52981), (744, 52918), (760, 52882), (761, 52879), (766, 52864), (790, 52786), (794, 52774), (800, 52753), (817, 52714), (851, 52624), (856, 52606), (858, 52600), (868, 52585), (875, 52561), (877, 52546), (878, 52543), (881, 52531), (890, 52507), (895, 52486), (907, 52459), (912, 52435),

Gene: Skylord\_40 Start: 27452, Stop: 29320, Start Num: 220

Candidate Starts for Skylord\_40:

(Start: 220 @27452 has 7 MA's), (Start: 222 @27455 has 57 MA's), (225, 27458), (Start: 266 @27527 has 4 MA's), (396, 27809), (403, 27836), (422, 27890), (502, 28055), (549, 28130), (561, 28151), (688, 28505), (700, 28565), (711, 28616), (724, 28682), (733, 28718), (759, 28811), (816, 28982), (846, 29054), (873, 29135), (895, 29210), (896, 29213), (906, 29234), (930, 29303),

Gene: Slagathor\_47 Start: 35125, Stop: 33338, Start Num: 231

Candidate Starts for Slagathor\_47:

(Start: 231 @35125 has 845 MA's), (332, 34912), (337, 34897), (378, 34819), (388, 34798), (390, 34792), (392, 34783), (425, 34666), (434, 34639), (487, 34546), (492, 34531), (509, 34498), (541, 34447), (543, 34444), (575, 34378), (589, 34348), (598, 34318), (616, 34273), (638, 34234), (700, 34054), (709, 34006), (720, 33967), (733, 33901), (758, 33829), (760, 33820), (786, 33736), (818, 33649), (868, 33523), (871, 33511), (896, 33427), (899, 33421),

Gene: Slatt\_61 Start: 54333, Stop: 52474, Start Num: 196

Candidate Starts for Slatt\_61:

(Start: 175 @54357 has 1 MA's), (Start: 196 @54333 has 254 MA's), (Start: 221 @54309 has 2 MA's), (Start: 227 @54303 has 3 MA's), (246, 54261), (259, 54240), (307, 54126), (311, 54120), (326, 54090), (355, 54030), (366, 54009), (386, 53955), (391, 53943), (396, 53925), (398, 53913), (431, 53808), (454, 53751), (466, 53715), (471, 53703), (483, 53676), (491, 53649), (499, 53631), (509, 53613), (533, 53574), (540, 53565), (542, 53562), (695, 53202), (701, 53169), (706, 53148), (727, 53055), (730, 53046), (744, 52983), (760, 52947), (761, 52944), (766, 52929), (790, 52851), (794, 52839), (800, 52818), (817, 52779), (851, 52689), (856, 52671), (858, 52665), (868, 52650), (875, 52626), (877, 52611), (878, 52608), (881, 52596), (890, 52572), (907, 52524), (912, 52500),

Gene: Slay\_43 Start: 30006, Stop: 31880, Start Num: 222

Candidate Starts for Slay\_43:

(Start: 220 @30003 has 7 MA's), (Start: 222 @30006 has 57 MA's), (Start: 266 @30075 has 4 MA's), (279, 30096), (329, 30213), (367, 30276), (392, 30342), (403, 30384), (549, 30678), (603, 30813), (651, 30912), (688, 31035), (700, 31095), (702, 31101), (711, 31146), (716, 31161), (718, 31176), (724, 31212), (733, 31248), (759, 31341), (787, 31434), (816, 31512), (846, 31584), (855, 31623), (873, 31665), (876, 31683), (896, 31743), (906, 31764),

Gene: SlippinJimmy\_60 Start: 54842, Stop: 53025, Start Num: 223

Candidate Starts for SlippinJimmy\_60:

(123, 55025), (Start: 223 @54842 has 42 MA's), (240, 54812), (332, 54632), (395, 54479), (397, 54467), (407, 54437), (412, 54431), (431, 54368), (433, 54362), (454, 54311), (466, 54275), (486, 54227), (542, 54122), (589, 54026), (610, 53975), (681, 53831), (689, 53792), (696, 53762), (701, 53735), (704, 53723), (725, 53627), (727, 53621), (730, 53612), (732, 53600), (754, 53528), (760, 53498), (766, 53480), (768, 53471), (790, 53402), (794, 53390), (800, 53369), (834, 53300), (841, 53285), (847, 53261), (851, 53240), (856, 53222), (858, 53216), (873, 53183), (875, 53177), (878, 53159), (881, 53147), (886, 53135), (890, 53123), (904, 53081), (912, 53051),

Gene: Smairt\_47 Start: 35424, Stop: 33637, Start Num: 231

Candidate Starts for Smairt\_47:

(Start: 231 @35424 has 845 MA's), (332, 35211), (337, 35196), (378, 35118), (388, 35097), (390, 35091), (392, 35082), (425, 34965), (434, 34938), (487, 34845), (492, 34830), (501, 34809), (509, 34797), (541, 34746), (543, 34743), (570, 34689), (575, 34677), (589, 34647), (598, 34617), (616, 34572), (638, 34533), (700, 34353), (709, 34305), (720, 34266), (733, 34200), (758, 34128), (760, 34119), (786, 34035), (818, 33948), (868, 33822), (871, 33810), (896, 33726), (899, 33720),

Gene: Smeadley\_43 Start: 30722, Stop: 28878, Start Num: 231

Candidate Starts for Smeadley\_43:

(134, 30887), (Start: 231 @30722 has 845 MA's), (256, 30671), (317, 30548), (329, 30518), (350, 30479), (367, 30446), (378, 30416), (388, 30395), (390, 30389), (392, 30380), (403, 30338), (415, 30287), (433, 30239), (434, 30236), (487, 30140), (497, 30113), (505, 30095), (509, 30092), (513, 30083), (549, 30029), (562, 30002), (583, 29954), (603, 29897), (616, 29870), (643, 29819), (653, 29804), (697, 29657), (700, 29636), (708, 29606), (709, 29588), (711, 29585), (716, 29570), (720, 29549), (722, 29540), (726, 29513), (730, 29501), (733, 29483), (760, 29402), (764, 29390), (780, 29336), (792, 29300), (803, 29264), (818, 29231), (832, 29210), (834, 29204), (847, 29165), (851, 29144), (856, 29126), (896, 29009), (899, 29003), (902, 28997),

Gene: Smeagan\_47 Start: 31877, Stop: 30090, Start Num: 231

Candidate Starts for Smeagan\_47:

(Start: 231 @31877 has 845 MA's), (330, 31670), (332, 31664), (337, 31649), (350, 31634), (369, 31598), (378, 31571), (390, 31544), (395, 31523), (434, 31391), (487, 31298), (505, 31253), (509, 31250), (513, 31241), (524, 31226), (562, 31160), (595, 31079), (613, 31031), (616, 31025), (700, 30806), (711, 30755), (719, 30722), (720, 30719), (733, 30653), (742, 30614), (755, 30593), (775, 30518), (780, 30506), (796, 30455), (823, 30392), (834, 30374), (846, 30338), (851, 30314), (877, 30236), (896, 30179), (902, 30167), (906, 30158),

Gene: Smeagol\_46 Start: 35946, Stop: 34120, Start Num: 231

Candidate Starts for Smeagol\_46:

(Start: 231 @35946 has 845 MA's), (332, 35733), (337, 35718), (378, 35640), (388, 35619), (390, 35613), (392, 35604), (425, 35487), (434, 35460), (487, 35367), (492, 35352), (509, 35319), (541, 35268), (543, 35265), (575, 35199), (589, 35169), (598, 35139), (616, 35094), (638, 35055), (700, 34875), (709, 34827), (711, 34824), (720, 34788), (733, 34722), (760, 34641), (761, 34638), (786, 34557), (846, 34407), (847, 34404), (855, 34368), (868, 34344), (874, 34323), (896, 34248), (906, 34227),

Gene: SmellyB\_45 Start: 29627, Stop: 27786, Start Num: 231

Candidate Starts for SmellyB\_45:

(Start: 231 @29627 has 845 MA's), (329, 29423), (367, 29348), (369, 29345), (378, 29318), (384, 29303), (390, 29291), (403, 29240), (430, 29150), (434, 29138), (487, 29045), (502, 29006), (513, 28988), (524, 28973), (562, 28907), (576, 28874), (577, 28871), (619, 28769), (652, 28709), (683, 28625), (700, 28544), (719, 28460), (720, 28457), (722, 28448), (726, 28421), (733, 28391), (755, 28331), (766, 28292), (846, 28076), (847, 28073), (851, 28052), (896, 27917), (902, 27905), (906,

27896), (907, 27893), (939, 27800),

Gene: SnapTap\_44 Start: 31345, Stop: 29558, Start Num: 231

Candidate Starts for SnapTap\_44:

(102, 31600), (Start: 231 @31345 has 845 MA's), (329, 31141), (330, 31138), (332, 31132), (337, 31117), (350, 31102), (367, 31069), (369, 31066), (378, 31039), (390, 31012), (395, 30991), (403, 30961), (434, 30859), (487, 30766), (509, 30718), (513, 30709), (524, 30694), (562, 30628), (595, 30547), (613, 30499), (616, 30493), (652, 30430), (683, 30355), (700, 30274), (711, 30223), (719, 30190), (720, 30187), (733, 30121), (742, 30082), (755, 30061), (775, 29986), (782, 29968), (796, 29923), (806, 29896), (823, 29860), (832, 29848), (834, 29842), (846, 29806), (851, 29782), (877, 29704), (896, 29647), (902, 29635), (906, 29626),

Gene: Snape\_44 Start: 30329, Stop: 28542, Start Num: 231

Candidate Starts for Snape\_44:

(Start: 231 @30329 has 845 MA's), (329, 30125), (367, 30053), (378, 30023), (390, 29996), (489, 29744), (513, 29693), (562, 29612), (582, 29567), (613, 29483), (643, 29426), (672, 29384), (683, 29339), (700, 29258), (711, 29207), (720, 29171), (733, 29105), (755, 29045), (758, 29033), (789, 28931), (796, 28907), (802, 28889), (834, 28826), (844, 28799), (846, 28790), (851, 28766), (896, 28631), (902, 28619), (906, 28610),

Gene: Snazzy\_42 Start: 34003, Stop: 32177, Start Num: 231

Candidate Starts for Snazzy\_42:

(Start: 231 @34003 has 845 MA's), (332, 33790), (337, 33775), (378, 33697), (388, 33676), (390, 33670), (392, 33661), (425, 33544), (434, 33517), (487, 33424), (492, 33409), (509, 33376), (541, 33325), (543, 33322), (575, 33256), (589, 33226), (598, 33196), (616, 33151), (638, 33112), (700, 32932), (708, 32902), (709, 32884), (711, 32881), (720, 32845), (733, 32779), (760, 32698), (761, 32695), (786, 32614), (846, 32464), (847, 32461), (855, 32425), (868, 32401), (870, 32392), (874, 32380), (896, 32305), (906, 32284),

Gene: Snek\_40 Start: 28185, Stop: 30029, Start Num: 231

Candidate Starts for Snek\_40:

(Start: 231 @28185 has 845 MA's), (254, 28233), (290, 28293), (329, 28389), (348, 28416), (369, 28455), (388, 28503), (406, 28572), (489, 28758), (549, 28866), (558, 28881), (608, 29010), (613, 29019), (674, 29157), (700, 29277), (720, 29364), (731, 29421), (733, 29430), (759, 29523), (846, 29766), (896, 29925), (901, 29934), (929, 30012),

Gene: Snickers\_48 Start: 31826, Stop: 30012, Start Num: 231

Candidate Starts for Snickers\_48:

(Start: 231 @31826 has 845 MA's), (248, 31787), (256, 31775), (329, 31622), (333, 31607), (367, 31550), (390, 31493), (392, 31484), (403, 31442), (415, 31391), (434, 31340), (487, 31247), (509, 31199), (513, 31190), (524, 31175), (549, 31136), (562, 31109), (575, 31079), (610, 30986), (641, 30926), (652, 30911), (700, 30755), (720, 30668), (733, 30602), (742, 30563), (761, 30491), (772, 30452), (780, 30428), (786, 30410), (796, 30377), (806, 30350), (834, 30296), (851, 30236), (877, 30158), (896, 30101), (902, 30089), (906, 30080),

Gene: SoYo\_48 Start: 31764, Stop: 29950, Start Num: 231

Candidate Starts for SoYo\_48:

(Start: 231 @31764 has 845 MA's), (248, 31725), (256, 31713), (329, 31560), (333, 31545), (367, 31488), (390, 31431), (392, 31422), (403, 31380), (415, 31329), (434, 31278), (487, 31185), (509, 31137), (513, 31128), (524, 31113), (549, 31074), (562, 31047), (575, 31017), (610, 30924), (641, 30864), (652, 30849), (700, 30693), (720, 30606), (733, 30540), (742, 30501), (761, 30429), (772, 30390), (780, 30366), (786, 30348), (796, 30315), (806, 30288), (834, 30234), (851, 30174), (877, 30096), (896, 30039), (902, 30027), (906, 30018),



Gene: SoilDragon\_48 Start: 31301, Stop: 29487, Start Num: 231

Candidate Starts for SoilDragon\_48:

(Start: 231 @31301 has 845 MA's), (248, 31262), (256, 31250), (329, 31097), (333, 31082), (367, 31025), (390, 30968), (392, 30959), (403, 30917), (415, 30866), (434, 30815), (487, 30722), (509, 30674), (513, 30665), (524, 30650), (549, 30611), (562, 30584), (575, 30554), (610, 30461), (616, 30449), (641, 30401), (652, 30386), (700, 30230), (720, 30143), (733, 30077), (742, 30038), (761, 29966), (772, 29927), (780, 29903), (786, 29885), (796, 29852), (806, 29825), (834, 29771), (851, 29711), (877, 29633), (896, 29576), (902, 29564), (906, 29555),

Gene: SoilGremlin\_39 Start: 28933, Stop: 27068, Start Num: 267

Candidate Starts for SoilGremlin\_39:

(Start: 214 @29020 has 4 MA's), (Start: 267 @28933 has 137 MA's), (Start: 275 @28924 has 5 MA's), (321, 28819), (325, 28810), (338, 28780), (340, 28777), (395, 28657), (397, 28645), (400, 28639), (436, 28534), (445, 28507), (490, 28366), (492, 28360), (494, 28357), (498, 28345), (513, 28318), (516, 28315), (525, 28300), (527, 28294), (530, 28288), (553, 28255), (612, 28126), (634, 28066), (726, 27751), (729, 27742), (730, 27739), (733, 27721), (743, 27679), (745, 27673), (747, 27664), (751, 27649), (768, 27592), (815, 27433), (827, 27403), (828, 27394), (847, 27334), (852, 27310), (863, 27271), (875, 27238), (876, 27226), (893, 27166),

Gene: Soile\_61 Start: 54557, Stop: 52698, Start Num: 196

Candidate Starts for Soile\_61:

(Start: 175 @54581 has 1 MA's), (Start: 196 @54557 has 254 MA's), (Start: 221 @54533 has 2 MA's), (Start: 227 @54527 has 3 MA's), (246, 54485), (259, 54464), (307, 54350), (311, 54344), (326, 54314), (355, 54254), (366, 54233), (386, 54179), (391, 54167), (396, 54149), (398, 54137), (431, 54032), (454, 53975), (466, 53939), (471, 53927), (482, 53903), (486, 53891), (491, 53873), (499, 53855), (509, 53837), (533, 53798), (540, 53789), (542, 53786), (544, 53783), (695, 53426), (701, 53393), (706, 53372), (727, 53279), (730, 53270), (744, 53207), (760, 53171), (761, 53168), (766, 53153), (790, 53075), (794, 53063), (800, 53042), (817, 53003), (851, 52913), (856, 52895), (858, 52889), (868, 52874), (875, 52850), (877, 52835), (878, 52832), (881, 52820), (890, 52796), (907, 52748), (912, 52724),

Gene: Solon\_44 Start: 34769, Stop: 32940, Start Num: 231

Candidate Starts for Solon\_44:

(Start: 231 @34769 has 845 MA's), (332, 34556), (337, 34541), (367, 34493), (378, 34463), (388, 34442), (390, 34436), (392, 34427), (425, 34310), (434, 34283), (487, 34190), (492, 34175), (509, 34142), (541, 34091), (543, 34088), (575, 34022), (589, 33992), (598, 33962), (616, 33917), (638, 33878), (700, 33698), (709, 33650), (722, 33602), (730, 33563), (733, 33545), (742, 33506), (755, 33485), (760, 33464), (765, 33449), (803, 33326), (871, 33155), (876, 33131), (893, 33083), (896, 33071), (906, 33050), (908, 33044), (921, 32996), (928, 32981),

Gene: Solosis\_59 Start: 54029, Stop: 52170, Start Num: 196

Candidate Starts for Solosis\_59:

(Start: 175 @54053 has 1 MA's), (Start: 196 @54029 has 254 MA's), (Start: 221 @54005 has 2 MA's), (Start: 227 @53999 has 3 MA's), (246, 53957), (259, 53936), (307, 53822), (311, 53816), (326, 53786), (355, 53726), (366, 53705), (386, 53651), (391, 53639), (396, 53621), (398, 53609), (431, 53504), (454, 53447), (466, 53411), (471, 53399), (483, 53372), (499, 53327), (533, 53270), (540, 53261), (542, 53258), (695, 52898), (701, 52865), (706, 52844), (727, 52751), (730, 52742), (744, 52679), (760, 52643), (761, 52640), (766, 52625), (790, 52547), (794, 52535), (800, 52514), (817, 52475), (851, 52385), (856, 52367), (858, 52361), (868, 52346), (875, 52322), (877, 52307), (878, 52304), (881, 52292), (890, 52268), (907, 52220), (912, 52196),

Gene: SonOfLevi\_38 Start: 28701, Stop: 26749, Start Num: 214

Candidate Starts for SonOfLevi\_38:

(Start: 214 @28701 has 4 MA's), (Start: 267 @28614 has 137 MA's), (Start: 275 @28605 has 5 MA's), (321, 28500), (325, 28491), (338, 28461), (340, 28458), (395, 28338), (397, 28326), (400, 28320), (436, 28215), (445, 28188), (490, 28047), (492, 28041), (494, 28038), (498, 28026), (513, 27999), (516, 27996), (525, 27981), (527, 27975), (530, 27969), (553, 27936), (612, 27807), (634, 27747), (726, 27432), (729, 27423), (730, 27420), (733, 27402), (743, 27360), (745, 27354), (751, 27330), (768, 27273), (815, 27114), (827, 27084), (828, 27075), (847, 27015), (852, 26991), (863, 26952), (875, 26919), (876, 26907), (893, 26847),

Gene: Soondubu\_37 Start: 30879, Stop: 32723, Start Num: 231

Candidate Starts for Soondubu\_37:

(Start: 231 @30879 has 845 MA's), (356, 31125), (378, 31176), (523, 31518), (549, 31560), (558, 31575), (562, 31587), (603, 31692), (608, 31704), (613, 31713), (674, 31851), (700, 31971), (708, 32001), (733, 32124), (739, 32154), (759, 32217), (761, 32226), (846, 32460), (851, 32484), (868, 32523), (871, 32535), (873, 32541), (876, 32559), (896, 32619),

Gene: Sopespian\_41 Start: 32442, Stop: 30049, Start Num: 33

Candidate Starts for Sopespian\_41:

(Start: 33 @32442 has 15 MA's), (45, 32436), (Start: 56 @32388 has 1 MA's), (71, 32346), (81, 32322), (119, 32196), (127, 32172), (159, 32127), (191, 32076), (201, 32061), (Start: 214 @32040 has 4 MA's), (243, 31992), (261, 31959), (Start: 267 @31950 has 137 MA's), (303, 31875), (308, 31863), (337, 31794), (354, 31767), (357, 31761), (365, 31746), (384, 31692), (386, 31689), (393, 31671), (397, 31650), (418, 31590), (463, 31467), (465, 31461), (490, 31392), (519, 31350), (576, 31263), (588, 31239), (596, 31233), (603, 31209), (607, 31200), (614, 31185), (622, 31173), (639, 31131), (640, 31128), (642, 31125), (690, 30978), (698, 30936), (705, 30909), (706, 30903), (733, 30774), (741, 30738), (743, 30732), (745, 30726), (746, 30720), (761, 30663), (768, 30639), (777, 30594), (892, 30216), (893, 30213), (908, 30168), (910, 30159), (926, 30099),

Gene: Sophia\_59 Start: 54023, Stop: 52164, Start Num: 196

Candidate Starts for Sophia\_59:

(Start: 175 @54047 has 1 MA's), (Start: 196 @54023 has 254 MA's), (Start: 221 @53999 has 2 MA's), (Start: 227 @53993 has 3 MA's), (246, 53951), (259, 53930), (307, 53816), (311, 53810), (326, 53780), (355, 53720), (366, 53699), (386, 53645), (391, 53633), (396, 53615), (398, 53603), (431, 53498), (454, 53441), (466, 53405), (471, 53393), (483, 53366), (499, 53321), (533, 53264), (540, 53255), (542, 53252), (668, 52994), (695, 52892), (701, 52859), (706, 52838), (727, 52745), (730, 52736), (744, 52673), (761, 52634), (766, 52619), (790, 52541), (794, 52529), (800, 52508), (817, 52469), (851, 52379), (856, 52361), (858, 52355), (868, 52340), (875, 52316), (877, 52301), (878, 52298), (881, 52286), (890, 52262), (907, 52214), (912, 52190),

Gene: SorJuana\_54 Start: 36486, Stop: 34318, Start Num: 209

Candidate Starts for SorJuana\_54:

(207, 36489), (Start: 209 @36486 has 11 MA's), (240, 36432), (286, 36348), (337, 36195), (343, 36186), (367, 36141), (393, 36063), (395, 36054), (398, 36039), (403, 36024), (404, 36021), (417, 35964), (446, 35871), (458, 35829), (506, 35634), (514, 35622), (521, 35616), (531, 35592), (545, 35571), (559, 35550), (564, 35535), (566, 35529), (592, 35466), (607, 35415), (638, 35328), (670, 35268), (683, 35220), (707, 35118), (708, 35112), (713, 35085), (714, 35082), (719, 35061), (727, 35019), (729, 35013), (734, 34989), (740, 34947), (741, 34944), (748, 34917), (756, 34884), (759, 34872), (769, 34836), (775, 34812), (777, 34806), (780, 34800), (797, 34746), (817, 34698), (818, 34695), (840, 34635), (846, 34611), (853, 34581), (872, 34527), (890, 34458), (893, 34446), (907, 34407),

Gene: SororFago\_48 Start: 33066, Stop: 31273, Start Num: 231

Candidate Starts for SororFago\_48:

(Start: 231 @33066 has 845 MA's), (236, 33057), (250, 33024), (291, 32955), (329, 32862), (367, 32787), (369, 32784), (390, 32730), (392, 32721), (426, 32601), (434, 32577), (487, 32484), (505, 32439), (575, 32316), (638, 32169), (671, 32118), (700, 31989), (709, 31941), (711, 31938), (716, 31923), (733, 31836), (755, 31776), (758, 31764), (760, 31755), (766, 31737), (786, 31671), (796, 31638), (806, 31611), (844, 31530), (846, 31521), (873, 31440), (877, 31419), (880, 31410), (896, 31362), (902, 31350), (906, 31341),

Gene: Sorpresa\_43 Start: 34874, Stop: 33048, Start Num: 231

Candidate Starts for Sorpresa\_43:

(Start: 231 @34874 has 845 MA's), (332, 34661), (337, 34646), (378, 34568), (388, 34547), (390, 34541), (392, 34532), (425, 34415), (434, 34388), (487, 34295), (492, 34280), (509, 34247), (541, 34196), (543, 34193), (575, 34127), (589, 34097), (598, 34067), (616, 34022), (638, 33983), (700, 33803), (709, 33755), (720, 33716), (733, 33650), (760, 33569), (761, 33566), (786, 33485), (846, 33335), (847, 33332), (855, 33296), (868, 33272), (870, 33263), (874, 33251), (896, 33176), (906, 33155),

Gene: Soshari\_50 Start: 31880, Stop: 30066, Start Num: 231

Candidate Starts for Soshari\_50:

(Start: 231 @31880 has 845 MA's), (248, 31841), (256, 31829), (329, 31676), (333, 31661), (367, 31604), (390, 31547), (392, 31538), (403, 31496), (415, 31445), (434, 31394), (472, 31340), (487, 31301), (509, 31253), (524, 31229), (549, 31190), (562, 31163), (575, 31133), (610, 31040), (616, 31028), (641, 30980), (652, 30965), (700, 30809), (711, 30758), (719, 30725), (720, 30722), (733, 30656), (742, 30617), (761, 30545), (772, 30506), (780, 30482), (786, 30464), (796, 30431), (834, 30350), (851, 30290), (880, 30203), (896, 30155), (902, 30143), (906, 30134), (907, 30131),

Gene: Soto\_59 Start: 53590, Stop: 51731, Start Num: 196

Candidate Starts for Soto\_59:

(Start: 175 @53614 has 1 MA's), (Start: 196 @53590 has 254 MA's), (Start: 221 @53566 has 2 MA's), (Start: 227 @53560 has 3 MA's), (240, 53533), (246, 53518), (259, 53497), (307, 53383), (311, 53377), (326, 53347), (355, 53287), (366, 53266), (386, 53212), (391, 53200), (396, 53182), (398, 53170), (431, 53065), (454, 53008), (466, 52972), (471, 52960), (483, 52933), (486, 52924), (499, 52888), (533, 52831), (540, 52822), (542, 52819), (544, 52816), (695, 52459), (701, 52426), (706, 52405), (727, 52312), (730, 52303), (744, 52240), (760, 52204), (761, 52201), (766, 52186), (790, 52108), (794, 52096), (800, 52075), (817, 52036), (851, 51946), (856, 51928), (858, 51922), (868, 51907), (875, 51883), (877, 51868), (878, 51865), (881, 51853), (890, 51829), (907, 51781), (912, 51757),

Gene: Soups\_47 Start: 29943, Stop: 28153, Start Num: 231

Candidate Starts for Soups\_47:

(Start: 231 @29943 has 845 MA's), (317, 29769), (367, 29664), (369, 29661), (378, 29634), (390, 29607), (403, 29556), (434, 29454), (487, 29361), (505, 29316), (509, 29313), (513, 29304), (595, 29142), (603, 29115), (613, 29094), (616, 29088), (674, 28989), (683, 28950), (695, 28899), (700, 28869), (711, 28818), (719, 28785), (724, 28752), (726, 28746), (733, 28716), (755, 28656), (760, 28635), (772, 28593), (781, 28566), (786, 28551), (818, 28464), (846, 28401), (847, 28398), (896, 28242), (902, 28230), (907, 28218),

Gene: Sour\_53 Start: 49160, Stop: 47364, Start Num: 227

Candidate Starts for Sour\_53:

(Start: 216 @49166 has 7 MA's), (Start: 227 @49160 has 3 MA's), (240, 49133), (245, 49121), (246, 49118), (Start: 266 @49088 has 4 MA's), (326, 48962), (379, 48842), (395, 48803), (398, 48788), (424, 48713), (431, 48695), (466, 48602), (486, 48554), (526, 48473), (542, 48449), (558, 48425), (575, 48383), (610, 48302), (618, 48284), (684, 48137), (701, 48062), (725, 47957), (727, 47951), (730, 47942), (744, 47879), (761, 47840), (762, 47837), (766, 47825), (790, 47747), (794, 47735),

(800, 47714), (803, 47705), (822, 47666), (841, 47630), (844, 47618), (851, 47585), (852, 47582), (875, 47522), (877, 47507), (890, 47462), (907, 47414), (912, 47390),

Gene: Spartan300\_60 Start: 54251, Stop: 52392, Start Num: 196

Candidate Starts for Spartan300\_60:

(Start: 175 @54275 has 1 MA's), (Start: 196 @54251 has 254 MA's), (Start: 221 @54227 has 2 MA's), (Start: 227 @54221 has 3 MA's), (246, 54179), (259, 54158), (307, 54044), (311, 54038), (326, 54008), (355, 53948), (366, 53927), (386, 53873), (391, 53861), (396, 53843), (398, 53831), (431, 53726), (454, 53669), (466, 53633), (471, 53621), (482, 53597), (486, 53585), (491, 53567), (499, 53549), (509, 53531), (533, 53492), (540, 53483), (542, 53480), (544, 53477), (695, 53120), (701, 53087), (706, 53066), (727, 52973), (730, 52964), (744, 52901), (760, 52865), (761, 52862), (766, 52847), (790, 52769), (794, 52757), (800, 52736), (817, 52697), (851, 52607), (856, 52589), (858, 52583), (868, 52568), (875, 52544), (877, 52529), (878, 52526), (881, 52514), (890, 52490), (907, 52442), (912, 52418),

Gene: Sparxx\_46 Start: 31565, Stop: 29739, Start Num: 231

Candidate Starts for Sparxx\_46:

(Start: 231 @31565 has 845 MA's), (240, 31544), (256, 31514), (274, 31484), (350, 31322), (360, 31304), (390, 31232), (392, 31223), (426, 31103), (434, 31079), (487, 30986), (511, 30938), (524, 30917), (549, 30878), (613, 30725), (638, 30680), (643, 30668), (697, 30515), (700, 30494), (726, 30371), (733, 30341), (742, 30302), (760, 30236), (761, 30233), (766, 30218), (772, 30194), (780, 30170), (851, 29963), (896, 29828), (902, 29816), (906, 29807),

Gene: Spike509\_48 Start: 31881, Stop: 30067, Start Num: 231

Candidate Starts for Spike509\_48:

(Start: 231 @31881 has 845 MA's), (248, 31842), (256, 31830), (329, 31677), (333, 31662), (367, 31605), (390, 31548), (392, 31539), (403, 31497), (415, 31446), (434, 31395), (472, 31341), (487, 31302), (509, 31254), (524, 31230), (549, 31191), (562, 31164), (575, 31134), (610, 31041), (616, 31029), (641, 30981), (652, 30966), (700, 30810), (711, 30759), (719, 30726), (720, 30723), (733, 30657), (742, 30618), (761, 30546), (772, 30507), (780, 30483), (786, 30465), (796, 30432), (834, 30351), (851, 30291), (880, 30204), (896, 30156), (902, 30144), (906, 30135), (907, 30132),

Gene: SpikeBT\_45 Start: 35111, Stop: 33285, Start Num: 231

Candidate Starts for SpikeBT\_45:

(Start: 231 @35111 has 845 MA's), (332, 34898), (367, 34835), (378, 34805), (388, 34784), (390, 34778), (392, 34769), (425, 34652), (434, 34625), (487, 34532), (492, 34517), (509, 34484), (541, 34433), (543, 34430), (570, 34376), (575, 34364), (589, 34334), (598, 34304), (616, 34259), (638, 34220), (700, 34040), (708, 34010), (709, 33992), (711, 33989), (720, 33953), (733, 33887), (760, 33806), (761, 33803), (786, 33722), (846, 33572), (847, 33569), (855, 33533), (868, 33509), (870, 33500), (874, 33488), (896, 33413), (906, 33392),

Gene: Spino\_44 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for Spino\_44:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Spouty\_43 Start: 31549, Stop: 29756, Start Num: 231

Candidate Starts for Spouty\_43:

(Start: 231 @31549 has 845 MA's), (236, 31540), (256, 31498), (316, 31378), (317, 31375), (334, 31327), (369, 31267), (379, 31237), (384, 31225), (390, 31213), (434, 31060), (487, 30967), (562,

30829), (575, 30799), (643, 30640), (652, 30628), (671, 30601), (697, 30493), (700, 30472), (730, 30337), (733, 30319), (760, 30238), (772, 30196), (796, 30121), (832, 30046), (846, 30004), (877, 29902), (896, 29845), (902, 29833), (906, 29824),

Gene: Squee\_44 Start: 34851, Stop: 33025, Start Num: 231

Candidate Starts for Squee\_44:

(Start: 231 @34851 has 845 MA's), (332, 34638), (337, 34623), (367, 34575), (378, 34545), (388, 34524), (390, 34518), (392, 34509), (425, 34392), (434, 34365), (487, 34272), (492, 34257), (541, 34173), (543, 34170), (575, 34104), (589, 34074), (598, 34044), (616, 33999), (638, 33960), (700, 33780), (708, 33750), (709, 33732), (711, 33729), (720, 33693), (733, 33627), (760, 33546), (761, 33543), (786, 33462), (846, 33312), (847, 33309), (855, 33273), (868, 33249), (870, 33240), (874, 33228), (896, 33153), (906, 33132),

Gene: Squid\_60 Start: 54035, Stop: 52176, Start Num: 196

Candidate Starts for Squid\_60:

(Start: 175 @54059 has 1 MA's), (Start: 196 @54035 has 254 MA's), (Start: 221 @54011 has 2 MA's), (Start: 227 @54005 has 3 MA's), (246, 53963), (259, 53942), (307, 53828), (311, 53822), (326, 53792), (355, 53732), (366, 53711), (386, 53657), (391, 53645), (396, 53627), (398, 53615), (431, 53510), (454, 53453), (466, 53417), (471, 53405), (483, 53378), (491, 53351), (499, 53333), (509, 53315), (533, 53276), (540, 53267), (542, 53264), (668, 53006), (695, 52904), (701, 52871), (706, 52850), (727, 52757), (730, 52748), (744, 52685), (760, 52649), (761, 52646), (766, 52631), (790, 52553), (794, 52541), (800, 52520), (817, 52481), (851, 52391), (856, 52373), (858, 52367), (868, 52352), (875, 52328), (877, 52313), (878, 52310), (881, 52298), (890, 52274), (907, 52226), (912, 52202),

Gene: Squiggle\_61 Start: 54043, Stop: 52184, Start Num: 196

Candidate Starts for Squiggle\_61:

(Start: 175 @54067 has 1 MA's), (Start: 196 @54043 has 254 MA's), (Start: 221 @54019 has 2 MA's), (Start: 227 @54013 has 3 MA's), (246, 53971), (259, 53950), (307, 53836), (311, 53830), (326, 53800), (355, 53740), (366, 53719), (386, 53665), (391, 53653), (396, 53635), (398, 53623), (431, 53518), (454, 53461), (466, 53425), (471, 53413), (483, 53386), (499, 53341), (533, 53284), (540, 53275), (542, 53272), (695, 52912), (701, 52879), (706, 52858), (727, 52765), (730, 52756), (744, 52693), (760, 52657), (761, 52654), (766, 52639), (790, 52561), (794, 52549), (800, 52528), (817, 52489), (847, 52420), (851, 52399), (856, 52381), (858, 52375), (868, 52360), (875, 52336), (877, 52321), (878, 52318), (881, 52306), (890, 52282), (907, 52234), (912, 52210),

Gene: StAugustine\_89 Start: 66670, Stop: 64871, Start Num: 222

Candidate Starts for StAugustine\_89:

(Start: 222 @66670 has 57 MA's), (240, 66637), (246, 66622), (256, 66610), (280, 66583), (291, 66565), (298, 66538), (344, 66445), (355, 66427), (365, 66409), (386, 66352), (403, 66301), (454, 66160), (464, 66133), (466, 66124), (516, 66010), (542, 65971), (561, 65941), (568, 65923), (610, 65809), (668, 65704), (674, 65689), (695, 65602), (701, 65569), (703, 65563), (725, 65461), (727, 65455), (730, 65446), (760, 65347), (761, 65344), (766, 65329), (770, 65314), (790, 65251), (794, 65239), (800, 65218), (844, 65122), (851, 65089), (875, 65026), (881, 64996), (884, 64990), (886, 64984), (890, 64972), (906, 64924), (912, 64897), (915, 64882), (917, 64876),

Gene: StCroix\_36 Start: 28126, Stop: 26342, Start Num: 231

Candidate Starts for StCroix\_36:

(Start: 231 @28126 has 845 MA's), (345, 27892), (363, 27862), (366, 27853), (367, 27850), (384, 27805), (390, 27793), (403, 27742), (434, 27640), (450, 27619), (487, 27547), (505, 27502), (509, 27499), (535, 27457), (539, 27451), (549, 27436), (562, 27409), (603, 27304), (607, 27295), (616, 27277), (619, 27274), (638, 27238), (700, 27058), (709, 27010), (733, 26905), (734, 26902), (755, 26845), (760, 26824), (798, 26701), (834, 26626), (846, 26590), (851, 26566), (877, 26488), (896,

26431), (902, 26419), (913, 26380), (917, 26362),

Gene: Stagni\_48 Start: 31855, Stop: 30041, Start Num: 231

Candidate Starts for Stagni\_48:

(Start: 231 @31855 has 845 MA's), (248, 31816), (256, 31804), (329, 31651), (333, 31636), (367, 31579), (390, 31522), (392, 31513), (403, 31471), (415, 31420), (434, 31369), (487, 31276), (509, 31228), (513, 31219), (524, 31204), (549, 31165), (562, 31138), (575, 31108), (610, 31015), (641, 30955), (652, 30940), (700, 30784), (720, 30697), (733, 30631), (742, 30592), (761, 30520), (772, 30481), (780, 30457), (786, 30439), (796, 30406), (806, 30379), (834, 30325), (851, 30265), (877, 30187), (896, 30130), (902, 30118), (906, 30109),

Gene: Stanktossa\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Stanktossa\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: StarStuff\_47 Start: 31156, Stop: 29333, Start Num: 231

Candidate Starts for StarStuff\_47:

(Start: 231 @31156 has 845 MA's), (329, 30952), (337, 30928), (350, 30910), (360, 30892), (367, 30877), (369, 30874), (378, 30847), (390, 30820), (403, 30769), (434, 30667), (487, 30574), (509, 30526), (513, 30517), (523, 30505), (562, 30436), (589, 30376), (638, 30262), (652, 30238), (672, 30199), (700, 30073), (711, 30022), (720, 29986), (733, 29920), (742, 29881), (761, 29812), (772, 29773), (787, 29728), (796, 29698), (823, 29635), (832, 29623), (834, 29617), (851, 29557), (896, 29422), (902, 29410), (906, 29401),

Gene: Stasia\_44 Start: 31442, Stop: 29613, Start Num: 231

Candidate Starts for Stasia\_44:

(170, 31535), (179, 31520), (Start: 180 @31517 has 1 MA's), (Start: 189 @31502 has 1 MA's), (Start: 231 @31442 has 845 MA's), (256, 31391), (274, 31361), (350, 31199), (360, 31181), (367, 31166), (390, 31109), (392, 31100), (426, 30980), (434, 30956), (487, 30863), (511, 30815), (524, 30794), (549, 30755), (603, 30623), (607, 30614), (613, 30602), (638, 30557), (697, 30392), (700, 30371), (726, 30248), (733, 30218), (742, 30179), (760, 30110), (761, 30107), (766, 30092), (772, 30068), (780, 30044), (782, 30038), (787, 30023), (851, 29837), (896, 29702), (902, 29690), (906, 29681),

Gene: SteamedHams\_43 Start: 32003, Stop: 29616, Start Num: 41

Candidate Starts for SteamedHams\_43:

(19, 32075), (21, 32060), (Start: 41 @32003 has 23 MA's), (46, 31994), (48, 31988), (71, 31907), (109, 31787), (127, 31736), (Start: 214 @31604 has 4 MA's), (235, 31577), (241, 31562), (Start: 267 @31514 has 137 MA's), (285, 31484), (303, 31439), (337, 31361), (365, 31313), (384, 31259), (386, 31256), (393, 31238), (397, 31217), (415, 31166), (418, 31157), (419, 31154), (449, 31079), (463, 31034), (486, 30974), (490, 30959), (551, 30875), (576, 30830), (588, 30806), (596, 30800), (603, 30776), (639, 30698), (640, 30695), (642, 30692), (690, 30545), (705, 30476), (724, 30377), (733, 30341), (741, 30305), (743, 30299), (745, 30293), (746, 30287), (753, 30263), (761, 30230), (768, 30206), (777, 30161), (795, 30101), (847, 29948), (856, 29909), (857, 29906), (893, 29780), (908, 29735), (910, 29726),

Gene: Steamy\_41 Start: 30942, Stop: 29098, Start Num: 231

Candidate Starts for Steamy\_41:

(110, 31173), (133, 31104), (Start: 231 @30942 has 845 MA's), (240, 30921), (246, 30906), (254, 30894), (317, 30768), (332, 30729), (356, 30684), (369, 30660), (378, 30633), (390, 30606), (395, 30585), (434, 30453), (487, 30360), (509, 30312), (513, 30303), (524, 30288), (562, 30222), (672, 29982), (687, 29919), (700, 29856), (711, 29805), (720, 29769), (726, 29733), (733, 29703), (742, 29664), (755, 29643), (760, 29622), (796, 29505), (817, 29454), (823, 29442), (846, 29388), (847, 29385), (851, 29364), (873, 29307), (877, 29286), (888, 29259), (896, 29229), (902, 29217), (917, 29160),

Gene: StepMih\_48 Start: 31846, Stop: 30032, Start Num: 231

Candidate Starts for StepMih\_48:

(Start: 231 @31846 has 845 MA's), (248, 31807), (256, 31795), (329, 31642), (333, 31627), (367, 31570), (390, 31513), (392, 31504), (403, 31462), (415, 31411), (434, 31360), (487, 31267), (509, 31219), (513, 31210), (524, 31195), (549, 31156), (562, 31129), (575, 31099), (610, 31006), (641, 30946), (652, 30931), (700, 30775), (720, 30688), (733, 30622), (742, 30583), (761, 30511), (772, 30472), (780, 30448), (786, 30430), (796, 30397), (806, 30370), (834, 30316), (851, 30256), (877, 30178), (896, 30121), (902, 30109), (906, 30100),

Gene: StepHig9\_43 Start: 30581, Stop: 28737, Start Num: 231

Candidate Starts for StepHig9\_43:

(128, 30764), (134, 30746), (Start: 231 @30581 has 845 MA's), (256, 30530), (317, 30407), (329, 30377), (350, 30338), (367, 30305), (378, 30275), (388, 30254), (390, 30248), (392, 30239), (403, 30197), (415, 30146), (433, 30098), (434, 30095), (487, 29999), (497, 29972), (509, 29951), (513, 29942), (549, 29888), (562, 29861), (583, 29813), (595, 29783), (603, 29756), (616, 29729), (643, 29678), (653, 29663), (697, 29516), (700, 29495), (708, 29465), (709, 29447), (711, 29444), (716, 29429), (720, 29408), (722, 29399), (726, 29372), (730, 29360), (733, 29342), (760, 29261), (780, 29195), (792, 29159), (803, 29123), (818, 29090), (832, 29069), (834, 29063), (847, 29024), (851, 29003), (856, 28985), (896, 28868), (902, 28856),

Gene: StewieG\_44 Start: 32301, Stop: 30472, Start Num: 231

Candidate Starts for StewieG\_44:

(Start: 231 @32301 has 845 MA's), (332, 32088), (337, 32073), (367, 32025), (378, 31995), (388, 31974), (390, 31968), (392, 31959), (425, 31842), (434, 31815), (487, 31722), (492, 31707), (509, 31674), (541, 31623), (543, 31620), (575, 31554), (589, 31524), (598, 31494), (616, 31449), (638, 31410), (700, 31230), (709, 31182), (722, 31134), (730, 31095), (733, 31077), (742, 31038), (755, 31017), (760, 30996), (765, 30981), (803, 30858), (871, 30687), (876, 30663), (893, 30615), (896, 30603), (906, 30582), (908, 30576), (921, 30528), (928, 30513),

Gene: StingRay\_38 Start: 28635, Stop: 26770, Start Num: 267

Candidate Starts for StingRay\_38:

(Start: 214 @28722 has 4 MA's), (Start: 216 @28719 has 7 MA's), (Start: 267 @28635 has 137 MA's), (Start: 275 @28626 has 5 MA's), (321, 28521), (325, 28512), (338, 28482), (340, 28479), (395, 28359), (397, 28347), (400, 28341), (436, 28236), (445, 28209), (490, 28068), (492, 28062), (494, 28059), (498, 28047), (513, 28020), (516, 28017), (525, 28002), (527, 27996), (530, 27990), (553, 27957), (612, 27828), (634, 27768), (726, 27453), (729, 27444), (730, 27441), (733, 27423), (743, 27381), (745, 27375), (747, 27366), (751, 27351), (768, 27294), (815, 27135), (827, 27105), (828, 27096), (847, 27036), (852, 27012), (863, 26973), (875, 26940), (876, 26928), (893, 26868),

Gene: Stinger\_54 Start: 52910, Stop: 51081, Start Num: 177

Candidate Starts for Stinger\_54:

(Start: 177 @52910 has 1 MA's), (Start: 227 @52880 has 3 MA's), (240, 52853), (246, 52838), (259, 52817), (301, 52730), (307, 52712), (351, 52625), (366, 52598), (371, 52583), (396, 52517), (398, 52505), (405, 52487), (407, 52478), (410, 52475), (412, 52472), (417, 52445), (454, 52352), (461, 52334), (466, 52316), (471, 52304), (483, 52277), (540, 52166), (542, 52163), (561, 52133), (565,

52118), (575, 52097), (608, 52019), (682, 51869), (689, 51833), (696, 51803), (701, 51776), (725, 51668), (727, 51662), (730, 51653), (758, 51563), (760, 51554), (761, 51551), (766, 51536), (790, 51458), (794, 51446), (800, 51425), (803, 51416), (817, 51386), (844, 51329), (851, 51296), (856, 51278), (858, 51272), (871, 51245), (875, 51233), (877, 51218), (878, 51215), (881, 51203), (890, 51179), (904, 51137), (907, 51131), (912, 51107),

Gene: Stink\_45 Start: 31990, Stop: 30161, Start Num: 231

Candidate Starts for Stink\_45:

(Start: 231 @31990 has 845 MA's), (256, 31939), (274, 31909), (350, 31747), (360, 31729), (390, 31657), (392, 31648), (426, 31528), (434, 31504), (487, 31411), (511, 31363), (524, 31342), (549, 31303), (570, 31258), (573, 31252), (603, 31171), (607, 31162), (613, 31150), (638, 31105), (643, 31093), (700, 30919), (722, 30823), (726, 30796), (727, 30793), (733, 30766), (742, 30727), (760, 30658), (761, 30655), (766, 30640), (772, 30616), (780, 30592), (782, 30586), (851, 30385), (896, 30250), (902, 30238), (906, 30229),

Gene: StinkyVeggy\_58 Start: 54598, Stop: 52751, Start Num: 176

Candidate Starts for StinkyVeggy\_58:

(15, 55093), (16, 55087), (26, 55036), (30, 55018), (44, 54961), (88, 54817), (Start: 136 @54664 has 1 MA's), (176, 54598), (224, 54550), (240, 54523), (273, 54472), (291, 54451), (307, 54397), (331, 54352), (356, 54301), (396, 54202), (410, 54160), (421, 54124), (431, 54094), (466, 54001), (471, 53989), (482, 53965), (486, 53953), (491, 53935), (526, 53872), (542, 53848), (593, 53743), (643, 53620), (682, 53554), (684, 53536), (696, 53488), (701, 53461), (725, 53353), (727, 53347), (730, 53338), (734, 53317), (754, 53254), (761, 53221), (766, 53206), (784, 53146), (790, 53128), (794, 53116), (800, 53095), (803, 53086), (805, 53083), (811, 53071), (851, 52966), (856, 52948), (858, 52942), (875, 52903), (877, 52888), (878, 52885), (886, 52861), (890, 52849), (891, 52846), (908, 52798), (912, 52777),

Gene: StirfryIV\_39 Start: 28628, Stop: 26763, Start Num: 267

Candidate Starts for StirfryIV\_39:

(Start: 214 @28715 has 4 MA's), (Start: 216 @28712 has 7 MA's), (Start: 267 @28628 has 137 MA's), (Start: 275 @28619 has 5 MA's), (321, 28514), (325, 28505), (338, 28475), (340, 28472), (395, 28352), (397, 28340), (400, 28334), (436, 28229), (445, 28202), (490, 28061), (492, 28055), (494, 28052), (498, 28040), (513, 28013), (516, 28010), (525, 27995), (527, 27989), (530, 27983), (553, 27950), (612, 27821), (634, 27761), (726, 27446), (729, 27437), (730, 27434), (733, 27416), (743, 27374), (745, 27368), (747, 27359), (751, 27344), (768, 27287), (815, 27128), (827, 27098), (828, 27089), (847, 27029), (852, 27005), (863, 26966), (875, 26933), (876, 26921), (893, 26861),

Gene: Stoor\_43 Start: 30807, Stop: 32681, Start Num: 222

Candidate Starts for Stoor\_43:

(Start: 222 @30807 has 57 MA's), (Start: 266 @30876 has 4 MA's), (279, 30897), (392, 31143), (396, 31158), (403, 31185), (489, 31371), (500, 31398), (509, 31413), (549, 31479), (651, 31713), (687, 31833), (688, 31836), (700, 31896), (702, 31902), (711, 31947), (716, 31962), (718, 31977), (724, 32013), (733, 32049), (759, 32142), (787, 32235), (816, 32313), (817, 32316), (846, 32385), (851, 32409), (855, 32424), (873, 32466), (876, 32484), (896, 32544), (906, 32565),

Gene: Stormbreaker8\_38 Start: 29054, Stop: 27189, Start Num: 267

Candidate Starts for Stormbreaker8\_38:

(Start: 267 @29054 has 137 MA's), (Start: 275 @29045 has 5 MA's), (394, 28781), (397, 28766), (400, 28760), (445, 28628), (463, 28574), (467, 28562), (490, 28487), (494, 28478), (498, 28466), (513, 28439), (516, 28436), (525, 28421), (527, 28415), (534, 28403), (576, 28334), (675, 28085), (726, 27872), (729, 27863), (730, 27860), (733, 27842), (743, 27800), (768, 27713), (815, 27554), (827, 27524), (847, 27455), (852, 27431), (863, 27392), (875, 27359), (876, 27347),



Gene: Strathdee\_39 Start: 28935, Stop: 27070, Start Num: 267

Candidate Starts for Strathdee\_39:

(Start: 214 @29022 has 4 MA's), (Start: 216 @29019 has 7 MA's), (Start: 267 @28935 has 137 MA's), (Start: 275 @28926 has 5 MA's), (321, 28821), (325, 28812), (338, 28782), (340, 28779), (395, 28659), (397, 28647), (400, 28641), (436, 28536), (445, 28509), (490, 28368), (492, 28362), (494, 28359), (498, 28347), (513, 28320), (516, 28317), (525, 28302), (527, 28296), (530, 28290), (553, 28257), (612, 28128), (634, 28068), (666, 27993), (726, 27753), (729, 27744), (730, 27741), (733, 27723), (743, 27681), (745, 27675), (747, 27666), (751, 27651), (768, 27594), (815, 27435), (827, 27405), (828, 27396), (847, 27336), (852, 27312), (863, 27273), (875, 27240), (876, 27228), (893, 27168),

Gene: Stromboli\_43 Start: 30669, Stop: 32543, Start Num: 222

Candidate Starts for Stromboli\_43:

(Start: 222 @30669 has 57 MA's), (Start: 266 @30738 has 4 MA's), (279, 30759), (392, 31005), (396, 31020), (403, 31047), (500, 31260), (509, 31275), (549, 31341), (651, 31575), (687, 31695), (688, 31698), (700, 31758), (702, 31764), (711, 31809), (716, 31824), (718, 31839), (724, 31875), (733, 31911), (759, 32004), (787, 32097), (816, 32175), (817, 32178), (846, 32247), (851, 32271), (855, 32286), (873, 32328), (876, 32346), (896, 32406), (906, 32427),

Gene: StrongArm\_44 Start: 35747, Stop: 33960, Start Num: 231

Candidate Starts for StrongArm\_44:

(Start: 231 @35747 has 845 MA's), (332, 35534), (367, 35471), (378, 35441), (388, 35420), (390, 35414), (392, 35405), (425, 35288), (434, 35261), (487, 35168), (492, 35153), (509, 35120), (541, 35069), (543, 35066), (575, 35000), (589, 34970), (598, 34940), (616, 34895), (638, 34856), (700, 34676), (709, 34628), (720, 34589), (733, 34523), (758, 34451), (760, 34442), (786, 34358), (818, 34271), (868, 34145), (871, 34133), (890, 34073), (896, 34049), (899, 34043),

Gene: Strosahl\_47 Start: 29659, Stop: 27869, Start Num: 231

Candidate Starts for Strosahl\_47:

(Start: 231 @29659 has 845 MA's), (317, 29485), (367, 29380), (369, 29377), (378, 29350), (390, 29323), (403, 29272), (434, 29170), (487, 29077), (505, 29032), (509, 29029), (513, 29020), (595, 28858), (603, 28831), (613, 28810), (616, 28804), (674, 28705), (683, 28666), (695, 28615), (700, 28585), (711, 28534), (719, 28501), (726, 28462), (733, 28432), (755, 28372), (760, 28351), (772, 28309), (781, 28282), (818, 28180), (846, 28117), (847, 28114), (896, 27958), (902, 27946), (907, 27934),

Gene: Struggle\_61 Start: 54120, Stop: 52261, Start Num: 196

Candidate Starts for Struggle\_61:

(Start: 175 @54144 has 1 MA's), (Start: 196 @54120 has 254 MA's), (Start: 221 @54096 has 2 MA's), (Start: 227 @54090 has 3 MA's), (246, 54048), (259, 54027), (307, 53913), (311, 53907), (326, 53877), (355, 53817), (366, 53796), (386, 53742), (391, 53730), (396, 53712), (398, 53700), (431, 53595), (454, 53538), (466, 53502), (471, 53490), (482, 53466), (486, 53454), (491, 53436), (499, 53418), (509, 53400), (533, 53361), (540, 53352), (542, 53349), (544, 53346), (695, 52989), (701, 52956), (706, 52935), (727, 52842), (730, 52833), (744, 52770), (760, 52734), (761, 52731), (766, 52716), (790, 52638), (794, 52626), (800, 52605), (817, 52566), (851, 52476), (856, 52458), (858, 52452), (868, 52437), (875, 52413), (877, 52398), (878, 52395), (881, 52383), (890, 52359), (895, 52338), (907, 52311), (912, 52287), (915, 52272),

Gene: SuMoo\_50 Start: 32117, Stop: 33982, Start Num: 229

Candidate Starts for SuMoo\_50:

(Start: 229 @32117 has 7 MA's), (406, 32504), (505, 32750), (549, 32819), (613, 32972), (647, 33035), (683, 33149), (700, 33230), (714, 33293), (724, 33347), (734, 33386), (787, 33569), (818, 33653), (875, 33806), (896, 33878), (909, 33908),

Gene: Success\_19 Start: 11835, Stop: 10045, Start Num: 231

Candidate Starts for Success\_19:

(Start: 231 @11835 has 845 MA's), (329, 11634), (332, 11625), (378, 11532), (390, 11505), (395, 11484), (403, 11454), (408, 11439), (434, 11352), (483, 11274), (487, 11259), (549, 11142), (613, 10989), (638, 10944), (645, 10929), (700, 10773), (713, 10710), (716, 10704), (723, 10659), (724, 10653), (733, 10617), (760, 10536), (773, 10491), (871, 10227), (890, 10167), (896, 10143), (917, 10074), (919, 10071),

Gene: Sue2\_42 Start: 30222, Stop: 32132, Start Num: 231

Candidate Starts for Sue2\_42:

(140, 30078), (167, 30132), (Start: 231 @30222 has 845 MA's), (254, 30270), (348, 30453), (351, 30459), (378, 30519), (406, 30609), (489, 30861), (492, 30870), (542, 30960), (549, 30969), (562, 30996), (576, 31029), (613, 31122), (643, 31179), (674, 31260), (700, 31380), (708, 31410), (716, 31446), (720, 31467), (726, 31503), (733, 31533), (759, 31626), (820, 31806), (832, 31827), (851, 31893), (896, 32028),

Gene: Suffolk\_59 Start: 53538, Stop: 51679, Start Num: 196

Candidate Starts for Suffolk\_59:

(Start: 175 @53562 has 1 MA's), (Start: 196 @53538 has 254 MA's), (Start: 221 @53514 has 2 MA's), (Start: 227 @53508 has 3 MA's), (246, 53466), (259, 53445), (307, 53331), (311, 53325), (326, 53295), (355, 53235), (366, 53214), (386, 53160), (391, 53148), (396, 53130), (398, 53118), (431, 53013), (454, 52956), (466, 52920), (471, 52908), (482, 52884), (486, 52872), (491, 52854), (499, 52836), (509, 52818), (533, 52779), (540, 52770), (542, 52767), (544, 52764), (695, 52407), (701, 52374), (706, 52353), (727, 52260), (730, 52251), (744, 52188), (760, 52152), (761, 52149), (766, 52134), (790, 52056), (794, 52044), (800, 52023), (817, 51984), (851, 51894), (856, 51876), (858, 51870), (868, 51855), (875, 51831), (877, 51816), (878, 51813), (881, 51801), (890, 51777), (907, 51729), (912, 51705),

Gene: Suigeneris\_59 Start: 54668, Stop: 52842, Start Num: 182

Candidate Starts for Suigeneris\_59:

(Start: 182 @54668 has 24 MA's), (240, 54614), (282, 54554), (331, 54443), (355, 54395), (396, 54293), (405, 54263), (410, 54251), (421, 54215), (431, 54185), (466, 54092), (471, 54080), (482, 54056), (486, 54044), (491, 54026), (526, 53963), (542, 53939), (544, 53936), (593, 53834), (682, 53645), (684, 53627), (689, 53609), (696, 53579), (701, 53552), (725, 53444), (727, 53438), (730, 53429), (734, 53408), (754, 53345), (761, 53312), (766, 53297), (784, 53237), (790, 53219), (794, 53207), (800, 53186), (803, 53177), (805, 53174), (851, 53057), (858, 53033), (875, 52994), (877, 52979), (878, 52976), (886, 52952), (890, 52940), (891, 52937), (895, 52919), (908, 52889), (912, 52868), (917, 52847),

Gene: SummitAcademy\_44 Start: 33992, Stop: 31611, Start Num: 43

Candidate Starts for SummitAcademy\_44:

(Start: 43 @33992 has 11 MA's), (58, 33932), (79, 33890), (91, 33851), (127, 33731), (135, 33710), (159, 33686), (Start: 208 @33608 has 3 MA's), (Start: 212 @33602 has 1 MA's), (Start: 214 @33599 has 4 MA's), (237, 33569), (258, 33521), (278, 33494), (280, 33491), (303, 33434), (321, 33395), (331, 33374), (352, 33332), (365, 33308), (369, 33299), (370, 33293), (371, 33287), (384, 33254), (393, 33233), (397, 33212), (463, 33029), (490, 32954), (519, 32912), (576, 32825), (596, 32801), (603, 32777), (607, 32768), (617, 32747), (640, 32696), (642, 32693), (649, 32678), (659, 32657), (693, 32531), (703, 32483), (705, 32474), (714, 32432), (733, 32339), (741, 32303), (743, 32297), (745, 32291), (746, 32285), (761, 32228), (768, 32204), (795, 32099), (796, 32096), (830, 32003), (836, 31985), (847, 31946), (857, 31904), (865, 31880), (875, 31850), (886, 31802), (893, 31778), (908, 31733), (925, 31667), (934, 31646), (936, 31640), (940, 31634),

Gene: Sumter\_42 Start: 34474, Stop: 32645, Start Num: 231

Candidate Starts for Sumter\_42:

(Start: 231 @34474 has 845 MA's), (332, 34261), (337, 34246), (378, 34168), (388, 34147), (390, 34141), (392, 34132), (425, 34015), (434, 33988), (487, 33895), (492, 33880), (509, 33847), (541, 33796), (543, 33793), (570, 33739), (575, 33727), (589, 33697), (598, 33667), (616, 33622), (638, 33583), (700, 33403), (709, 33355), (722, 33307), (730, 33268), (733, 33250), (742, 33211), (755, 33190), (760, 33169), (765, 33154), (803, 33031), (871, 32860), (876, 32836), (893, 32788), (896, 32776), (906, 32755), (908, 32749), (921, 32701), (928, 32686),

Gene: SunnyD\_45 Start: 28854, Stop: 30725, Start Num: 231

Candidate Starts for SunnyD\_45:

(Start: 231 @28854 has 845 MA's), (Start: 266 @28923 has 4 MA's), (279, 28944), (392, 29187), (395, 29199), (397, 29211), (400, 29217), (422, 29283), (520, 29478), (549, 29526), (667, 29805), (700, 29943), (732, 30090), (733, 30096), (759, 30189), (775, 30249), (816, 30360), (818, 30366), (858, 30480), (872, 30510), (873, 30513), (896, 30591), (901, 30600),

Gene: Sunshine924\_45 Start: 34152, Stop: 32323, Start Num: 231

Candidate Starts for Sunshine924\_45:

(Start: 231 @34152 has 845 MA's), (332, 33939), (367, 33876), (378, 33846), (388, 33825), (390, 33819), (392, 33810), (425, 33693), (434, 33666), (487, 33573), (492, 33558), (541, 33474), (543, 33471), (575, 33405), (589, 33375), (598, 33345), (616, 33300), (638, 33261), (700, 33081), (709, 33033), (722, 32985), (730, 32946), (733, 32928), (742, 32889), (755, 32868), (760, 32847), (765, 32832), (803, 32709), (871, 32538), (876, 32514), (893, 32466), (896, 32454), (906, 32433), (908, 32427), (921, 32379), (928, 32364),

Gene: SuperAwesome\_45 Start: 29638, Stop: 27797, Start Num: 231

Candidate Starts for SuperAwesome\_45:

(Start: 231 @29638 has 845 MA's), (329, 29434), (367, 29359), (369, 29356), (378, 29329), (384, 29314), (390, 29302), (403, 29251), (430, 29161), (434, 29149), (487, 29056), (502, 29017), (513, 28999), (524, 28984), (562, 28918), (576, 28885), (577, 28882), (619, 28780), (652, 28720), (683, 28636), (700, 28555), (719, 28471), (720, 28468), (722, 28459), (726, 28432), (733, 28402), (755, 28342), (766, 28303), (846, 28087), (847, 28084), (851, 28063), (896, 27928), (902, 27916), (906, 27907), (907, 27904), (939, 27811),

Gene: SuperCallie99\_45 Start: 29637, Stop: 27796, Start Num: 231

Candidate Starts for SuperCallie99\_45:

(Start: 231 @29637 has 845 MA's), (329, 29433), (367, 29358), (369, 29355), (378, 29328), (384, 29313), (390, 29301), (403, 29250), (430, 29160), (434, 29148), (487, 29055), (502, 29016), (513, 28998), (524, 28983), (562, 28917), (576, 28884), (577, 28881), (619, 28779), (652, 28719), (683, 28635), (700, 28554), (719, 28470), (720, 28467), (722, 28458), (726, 28431), (733, 28401), (755, 28341), (766, 28302), (846, 28086), (847, 28083), (851, 28062), (896, 27927), (902, 27915), (906, 27906), (907, 27903), (939, 27810),

Gene: Superchunk\_44 Start: 30012, Stop: 28183, Start Num: 231

Candidate Starts for Superchunk\_44:

(Start: 231 @30012 has 845 MA's), (329, 29808), (332, 29799), (350, 29769), (367, 29736), (369, 29733), (378, 29706), (390, 29679), (395, 29658), (434, 29526), (487, 29433), (509, 29385), (562, 29295), (583, 29247), (613, 29166), (700, 28941), (720, 28854), (726, 28818), (733, 28788), (742, 28749), (755, 28728), (760, 28707), (766, 28689), (796, 28590), (806, 28563), (823, 28527), (834, 28509), (846, 28473), (896, 28314), (902, 28302), (906, 28293), (917, 28245), (932, 28215),

Gene: Superfresh\_39 Start: 28922, Stop: 27057, Start Num: 267

Candidate Starts for Superfresh\_39:

(Start: 214 @29009 has 4 MA's), (Start: 267 @28922 has 137 MA's), (Start: 275 @28913 has 5 MA's), (321, 28808), (325, 28799), (338, 28769), (340, 28766), (395, 28646), (397, 28634), (400, 28628), (436, 28523), (445, 28496), (490, 28355), (492, 28349), (494, 28346), (498, 28334), (513, 28307), (516, 28304), (525, 28289), (527, 28283), (530, 28277), (553, 28244), (612, 28115), (634, 28055), (726, 27740), (729, 27731), (730, 27728), (733, 27710), (743, 27668), (745, 27662), (751, 27638), (768, 27581), (815, 27422), (827, 27392), (828, 27383), (847, 27323), (852, 27299), (863, 27260), (875, 27227), (876, 27215), (893, 27155),

Gene: Surely\_60 Start: 54325, Stop: 52466, Start Num: 196

Candidate Starts for Surely\_60:

(Start: 175 @54349 has 1 MA's), (Start: 196 @54325 has 254 MA's), (Start: 221 @54301 has 2 MA's), (Start: 227 @54295 has 3 MA's), (246, 54253), (259, 54232), (307, 54118), (311, 54112), (326, 54082), (355, 54022), (366, 54001), (386, 53947), (391, 53935), (396, 53917), (398, 53905), (431, 53800), (454, 53743), (466, 53707), (471, 53695), (483, 53668), (491, 53641), (499, 53623), (509, 53605), (533, 53566), (540, 53557), (542, 53554), (668, 53296), (695, 53194), (701, 53161), (706, 53140), (727, 53047), (730, 53038), (744, 52975), (760, 52939), (761, 52936), (766, 52921), (790, 52843), (794, 52831), (800, 52810), (817, 52771), (851, 52681), (856, 52663), (858, 52657), (868, 52642), (875, 52618), (877, 52603), (878, 52600), (881, 52588), (890, 52564), (895, 52543), (907, 52516), (912, 52492),

Gene: Survivors\_40 Start: 31946, Stop: 29589, Start Num: 41

Candidate Starts for Survivors\_40:

(38, 31955), (Start: 41 @31946 has 23 MA's), (48, 31931), (55, 31895), (105, 31760), (127, 31697), (166, 31643), (Start: 229 @31541 has 7 MA's), (237, 31538), (278, 31463), (303, 31403), (329, 31352), (349, 31310), (365, 31280), (384, 31226), (393, 31205), (397, 31184), (419, 31121), (469, 30986), (474, 30971), (485, 30944), (490, 30926), (551, 30842), (567, 30806), (622, 30713), (639, 30671), (640, 30668), (642, 30665), (654, 30641), (660, 30629), (664, 30617), (698, 30476), (705, 30449), (733, 30314), (741, 30278), (743, 30272), (745, 30266), (746, 30260), (753, 30236), (761, 30203), (768, 30179), (777, 30134), (779, 30128), (797, 30068), (836, 29960), (853, 29894), (854, 29891), (857, 29879), (865, 29855), (886, 29777), (893, 29753), (912, 29684),

Gene: Swann\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for Swann\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (673, 27168), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: SweatNTears\_44 Start: 32451, Stop: 30061, Start Num: 33

Candidate Starts for SweatNTears\_44:

(Start: 33 @32451 has 15 MA's), (58, 32388), (65, 32370), (71, 32355), (91, 32301), (94, 32289), (98, 32268), (109, 32235), (119, 32208), (127, 32184), (147, 32157), (Start: 214 @32052 has 4 MA's), (243, 32004), (303, 31887), (337, 31806), (354, 31779), (365, 31758), (384, 31704), (386, 31701), (393, 31683), (397, 31662), (418, 31602), (490, 31404), (519, 31362), (576, 31275), (588, 31251), (596, 31245), (617, 31191), (622, 31185), (639, 31143), (640, 31140), (642, 31137), (690, 30990), (698, 30948), (705, 30921), (714, 30879), (733, 30786), (741, 30750), (743, 30744), (745, 30738), (746, 30732), (753, 30708), (761, 30675), (768, 30651), (777, 30606), (795, 30546), (847, 30393), (893, 30225), (908, 30180), (910, 30171), (911, 30162),

Gene: SweetiePie\_44 Start: 31345, Stop: 29558, Start Num: 231

Candidate Starts for SweetiePie\_44:

(Start: 231 @31345 has 845 MA's), (329, 31141), (330, 31138), (332, 31132), (337, 31117), (350, 31102), (367, 31069), (369, 31066), (378, 31039), (390, 31012), (395, 30991), (403, 30961), (434, 30859), (487, 30766), (509, 30718), (513, 30709), (524, 30694), (562, 30628), (595, 30547), (613, 30499), (616, 30493), (652, 30430), (683, 30355), (700, 30274), (711, 30223), (719, 30190), (720, 30187), (733, 30121), (742, 30082), (755, 30061), (775, 29986), (782, 29968), (796, 29923), (806, 29896), (823, 29860), (832, 29848), (834, 29842), (846, 29806), (851, 29782), (877, 29704), (896, 29647), (902, 29635), (906, 29626),

Gene: Swervy\_43 Start: 29550, Stop: 31424, Start Num: 222

Candidate Starts for Swervy\_43:

(Start: 220 @29547 has 7 MA's), (Start: 222 @29550 has 57 MA's), (Start: 266 @29619 has 4 MA's), (279, 29640), (329, 29757), (367, 29820), (392, 29886), (403, 29928), (549, 30222), (603, 30357), (651, 30456), (688, 30579), (700, 30639), (702, 30645), (711, 30690), (718, 30720), (724, 30756), (733, 30792), (759, 30885), (787, 30978), (816, 31056), (846, 31128), (855, 31167), (873, 31209), (876, 31227), (896, 31287), (906, 31308),

Gene: Swiphy\_64 Start: 54569, Stop: 52710, Start Num: 196

Candidate Starts for Swiphy\_64:

(Start: 175 @54593 has 1 MA's), (Start: 196 @54569 has 254 MA's), (Start: 221 @54545 has 2 MA's), (Start: 227 @54539 has 3 MA's), (246, 54497), (259, 54476), (307, 54362), (311, 54356), (326, 54326), (355, 54266), (366, 54245), (386, 54191), (391, 54179), (396, 54161), (398, 54149), (431, 54044), (454, 53987), (466, 53951), (471, 53939), (482, 53915), (486, 53903), (491, 53885), (499, 53867), (509, 53849), (533, 53810), (540, 53801), (542, 53798), (544, 53795), (695, 53438), (701, 53405), (706, 53384), (727, 53291), (730, 53282), (744, 53219), (760, 53183), (761, 53180), (766, 53165), (790, 53087), (794, 53075), (800, 53054), (817, 53015), (851, 52925), (856, 52907), (858, 52901), (868, 52886), (875, 52862), (877, 52847), (878, 52844), (881, 52832), (890, 52808), (907, 52760), (912, 52736),

Gene: SwirlSquare\_48 Start: 30249, Stop: 28459, Start Num: 231

Candidate Starts for SwirlSquare\_48:

(Start: 231 @30249 has 845 MA's), (329, 30045), (334, 30027), (356, 29991), (367, 29970), (369, 29967), (378, 29940), (382, 29928), (390, 29913), (395, 29892), (434, 29760), (487, 29667), (509, 29619), (562, 29529), (613, 29400), (700, 29175), (720, 29088), (726, 29052), (733, 29022), (742, 28983), (755, 28962), (760, 28941), (766, 28923), (796, 28824), (806, 28797), (823, 28761), (834, 28743), (846, 28707), (851, 28683), (896, 28548), (902, 28536), (906, 28527),

Gene: Swirley\_41 Start: 30927, Stop: 29062, Start Num: 231

Candidate Starts for Swirley\_41:

(Start: 231 @30927 has 845 MA's), (256, 30876), (291, 30816), (317, 30753), (329, 30723), (330, 30720), (363, 30663), (367, 30651), (378, 30621), (390, 30594), (434, 30441), (487, 30345), (509, 30297), (561, 30213), (562, 30207), (594, 30135), (603, 30102), (610, 30087), (616, 30075), (668, 29976), (700, 29841), (708, 29811), (709, 29793), (716, 29775), (720, 29754), (722, 29745), (733, 29688), (742, 29649), (760, 29607), (766, 29589), (780, 29541), (796, 29490), (818, 29436), (823, 29427), (834, 29409), (851, 29349), (856, 29331), (890, 29238), (896, 29214), (902, 29202), (939, 29097),

Gene: Swish\_62 Start: 54299, Stop: 52440, Start Num: 196

Candidate Starts for Swish\_62:

(Start: 175 @54323 has 1 MA's), (Start: 196 @54299 has 254 MA's), (Start: 221 @54275 has 2 MA's), (Start: 227 @54269 has 3 MA's), (246, 54227), (259, 54206), (307, 54092), (311, 54086), (326, 54056), (355, 53996), (366, 53975), (386, 53921), (391, 53909), (396, 53891), (398, 53879), (431, 53774), (454, 53717), (466, 53681), (471, 53669), (482, 53645), (486, 53633), (491, 53615), (499, 53597), (509, 53579), (533, 53540), (540, 53531), (542, 53528), (544, 53525), (695, 53168), (701,

53135), (706, 53114), (727, 53021), (730, 53012), (744, 52949), (760, 52913), (761, 52910), (766, 52895), (790, 52817), (794, 52805), (800, 52784), (817, 52745), (851, 52655), (856, 52637), (858, 52631), (868, 52616), (875, 52592), (877, 52577), (878, 52574), (881, 52562), (890, 52538), (907, 52490), (912, 52466),

Gene: SwissCheese\_46 Start: 34979, Stop: 33153, Start Num: 231

Candidate Starts for SwissCheese\_46:

(Start: 231 @34979 has 845 MA's), (332, 34766), (337, 34751), (378, 34673), (388, 34652), (390, 34646), (392, 34637), (425, 34520), (434, 34493), (487, 34400), (492, 34385), (501, 34364), (509, 34352), (541, 34301), (543, 34298), (575, 34232), (589, 34202), (598, 34172), (616, 34127), (638, 34088), (700, 33908), (709, 33860), (720, 33821), (733, 33755), (742, 33716), (755, 33695), (760, 33674), (766, 33656), (786, 33590), (846, 33440), (847, 33437), (855, 33401), (868, 33377), (870, 33368), (874, 33356), (896, 33281), (906, 33260),

Gene: Switzer\_45 Start: 34442, Stop: 32616, Start Num: 231

Candidate Starts for Switzer\_45:

(Start: 231 @34442 has 845 MA's), (332, 34229), (367, 34166), (378, 34136), (388, 34115), (390, 34109), (392, 34100), (425, 33983), (434, 33956), (487, 33863), (492, 33848), (541, 33764), (543, 33761), (575, 33695), (589, 33665), (598, 33635), (616, 33590), (638, 33551), (700, 33371), (709, 33323), (720, 33284), (733, 33218), (742, 33179), (755, 33158), (760, 33137), (766, 33119), (786, 33053), (846, 32903), (847, 32900), (855, 32864), (870, 32831), (874, 32819), (880, 32792), (896, 32744), (906, 32723),

Gene: Switzerland\_47 Start: 30042, Stop: 28252, Start Num: 231

Candidate Starts for Switzerland\_47:

(Start: 231 @30042 has 845 MA's), (317, 29868), (367, 29763), (369, 29760), (378, 29733), (390, 29706), (403, 29655), (434, 29553), (487, 29460), (505, 29415), (509, 29412), (513, 29403), (595, 29241), (603, 29214), (613, 29193), (616, 29187), (674, 29088), (683, 29049), (695, 28998), (700, 28968), (711, 28917), (719, 28884), (724, 28851), (726, 28845), (733, 28815), (755, 28755), (760, 28734), (772, 28692), (781, 28665), (786, 28650), (818, 28563), (846, 28500), (847, 28497), (896, 28341), (902, 28329), (907, 28317),

Gene: Swole\_45 Start: 34149, Stop: 32320, Start Num: 231

Candidate Starts for Swole\_45:

(Start: 231 @34149 has 845 MA's), (332, 33936), (337, 33921), (367, 33873), (378, 33843), (388, 33822), (390, 33816), (392, 33807), (425, 33690), (434, 33663), (487, 33570), (492, 33555), (501, 33534), (541, 33471), (543, 33468), (575, 33402), (589, 33372), (598, 33342), (616, 33297), (638, 33258), (700, 33078), (709, 33030), (722, 32982), (730, 32943), (733, 32925), (742, 32886), (755, 32865), (760, 32844), (765, 32829), (803, 32706), (871, 32535), (876, 32511), (893, 32463), (896, 32451), (906, 32430), (908, 32424), (921, 32376), (928, 32361),

Gene: SydNat\_40 Start: 31117, Stop: 29252, Start Num: 231

Candidate Starts for SydNat\_40:

(Start: 231 @31117 has 845 MA's), (256, 31066), (291, 31006), (317, 30943), (329, 30913), (330, 30910), (363, 30853), (378, 30811), (390, 30784), (434, 30631), (487, 30535), (500, 30502), (509, 30487), (561, 30403), (562, 30397), (576, 30364), (610, 30277), (616, 30265), (638, 30226), (668, 30166), (700, 30031), (708, 30001), (709, 29983), (719, 29947), (720, 29944), (733, 29878), (742, 29839), (760, 29797), (766, 29779), (780, 29731), (782, 29725), (796, 29680), (818, 29626), (823, 29617), (834, 29599), (856, 29521), (876, 29464), (890, 29428), (896, 29404), (902, 29392), (949, 29260),

Gene: SynergyX\_58 Start: 53681, Stop: 51864, Start Num: 223

Candidate Starts for SynergyX\_58:

(123, 53864), (Start: 223 @53681 has 42 MA's), (240, 53651), (332, 53471), (395, 53318), (397, 53306), (407, 53276), (412, 53270), (431, 53207), (433, 53201), (454, 53150), (466, 53114), (486, 53066), (542, 52961), (589, 52865), (610, 52814), (681, 52670), (689, 52631), (696, 52601), (701, 52574), (704, 52562), (725, 52466), (727, 52460), (730, 52451), (732, 52439), (754, 52367), (760, 52337), (766, 52319), (768, 52310), (790, 52241), (794, 52229), (800, 52208), (834, 52139), (841, 52124), (847, 52100), (851, 52079), (856, 52061), (858, 52055), (873, 52022), (875, 52016), (878, 51998), (881, 51986), (886, 51974), (890, 51962), (904, 51920), (912, 51890),

Gene: TA17A\_57 Start: 52484, Stop: 50655, Start Num: 188

Candidate Starts for TA17A\_57:

(Start: 188 @52484 has 31 MA's), (Start: 227 @52457 has 3 MA's), (242, 52427), (246, 52415), (264, 52388), (Start: 266 @52385 has 4 MA's), (274, 52376), (291, 52358), (330, 52262), (355, 52211), (367, 52187), (375, 52163), (417, 52025), (427, 52001), (431, 51989), (454, 51932), (466, 51896), (482, 51860), (522, 51776), (540, 51746), (542, 51743), (561, 51713), (624, 51569), (652, 51503), (681, 51452), (684, 51431), (689, 51413), (701, 51356), (717, 51299), (722, 51272), (727, 51242), (730, 51233), (744, 51167), (758, 51140), (760, 51131), (766, 51113), (772, 51089), (790, 51035), (794, 51023), (800, 51002), (834, 50933), (851, 50873), (856, 50855), (871, 50822), (875, 50810), (877, 50795), (878, 50792), (881, 50780), (890, 50756), (891, 50753), (907, 50705), (908, 50702), (912, 50681), (917, 50660),

Gene: TG1\_31 Start: 25848, Stop: 27695, Start Num: 231

Candidate Starts for TG1\_31:

(Start: 173 @25767 has 1 MA's), (185, 25788), (198, 25803), (207, 25821), (Start: 231 @25848 has 845 MA's), (250, 25890), (274, 25929), (289, 25953), (329, 26049), (355, 26097), (377, 26148), (388, 26172), (436, 26337), (489, 26427), (490, 26430), (517, 26484), (524, 26499), (541, 26526), (549, 26538), (558, 26553), (574, 26592), (610, 26685), (613, 26691), (643, 26748), (645, 26751), (694, 26916), (700, 26949), (709, 26997), (714, 27012), (724, 27066), (726, 27072), (731, 27093), (733, 27102), (736, 27117), (741, 27147), (766, 27228), (770, 27243), (817, 27378), (820, 27384), (823, 27390), (841, 27426), (855, 27486), (858, 27495), (868, 27510), (871, 27522), (873, 27528), (880, 27558), (896, 27606), (899, 27612), (906, 27627), (908, 27633),

Gene: TNguyen7\_46 Start: 31522, Stop: 29684, Start Num: 231

Candidate Starts for TNguyen7\_46:

(Start: 231 @31522 has 845 MA's), (256, 31471), (292, 31405), (329, 31318), (363, 31258), (367, 31246), (390, 31189), (392, 31180), (426, 31060), (434, 31036), (487, 30940), (511, 30892), (549, 30832), (577, 30769), (603, 30700), (613, 30679), (653, 30607), (673, 30565), (683, 30523), (700, 30442), (709, 30394), (726, 30319), (733, 30289), (739, 30259), (761, 30178), (772, 30139), (780, 30115), (786, 30097), (834, 29968), (851, 29908), (896, 29773), (902, 29761), (906, 29752),

Gene: TPA2\_63 Start: 52427, Stop: 50550, Start Num: 220

Candidate Starts for TPA2\_63:

(68, 52787), (125, 52604), (Start: 220 @52427 has 7 MA's), (Start: 227 @52418 has 3 MA's), (245, 52379), (278, 52337), (284, 52325), (291, 52319), (326, 52232), (330, 52223), (350, 52181), (365, 52154), (372, 52133), (402, 52043), (410, 52022), (414, 52004), (416, 51998), (424, 51980), (454, 51902), (466, 51866), (471, 51854), (472, 51851), (482, 51830), (527, 51734), (551, 51701), (575, 51647), (645, 51482), (679, 51431), (689, 51383), (701, 51326), (720, 51248), (722, 51239), (725, 51215), (727, 51209), (744, 51137), (760, 51101), (766, 51083), (784, 51023), (790, 51005), (794, 50993), (800, 50972), (803, 50963), (829, 50912), (871, 50792), (875, 50780), (886, 50732), (889, 50723), (890, 50720), (892, 50711), (895, 50699), (911, 50651), (922, 50612), (930, 50594),

Gene: TWAMP\_36 Start: 28113, Stop: 26329, Start Num: 231

Candidate Starts for TWAMP\_36:

(Start: 231 @28113 has 845 MA's), (345, 27879), (363, 27849), (366, 27840), (367, 27837), (384, 27792), (390, 27780), (403, 27729), (434, 27627), (450, 27606), (487, 27534), (505, 27489), (509, 27486), (535, 27444), (539, 27438), (549, 27423), (562, 27396), (603, 27291), (607, 27282), (616, 27264), (619, 27261), (638, 27225), (700, 27045), (709, 26997), (733, 26892), (734, 26889), (755, 26832), (760, 26811), (774, 26763), (798, 26688), (832, 26619), (846, 26577), (851, 26553), (877, 26475), (896, 26418), (902, 26406), (906, 26397), (913, 26367), (917, 26349),

Gene: Takoda\_36 Start: 28086, Stop: 26302, Start Num: 231

Candidate Starts for Takoda\_36:

(Start: 231 @28086 has 845 MA's), (316, 27915), (350, 27843), (366, 27813), (367, 27810), (384, 27765), (390, 27753), (392, 27744), (403, 27702), (434, 27600), (450, 27579), (471, 27549), (487, 27507), (509, 27459), (549, 27396), (562, 27369), (603, 27264), (607, 27255), (616, 27237), (638, 27198), (700, 27018), (709, 26970), (733, 26865), (734, 26862), (755, 26805), (760, 26784), (774, 26736), (798, 26661), (832, 26592), (846, 26550), (851, 26526), (877, 26448), (896, 26391), (902, 26379), (913, 26340), (917, 26322),

Gene: Talia1610\_101 Start: 77815, Stop: 79611, Start Num: 233

Candidate Starts for Talia1610\_101:

(Start: 233 @77815 has 1 MA's), (291, 77911), (391, 78127), (397, 78154), (400, 78160), (425, 78229), (437, 78265), (530, 78412), (534, 78418), (549, 78439), (558, 78454), (638, 78643), (662, 78688), (676, 78721), (680, 78739), (687, 78772), (697, 78811), (700, 78832), (702, 78838), (724, 78952), (741, 79036), (743, 79042), (746, 79054), (759, 79102), (762, 79114), (772, 79150), (783, 79183), (786, 79192), (800, 79237), (807, 79255), (846, 79360), (852, 79387), (856, 79402), (871, 79435), (876, 79459), (884, 79483), (896, 79519), (907, 79546),

Gene: TallGrassMM\_60 Start: 53939, Stop: 52080, Start Num: 196

Candidate Starts for TallGrassMM\_60:

(Start: 175 @53963 has 1 MA's), (Start: 196 @53939 has 254 MA's), (Start: 221 @53915 has 2 MA's), (Start: 227 @53909 has 3 MA's), (246, 53867), (259, 53846), (307, 53732), (311, 53726), (326, 53696), (355, 53636), (366, 53615), (386, 53561), (391, 53549), (396, 53531), (398, 53519), (431, 53414), (454, 53357), (466, 53321), (471, 53309), (483, 53282), (499, 53237), (533, 53180), (540, 53171), (542, 53168), (695, 52808), (701, 52775), (706, 52754), (727, 52661), (730, 52652), (744, 52589), (760, 52553), (761, 52550), (766, 52535), (790, 52457), (794, 52445), (800, 52424), (817, 52385), (851, 52295), (856, 52277), (858, 52271), (868, 52256), (875, 52232), (877, 52217), (878, 52214), (881, 52202), (890, 52178), (907, 52130), (912, 52106),

Gene: Tallboi\_40 Start: 30542, Stop: 32407, Start Num: 231

Candidate Starts for Tallboi\_40:

(Start: 231 @30542 has 845 MA's), (254, 30590), (317, 30716), (378, 30839), (406, 30929), (489, 31136), (492, 31145), (549, 31244), (558, 31259), (562, 31271), (613, 31397), (674, 31535), (700, 31655), (708, 31685), (720, 31742), (733, 31808), (759, 31901), (780, 31973), (820, 32081), (846, 32144), (896, 32303), (901, 32312),

Gene: Taquarus\_45 Start: 31573, Stop: 29747, Start Num: 231

Candidate Starts for Taquarus\_45:

(Start: 231 @31573 has 845 MA's), (240, 31552), (256, 31522), (274, 31492), (350, 31330), (360, 31312), (390, 31240), (392, 31231), (426, 31111), (434, 31087), (487, 30994), (511, 30946), (524, 30925), (549, 30886), (603, 30754), (613, 30733), (638, 30688), (643, 30676), (697, 30523), (700, 30502), (726, 30379), (733, 30349), (742, 30310), (760, 30244), (761, 30241), (766, 30226), (772, 30202), (780, 30178), (851, 29971), (896, 29836), (902, 29824), (906, 29815),

Gene: Target\_45 Start: 33552, Stop: 31723, Start Num: 231

Candidate Starts for Target\_45:



(Start: 231 @33552 has 845 MA's), (332, 33339), (337, 33324), (367, 33276), (378, 33246), (388, 33225), (390, 33219), (392, 33210), (425, 33093), (434, 33066), (487, 32973), (492, 32958), (509, 32925), (541, 32874), (543, 32871), (575, 32805), (598, 32745), (616, 32700), (638, 32661), (700, 32481), (709, 32433), (722, 32385), (730, 32346), (733, 32328), (742, 32289), (755, 32268), (760, 32247), (765, 32232), (803, 32109), (871, 31938), (876, 31914), (893, 31866), (896, 31854), (906, 31833), (908, 31827), (921, 31779), (928, 31764),

Gene: TarsusIV\_42 Start: 31027, Stop: 29240, Start Num: 231

Candidate Starts for TarsusIV\_42:

(Start: 231 @31027 has 845 MA's), (332, 30814), (337, 30799), (350, 30784), (367, 30751), (369, 30748), (378, 30721), (390, 30694), (392, 30685), (434, 30541), (487, 30448), (501, 30412), (509, 30400), (513, 30391), (524, 30376), (595, 30229), (613, 30181), (616, 30175), (700, 29956), (711, 29905), (719, 29872), (720, 29869), (733, 29803), (742, 29764), (755, 29743), (775, 29668), (780, 29656), (796, 29605), (823, 29542), (846, 29488), (851, 29464), (873, 29407), (877, 29386), (896, 29329), (902, 29317), (906, 29308),

Gene: Tarynearal\_37 Start: 30369, Stop: 28504, Start Num: 231

Candidate Starts for Tarynearal\_37:

(Start: 231 @30369 has 845 MA's), (256, 30318), (291, 30258), (317, 30195), (329, 30165), (330, 30162), (363, 30105), (367, 30093), (378, 30063), (390, 30036), (434, 29883), (487, 29787), (509, 29739), (561, 29655), (562, 29649), (594, 29577), (603, 29544), (610, 29529), (616, 29517), (668, 29418), (700, 29283), (708, 29253), (709, 29235), (711, 29232), (720, 29196), (722, 29187), (724, 29166), (727, 29157), (733, 29130), (734, 29127), (755, 29070), (760, 29049), (796, 28932), (818, 28878), (823, 28869), (834, 28851), (851, 28791), (856, 28773), (876, 28716), (890, 28680), (896, 28656), (902, 28644),

Gene: Tasp14\_46 Start: 35011, Stop: 33185, Start Num: 231

Candidate Starts for Tasp14\_46:

(Start: 231 @35011 has 845 MA's), (332, 34798), (337, 34783), (378, 34705), (388, 34684), (390, 34678), (392, 34669), (425, 34552), (434, 34525), (487, 34432), (492, 34417), (541, 34333), (543, 34330), (575, 34264), (589, 34234), (598, 34204), (616, 34159), (638, 34120), (700, 33940), (709, 33892), (720, 33853), (733, 33787), (742, 33748), (755, 33727), (760, 33706), (766, 33688), (786, 33622), (846, 33472), (847, 33469), (855, 33433), (868, 33409), (870, 33400), (874, 33388), (896, 33313), (906, 33292),

Gene: TatarkaPM\_39 Start: 29065, Stop: 27074, Start Num: 189

Candidate Starts for TatarkaPM\_39:

(2, 29698), (61, 29395), (Start: 189 @29065 has 1 MA's), (213, 29029), (217, 29023), (Start: 267 @28939 has 137 MA's), (Start: 275 @28930 has 5 MA's), (321, 28825), (325, 28816), (338, 28786), (340, 28783), (395, 28663), (397, 28651), (400, 28645), (436, 28540), (445, 28513), (490, 28372), (492, 28366), (494, 28363), (498, 28351), (513, 28324), (516, 28321), (525, 28306), (527, 28300), (530, 28294), (553, 28261), (634, 28072), (726, 27757), (729, 27748), (730, 27745), (733, 27727), (743, 27685), (745, 27679), (747, 27670), (751, 27655), (768, 27598), (815, 27439), (827, 27409), (828, 27400), (847, 27340), (852, 27316), (863, 27277), (875, 27244), (876, 27232), (893, 27172),

Gene: Taurus\_49 Start: 31852, Stop: 30038, Start Num: 231

Candidate Starts for Taurus\_49:

(Start: 231 @31852 has 845 MA's), (248, 31813), (256, 31801), (329, 31648), (333, 31633), (367, 31576), (390, 31519), (392, 31510), (403, 31468), (415, 31417), (434, 31366), (487, 31273), (509, 31225), (513, 31216), (524, 31201), (549, 31162), (562, 31135), (575, 31105), (610, 31012), (641, 30952), (652, 30937), (700, 30781), (720, 30694), (733, 30628), (742, 30589), (761, 30517), (772, 30478), (780, 30454), (786, 30436), (796, 30403), (806, 30376), (834, 30322), (851, 30262), (877, 30184), (896, 30127), (902, 30115), (906, 30106),

Gene: Tbone\_40 Start: 29503, Stop: 31368, Start Num: 231

Candidate Starts for Tbone\_40:

(Start: 231 @29503 has 845 MA's), (254, 29551), (378, 29800), (406, 29890), (489, 30097), (492, 30106), (542, 30196), (549, 30205), (558, 30220), (576, 30265), (595, 30310), (613, 30358), (643, 30415), (674, 30496), (700, 30616), (708, 30646), (720, 30703), (733, 30769), (738, 30793), (759, 30862), (780, 30934), (783, 30943), (820, 31042), (846, 31105), (851, 31129), (896, 31264), (901, 31273),

Gene: Teagan\_39 Start: 28930, Stop: 27065, Start Num: 267

Candidate Starts for Teagan\_39:

(Start: 214 @29017 has 4 MA's), (Start: 216 @29014 has 7 MA's), (Start: 267 @28930 has 137 MA's), (Start: 275 @28921 has 5 MA's), (321, 28816), (325, 28807), (338, 28777), (340, 28774), (395, 28654), (397, 28642), (400, 28636), (436, 28531), (445, 28504), (490, 28363), (492, 28357), (494, 28354), (498, 28342), (513, 28315), (516, 28312), (525, 28297), (527, 28291), (530, 28285), (553, 28252), (634, 28063), (666, 27988), (726, 27748), (729, 27739), (730, 27736), (733, 27718), (743, 27676), (745, 27670), (747, 27661), (751, 27646), (768, 27589), (815, 27430), (827, 27400), (828, 27391), (847, 27331), (852, 27307), (863, 27268), (875, 27235), (876, 27223), (893, 27163),

Gene: TeddyBear\_38 Start: 28632, Stop: 26767, Start Num: 267

Candidate Starts for TeddyBear\_38:

(Start: 214 @28719 has 4 MA's), (Start: 267 @28632 has 137 MA's), (Start: 275 @28623 has 5 MA's), (321, 28518), (325, 28509), (338, 28479), (340, 28476), (395, 28356), (397, 28344), (400, 28338), (436, 28233), (445, 28206), (490, 28065), (492, 28059), (494, 28056), (498, 28044), (513, 28017), (516, 28014), (525, 27999), (527, 27993), (530, 27987), (553, 27954), (612, 27825), (634, 27765), (726, 27450), (729, 27441), (730, 27438), (733, 27420), (743, 27378), (745, 27372), (751, 27348), (768, 27291), (815, 27132), (827, 27102), (828, 27093), (847, 27033), (852, 27009), (863, 26970), (875, 26937), (876, 26925), (893, 26865),

Gene: Telesworld\_58 Start: 54144, Stop: 52285, Start Num: 196

Candidate Starts for Telesworld\_58:

(Start: 175 @54168 has 1 MA's), (Start: 196 @54144 has 254 MA's), (Start: 221 @54120 has 2 MA's), (Start: 227 @54114 has 3 MA's), (246, 54072), (259, 54051), (307, 53937), (311, 53931), (326, 53901), (355, 53841), (366, 53820), (386, 53766), (391, 53754), (396, 53736), (398, 53724), (431, 53619), (454, 53562), (466, 53526), (471, 53514), (483, 53487), (499, 53442), (533, 53385), (540, 53376), (542, 53373), (695, 53013), (701, 52980), (706, 52959), (727, 52866), (730, 52857), (744, 52794), (760, 52758), (761, 52755), (766, 52740), (790, 52662), (794, 52650), (800, 52629), (817, 52590), (851, 52500), (856, 52482), (858, 52476), (868, 52461), (875, 52437), (877, 52422), (878, 52419), (881, 52407), (890, 52383), (907, 52335), (912, 52311),

Gene: Tenda\_38 Start: 28630, Stop: 26765, Start Num: 267

Candidate Starts for Tenda\_38:

(Start: 214 @28717 has 4 MA's), (Start: 216 @28714 has 7 MA's), (Start: 267 @28630 has 137 MA's), (Start: 275 @28621 has 5 MA's), (321, 28516), (325, 28507), (338, 28477), (340, 28474), (395, 28354), (397, 28342), (400, 28336), (436, 28231), (445, 28204), (490, 28063), (492, 28057), (494, 28054), (498, 28042), (513, 28015), (516, 28012), (525, 27997), (527, 27991), (530, 27985), (553, 27952), (612, 27823), (634, 27763), (726, 27448), (729, 27439), (730, 27436), (733, 27418), (743, 27376), (745, 27370), (747, 27361), (751, 27346), (768, 27289), (815, 27130), (827, 27100), (828, 27091), (847, 27031), (852, 27007), (863, 26968), (875, 26935), (876, 26923), (893, 26863),

Gene: Teodoridan\_43 Start: 34199, Stop: 32412, Start Num: 231

Candidate Starts for Teodoridan\_43:

(Start: 231 @34199 has 845 MA's), (332, 33986), (367, 33923), (378, 33893), (388, 33872), (390, 33866), (392, 33857), (425, 33740), (434, 33713), (487, 33620), (492, 33605), (501, 33584), (541, 33521), (543, 33518), (575, 33452), (589, 33422), (598, 33392), (616, 33347), (638, 33308), (700, 33128), (709, 33080), (720, 33041), (733, 32975), (758, 32903), (760, 32894), (786, 32810), (818, 32723), (868, 32597), (871, 32585), (896, 32501), (899, 32495),

Gene: Texage\_43 Start: 31598, Stop: 29760, Start Num: 231

Candidate Starts for Texage\_43:

(Start: 231 @31598 has 845 MA's), (256, 31547), (329, 31394), (367, 31322), (378, 31292), (390, 31265), (392, 31256), (434, 31112), (487, 31016), (511, 30968), (549, 30908), (590, 30821), (603, 30776), (613, 30755), (653, 30683), (673, 30641), (683, 30599), (700, 30518), (709, 30470), (720, 30431), (726, 30395), (733, 30365), (739, 30335), (761, 30254), (772, 30215), (780, 30191), (786, 30173), (787, 30170), (834, 30044), (851, 29984), (880, 29897), (896, 29849), (902, 29837), (906, 29828),

Gene: TforTroy\_42 Start: 29677, Stop: 31542, Start Num: 231

Candidate Starts for TforTroy\_42:

(Start: 231 @29677 has 845 MA's), (254, 29725), (388, 29995), (413, 30094), (492, 30280), (549, 30379), (558, 30394), (562, 30406), (613, 30532), (674, 30670), (700, 30790), (708, 30820), (720, 30877), (733, 30943), (759, 31036), (846, 31279), (896, 31438), (901, 31447),

Gene: Thanksgivukkah\_44 Start: 31568, Stop: 29742, Start Num: 231

Candidate Starts for Thanksgivukkah\_44:

(Start: 231 @31568 has 845 MA's), (240, 31547), (256, 31517), (274, 31487), (350, 31325), (360, 31307), (367, 31292), (390, 31235), (392, 31226), (426, 31106), (434, 31082), (487, 30989), (511, 30941), (524, 30920), (549, 30881), (603, 30749), (613, 30728), (638, 30683), (643, 30671), (697, 30518), (700, 30497), (726, 30374), (733, 30344), (742, 30305), (760, 30239), (761, 30236), (766, 30221), (772, 30197), (780, 30173), (851, 29966), (896, 29831), (902, 29819), (906, 29810),

Gene: Theia\_36 Start: 30392, Stop: 28533, Start Num: 231

Candidate Starts for Theia\_36:

(Start: 231 @30392 has 845 MA's), (256, 30341), (291, 30281), (317, 30218), (329, 30188), (330, 30185), (363, 30128), (378, 30086), (390, 30059), (434, 29906), (487, 29810), (509, 29762), (561, 29678), (562, 29672), (594, 29600), (603, 29567), (610, 29552), (616, 29540), (668, 29441), (700, 29306), (708, 29276), (709, 29258), (711, 29255), (720, 29219), (722, 29210), (724, 29189), (727, 29180), (733, 29153), (734, 29150), (755, 29093), (760, 29072), (796, 28955), (818, 28901), (823, 28892), (834, 28874), (856, 28796), (890, 28703), (896, 28679), (902, 28667), (947, 28550), (948, 28547),

Gene: TheloniousMonk\_46 Start: 36133, Stop: 34346, Start Num: 231

Candidate Starts for TheloniousMonk\_46:

(Start: 231 @36133 has 845 MA's), (332, 35920), (337, 35905), (378, 35827), (388, 35806), (390, 35800), (392, 35791), (425, 35674), (434, 35647), (487, 35554), (492, 35539), (509, 35506), (541, 35455), (543, 35452), (570, 35398), (575, 35386), (589, 35356), (598, 35326), (616, 35281), (638, 35242), (700, 35062), (709, 35014), (720, 34975), (733, 34909), (758, 34837), (760, 34828), (786, 34744), (818, 34657), (868, 34531), (871, 34519), (896, 34435), (899, 34429),

Gene: Thompsone\_39 Start: 28937, Stop: 27072, Start Num: 267

Candidate Starts for Thompsone\_39:

(Start: 214 @29024 has 4 MA's), (Start: 216 @29021 has 7 MA's), (Start: 267 @28937 has 137 MA's), (Start: 275 @28928 has 5 MA's), (321, 28823), (325, 28814), (338, 28784), (340, 28781), (394, 28664), (397, 28649), (400, 28643), (436, 28538), (445, 28511), (490, 28370), (494, 28361), (498, 28349), (513, 28322), (516, 28319), (525, 28304), (527, 28298), (530, 28292), (553, 28259), (612,

28130), (634, 28070), (666, 27995), (726, 27755), (729, 27746), (730, 27743), (733, 27725), (743, 27683), (745, 27677), (747, 27668), (751, 27653), (768, 27596), (815, 27437), (827, 27407), (828, 27398), (847, 27338), (852, 27314), (863, 27275), (875, 27242), (876, 27230), (893, 27170),

Gene: Thonko\_60 Start: 53153, Stop: 51336, Start Num: 214

Candidate Starts for Thonko\_60:

(Start: 214 @53153 has 4 MA's), (Start: 227 @53135 has 3 MA's), (240, 53108), (299, 52991), (330, 52925), (431, 52664), (454, 52607), (466, 52571), (471, 52559), (486, 52523), (496, 52490), (533, 52430), (540, 52421), (542, 52418), (624, 52244), (681, 52127), (685, 52103), (696, 52058), (701, 52031), (706, 52010), (725, 51923), (727, 51917), (730, 51908), (744, 51845), (761, 51806), (763, 51800), (766, 51791), (790, 51713), (794, 51701), (800, 51680), (805, 51668), (817, 51641), (844, 51584), (851, 51551), (858, 51527), (875, 51488), (890, 51434), (912, 51362),

Gene: Thor\_43 Start: 33796, Stop: 31970, Start Num: 231

Candidate Starts for Thor\_43:

(Start: 231 @33796 has 845 MA's), (332, 33583), (337, 33568), (378, 33490), (388, 33469), (390, 33463), (392, 33454), (425, 33337), (434, 33310), (487, 33217), (492, 33202), (541, 33118), (543, 33115), (575, 33049), (589, 33019), (598, 32989), (616, 32944), (638, 32905), (700, 32725), (709, 32677), (720, 32638), (733, 32572), (742, 32533), (755, 32512), (760, 32491), (766, 32473), (786, 32407), (846, 32257), (847, 32254), (855, 32218), (870, 32185), (874, 32173), (889, 32125), (896, 32098), (906, 32077),

Gene: Thora\_60 Start: 54321, Stop: 52462, Start Num: 196

Candidate Starts for Thora\_60:

(Start: 175 @54345 has 1 MA's), (Start: 196 @54321 has 254 MA's), (Start: 221 @54297 has 2 MA's), (Start: 227 @54291 has 3 MA's), (246, 54249), (259, 54228), (307, 54114), (311, 54108), (326, 54078), (355, 54018), (366, 53997), (386, 53943), (391, 53931), (396, 53913), (398, 53901), (431, 53796), (454, 53739), (466, 53703), (471, 53691), (483, 53664), (491, 53637), (499, 53619), (509, 53601), (533, 53562), (540, 53553), (542, 53550), (668, 53292), (695, 53190), (701, 53157), (706, 53136), (727, 53043), (730, 53034), (744, 52971), (760, 52935), (761, 52932), (766, 52917), (790, 52839), (794, 52827), (800, 52806), (817, 52767), (851, 52677), (856, 52659), (858, 52653), (868, 52638), (875, 52614), (877, 52599), (878, 52596), (881, 52584), (890, 52560), (907, 52512), (912, 52488),

Gene: Thorongil\_39 Start: 28937, Stop: 27072, Start Num: 267

Candidate Starts for Thorongil\_39:

(Start: 214 @29024 has 4 MA's), (Start: 216 @29021 has 7 MA's), (Start: 267 @28937 has 137 MA's), (Start: 275 @28928 has 5 MA's), (321, 28823), (325, 28814), (338, 28784), (340, 28781), (395, 28661), (397, 28649), (400, 28643), (436, 28538), (445, 28511), (490, 28370), (492, 28364), (494, 28361), (498, 28349), (513, 28322), (516, 28319), (525, 28304), (527, 28298), (530, 28292), (553, 28259), (612, 28130), (634, 28070), (726, 27755), (729, 27746), (730, 27743), (733, 27725), (743, 27683), (745, 27677), (747, 27668), (751, 27653), (768, 27596), (815, 27437), (827, 27407), (828, 27398), (847, 27338), (852, 27314), (863, 27275), (875, 27242), (876, 27230), (893, 27170),

Gene: ThreeOh3D2\_62 Start: 54542, Stop: 52683, Start Num: 196

Candidate Starts for ThreeOh3D2\_62:

(Start: 175 @54566 has 1 MA's), (Start: 196 @54542 has 254 MA's), (Start: 221 @54518 has 2 MA's), (Start: 227 @54512 has 3 MA's), (246, 54470), (259, 54449), (307, 54335), (311, 54329), (326, 54299), (355, 54239), (366, 54218), (386, 54164), (391, 54152), (396, 54134), (398, 54122), (431, 54017), (454, 53960), (466, 53924), (471, 53912), (483, 53885), (491, 53858), (499, 53840), (509, 53822), (533, 53783), (540, 53774), (542, 53771), (544, 53768), (695, 53411), (701, 53378), (706, 53357), (727, 53264), (730, 53255), (744, 53192), (760, 53156), (761, 53153), (766, 53138), (790, 53060), (794, 53048), (800, 53027), (817, 52988), (851, 52898), (856, 52880), (858, 52874), (868,

52859), (875, 52835), (877, 52820), (878, 52817), (881, 52805), (890, 52781), (907, 52733), (912, 52709),

Gene: Thunderbird\_61 Start: 54275, Stop: 52416, Start Num: 196

Candidate Starts for Thunderbird\_61:

(Start: 175 @54299 has 1 MA's), (Start: 196 @54275 has 254 MA's), (Start: 221 @54251 has 2 MA's), (Start: 227 @54245 has 3 MA's), (246, 54203), (259, 54182), (307, 54068), (311, 54062), (326, 54032), (355, 53972), (366, 53951), (386, 53897), (391, 53885), (396, 53867), (398, 53855), (431, 53750), (454, 53693), (466, 53657), (471, 53645), (483, 53618), (499, 53573), (533, 53516), (540, 53507), (542, 53504), (695, 53144), (701, 53111), (706, 53090), (727, 52997), (730, 52988), (744, 52925), (760, 52889), (761, 52886), (766, 52871), (790, 52793), (794, 52781), (800, 52760), (817, 52721), (851, 52631), (856, 52613), (858, 52607), (868, 52592), (875, 52568), (877, 52553), (878, 52550), (881, 52538), (890, 52514), (907, 52466), (912, 52442), (915, 52427),

Gene: Thunderclap\_54 Start: 36908, Stop: 34740, Start Num: 209

Candidate Starts for Thunderclap\_54:

(207, 36911), (Start: 209 @36908 has 11 MA's), (240, 36854), (286, 36770), (337, 36617), (343, 36608), (367, 36563), (393, 36485), (395, 36476), (398, 36461), (403, 36446), (404, 36443), (417, 36386), (446, 36293), (458, 36251), (506, 36056), (514, 36044), (521, 36038), (531, 36014), (545, 35993), (559, 35972), (564, 35957), (566, 35951), (592, 35888), (607, 35837), (638, 35750), (670, 35690), (683, 35642), (707, 35540), (708, 35534), (713, 35507), (714, 35504), (719, 35483), (727, 35441), (729, 35435), (734, 35411), (740, 35369), (741, 35366), (748, 35339), (756, 35306), (759, 35294), (769, 35258), (775, 35234), (777, 35228), (780, 35222), (797, 35168), (817, 35120), (818, 35117), (840, 35057), (846, 35033), (853, 35003), (872, 34949), (890, 34880), (893, 34868), (907, 34829),

Gene: Tian\_39 Start: 30363, Stop: 32228, Start Num: 231

Candidate Starts for Tian\_39:

(Start: 173 @30285 has 1 MA's), (Start: 231 @30363 has 845 MA's), (254, 30411), (317, 30537), (329, 30567), (348, 30594), (351, 30600), (378, 30660), (406, 30750), (489, 30957), (492, 30966), (549, 31065), (558, 31080), (613, 31218), (674, 31356), (694, 31443), (700, 31476), (714, 31539), (720, 31563), (731, 31620), (733, 31629), (759, 31722), (780, 31794), (820, 31902), (846, 31965), (851, 31989), (896, 32124), (901, 32133),

Gene: Tiffany\_48 Start: 31738, Stop: 29924, Start Num: 231

Candidate Starts for Tiffany\_48:

(Start: 231 @31738 has 845 MA's), (248, 31699), (256, 31687), (329, 31534), (333, 31519), (367, 31462), (390, 31405), (392, 31396), (403, 31354), (415, 31303), (434, 31252), (487, 31159), (509, 31111), (513, 31102), (524, 31087), (549, 31048), (562, 31021), (575, 30991), (610, 30898), (641, 30838), (652, 30823), (700, 30667), (720, 30580), (733, 30514), (742, 30475), (761, 30403), (772, 30364), (780, 30340), (786, 30322), (796, 30289), (806, 30262), (834, 30208), (851, 30148), (877, 30070), (896, 30013), (902, 30001), (906, 29992),

Gene: Tiger\_37 Start: 29925, Stop: 28066, Start Num: 231

Candidate Starts for Tiger\_37:

(Start: 231 @29925 has 845 MA's), (256, 29874), (291, 29814), (317, 29751), (329, 29721), (330, 29718), (363, 29661), (367, 29649), (378, 29619), (390, 29592), (434, 29439), (487, 29343), (509, 29295), (523, 29274), (561, 29211), (562, 29205), (594, 29133), (603, 29100), (610, 29085), (616, 29073), (668, 28974), (700, 28839), (708, 28809), (709, 28791), (716, 28773), (720, 28752), (722, 28743), (733, 28686), (742, 28647), (760, 28605), (766, 28587), (780, 28539), (796, 28488), (818, 28434), (823, 28425), (834, 28407), (851, 28347), (856, 28329), (890, 28236), (896, 28212), (902, 28200), (947, 28083), (948, 28080),

Gene: Timmi\_59 Start: 54024, Stop: 52165, Start Num: 196

Candidate Starts for Timmi\_59:

(Start: 175 @54048 has 1 MA's), (Start: 196 @54024 has 254 MA's), (Start: 221 @54000 has 2 MA's), (Start: 227 @53994 has 3 MA's), (246, 53952), (259, 53931), (307, 53817), (311, 53811), (326, 53781), (355, 53721), (366, 53700), (386, 53646), (391, 53634), (396, 53616), (398, 53604), (431, 53499), (454, 53442), (466, 53406), (471, 53394), (483, 53367), (499, 53322), (533, 53265), (540, 53256), (542, 53253), (695, 52893), (701, 52860), (706, 52839), (727, 52746), (730, 52737), (744, 52674), (760, 52638), (761, 52635), (766, 52620), (790, 52542), (794, 52530), (800, 52509), (817, 52470), (851, 52380), (856, 52362), (858, 52356), (868, 52341), (875, 52317), (877, 52302), (878, 52299), (881, 52287), (890, 52263), (907, 52215), (912, 52191),

Gene: Timothy\_45 Start: 30689, Stop: 28902, Start Num: 231

Candidate Starts for Timothy\_45:

(Start: 231 @30689 has 845 MA's), (329, 30485), (367, 30413), (378, 30383), (390, 30356), (489, 30104), (513, 30053), (562, 29972), (582, 29927), (613, 29843), (643, 29786), (672, 29744), (683, 29699), (700, 29618), (711, 29567), (720, 29531), (733, 29465), (755, 29405), (758, 29393), (789, 29291), (796, 29267), (802, 29249), (834, 29186), (844, 29159), (846, 29150), (851, 29126), (896, 28991), (902, 28979), (906, 28970),

Gene: Timshel\_43 Start: 33330, Stop: 31495, Start Num: 231

Candidate Starts for Timshel\_43:

(Start: 231 @33330 has 845 MA's), (291, 33219), (332, 33117), (353, 33081), (366, 33057), (388, 33003), (390, 32997), (395, 32976), (415, 32895), (434, 32844), (483, 32763), (487, 32748), (497, 32721), (505, 32703), (511, 32700), (524, 32679), (549, 32640), (577, 32577), (602, 32511), (603, 32508), (613, 32487), (662, 32397), (673, 32376), (683, 32334), (700, 32253), (709, 32205), (722, 32157), (726, 32130), (733, 32100), (742, 32061), (760, 31992), (761, 31989), (766, 31974), (772, 31950), (786, 31908), (834, 31779), (844, 31752), (851, 31719), (856, 31701), (871, 31668), (896, 31584), (902, 31572), (906, 31563),

Gene: TinSulphur\_39 Start: 28936, Stop: 27071, Start Num: 267

Candidate Starts for TinSulphur\_39:

(Start: 214 @29023 has 4 MA's), (Start: 216 @29020 has 7 MA's), (Start: 267 @28936 has 137 MA's), (Start: 275 @28927 has 5 MA's), (321, 28822), (325, 28813), (338, 28783), (340, 28780), (395, 28660), (397, 28648), (400, 28642), (436, 28537), (445, 28510), (490, 28369), (492, 28363), (494, 28360), (498, 28348), (513, 28321), (516, 28318), (525, 28303), (527, 28297), (530, 28291), (553, 28258), (634, 28069), (726, 27754), (729, 27745), (730, 27742), (733, 27724), (743, 27682), (745, 27676), (747, 27667), (751, 27652), (768, 27595), (815, 27436), (827, 27406), (828, 27397), (847, 27337), (852, 27313), (863, 27274), (875, 27241), (876, 27229), (893, 27169),

Gene: TinaFeyge\_45 Start: 31565, Stop: 29739, Start Num: 231

Candidate Starts for TinaFeyge\_45:

(Start: 231 @31565 has 845 MA's), (240, 31544), (256, 31514), (274, 31484), (350, 31322), (360, 31304), (390, 31232), (392, 31223), (426, 31103), (434, 31079), (487, 30986), (511, 30938), (524, 30917), (549, 30878), (603, 30746), (613, 30725), (638, 30680), (643, 30668), (697, 30515), (700, 30494), (726, 30371), (733, 30341), (742, 30302), (760, 30236), (761, 30233), (766, 30218), (772, 30194), (780, 30170), (851, 29963), (896, 29828), (902, 29816), (906, 29807),

Gene: Tinciduntolum\_58 Start: 52640, Stop: 50811, Start Num: 188

Candidate Starts for Tinciduntolum\_58:

(Start: 188 @52640 has 31 MA's), (Start: 227 @52613 has 3 MA's), (242, 52583), (246, 52571), (264, 52544), (Start: 266 @52541 has 4 MA's), (274, 52532), (291, 52514), (330, 52418), (355, 52367), (367, 52343), (417, 52181), (424, 52166), (427, 52157), (431, 52145), (454, 52088), (466, 52052), (471, 52040), (482, 52016), (522, 51932), (540, 51902), (542, 51899), (561, 51869), (624, 51725),

(652, 51659), (678, 51620), (681, 51608), (684, 51587), (689, 51569), (701, 51512), (717, 51455), (722, 51428), (727, 51398), (730, 51389), (744, 51323), (758, 51296), (760, 51287), (766, 51269), (772, 51245), (790, 51191), (794, 51179), (800, 51158), (834, 51089), (851, 51029), (856, 51011), (871, 50978), (875, 50966), (877, 50951), (878, 50948), (881, 50936), (890, 50912), (891, 50909), (907, 50861), (908, 50858), (912, 50837), (917, 50816),

Gene: TinyTimmy\_44 Start: 30732, Stop: 28945, Start Num: 231

Candidate Starts for TinyTimmy\_44:

(Start: 231 @30732 has 845 MA's), (329, 30528), (367, 30456), (378, 30426), (390, 30399), (489, 30147), (513, 30096), (562, 30015), (582, 29970), (613, 29886), (643, 29829), (672, 29787), (683, 29742), (700, 29661), (711, 29610), (720, 29574), (733, 29508), (755, 29448), (758, 29436), (789, 29334), (796, 29310), (802, 29292), (834, 29229), (844, 29202), (846, 29193), (851, 29169), (896, 29034), (902, 29022), (906, 29013),

Gene: Tinybot\_44 Start: 31597, Stop: 29771, Start Num: 231

Candidate Starts for Tinybot\_44:

(Start: 231 @31597 has 845 MA's), (240, 31576), (256, 31546), (274, 31516), (350, 31354), (360, 31336), (390, 31264), (392, 31255), (426, 31135), (434, 31111), (487, 31018), (511, 30970), (524, 30949), (549, 30910), (603, 30778), (613, 30757), (638, 30712), (643, 30700), (697, 30547), (700, 30526), (726, 30403), (733, 30373), (742, 30334), (760, 30268), (761, 30265), (766, 30250), (772, 30226), (780, 30202), (851, 29995), (896, 29860), (902, 29848), (906, 29839),

Gene: Tinyman4\_37 Start: 27313, Stop: 25415, Start Num: 265

Candidate Starts for Tinyman4\_37:

(6, 28051), (8, 28045), (54, 27790), (238, 27364), (Start: 265 @27313 has 17 MA's), (295, 27250), (321, 27199), (338, 27160), (370, 27103), (393, 27046), (395, 27037), (397, 27025), (400, 27019), (415, 26974), (417, 26968), (456, 26866), (467, 26821), (490, 26746), (494, 26737), (498, 26725), (516, 26695), (527, 26674), (534, 26662), (551, 26638), (622, 26488), (699, 26227), (722, 26125), (724, 26104), (733, 26068), (741, 26032), (743, 26026), (768, 25939), (775, 25912), (815, 25780), (828, 25741), (836, 25720), (847, 25681), (852, 25657), (854, 25651), (862, 25624), (893, 25513),

Gene: TipsytheTRex\_42 Start: 30574, Stop: 28787, Start Num: 230

Candidate Starts for TipsytheTRex\_42:

(Start: 230 @30574 has 8 MA's), (329, 30370), (330, 30367), (332, 30361), (337, 30346), (350, 30331), (367, 30298), (378, 30268), (390, 30241), (395, 30220), (403, 30190), (434, 30088), (487, 29995), (509, 29947), (513, 29938), (524, 29923), (562, 29857), (595, 29776), (613, 29728), (638, 29683), (700, 29503), (709, 29455), (711, 29452), (720, 29416), (733, 29350), (742, 29311), (755, 29290), (775, 29215), (782, 29197), (796, 29152), (806, 29125), (823, 29089), (834, 29071), (846, 29035), (851, 29011), (877, 28933), (896, 28876), (902, 28864), (906, 28855), (907, 28852),

Gene: TiroTheta9\_45 Start: 31564, Stop: 29738, Start Num: 231

Candidate Starts for TiroTheta9\_45:

(Start: 231 @31564 has 845 MA's), (240, 31543), (256, 31513), (274, 31483), (350, 31321), (360, 31303), (390, 31231), (392, 31222), (426, 31102), (434, 31078), (487, 30985), (511, 30937), (524, 30916), (549, 30877), (603, 30745), (613, 30724), (638, 30679), (643, 30667), (697, 30514), (700, 30493), (726, 30370), (733, 30340), (742, 30301), (760, 30235), (761, 30232), (766, 30217), (772, 30193), (780, 30169), (851, 29962), (896, 29827), (902, 29815), (906, 29806),

Gene: Toaka\_44 Start: 30969, Stop: 29176, Start Num: 230

Candidate Starts for Toaka\_44:

(Start: 230 @30969 has 8 MA's), (236, 30960), (316, 30798), (317, 30795), (329, 30765), (345, 30732), (369, 30687), (378, 30660), (384, 30645), (390, 30633), (403, 30582), (426, 30504), (434, 30480), (487, 30387), (513, 30330), (575, 30219), (611, 30123), (671, 30021), (673, 30015), (700,

29892), (722, 29796), (726, 29769), (730, 29757), (733, 29739), (760, 29658), (796, 29541), (846, 29424), (896, 29265), (902, 29253),

Gene: Todacoro\_44 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for Todacoro\_44:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Tolls\_44 Start: 32396, Stop: 30009, Start Num: 41

Candidate Starts for Tolls\_44:

(19, 32468), (21, 32453), (Start: 41 @32396 has 23 MA's), (46, 32387), (48, 32381), (71, 32300), (109, 32180), (127, 32129), (Start: 214 @31997 has 4 MA's), (235, 31970), (285, 31877), (303, 31832), (337, 31754), (365, 31706), (384, 31652), (386, 31649), (393, 31631), (397, 31610), (415, 31559), (418, 31550), (419, 31547), (449, 31472), (463, 31427), (486, 31367), (490, 31352), (551, 31268), (576, 31223), (588, 31199), (596, 31193), (603, 31169), (639, 31091), (640, 31088), (642, 31085), (690, 30938), (705, 30869), (724, 30770), (733, 30734), (741, 30698), (743, 30692), (745, 30686), (746, 30680), (753, 30656), (761, 30623), (768, 30599), (777, 30554), (795, 30494), (847, 30341), (856, 30302), (857, 30299), (893, 30173), (908, 30128), (910, 30119),

Gene: TomBombadil\_60 Start: 54309, Stop: 52450, Start Num: 196

Candidate Starts for TomBombadil\_60:

(Start: 175 @54333 has 1 MA's), (Start: 196 @54309 has 254 MA's), (Start: 221 @54285 has 2 MA's), (Start: 227 @54279 has 3 MA's), (246, 54237), (259, 54216), (307, 54102), (311, 54096), (326, 54066), (355, 54006), (366, 53985), (386, 53931), (391, 53919), (396, 53901), (398, 53889), (431, 53784), (454, 53727), (466, 53691), (471, 53679), (483, 53652), (491, 53625), (499, 53607), (509, 53589), (533, 53550), (540, 53541), (542, 53538), (668, 53280), (695, 53178), (701, 53145), (706, 53124), (727, 53031), (730, 53022), (744, 52959), (760, 52923), (761, 52920), (766, 52905), (790, 52827), (794, 52815), (800, 52794), (817, 52755), (851, 52665), (856, 52647), (858, 52641), (868, 52626), (875, 52602), (877, 52587), (878, 52584), (881, 52572), (890, 52548), (907, 52500), (912, 52476),

Gene: Tomathan\_47 Start: 31153, Stop: 29330, Start Num: 231

Candidate Starts for Tomathan\_47:

(Start: 231 @31153 has 845 MA's), (329, 30949), (337, 30925), (350, 30907), (360, 30889), (367, 30874), (369, 30871), (378, 30844), (390, 30817), (403, 30766), (434, 30664), (487, 30571), (509, 30523), (513, 30514), (523, 30502), (524, 30499), (562, 30433), (589, 30373), (638, 30259), (652, 30235), (672, 30196), (700, 30070), (711, 30019), (720, 29983), (733, 29917), (742, 29878), (761, 29809), (772, 29770), (787, 29725), (796, 29695), (823, 29632), (832, 29620), (834, 29614), (851, 29554), (896, 29419), (902, 29407), (906, 29398),

Gene: Tomlarah\_61 Start: 54878, Stop: 53019, Start Num: 196

Candidate Starts for Tomlarah\_61:

(Start: 175 @54902 has 1 MA's), (Start: 196 @54878 has 254 MA's), (Start: 221 @54854 has 2 MA's), (Start: 227 @54848 has 3 MA's), (246, 54806), (259, 54785), (307, 54671), (311, 54665), (326, 54635), (355, 54575), (366, 54554), (386, 54500), (391, 54488), (396, 54470), (398, 54458), (431, 54353), (454, 54296), (466, 54260), (471, 54248), (483, 54221), (491, 54194), (499, 54176), (509, 54158), (533, 54119), (540, 54110), (542, 54107), (668, 53849), (695, 53747), (701, 53714), (706, 53693), (727, 53600), (730, 53591), (744, 53528), (760, 53492), (761, 53489), (766, 53474), (790, 53396), (794, 53384), (800, 53363), (817, 53324), (851, 53234), (856, 53216), (858, 53210), (868,



53195), (875, 53171), (877, 53156), (878, 53153), (881, 53141), (890, 53117), (907, 53069), (912, 53045),

Gene: ToneTone\_42 Start: 29354, Stop: 27513, Start Num: 231

Candidate Starts for ToneTone\_42:

(Start: 210 @29384 has 1 MA's), (Start: 231 @29354 has 845 MA's), (329, 29150), (367, 29075), (369, 29072), (378, 29045), (384, 29030), (390, 29018), (403, 28967), (430, 28877), (434, 28865), (487, 28772), (502, 28733), (513, 28715), (524, 28700), (562, 28634), (576, 28601), (577, 28598), (619, 28496), (652, 28436), (683, 28352), (700, 28271), (719, 28187), (720, 28184), (722, 28175), (726, 28148), (733, 28118), (755, 28058), (766, 28019), (846, 27803), (847, 27800), (851, 27779), (896, 27644), (902, 27632), (906, 27623), (907, 27620), (939, 27527),

Gene: Toni\_60 Start: 54471, Stop: 52612, Start Num: 196

Candidate Starts for Toni\_60:

(Start: 175 @54495 has 1 MA's), (Start: 196 @54471 has 254 MA's), (Start: 221 @54447 has 2 MA's), (Start: 227 @54441 has 3 MA's), (246, 54399), (259, 54378), (307, 54264), (311, 54258), (326, 54228), (355, 54168), (366, 54147), (386, 54093), (391, 54081), (396, 54063), (398, 54051), (431, 53946), (454, 53889), (466, 53853), (471, 53841), (483, 53814), (491, 53787), (499, 53769), (509, 53751), (533, 53712), (540, 53703), (542, 53700), (544, 53697), (695, 53340), (701, 53307), (706, 53286), (727, 53193), (730, 53184), (744, 53121), (760, 53085), (761, 53082), (766, 53067), (790, 52989), (794, 52977), (800, 52956), (817, 52917), (851, 52827), (856, 52809), (858, 52803), (868, 52788), (875, 52764), (877, 52749), (878, 52746), (881, 52734), (890, 52710), (907, 52662), (912, 52638),

Gene: Tooj\_59 Start: 53694, Stop: 51835, Start Num: 196

Candidate Starts for Tooj\_59:

(Start: 175 @53718 has 1 MA's), (Start: 196 @53694 has 254 MA's), (Start: 221 @53670 has 2 MA's), (Start: 227 @53664 has 3 MA's), (246, 53622), (259, 53601), (307, 53487), (311, 53481), (326, 53451), (355, 53391), (366, 53370), (386, 53316), (391, 53304), (396, 53286), (398, 53274), (431, 53169), (454, 53112), (466, 53076), (471, 53064), (483, 53037), (486, 53028), (499, 52992), (533, 52935), (540, 52926), (542, 52923), (544, 52920), (695, 52563), (701, 52530), (706, 52509), (727, 52416), (730, 52407), (744, 52344), (760, 52308), (761, 52305), (766, 52290), (790, 52212), (794, 52200), (800, 52179), (817, 52140), (851, 52050), (856, 52032), (858, 52026), (868, 52011), (875, 51987), (877, 51972), (878, 51969), (881, 51957), (890, 51933), (907, 51885), (912, 51861),

Gene: Topanga\_42 Start: 31142, Stop: 29307, Start Num: 231

Candidate Starts for Topanga\_42:

(Start: 231 @31142 has 845 MA's), (256, 31091), (292, 31025), (329, 30938), (337, 30914), (363, 30878), (367, 30866), (390, 30809), (392, 30800), (413, 30716), (426, 30680), (430, 30668), (434, 30656), (487, 30563), (511, 30515), (549, 30455), (562, 30428), (602, 30326), (603, 30323), (613, 30302), (616, 30296), (673, 30188), (700, 30065), (709, 30017), (726, 29942), (733, 29912), (739, 29882), (742, 29873), (760, 29804), (761, 29801), (772, 29762), (780, 29738), (782, 29732), (786, 29720), (851, 29531), (858, 29507), (880, 29444), (896, 29396), (902, 29384), (906, 29375),

Gene: Topgun\_44 Start: 34288, Stop: 32462, Start Num: 231

Candidate Starts for Topgun\_44:

(Start: 231 @34288 has 845 MA's), (332, 34075), (337, 34060), (367, 34012), (378, 33982), (388, 33961), (390, 33955), (392, 33946), (425, 33829), (434, 33802), (487, 33709), (492, 33694), (541, 33610), (543, 33607), (575, 33541), (589, 33511), (598, 33481), (616, 33436), (638, 33397), (700, 33217), (709, 33169), (720, 33130), (733, 33064), (742, 33025), (755, 33004), (760, 32983), (766, 32965), (786, 32899), (846, 32749), (847, 32746), (855, 32710), (868, 32686), (870, 32677), (874, 32665), (889, 32617), (896, 32590), (906, 32569),

Gene: Tote\_40 Start: 31416, Stop: 29587, Start Num: 231

Candidate Starts for Tote\_40:

(Start: 231 @31416 has 845 MA's), (332, 31203), (337, 31188), (367, 31140), (378, 31110), (388, 31089), (390, 31083), (392, 31074), (425, 30957), (434, 30930), (487, 30837), (492, 30822), (501, 30801), (541, 30738), (543, 30735), (575, 30669), (589, 30639), (598, 30609), (616, 30564), (638, 30525), (700, 30345), (709, 30297), (722, 30249), (730, 30210), (733, 30192), (742, 30153), (755, 30132), (760, 30111), (765, 30096), (803, 29973), (871, 29802), (876, 29778), (893, 29730), (896, 29718), (906, 29697), (908, 29691), (921, 29643), (928, 29628),

Gene: Traft412\_45 Start: 35231, Stop: 33405, Start Num: 231

Candidate Starts for Traft412\_45:

(Start: 231 @35231 has 845 MA's), (332, 35018), (337, 35003), (378, 34925), (388, 34904), (390, 34898), (392, 34889), (425, 34772), (434, 34745), (487, 34652), (492, 34637), (501, 34616), (541, 34553), (543, 34550), (570, 34496), (575, 34484), (589, 34454), (598, 34424), (616, 34379), (638, 34340), (700, 34160), (709, 34112), (720, 34073), (733, 34007), (742, 33968), (755, 33947), (760, 33926), (766, 33908), (786, 33842), (846, 33692), (847, 33689), (855, 33653), (868, 33629), (870, 33620), (874, 33608), (880, 33581), (896, 33533), (906, 33512),

Gene: Treddle\_46 Start: 35746, Stop: 33920, Start Num: 231

Candidate Starts for Treddle\_46:

(Start: 231 @35746 has 845 MA's), (332, 35533), (337, 35518), (367, 35470), (378, 35440), (388, 35419), (390, 35413), (392, 35404), (425, 35287), (434, 35260), (487, 35167), (492, 35152), (541, 35068), (543, 35065), (575, 34999), (589, 34969), (598, 34939), (616, 34894), (638, 34855), (700, 34675), (709, 34627), (720, 34588), (733, 34522), (760, 34441), (761, 34438), (786, 34357), (846, 34207), (847, 34204), (855, 34168), (868, 34144), (870, 34135), (874, 34123), (896, 34048), (906, 34027),

Gene: Tres\_57 Start: 52494, Stop: 50665, Start Num: 188

Candidate Starts for Tres\_57:

(Start: 188 @52494 has 31 MA's), (Start: 227 @52467 has 3 MA's), (242, 52437), (246, 52425), (264, 52398), (Start: 266 @52395 has 4 MA's), (274, 52386), (291, 52368), (330, 52272), (355, 52221), (367, 52197), (417, 52035), (427, 52011), (431, 51999), (454, 51942), (466, 51906), (471, 51894), (482, 51870), (522, 51786), (540, 51756), (542, 51753), (561, 51723), (624, 51579), (652, 51513), (678, 51474), (681, 51462), (684, 51441), (689, 51423), (701, 51366), (717, 51309), (722, 51282), (727, 51252), (730, 51243), (744, 51177), (758, 51150), (760, 51141), (766, 51123), (772, 51099), (790, 51045), (794, 51033), (800, 51012), (834, 50943), (851, 50883), (856, 50865), (871, 50832), (875, 50820), (877, 50805), (878, 50802), (881, 50790), (890, 50766), (891, 50763), (907, 50715), (908, 50712), (912, 50691), (917, 50670),

Gene: Trike\_42 Start: 30393, Stop: 28561, Start Num: 231

Candidate Starts for Trike\_42:

(Start: 231 @30393 has 845 MA's), (256, 30342), (292, 30276), (329, 30189), (332, 30180), (363, 30129), (367, 30117), (390, 30060), (411, 29979), (413, 29967), (415, 29958), (426, 29931), (434, 29907), (487, 29814), (502, 29775), (549, 29706), (562, 29679), (616, 29547), (700, 29319), (716, 29253), (726, 29196), (733, 29166), (742, 29127), (761, 29055), (766, 29040), (772, 29016), (786, 28974), (796, 28941), (851, 28785), (858, 28761), (880, 28698), (896, 28650), (902, 28638), (906, 28629),

Gene: Trine\_42 Start: 34854, Stop: 32935, Start Num: 161

Candidate Starts for Trine\_42:

(Start: 161 @34854 has 1 MA's), (187, 34812), (205, 34788), (Start: 222 @34758 has 57 MA's), (242, 34722), (246, 34710), (Start: 266 @34680 has 4 MA's), (328, 34560), (356, 34500), (375, 34455), (386, 34428), (398, 34389), (403, 34377), (418, 34326), (431, 34293), (445, 34260), (453, 34242),

(466, 34203), (503, 34107), (523, 34080), (533, 34062), (542, 34050), (561, 34020), (645, 33816), (681, 33747), (687, 33717), (689, 33708), (695, 33684), (701, 33651), (722, 33570), (727, 33540), (752, 33450), (760, 33429), (761, 33426), (766, 33411), (772, 33387), (790, 33333), (794, 33321), (818, 33258), (839, 33204), (844, 33186), (878, 33072), (890, 33036), (907, 32985), (912, 32961), (917, 32940),

Gene: Tripl3t\_45 Start: 35417, Stop: 33591, Start Num: 231

Candidate Starts for Tripl3t\_45:

(Start: 231 @35417 has 845 MA's), (332, 35204), (337, 35189), (367, 35141), (378, 35111), (388, 35090), (390, 35084), (392, 35075), (425, 34958), (434, 34931), (487, 34838), (492, 34823), (509, 34790), (541, 34739), (543, 34736), (575, 34670), (589, 34640), (598, 34610), (616, 34565), (638, 34526), (700, 34346), (709, 34298), (720, 34259), (733, 34193), (742, 34154), (755, 34133), (760, 34112), (766, 34094), (786, 34028), (846, 33878), (847, 33875), (855, 33839), (868, 33815), (870, 33806), (874, 33794), (896, 33719), (906, 33698),

Gene: Triscuit\_70 Start: 43915, Stop: 46587, Start Num: 24

Candidate Starts for Triscuit\_70:

(Start: 24 @43915 has 2 MA's), (46, 44005), (47, 44008), (48, 44011), (63, 44071), (159, 44317), (271, 44494), (280, 44506), (294, 44551), (302, 44566), (313, 44593), (357, 44692), (370, 44722), (384, 44761), (397, 44803), (417, 44860), (422, 44875), (442, 44929), (479, 45040), (540, 45181), (557, 45205), (607, 45355), (608, 45358), (617, 45376), (635, 45433), (660, 45493), (679, 45553), (721, 45748), (733, 45811), (748, 45874), (768, 45949), (788, 46030), (797, 46060), (821, 46120), (836, 46168), (847, 46207), (853, 46234), (855, 46243), (874, 46306), (875, 46309), (893, 46381), (895, 46390), (905, 46420), (937, 46528), (946, 46546), (950, 46564),

Gene: Trixie\_44 Start: 31811, Stop: 30024, Start Num: 231

Candidate Starts for Trixie\_44:

(Start: 231 @31811 has 845 MA's), (330, 31604), (332, 31598), (337, 31583), (350, 31568), (369, 31532), (378, 31505), (390, 31478), (395, 31457), (403, 31427), (434, 31325), (487, 31232), (509, 31184), (513, 31175), (524, 31160), (562, 31094), (613, 30965), (700, 30740), (711, 30689), (719, 30656), (720, 30653), (733, 30587), (742, 30548), (755, 30527), (775, 30452), (780, 30440), (782, 30434), (823, 30326), (846, 30272), (851, 30248), (873, 30191), (877, 30170), (896, 30113), (902, 30101), (907, 30089),

Gene: Troje\_45 Start: 32853, Stop: 30463, Start Num: 33

Candidate Starts for Troje\_45:

(Start: 33 @32853 has 15 MA's), (58, 32790), (65, 32772), (71, 32757), (91, 32703), (94, 32691), (98, 32670), (109, 32637), (119, 32610), (127, 32586), (147, 32559), (Start: 214 @32454 has 4 MA's), (243, 32406), (303, 32289), (337, 32208), (354, 32181), (365, 32160), (384, 32106), (386, 32103), (393, 32085), (397, 32064), (418, 32004), (490, 31806), (519, 31764), (576, 31677), (588, 31653), (596, 31647), (617, 31593), (622, 31587), (639, 31545), (640, 31542), (642, 31539), (690, 31392), (698, 31350), (705, 31323), (714, 31281), (733, 31188), (741, 31152), (743, 31146), (745, 31140), (746, 31134), (753, 31110), (761, 31077), (768, 31053), (777, 31008), (825, 30873), (892, 30630), (893, 30627), (908, 30582), (910, 30573), (926, 30513),

Gene: Trooper\_45 Start: 31579, Stop: 29792, Start Num: 231

Candidate Starts for Trooper\_45:

(Start: 231 @31579 has 845 MA's), (330, 31372), (332, 31366), (337, 31351), (350, 31336), (367, 31303), (369, 31300), (378, 31273), (390, 31246), (392, 31237), (434, 31093), (437, 31084), (487, 31000), (509, 30952), (513, 30943), (524, 30928), (562, 30862), (595, 30781), (613, 30733), (616, 30727), (683, 30589), (700, 30508), (719, 30424), (720, 30421), (733, 30355), (742, 30316), (755, 30295), (775, 30220), (780, 30208), (823, 30094), (832, 30082), (834, 30076), (846, 30040), (851, 30016), (873, 29959), (877, 29938), (896, 29881), (902, 29869),

Gene: Trouble\_46 Start: 35902, Stop: 34073, Start Num: 231

Candidate Starts for Trouble\_46:

(Start: 231 @35902 has 845 MA's), (337, 35674), (378, 35596), (388, 35575), (390, 35569), (392, 35560), (425, 35443), (434, 35416), (487, 35323), (492, 35308), (509, 35275), (541, 35224), (543, 35221), (575, 35155), (589, 35125), (598, 35095), (616, 35050), (638, 35011), (700, 34831), (709, 34783), (722, 34735), (730, 34696), (733, 34678), (742, 34639), (755, 34618), (760, 34597), (765, 34582), (803, 34459), (855, 34324), (871, 34288), (876, 34264), (893, 34216), (896, 34204), (906, 34183), (908, 34177), (921, 34129), (928, 34114),

Gene: TroyPia\_46 Start: 31568, Stop: 29742, Start Num: 231

Candidate Starts for TroyPia\_46:

(Start: 231 @31568 has 845 MA's), (240, 31547), (256, 31517), (274, 31487), (350, 31325), (360, 31307), (390, 31235), (392, 31226), (426, 31106), (434, 31082), (487, 30989), (511, 30941), (524, 30920), (549, 30881), (603, 30749), (613, 30728), (638, 30683), (643, 30671), (697, 30518), (700, 30497), (726, 30374), (733, 30344), (742, 30305), (760, 30239), (761, 30236), (766, 30221), (772, 30197), (780, 30173), (851, 29966), (896, 29831), (902, 29819), (906, 29810),

Gene: True\_59 Start: 54034, Stop: 52175, Start Num: 196

Candidate Starts for True\_59:

(Start: 175 @54058 has 1 MA's), (Start: 196 @54034 has 254 MA's), (Start: 221 @54010 has 2 MA's), (Start: 227 @54004 has 3 MA's), (246, 53962), (259, 53941), (307, 53827), (311, 53821), (326, 53791), (355, 53731), (366, 53710), (386, 53656), (391, 53644), (396, 53626), (398, 53614), (431, 53509), (454, 53452), (466, 53416), (471, 53404), (482, 53380), (486, 53368), (491, 53350), (499, 53332), (509, 53314), (533, 53275), (540, 53266), (542, 53263), (544, 53260), (695, 52903), (701, 52870), (706, 52849), (727, 52756), (730, 52747), (744, 52684), (760, 52648), (761, 52645), (766, 52630), (790, 52552), (794, 52540), (800, 52519), (817, 52480), (851, 52390), (856, 52372), (858, 52366), (868, 52351), (875, 52327), (877, 52312), (878, 52309), (881, 52297), (890, 52273), (907, 52225), (912, 52201),

Gene: Trypo\_63 Start: 54706, Stop: 52847, Start Num: 196

Candidate Starts for Trypo\_63:

(Start: 175 @54730 has 1 MA's), (Start: 196 @54706 has 254 MA's), (Start: 221 @54682 has 2 MA's), (Start: 227 @54676 has 3 MA's), (246, 54634), (259, 54613), (307, 54499), (311, 54493), (326, 54463), (355, 54403), (366, 54382), (386, 54328), (391, 54316), (396, 54298), (398, 54286), (431, 54181), (454, 54124), (466, 54088), (471, 54076), (482, 54052), (486, 54040), (491, 54022), (499, 54004), (509, 53986), (533, 53947), (540, 53938), (542, 53935), (544, 53932), (668, 53677), (695, 53575), (701, 53542), (706, 53521), (727, 53428), (730, 53419), (744, 53356), (760, 53320), (761, 53317), (766, 53302), (790, 53224), (794, 53212), (800, 53191), (817, 53152), (851, 53062), (856, 53044), (858, 53038), (868, 53023), (875, 52999), (877, 52984), (878, 52981), (881, 52969), (890, 52945), (895, 52924), (907, 52897), (912, 52873),

Gene: Tubs\_45 Start: 31483, Stop: 29690, Start Num: 231

Candidate Starts for Tubs\_45:

(Start: 231 @31483 has 845 MA's), (236, 31474), (256, 31432), (316, 31312), (317, 31309), (334, 31261), (369, 31201), (379, 31171), (384, 31159), (390, 31147), (434, 30994), (487, 30901), (562, 30763), (575, 30733), (643, 30574), (652, 30562), (671, 30535), (697, 30427), (700, 30406), (730, 30271), (733, 30253), (760, 30172), (772, 30130), (796, 30055), (832, 29980), (846, 29938), (877, 29836), (896, 29779), (902, 29767), (906, 29758),

Gene: Tuck\_44 Start: 31714, Stop: 33579, Start Num: 231

Candidate Starts for Tuck\_44:

(Start: 231 @31714 has 845 MA's), (254, 31762), (329, 31918), (378, 32011), (406, 32101), (489, 32308), (542, 32407), (549, 32416), (558, 32431), (562, 32443), (595, 32521), (613, 32569), (643, 32626), (674, 32707), (700, 32827), (708, 32857), (720, 32914), (733, 32980), (759, 33073), (780, 33145), (820, 33253), (846, 33316), (896, 33475), (901, 33484), (929, 33562),

Gene: Tucker\_46 Start: 29792, Stop: 27951, Start Num: 231

Candidate Starts for Tucker\_46:

(Start: 210 @29822 has 1 MA's), (Start: 231 @29792 has 845 MA's), (329, 29588), (367, 29513), (369, 29510), (378, 29483), (384, 29468), (390, 29456), (403, 29405), (430, 29315), (434, 29303), (487, 29210), (502, 29171), (513, 29153), (524, 29138), (562, 29072), (576, 29039), (577, 29036), (619, 28934), (652, 28874), (683, 28790), (700, 28709), (719, 28625), (720, 28622), (722, 28613), (726, 28586), (733, 28556), (755, 28496), (766, 28457), (846, 28241), (847, 28238), (851, 28217), (896, 28082), (902, 28070), (906, 28061), (907, 28058), (939, 27965),

Gene: TukTuk\_43 Start: 29558, Stop: 31432, Start Num: 222

Candidate Starts for TukTuk\_43:

(Start: 220 @29555 has 7 MA's), (Start: 222 @29558 has 57 MA's), (Start: 266 @29627 has 4 MA's), (279, 29648), (367, 29828), (392, 29894), (403, 29936), (549, 30230), (603, 30365), (651, 30464), (688, 30587), (700, 30647), (702, 30653), (711, 30698), (718, 30728), (724, 30764), (733, 30800), (759, 30893), (787, 30986), (816, 31064), (846, 31136), (855, 31175), (873, 31217), (876, 31235), (896, 31295), (906, 31316),

Gene: Turab\_38 Start: 28808, Stop: 30673, Start Num: 231

Candidate Starts for Turab\_38:

(Start: 231 @28808 has 845 MA's), (254, 28856), (329, 29012), (388, 29126), (406, 29195), (489, 29402), (542, 29501), (549, 29510), (558, 29525), (562, 29537), (576, 29570), (613, 29663), (643, 29720), (674, 29801), (700, 29921), (708, 29951), (720, 30008), (731, 30065), (733, 30074), (759, 30167), (780, 30239), (783, 30248), (820, 30347), (846, 30410), (890, 30545), (896, 30569), (901, 30578), (929, 30656),

Gene: Turbido\_45 Start: 31617, Stop: 29830, Start Num: 231

Candidate Starts for Turbido\_45:

(156, 31704), (Start: 231 @31617 has 845 MA's), (330, 31410), (332, 31404), (337, 31389), (350, 31374), (369, 31338), (378, 31311), (390, 31284), (395, 31263), (434, 31131), (487, 31038), (509, 30990), (513, 30981), (524, 30966), (562, 30900), (595, 30819), (613, 30771), (616, 30765), (652, 30702), (700, 30546), (711, 30495), (719, 30462), (720, 30459), (733, 30393), (742, 30354), (755, 30333), (775, 30258), (780, 30246), (796, 30195), (823, 30132), (834, 30114), (846, 30078), (851, 30054), (877, 29976), (896, 29919), (902, 29907), (906, 29898),

Gene: Turj99\_42 Start: 33989, Stop: 32163, Start Num: 231

Candidate Starts for Turj99\_42:

(Start: 231 @33989 has 845 MA's), (332, 33776), (337, 33761), (378, 33683), (382, 33671), (388, 33662), (390, 33656), (392, 33647), (425, 33530), (434, 33503), (487, 33410), (492, 33395), (509, 33362), (541, 33311), (543, 33308), (570, 33254), (575, 33242), (589, 33212), (598, 33182), (616, 33137), (638, 33098), (700, 32918), (709, 32870), (711, 32867), (720, 32831), (733, 32765), (742, 32726), (755, 32705), (760, 32684), (766, 32666), (786, 32600), (846, 32450), (847, 32447), (855, 32411), (868, 32387), (870, 32378), (874, 32366), (889, 32318), (896, 32291), (906, 32270),

Gene: Tutumahutu\_42 Start: 29675, Stop: 31540, Start Num: 231

Candidate Starts for Tutumahutu\_42:

(100, 29414), (Start: 173 @29597 has 1 MA's), (Start: 231 @29675 has 845 MA's), (254, 29723), (378, 29972), (406, 30062), (489, 30269), (492, 30278), (542, 30368), (549, 30377), (558, 30392), (576, 30437), (595, 30482), (613, 30530), (643, 30587), (674, 30668), (694, 30755), (700, 30788), (708,

30818), (720, 30875), (733, 30941), (759, 31034), (780, 31106), (820, 31214), (846, 31277), (851, 31301), (890, 31412), (896, 31436), (901, 31445),

Gene: Tweety19\_41 Start: 28185, Stop: 30029, Start Num: 231

Candidate Starts for Tweety19\_41:

(Start: 231 @28185 has 845 MA's), (254, 28233), (290, 28293), (329, 28389), (348, 28416), (369, 28455), (388, 28503), (406, 28572), (489, 28758), (549, 28866), (558, 28881), (608, 29010), (613, 29019), (674, 29157), (700, 29277), (720, 29364), (731, 29421), (733, 29430), (759, 29523), (846, 29766), (896, 29925), (901, 29934), (929, 30012),

Gene: Twister\_42 Start: 31053, Stop: 29218, Start Num: 231

Candidate Starts for Twister\_42:

(Start: 231 @31053 has 845 MA's), (256, 31002), (292, 30936), (329, 30849), (337, 30825), (363, 30789), (367, 30777), (390, 30720), (392, 30711), (413, 30627), (426, 30591), (430, 30579), (434, 30567), (487, 30474), (511, 30426), (549, 30366), (562, 30339), (602, 30237), (603, 30234), (613, 30213), (616, 30207), (673, 30099), (700, 29976), (709, 29928), (726, 29853), (733, 29823), (739, 29793), (742, 29784), (760, 29715), (761, 29712), (772, 29673), (780, 29649), (782, 29643), (786, 29631), (851, 29442), (858, 29418), (880, 29355), (896, 29307), (902, 29295), (906, 29286),

Gene: TwoPeat\_45 Start: 34739, Stop: 32910, Start Num: 231

Candidate Starts for TwoPeat\_45:

(Start: 231 @34739 has 845 MA's), (332, 34526), (337, 34511), (367, 34463), (378, 34433), (388, 34412), (390, 34406), (392, 34397), (425, 34280), (434, 34253), (487, 34160), (492, 34145), (501, 34124), (541, 34061), (543, 34058), (575, 33992), (589, 33962), (598, 33932), (616, 33887), (638, 33848), (700, 33668), (709, 33620), (722, 33572), (730, 33533), (733, 33515), (742, 33476), (755, 33455), (760, 33434), (765, 33419), (803, 33296), (871, 33125), (876, 33101), (893, 33053), (896, 33041), (906, 33020), (908, 33014), (921, 32966), (928, 32951),

Gene: Tydolla\_56 Start: 53884, Stop: 52067, Start Num: 223

Candidate Starts for Tydolla\_56:

(59, 54268), (123, 54067), (Start: 223 @53884 has 42 MA's), (240, 53854), (332, 53674), (395, 53521), (397, 53509), (407, 53479), (412, 53473), (431, 53410), (433, 53404), (454, 53353), (464, 53326), (466, 53317), (486, 53269), (542, 53164), (589, 53068), (610, 53017), (681, 52873), (689, 52834), (696, 52804), (701, 52777), (704, 52765), (725, 52669), (727, 52663), (730, 52654), (732, 52642), (754, 52570), (760, 52540), (766, 52522), (768, 52513), (790, 52444), (794, 52432), (800, 52411), (834, 52342), (841, 52327), (847, 52303), (851, 52282), (856, 52264), (858, 52258), (873, 52225), (875, 52219), (878, 52201), (881, 52189), (886, 52177), (890, 52165), (904, 52123), (912, 52093),

Gene: TygerBlood\_45 Start: 31570, Stop: 29744, Start Num: 231

Candidate Starts for TygerBlood\_45:

(Start: 231 @31570 has 845 MA's), (240, 31549), (256, 31519), (274, 31489), (350, 31327), (360, 31309), (390, 31237), (392, 31228), (426, 31108), (434, 31084), (487, 30991), (511, 30943), (524, 30922), (549, 30883), (603, 30751), (613, 30730), (638, 30685), (643, 30673), (697, 30520), (700, 30499), (726, 30376), (733, 30346), (742, 30307), (760, 30241), (761, 30238), (766, 30223), (772, 30199), (780, 30175), (851, 29968), (896, 29833), (902, 29821), (906, 29812),

Gene: Typhonomachy\_43 Start: 32264, Stop: 29871, Start Num: 33

Candidate Starts for Typhonomachy\_43:

(Start: 33 @32264 has 15 MA's), (45, 32258), (Start: 56 @32210 has 1 MA's), (71, 32168), (81, 32144), (119, 32018), (127, 31994), (159, 31949), (191, 31898), (201, 31883), (Start: 214 @31862 has 4 MA's), (243, 31814), (Start: 267 @31772 has 137 MA's), (303, 31697), (308, 31685), (337, 31616), (354, 31589), (357, 31583), (365, 31568), (384, 31514), (386, 31511), (393, 31493), (397, 31472),

(463, 31289), (465, 31283), (490, 31214), (519, 31172), (576, 31085), (588, 31061), (596, 31055), (603, 31031), (607, 31022), (614, 31007), (622, 30995), (639, 30953), (640, 30950), (642, 30947), (690, 30800), (705, 30731), (706, 30725), (714, 30689), (733, 30596), (735, 30587), (741, 30560), (743, 30554), (745, 30548), (746, 30542), (761, 30485), (768, 30461), (777, 30416), (893, 30035), (908, 29990), (910, 29981), (926, 29921),

Gene: TyrionL\_61 Start: 54131, Stop: 52272, Start Num: 196

Candidate Starts for TyrionL\_61:

(Start: 175 @54155 has 1 MA's), (Start: 196 @54131 has 254 MA's), (Start: 221 @54107 has 2 MA's), (Start: 227 @54101 has 3 MA's), (246, 54059), (259, 54038), (307, 53924), (311, 53918), (326, 53888), (355, 53828), (366, 53807), (386, 53753), (391, 53741), (396, 53723), (398, 53711), (431, 53606), (454, 53549), (466, 53513), (471, 53501), (482, 53477), (486, 53465), (491, 53447), (499, 53429), (509, 53411), (533, 53372), (540, 53363), (542, 53360), (544, 53357), (668, 53102), (695, 53000), (701, 52967), (706, 52946), (727, 52853), (730, 52844), (744, 52781), (760, 52745), (761, 52742), (766, 52727), (790, 52649), (794, 52637), (800, 52616), (817, 52577), (851, 52487), (856, 52469), (858, 52463), (868, 52448), (875, 52424), (877, 52409), (878, 52406), (881, 52394), (890, 52370), (895, 52349), (907, 52322), (912, 52298), (915, 52283),

Gene: U2\_43 Start: 34422, Stop: 32596, Start Num: 231

Candidate Starts for U2\_43:

(Start: 231 @34422 has 845 MA's), (332, 34209), (337, 34194), (367, 34146), (378, 34116), (388, 34095), (390, 34089), (392, 34080), (434, 33936), (487, 33843), (492, 33828), (541, 33744), (543, 33741), (575, 33675), (598, 33615), (616, 33570), (638, 33531), (700, 33351), (709, 33303), (720, 33264), (733, 33198), (742, 33159), (755, 33138), (760, 33117), (766, 33099), (786, 33033), (846, 32883), (847, 32880), (855, 32844), (868, 32820), (870, 32811), (874, 32799), (896, 32724), (906, 32703),

Gene: UAch1\_60 Start: 54265, Stop: 52406, Start Num: 196

Candidate Starts for UAch1\_60:

(Start: 175 @54289 has 1 MA's), (Start: 196 @54265 has 254 MA's), (Start: 221 @54241 has 2 MA's), (Start: 227 @54235 has 3 MA's), (246, 54193), (259, 54172), (307, 54058), (311, 54052), (326, 54022), (355, 53962), (366, 53941), (386, 53887), (391, 53875), (396, 53857), (398, 53845), (431, 53740), (454, 53683), (466, 53647), (471, 53635), (482, 53611), (486, 53599), (491, 53581), (499, 53563), (509, 53545), (533, 53506), (540, 53497), (542, 53494), (544, 53491), (695, 53134), (701, 53101), (706, 53080), (727, 52987), (730, 52978), (744, 52915), (760, 52879), (761, 52876), (766, 52861), (790, 52783), (794, 52771), (800, 52750), (817, 52711), (851, 52621), (856, 52603), (858, 52597), (868, 52582), (875, 52558), (877, 52543), (878, 52540), (881, 52528), (890, 52504), (907, 52456), (912, 52432),

Gene: Ugenie5\_42 Start: 31726, Stop: 29933, Start Num: 231

Candidate Starts for Ugenie5\_42:

(Start: 231 @31726 has 845 MA's), (236, 31717), (256, 31675), (316, 31555), (317, 31552), (334, 31504), (369, 31444), (379, 31414), (384, 31402), (390, 31390), (434, 31237), (487, 31144), (562, 31006), (575, 30976), (643, 30817), (652, 30805), (671, 30778), (697, 30670), (700, 30649), (730, 30514), (733, 30496), (760, 30415), (772, 30373), (796, 30298), (803, 30277), (832, 30223), (846, 30181), (877, 30079), (896, 30022), (902, 30010), (906, 30001),

Gene: UhSalsa\_36 Start: 28114, Stop: 26330, Start Num: 231

Candidate Starts for UhSalsa\_36:

(Start: 231 @28114 has 845 MA's), (345, 27880), (363, 27850), (366, 27841), (367, 27838), (384, 27793), (390, 27781), (403, 27730), (434, 27628), (450, 27607), (487, 27535), (505, 27490), (509, 27487), (535, 27445), (539, 27439), (549, 27424), (562, 27397), (603, 27292), (607, 27283), (616, 27265), (638, 27226), (673, 27169), (700, 27046), (709, 26998), (733, 26893), (734, 26890), (755,

26833), (760, 26812), (774, 26764), (798, 26689), (832, 26620), (846, 26578), (851, 26554), (877, 26476), (896, 26419), (902, 26407), (906, 26398), (913, 26368), (917, 26350),

Gene: Ulysses\_44 Start: 31247, Stop: 29421, Start Num: 231

Candidate Starts for Ulysses\_44:

(Start: 231 @31247 has 845 MA's), (240, 31226), (256, 31196), (274, 31166), (350, 31004), (360, 30986), (390, 30914), (392, 30905), (426, 30785), (434, 30761), (487, 30668), (511, 30620), (524, 30599), (549, 30560), (570, 30515), (573, 30509), (603, 30428), (613, 30407), (638, 30362), (643, 30350), (697, 30197), (700, 30176), (726, 30053), (733, 30023), (742, 29984), (760, 29918), (761, 29915), (766, 29900), (772, 29876), (780, 29852), (851, 29645), (896, 29510), (902, 29498), (906, 29489),

Gene: UncleHowie\_59 Start: 53736, Stop: 51877, Start Num: 196

Candidate Starts for UncleHowie\_59:

(Start: 175 @53760 has 1 MA's), (Start: 196 @53736 has 254 MA's), (Start: 221 @53712 has 2 MA's), (Start: 227 @53706 has 3 MA's), (246, 53664), (259, 53643), (307, 53529), (311, 53523), (326, 53493), (355, 53433), (366, 53412), (386, 53358), (391, 53346), (396, 53328), (398, 53316), (431, 53211), (454, 53154), (466, 53118), (471, 53106), (483, 53079), (491, 53052), (499, 53034), (509, 53016), (533, 52977), (540, 52968), (542, 52965), (544, 52962), (695, 52605), (701, 52572), (706, 52551), (727, 52458), (730, 52449), (744, 52386), (760, 52350), (761, 52347), (766, 52332), (790, 52254), (794, 52242), (800, 52221), (817, 52182), (851, 52092), (856, 52074), (858, 52068), (868, 52053), (875, 52029), (877, 52014), (878, 52011), (881, 51999), (890, 51975), (907, 51927), (912, 51903),

Gene: UnionJack\_39 Start: 29889, Stop: 28024, Start Num: 231

Candidate Starts for UnionJack\_39:

(Start: 231 @29889 has 845 MA's), (291, 29778), (329, 29685), (330, 29682), (367, 29613), (378, 29583), (390, 29556), (392, 29547), (415, 29454), (422, 29439), (434, 29403), (487, 29307), (505, 29262), (509, 29259), (524, 29235), (561, 29175), (594, 29097), (603, 29064), (610, 29049), (616, 29037), (668, 28938), (700, 28803), (708, 28773), (709, 28755), (711, 28752), (720, 28716), (722, 28707), (724, 28686), (727, 28677), (733, 28650), (734, 28647), (755, 28590), (760, 28569), (780, 28503), (796, 28452), (818, 28398), (823, 28389), (834, 28371), (851, 28311), (856, 28293), (890, 28200), (896, 28176), (902, 28164), (939, 28059),

Gene: Updawg\_45 Start: 31601, Stop: 29814, Start Num: 231

Candidate Starts for Updawg\_45:

(Start: 231 @31601 has 845 MA's), (329, 31397), (330, 31394), (332, 31388), (350, 31358), (367, 31325), (369, 31322), (378, 31295), (390, 31268), (403, 31217), (434, 31115), (487, 31022), (509, 30974), (513, 30965), (524, 30950), (562, 30884), (595, 30803), (613, 30755), (683, 30611), (700, 30530), (711, 30479), (719, 30446), (733, 30377), (742, 30338), (755, 30317), (760, 30296), (764, 30284), (832, 30104), (834, 30098), (846, 30062), (851, 30038), (877, 29960), (896, 29903), (902, 29891),

Gene: Upyo\_46 Start: 36456, Stop: 34090, Start Num: 18

Candidate Starts for Upyo\_46:

(1, 36705), (3, 36570), (7, 36546), (9, 36540), (10, 36528), (Start: 13 @36480 has 1 MA's), (Start: 18 @36456 has 1 MA's), (48, 36330), (62, 36273), (83, 36219), (93, 36183), (113, 36114), (116, 36108), (155, 36009), (296, 35775), (305, 35748), (360, 35640), (386, 35574), (393, 35559), (403, 35523), (431, 35439), (434, 35430), (454, 35382), (466, 35346), (471, 35334), (490, 35280), (503, 35250), (516, 35232), (523, 35223), (542, 35193), (579, 35115), (610, 35043), (687, 34869), (689, 34860), (695, 34836), (701, 34803), (717, 34746), (722, 34722), (727, 34692), (732, 34671), (757, 34593), (766, 34566), (785, 34503), (790, 34488), (794, 34476), (800, 34455), (840, 34356), (851, 34308), (855, 34293), (858, 34284), (877, 34230), (878, 34227), (890, 34191), (907, 34140), (912, 34116),



Gene: Usavi\_60 Start: 54404, Stop: 52545, Start Num: 196

Candidate Starts for Usavi\_60:

(Start: 175 @54428 has 1 MA's), (Start: 196 @54404 has 254 MA's), (Start: 221 @54380 has 2 MA's), (Start: 227 @54374 has 3 MA's), (246, 54332), (259, 54311), (307, 54197), (311, 54191), (326, 54161), (355, 54101), (366, 54080), (386, 54026), (391, 54014), (396, 53996), (398, 53984), (431, 53879), (454, 53822), (466, 53786), (471, 53774), (483, 53747), (491, 53720), (499, 53702), (509, 53684), (533, 53645), (540, 53636), (542, 53633), (668, 53375), (695, 53273), (701, 53240), (706, 53219), (727, 53126), (730, 53117), (744, 53054), (760, 53018), (761, 53015), (766, 53000), (790, 52922), (794, 52910), (800, 52889), (817, 52850), (851, 52760), (856, 52742), (858, 52736), (868, 52721), (875, 52697), (877, 52682), (878, 52679), (881, 52667), (890, 52643), (907, 52595), (912, 52571),

Gene: UtzChips\_47 Start: 31134, Stop: 32999, Start Num: 230

Candidate Starts for UtzChips\_47:

(153, 31014), (165, 31032), (Start: 230 @31134 has 8 MA's), (290, 31242), (544, 31830), (549, 31836), (613, 31989), (647, 32052), (700, 32247), (714, 32310), (724, 32364), (726, 32370), (734, 32403), (787, 32586), (896, 32895), (923, 32973), (934, 32994),

Gene: VA6\_43 Start: 31120, Stop: 29333, Start Num: 231

Candidate Starts for VA6\_43:

(Start: 231 @31120 has 845 MA's), (329, 30916), (330, 30913), (332, 30907), (337, 30892), (350, 30877), (367, 30844), (369, 30841), (378, 30814), (390, 30787), (395, 30766), (403, 30736), (434, 30634), (487, 30541), (490, 30532), (509, 30493), (513, 30484), (524, 30469), (562, 30403), (595, 30322), (613, 30274), (616, 30268), (683, 30130), (700, 30049), (711, 29998), (719, 29965), (720, 29962), (733, 29896), (742, 29857), (755, 29836), (775, 29761), (782, 29743), (796, 29698), (806, 29671), (823, 29635), (834, 29617), (846, 29581), (851, 29557), (873, 29500), (896, 29422), (902, 29410), (906, 29401),

Gene: VC3\_48 Start: 31569, Stop: 29770, Start Num: 231

Candidate Starts for VC3\_48:

(Start: 231 @31569 has 845 MA's), (329, 31365), (367, 31290), (369, 31287), (378, 31260), (384, 31245), (390, 31233), (403, 31182), (434, 31080), (487, 30987), (490, 30978), (509, 30939), (513, 30930), (562, 30849), (576, 30816), (589, 30789), (638, 30675), (652, 30651), (700, 30486), (709, 30438), (720, 30399), (726, 30363), (733, 30333), (742, 30294), (755, 30273), (786, 30168), (796, 30135), (823, 30072), (846, 30018), (851, 29994), (896, 29859), (902, 29847), (906, 29838),

Gene: VResidence\_41 Start: 29109, Stop: 31019, Start Num: 231

Candidate Starts for VResidence\_41:

(Start: 231 @29109 has 845 MA's), (254, 29157), (317, 29283), (348, 29340), (388, 29427), (406, 29496), (489, 29748), (492, 29757), (549, 29856), (558, 29871), (613, 30009), (674, 30147), (683, 30186), (700, 30267), (720, 30354), (726, 30390), (731, 30411), (733, 30420), (780, 30585), (783, 30594), (846, 30756), (856, 30798), (871, 30831), (896, 30915), (901, 30924), (929, 31002),

Gene: Vaishali24\_59 Start: 53939, Stop: 52080, Start Num: 196

Candidate Starts for Vaishali24\_59:

(42, 54335), (69, 54248), (73, 54233), (76, 54227), (82, 54212), (86, 54194), (Start: 175 @53963 has 1 MA's), (Start: 196 @53939 has 254 MA's), (Start: 221 @53915 has 2 MA's), (Start: 227 @53909 has 3 MA's), (246, 53867), (259, 53846), (307, 53732), (311, 53726), (326, 53696), (355, 53636), (366, 53615), (386, 53561), (391, 53549), (398, 53519), (431, 53414), (454, 53357), (466, 53321), (471, 53309), (483, 53282), (486, 53273), (499, 53237), (509, 53219), (533, 53180), (540, 53171), (542, 53168), (695, 52808), (701, 52775), (706, 52754), (727, 52661), (730, 52652), (744, 52589), (760, 52553), (761, 52550), (766, 52535), (790, 52457), (794, 52445), (800, 52424), (817, 52385), (851,

52295), (856, 52277), (858, 52271), (868, 52256), (875, 52232), (877, 52217), (878, 52214), (881, 52202), (890, 52178), (907, 52130), (912, 52106),

Gene: Valjean\_60 Start: 54261, Stop: 52402, Start Num: 196

Candidate Starts for Valjean\_60:

(Start: 175 @54285 has 1 MA's), (Start: 196 @54261 has 254 MA's), (Start: 221 @54237 has 2 MA's), (Start: 227 @54231 has 3 MA's), (246, 54189), (259, 54168), (307, 54054), (311, 54048), (326, 54018), (355, 53958), (366, 53937), (386, 53883), (391, 53871), (396, 53853), (398, 53841), (431, 53736), (454, 53679), (466, 53643), (471, 53631), (482, 53607), (486, 53595), (491, 53577), (499, 53559), (509, 53541), (533, 53502), (540, 53493), (542, 53490), (544, 53487), (695, 53130), (701, 53097), (706, 53076), (727, 52983), (730, 52974), (744, 52911), (760, 52875), (761, 52872), (766, 52857), (790, 52779), (794, 52767), (800, 52746), (817, 52707), (851, 52617), (856, 52599), (858, 52593), (868, 52578), (875, 52554), (877, 52539), (878, 52536), (881, 52524), (890, 52500), (907, 52452), (912, 52428),

Gene: Vanisoa\_44 Start: 32049, Stop: 30256, Start Num: 231

Candidate Starts for Vanisoa\_44:

(Start: 231 @32049 has 845 MA's), (236, 32040), (256, 31998), (316, 31878), (317, 31875), (329, 31845), (334, 31827), (367, 31770), (369, 31767), (379, 31737), (384, 31725), (390, 31713), (392, 31704), (403, 31662), (409, 31644), (433, 31563), (434, 31560), (487, 31467), (575, 31299), (611, 31203), (643, 31140), (671, 31101), (673, 31095), (700, 30972), (708, 30942), (716, 30906), (722, 30876), (733, 30819), (760, 30738), (796, 30621), (846, 30504), (851, 30480), (877, 30402), (896, 30345), (902, 30333), (906, 30324),

Gene: Vash\_34 Start: 26753, Stop: 28627, Start Num: 231

Candidate Starts for Vash\_34:

(Start: 231 @26753 has 845 MA's), (274, 26834), (329, 26954), (378, 27056), (379, 27059), (388, 27077), (392, 27092), (523, 27401), (541, 27431), (549, 27443), (560, 27461), (574, 27497), (603, 27575), (608, 27587), (613, 27596), (643, 27653), (645, 27656), (647, 27659), (691, 27803), (700, 27854), (709, 27905), (724, 27977), (726, 27983), (727, 27986), (731, 28004), (733, 28013), (741, 28079), (758, 28133), (793, 28247), (817, 28310), (820, 28316), (823, 28322), (841, 28358), (844, 28370), (855, 28418), (858, 28427), (871, 28454), (877, 28481), (896, 28538), (899, 28544), (906, 28559), (908, 28565),

Gene: Vaticameos\_57 Start: 52569, Stop: 50710, Start Num: 196

Candidate Starts for Vaticameos\_57:

(Start: 175 @52593 has 1 MA's), (Start: 196 @52569 has 254 MA's), (Start: 221 @52545 has 2 MA's), (Start: 227 @52539 has 3 MA's), (246, 52497), (259, 52476), (307, 52362), (311, 52356), (326, 52326), (355, 52266), (366, 52245), (386, 52191), (391, 52179), (396, 52161), (398, 52149), (431, 52044), (454, 51987), (466, 51951), (471, 51939), (483, 51912), (491, 51885), (499, 51867), (509, 51849), (533, 51810), (540, 51801), (542, 51798), (668, 51540), (695, 51438), (701, 51405), (706, 51384), (727, 51291), (730, 51282), (744, 51219), (760, 51183), (761, 51180), (766, 51165), (790, 51087), (794, 51075), (800, 51054), (817, 51015), (851, 50925), (856, 50907), (858, 50901), (868, 50886), (875, 50862), (877, 50847), (878, 50844), (881, 50832), (890, 50808), (907, 50760), (912, 50736),

Gene: Velene\_39 Start: 28935, Stop: 27070, Start Num: 267

Candidate Starts for Velene\_39:

(Start: 214 @29022 has 4 MA's), (Start: 216 @29019 has 7 MA's), (256, 28950), (Start: 267 @28935 has 137 MA's), (Start: 275 @28926 has 5 MA's), (321, 28821), (325, 28812), (338, 28782), (340, 28779), (395, 28659), (397, 28647), (400, 28641), (436, 28536), (445, 28509), (490, 28368), (494, 28359), (498, 28347), (513, 28320), (516, 28317), (525, 28302), (527, 28296), (530, 28290), (553, 28257), (634, 28068), (726, 27753), (729, 27744), (730, 27741), (733, 27723), (743, 27681), (745,

27675), (751, 27651), (768, 27594), (815, 27435), (827, 27405), (828, 27396), (847, 27336), (852, 27312), (863, 27273), (875, 27240), (876, 27228), (893, 27168),

Gene: Veracruz\_43 Start: 31597, Stop: 29759, Start Num: 231

Candidate Starts for Veracruz\_43:

(Start: 231 @31597 has 845 MA's), (256, 31546), (329, 31393), (367, 31321), (378, 31291), (390, 31264), (392, 31255), (434, 31111), (487, 31015), (511, 30967), (549, 30907), (590, 30820), (603, 30775), (613, 30754), (653, 30682), (673, 30640), (683, 30598), (700, 30517), (709, 30469), (720, 30430), (726, 30394), (733, 30364), (739, 30334), (761, 30253), (772, 30214), (780, 30190), (786, 30172), (787, 30169), (834, 30043), (851, 29983), (880, 29896), (896, 29848), (902, 29836), (906, 29827),

Gene: Veritas\_62 Start: 54399, Stop: 52540, Start Num: 196

Candidate Starts for Veritas\_62:

(Start: 175 @54423 has 1 MA's), (Start: 196 @54399 has 254 MA's), (Start: 221 @54375 has 2 MA's), (Start: 227 @54369 has 3 MA's), (246, 54327), (259, 54306), (307, 54192), (311, 54186), (326, 54156), (355, 54096), (366, 54075), (386, 54021), (391, 54009), (396, 53991), (398, 53979), (431, 53874), (454, 53817), (466, 53781), (471, 53769), (483, 53742), (499, 53697), (533, 53640), (540, 53631), (542, 53628), (695, 53268), (701, 53235), (706, 53214), (727, 53121), (730, 53112), (744, 53049), (760, 53013), (761, 53010), (766, 52995), (790, 52917), (794, 52905), (800, 52884), (817, 52845), (851, 52755), (856, 52737), (858, 52731), (868, 52716), (875, 52692), (877, 52677), (878, 52674), (881, 52662), (890, 52638), (907, 52590), (912, 52566), (915, 52551),

Gene: Vincenzo\_56 Start: 55146, Stop: 53320, Start Num: 182

Candidate Starts for Vincenzo\_56:

(Start: 182 @55146 has 24 MA's), (Start: 214 @55128 has 4 MA's), (246, 55077), (259, 55056), (326, 54918), (351, 54864), (375, 54810), (396, 54756), (405, 54726), (410, 54714), (412, 54711), (454, 54591), (466, 54555), (471, 54543), (483, 54516), (533, 54414), (542, 54402), (562, 54366), (575, 54336), (590, 54303), (610, 54255), (696, 54042), (701, 54015), (725, 53907), (727, 53901), (730, 53892), (732, 53880), (744, 53829), (758, 53802), (760, 53793), (761, 53790), (762, 53787), (766, 53775), (790, 53697), (794, 53685), (800, 53664), (803, 53655), (807, 53646), (851, 53535), (856, 53517), (858, 53511), (875, 53472), (877, 53457), (881, 53442), (886, 53430), (890, 53418), (907, 53370), (912, 53346),

Gene: Vine\_47 Start: 34669, Stop: 32288, Start Num: 43

Candidate Starts for Vine\_47:

(Start: 43 @34669 has 11 MA's), (58, 34609), (79, 34567), (91, 34528), (127, 34408), (135, 34387), (159, 34363), (Start: 208 @34285 has 3 MA's), (Start: 212 @34279 has 1 MA's), (Start: 214 @34276 has 4 MA's), (237, 34246), (258, 34198), (278, 34171), (280, 34168), (303, 34111), (321, 34072), (331, 34051), (352, 34009), (365, 33985), (369, 33976), (370, 33970), (371, 33964), (384, 33931), (393, 33910), (397, 33889), (463, 33706), (490, 33631), (519, 33589), (576, 33502), (596, 33478), (603, 33454), (607, 33445), (617, 33424), (640, 33373), (642, 33370), (649, 33355), (659, 33334), (693, 33208), (703, 33160), (705, 33151), (714, 33109), (733, 33016), (741, 32980), (743, 32974), (745, 32968), (746, 32962), (761, 32905), (768, 32881), (795, 32776), (796, 32773), (830, 32680), (836, 32662), (847, 32623), (857, 32581), (865, 32557), (875, 32527), (886, 32479), (893, 32455), (908, 32410), (925, 32344), (934, 32323), (936, 32317), (940, 32311),

Gene: Violet\_42 Start: 34578, Stop: 32752, Start Num: 231

Candidate Starts for Violet\_42:

(Start: 231 @34578 has 845 MA's), (332, 34365), (367, 34302), (378, 34272), (388, 34251), (390, 34245), (392, 34236), (425, 34119), (434, 34092), (487, 33999), (492, 33984), (541, 33900), (543, 33897), (575, 33831), (598, 33771), (616, 33726), (638, 33687), (700, 33507), (709, 33459), (720, 33420), (733, 33354), (739, 33324), (742, 33315), (755, 33294), (760, 33273), (766, 33255), (786,

33189), (846, 33039), (847, 33036), (855, 33000), (868, 32976), (870, 32967), (874, 32955), (896, 32880), (906, 32859),

Gene: VioletZ\_55 Start: 54089, Stop: 52266, Start Num: 182

Candidate Starts for VioletZ\_55:

(Start: 169 @54107 has 3 MA's), (Start: 182 @54089 has 24 MA's), (Start: 227 @54065 has 3 MA's), (240, 54038), (246, 54023), (259, 54002), (301, 53915), (351, 53810), (366, 53783), (371, 53768), (396, 53702), (405, 53672), (407, 53663), (410, 53660), (412, 53657), (417, 53630), (454, 53537), (461, 53519), (466, 53501), (471, 53489), (483, 53462), (509, 53399), (540, 53351), (542, 53348), (561, 53318), (575, 53282), (681, 53057), (682, 53054), (689, 53018), (695, 52994), (701, 52961), (725, 52853), (727, 52847), (730, 52838), (760, 52739), (761, 52736), (766, 52721), (790, 52643), (794, 52631), (800, 52610), (803, 52601), (817, 52571), (834, 52541), (844, 52514), (851, 52481), (858, 52457), (875, 52418), (878, 52400), (881, 52388), (890, 52364), (904, 52322), (907, 52316), (912, 52292),

Gene: Virapocalypse\_61 Start: 54360, Stop: 52501, Start Num: 196

Candidate Starts for Virapocalypse\_61:

(Start: 175 @54384 has 1 MA's), (Start: 196 @54360 has 254 MA's), (Start: 221 @54336 has 2 MA's), (Start: 227 @54330 has 3 MA's), (246, 54288), (259, 54267), (307, 54153), (311, 54147), (326, 54117), (355, 54057), (366, 54036), (386, 53982), (391, 53970), (396, 53952), (398, 53940), (431, 53835), (454, 53778), (466, 53742), (471, 53730), (482, 53706), (486, 53694), (491, 53676), (499, 53658), (509, 53640), (533, 53601), (540, 53592), (542, 53589), (544, 53586), (695, 53229), (701, 53196), (706, 53175), (727, 53082), (730, 53073), (744, 53010), (760, 52974), (761, 52971), (766, 52956), (790, 52878), (794, 52866), (800, 52845), (817, 52806), (851, 52716), (856, 52698), (858, 52692), (868, 52677), (875, 52653), (877, 52638), (878, 52635), (881, 52623), (890, 52599), (907, 52551), (912, 52527),

Gene: Virgeve\_60 Start: 53997, Stop: 52138, Start Num: 196

Candidate Starts for Virgeve\_60:

(Start: 175 @54021 has 1 MA's), (Start: 196 @53997 has 254 MA's), (Start: 221 @53973 has 2 MA's), (Start: 227 @53967 has 3 MA's), (246, 53925), (259, 53904), (307, 53790), (311, 53784), (326, 53754), (355, 53694), (366, 53673), (386, 53619), (391, 53607), (396, 53589), (398, 53577), (431, 53472), (454, 53415), (466, 53379), (471, 53367), (482, 53343), (486, 53331), (491, 53313), (499, 53295), (509, 53277), (533, 53238), (540, 53229), (542, 53226), (544, 53223), (695, 52866), (701, 52833), (706, 52812), (727, 52719), (730, 52710), (744, 52647), (760, 52611), (761, 52608), (766, 52593), (790, 52515), (794, 52503), (800, 52482), (817, 52443), (851, 52353), (856, 52335), (858, 52329), (868, 52314), (875, 52290), (877, 52275), (878, 52272), (881, 52260), (890, 52236), (907, 52188), (912, 52164),

Gene: Vispitious\_39 Start: 28937, Stop: 27072, Start Num: 267

Candidate Starts for Vispitious\_39:

(Start: 214 @29024 has 4 MA's), (Start: 216 @29021 has 7 MA's), (Start: 267 @28937 has 137 MA's), (Start: 275 @28928 has 5 MA's), (321, 28823), (325, 28814), (338, 28784), (340, 28781), (395, 28661), (397, 28649), (400, 28643), (436, 28538), (445, 28511), (490, 28370), (492, 28364), (494, 28361), (498, 28349), (513, 28322), (516, 28319), (525, 28304), (527, 28298), (530, 28292), (553, 28259), (612, 28130), (634, 28070), (666, 27995), (726, 27755), (729, 27746), (730, 27743), (733, 27725), (743, 27683), (745, 27677), (747, 27668), (751, 27653), (768, 27596), (815, 27437), (827, 27407), (828, 27398), (847, 27338), (852, 27314), (863, 27275), (875, 27242), (876, 27230), (893, 27170),

Gene: Vista\_60 Start: 54037, Stop: 52178, Start Num: 196

Candidate Starts for Vista\_60:

(Start: 175 @54061 has 1 MA's), (Start: 196 @54037 has 254 MA's), (Start: 221 @54013 has 2 MA's), (Start: 227 @54007 has 3 MA's), (246, 53965), (259, 53944), (307, 53830), (311, 53824), (326, 53794), (355, 53734), (366, 53713), (386, 53659), (391, 53647), (396, 53629), (398, 53617), (431, 53512), (454, 53455), (466, 53419), (471, 53407), (483, 53380), (491, 53353), (499, 53335), (509, 53317), (533, 53278), (540, 53269), (542, 53266), (695, 52906), (701, 52873), (706, 52852), (727, 52759), (730, 52750), (744, 52687), (760, 52651), (761, 52648), (766, 52633), (790, 52555), (794, 52543), (800, 52522), (817, 52483), (851, 52393), (856, 52375), (858, 52369), (868, 52354), (875, 52330), (877, 52315), (878, 52312), (881, 52300), (890, 52276), (907, 52228), (912, 52204),

Gene: Vitas\_40 Start: 27434, Stop: 29302, Start Num: 220

Candidate Starts for Vitas\_40:

(Start: 220 @27434 has 7 MA's), (Start: 222 @27437 has 57 MA's), (225, 27440), (Start: 266 @27509 has 4 MA's), (396, 27791), (403, 27818), (422, 27872), (502, 28037), (549, 28112), (561, 28133), (688, 28487), (700, 28547), (711, 28598), (724, 28664), (733, 28700), (759, 28793), (816, 28964), (846, 29036), (873, 29117), (895, 29192), (896, 29195), (906, 29216), (930, 29285),

Gene: Vivaldi\_62 Start: 54495, Stop: 52636, Start Num: 196

Candidate Starts for Vivaldi\_62:

(Start: 175 @54519 has 1 MA's), (Start: 196 @54495 has 254 MA's), (Start: 221 @54471 has 2 MA's), (Start: 227 @54465 has 3 MA's), (246, 54423), (259, 54402), (307, 54288), (311, 54282), (326, 54252), (355, 54192), (366, 54171), (386, 54117), (391, 54105), (396, 54087), (398, 54075), (431, 53970), (454, 53913), (466, 53877), (471, 53865), (482, 53841), (486, 53829), (491, 53811), (499, 53793), (509, 53775), (533, 53736), (540, 53727), (542, 53724), (544, 53721), (695, 53364), (701, 53331), (706, 53310), (727, 53217), (730, 53208), (744, 53145), (760, 53109), (761, 53106), (766, 53091), (790, 53013), (794, 53001), (800, 52980), (817, 52941), (851, 52851), (856, 52833), (858, 52827), (868, 52812), (875, 52788), (877, 52773), (878, 52770), (881, 52758), (890, 52734), (907, 52686), (912, 52662),

Gene: Vix\_48 Start: 31935, Stop: 30121, Start Num: 231

Candidate Starts for Vix\_48:

(Start: 231 @31935 has 845 MA's), (248, 31896), (256, 31884), (329, 31731), (333, 31716), (367, 31659), (390, 31602), (392, 31593), (403, 31551), (415, 31500), (434, 31449), (487, 31356), (509, 31308), (513, 31299), (524, 31284), (549, 31245), (562, 31218), (575, 31188), (610, 31095), (641, 31035), (652, 31020), (700, 30864), (720, 30777), (733, 30711), (742, 30672), (761, 30600), (772, 30561), (780, 30537), (786, 30519), (796, 30486), (806, 30459), (834, 30405), (851, 30345), (877, 30267), (896, 30210), (902, 30198), (906, 30189),

Gene: VohminGhazi\_45 Start: 29628, Stop: 27787, Start Num: 231

Candidate Starts for VohminGhazi\_45:

(Start: 231 @29628 has 845 MA's), (329, 29424), (367, 29349), (369, 29346), (378, 29319), (384, 29304), (390, 29292), (403, 29241), (430, 29151), (434, 29139), (487, 29046), (502, 29007), (513, 28989), (524, 28974), (562, 28908), (576, 28875), (577, 28872), (619, 28770), (652, 28710), (683, 28626), (700, 28545), (719, 28461), (720, 28458), (722, 28449), (726, 28422), (733, 28392), (755, 28332), (766, 28293), (846, 28077), (847, 28074), (851, 28053), (896, 27918), (902, 27906), (906, 27897), (907, 27894), (939, 27801),

Gene: Vortex\_60 Start: 54019, Stop: 52160, Start Num: 196

Candidate Starts for Vortex\_60:

(Start: 175 @54043 has 1 MA's), (Start: 196 @54019 has 254 MA's), (Start: 221 @53995 has 2 MA's), (Start: 227 @53989 has 3 MA's), (246, 53947), (259, 53926), (307, 53812), (311, 53806), (326, 53776), (355, 53716), (366, 53695), (386, 53641), (391, 53629), (396, 53611), (398, 53599), (431, 53494), (454, 53437), (466, 53401), (471, 53389), (483, 53362), (499, 53317), (533, 53260), (540, 53251), (542, 53248), (695, 52888), (701, 52855), (706, 52834), (727, 52741), (730, 52732), (744,

52669), (760, 52633), (761, 52630), (766, 52615), (790, 52537), (794, 52525), (800, 52504), (817, 52465), (851, 52375), (856, 52357), (858, 52351), (868, 52336), (875, 52312), (877, 52297), (878, 52294), (881, 52282), (890, 52258), (907, 52210), (912, 52186),

Gene: VroomVroom\_45 Start: 30595, Stop: 32457, Start Num: 231

Candidate Starts for VroomVroom\_45:

(Start: 231 @30595 has 845 MA's), (254, 30643), (367, 30862), (400, 30958), (483, 31165), (549, 31294), (576, 31354), (595, 31399), (613, 31447), (655, 31531), (700, 31705), (708, 31735), (724, 31822), (726, 31828), (759, 31951), (761, 31960), (793, 32062), (851, 32218), (858, 32242), (896, 32353),

Gene: Waits\_47 Start: 29831, Stop: 28041, Start Num: 231

Candidate Starts for Waits\_47:

(Start: 231 @29831 has 845 MA's), (367, 29552), (369, 29549), (378, 29522), (390, 29495), (403, 29444), (434, 29342), (487, 29249), (502, 29210), (513, 29192), (603, 29003), (638, 28937), (674, 28877), (683, 28838), (695, 28787), (697, 28778), (700, 28757), (711, 28706), (719, 28673), (724, 28640), (726, 28634), (733, 28604), (755, 28544), (760, 28523), (772, 28481), (781, 28454), (818, 28352), (846, 28289), (847, 28286), (896, 28130), (902, 28118), (907, 28106),

Gene: Waleliano\_53 Start: 54042, Stop: 52219, Start Num: 182

Candidate Starts for Waleliano\_53:

(Start: 169 @54060 has 3 MA's), (Start: 182 @54042 has 24 MA's), (Start: 227 @54018 has 3 MA's), (240, 53991), (246, 53976), (259, 53955), (301, 53868), (351, 53763), (366, 53736), (371, 53721), (396, 53655), (405, 53625), (407, 53616), (410, 53613), (412, 53610), (417, 53583), (454, 53490), (461, 53472), (466, 53454), (471, 53442), (483, 53415), (509, 53352), (533, 53313), (540, 53304), (542, 53301), (561, 53271), (575, 53235), (681, 53010), (682, 53007), (689, 52971), (695, 52947), (701, 52914), (725, 52806), (727, 52800), (730, 52791), (760, 52692), (761, 52689), (766, 52674), (790, 52596), (794, 52584), (800, 52563), (803, 52554), (817, 52524), (844, 52467), (851, 52434), (858, 52410), (875, 52371), (878, 52353), (881, 52341), (890, 52317), (904, 52275), (907, 52269), (912, 52245),

Gene: Wallhey\_61 Start: 54135, Stop: 52276, Start Num: 196

Candidate Starts for Wallhey\_61:

(Start: 175 @54159 has 1 MA's), (Start: 196 @54135 has 254 MA's), (Start: 221 @54111 has 2 MA's), (Start: 227 @54105 has 3 MA's), (246, 54063), (259, 54042), (307, 53928), (311, 53922), (326, 53892), (355, 53832), (366, 53811), (386, 53757), (391, 53745), (396, 53727), (398, 53715), (431, 53610), (454, 53553), (466, 53517), (471, 53505), (483, 53478), (499, 53433), (533, 53376), (540, 53367), (542, 53364), (668, 53106), (695, 53004), (701, 52971), (706, 52950), (727, 52857), (730, 52848), (744, 52785), (760, 52749), (761, 52746), (766, 52731), (790, 52653), (794, 52641), (800, 52620), (817, 52581), (851, 52491), (856, 52473), (858, 52467), (868, 52452), (875, 52428), (877, 52413), (878, 52410), (881, 52398), (890, 52374), (895, 52353), (907, 52326), (912, 52302), (915, 52287),

Gene: WalterMcMickey\_42 Start: 31053, Stop: 29218, Start Num: 231

Candidate Starts for WalterMcMickey\_42:

(Start: 231 @31053 has 845 MA's), (256, 31002), (292, 30936), (329, 30849), (337, 30825), (363, 30789), (367, 30777), (390, 30720), (392, 30711), (413, 30627), (426, 30591), (430, 30579), (434, 30567), (487, 30474), (511, 30426), (549, 30366), (562, 30339), (602, 30237), (603, 30234), (613, 30213), (616, 30207), (673, 30099), (700, 29976), (709, 29928), (726, 29853), (733, 29823), (739, 29793), (742, 29784), (760, 29715), (761, 29712), (772, 29673), (780, 29649), (782, 29643), (786, 29631), (851, 29442), (858, 29418), (880, 29355), (896, 29307), (902, 29295), (906, 29286),

Gene: Wander\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Wander\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: Warda\_41 Start: 29679, Stop: 31544, Start Num: 231

Candidate Starts for Warda\_41:

(Start: 231 @29679 has 845 MA's), (254, 29727), (378, 29976), (406, 30066), (489, 30273), (492, 30282), (542, 30372), (549, 30381), (558, 30396), (576, 30441), (595, 30486), (613, 30534), (643, 30591), (674, 30672), (700, 30792), (708, 30822), (720, 30879), (731, 30936), (733, 30945), (820, 31218), (846, 31281), (890, 31416), (896, 31440), (901, 31449),

Gene: Waterdiva\_60 Start: 54398, Stop: 52539, Start Num: 196

Candidate Starts for Waterdiva\_60:

(Start: 175 @54422 has 1 MA's), (Start: 196 @54398 has 254 MA's), (Start: 221 @54374 has 2 MA's), (Start: 227 @54368 has 3 MA's), (246, 54326), (259, 54305), (307, 54191), (311, 54185), (326, 54155), (355, 54095), (366, 54074), (386, 54020), (391, 54008), (396, 53990), (398, 53978), (431, 53873), (454, 53816), (466, 53780), (471, 53768), (483, 53741), (491, 53714), (499, 53696), (509, 53678), (533, 53639), (540, 53630), (542, 53627), (668, 53369), (695, 53267), (701, 53234), (706, 53213), (727, 53120), (730, 53111), (744, 53048), (760, 53012), (761, 53009), (766, 52994), (790, 52916), (794, 52904), (800, 52883), (817, 52844), (851, 52754), (856, 52736), (858, 52730), (868, 52715), (875, 52691), (877, 52676), (878, 52673), (881, 52661), (890, 52637), (907, 52589), (912, 52565),

Gene: Watermelon\_46 Start: 35165, Stop: 33339, Start Num: 231

Candidate Starts for Watermelon\_46:

(Start: 231 @35165 has 845 MA's), (332, 34952), (337, 34937), (378, 34859), (388, 34838), (390, 34832), (392, 34823), (425, 34706), (434, 34679), (487, 34586), (492, 34571), (541, 34487), (543, 34484), (575, 34418), (589, 34388), (598, 34358), (616, 34313), (638, 34274), (700, 34094), (709, 34046), (720, 34007), (733, 33941), (760, 33860), (761, 33857), (786, 33776), (846, 33626), (847, 33623), (855, 33587), (868, 33563), (870, 33554), (874, 33542), (896, 33467), (906, 33446),

Gene: Watson\_48 Start: 31845, Stop: 30031, Start Num: 231

Candidate Starts for Watson\_48:

(Start: 231 @31845 has 845 MA's), (248, 31806), (256, 31794), (329, 31641), (333, 31626), (367, 31569), (390, 31512), (392, 31503), (403, 31461), (415, 31410), (434, 31359), (487, 31266), (509, 31218), (513, 31209), (524, 31194), (549, 31155), (562, 31128), (575, 31098), (610, 31005), (616, 30993), (641, 30945), (652, 30930), (700, 30774), (720, 30687), (733, 30621), (742, 30582), (761, 30510), (772, 30471), (780, 30447), (786, 30429), (796, 30396), (806, 30369), (834, 30315), (851, 30255), (877, 30177), (896, 30120), (902, 30108), (906, 30099),

Gene: Weher20\_60 Start: 54841, Stop: 52982, Start Num: 196

Candidate Starts for Weher20\_60:

(Start: 175 @54865 has 1 MA's), (Start: 196 @54841 has 254 MA's), (Start: 221 @54817 has 2 MA's), (Start: 227 @54811 has 3 MA's), (246, 54769), (259, 54748), (307, 54634), (311, 54628), (326, 54598), (355, 54538), (366, 54517), (386, 54463), (391, 54451), (396, 54433), (398, 54421), (431, 54316), (454, 54259), (466, 54223), (471, 54211), (482, 54187), (486, 54175), (491, 54157), (499, 54139), (509, 54121), (533, 54082), (540, 54073), (542, 54070), (544, 54067), (695, 53710), (701, 53677), (706, 53656), (727, 53563), (730, 53554), (744, 53491), (760, 53455), (761, 53452), (766, 53437), (790, 53359), (794, 53347), (800, 53326), (817, 53287), (851, 53197), (856, 53179), (858, 53173), (868, 53158), (875, 53134), (877, 53119), (878, 53116), (881, 53104), (890, 53080), (907,

53032), (912, 53008),

Gene: WeiHuaDA\_48 Start: 32697, Stop: 30910, Start Num: 231

Candidate Starts for WeiHuaDA\_48:

(Start: 231 @32697 has 845 MA's), (330, 32490), (332, 32484), (350, 32454), (366, 32424), (369, 32418), (378, 32391), (390, 32364), (395, 32343), (403, 32313), (430, 32223), (434, 32211), (487, 32118), (509, 32070), (513, 32061), (524, 32046), (562, 31980), (595, 31899), (613, 31851), (700, 31626), (711, 31575), (719, 31542), (720, 31539), (733, 31473), (742, 31434), (755, 31413), (775, 31338), (780, 31326), (782, 31320), (823, 31212), (846, 31158), (851, 31134), (873, 31077), (877, 31056), (896, 30999), (902, 30987), (907, 30975),

Gene: West99\_57 Start: 52637, Stop: 50808, Start Num: 188

Candidate Starts for West99\_57:

(Start: 188 @52637 has 31 MA's), (Start: 227 @52610 has 3 MA's), (242, 52580), (246, 52568), (264, 52541), (Start: 266 @52538 has 4 MA's), (274, 52529), (291, 52511), (330, 52415), (355, 52364), (367, 52340), (417, 52178), (424, 52163), (427, 52154), (431, 52142), (454, 52085), (466, 52049), (471, 52037), (482, 52013), (522, 51929), (540, 51899), (542, 51896), (561, 51866), (624, 51722), (652, 51656), (678, 51617), (681, 51605), (684, 51584), (689, 51566), (701, 51509), (722, 51425), (727, 51395), (730, 51386), (744, 51320), (758, 51293), (760, 51284), (766, 51266), (772, 51242), (790, 51188), (794, 51176), (800, 51155), (834, 51086), (851, 51026), (856, 51008), (871, 50975), (875, 50963), (877, 50948), (878, 50945), (881, 50933), (890, 50909), (891, 50906), (907, 50858), (908, 50855), (912, 50834), (917, 50813),

Gene: WestPM\_35 Start: 27173, Stop: 25272, Start Num: 266

Candidate Starts for WestPM\_35:

(Start: 266 @27173 has 4 MA's), (325, 27050), (338, 27020), (342, 27014), (367, 26972), (370, 26963), (393, 26906), (395, 26897), (397, 26885), (400, 26879), (467, 26678), (490, 26603), (494, 26594), (498, 26582), (516, 26552), (527, 26531), (534, 26519), (551, 26495), (622, 26345), (690, 26138), (699, 26084), (722, 25982), (724, 25961), (733, 25925), (741, 25889), (743, 25883), (768, 25796), (775, 25769), (815, 25637), (828, 25598), (836, 25577), (847, 25538), (852, 25514), (854, 25508), (862, 25481), (893, 25370),

Gene: Whabigail7\_45 Start: 31605, Stop: 29818, Start Num: 231

Candidate Starts for Whabigail7\_45:

(156, 31692), (Start: 231 @31605 has 845 MA's), (330, 31398), (332, 31392), (337, 31377), (350, 31362), (369, 31326), (378, 31299), (390, 31272), (395, 31251), (434, 31119), (487, 31026), (509, 30978), (513, 30969), (524, 30954), (562, 30888), (595, 30807), (613, 30759), (616, 30753), (652, 30690), (700, 30534), (711, 30483), (719, 30450), (720, 30447), (733, 30381), (742, 30342), (755, 30321), (775, 30246), (780, 30234), (796, 30183), (823, 30120), (834, 30102), (846, 30066), (851, 30042), (877, 29964), (896, 29907), (902, 29895), (906, 29886),

Gene: Wheeler\_45 Start: 34873, Stop: 33047, Start Num: 231

Candidate Starts for Wheeler\_45:

(Start: 231 @34873 has 845 MA's), (332, 34660), (337, 34645), (367, 34597), (378, 34567), (388, 34546), (390, 34540), (392, 34531), (425, 34414), (434, 34387), (487, 34294), (492, 34279), (509, 34246), (541, 34195), (543, 34192), (575, 34126), (589, 34096), (598, 34066), (616, 34021), (638, 33982), (700, 33802), (708, 33772), (709, 33754), (711, 33751), (720, 33715), (733, 33649), (760, 33568), (761, 33565), (786, 33484), (846, 33334), (847, 33331), (855, 33295), (868, 33271), (870, 33262), (874, 33250), (896, 33175), (906, 33154),

Gene: WideWale\_45 Start: 31601, Stop: 29814, Start Num: 231

Candidate Starts for WideWale\_45:



(Start: 231 @31601 has 845 MA's), (329, 31397), (330, 31394), (332, 31388), (350, 31358), (367, 31325), (369, 31322), (378, 31295), (390, 31268), (403, 31217), (434, 31115), (487, 31022), (509, 30974), (513, 30965), (524, 30950), (562, 30884), (595, 30803), (613, 30755), (683, 30611), (700, 30530), (711, 30479), (719, 30446), (733, 30377), (742, 30338), (755, 30317), (760, 30296), (764, 30284), (832, 30104), (834, 30098), (846, 30062), (851, 30038), (877, 29960), (896, 29903), (902, 29891),

Gene: Widow\_43 Start: 35284, Stop: 32969, Start Num: 4

Candidate Starts for Widow\_43:

(Start: 4 @35284 has 5 MA's), (5, 35275), (23, 35179), (29, 35149), (48, 35083), (144, 34924), (Start: 161 @34894 has 1 MA's), (168, 34882), (205, 34828), (218, 34807), (274, 34708), (291, 34687), (304, 34642), (328, 34594), (403, 34411), (424, 34348), (431, 34327), (434, 34318), (466, 34237), (471, 34225), (490, 34171), (503, 34141), (523, 34114), (540, 34087), (542, 34084), (544, 34081), (610, 33934), (645, 33850), (676, 33799), (684, 33760), (687, 33751), (689, 33742), (701, 33685), (722, 33604), (727, 33574), (752, 33484), (757, 33472), (766, 33445), (790, 33367), (794, 33355), (803, 33325), (840, 33235), (844, 33220), (851, 33187), (877, 33109), (878, 33106), (886, 33082), (890, 33070), (907, 33019), (912, 32995),

Gene: Wiks\_44 Start: 29422, Stop: 27581, Start Num: 231

Candidate Starts for Wiks\_44:

(Start: 210 @29452 has 1 MA's), (Start: 231 @29422 has 845 MA's), (329, 29218), (367, 29143), (369, 29140), (378, 29113), (384, 29098), (390, 29086), (403, 29035), (430, 28945), (434, 28933), (487, 28840), (502, 28801), (513, 28783), (524, 28768), (562, 28702), (576, 28669), (577, 28666), (619, 28564), (652, 28504), (683, 28420), (700, 28339), (719, 28255), (720, 28252), (722, 28243), (726, 28216), (733, 28186), (755, 28126), (766, 28087), (846, 27871), (847, 27868), (851, 27847), (896, 27712), (902, 27700), (906, 27691), (907, 27688), (939, 27595),

Gene: Wilbur\_45 Start: 31567, Stop: 29741, Start Num: 231

Candidate Starts for Wilbur\_45:

(Start: 231 @31567 has 845 MA's), (240, 31546), (256, 31516), (274, 31486), (350, 31324), (360, 31306), (390, 31234), (392, 31225), (426, 31105), (434, 31081), (487, 30988), (511, 30940), (524, 30919), (549, 30880), (603, 30748), (613, 30727), (638, 30682), (643, 30670), (697, 30517), (700, 30496), (726, 30373), (733, 30343), (742, 30304), (760, 30238), (761, 30235), (766, 30220), (772, 30196), (780, 30172), (851, 29965), (896, 29830), (902, 29818), (906, 29809),

Gene: WildNOut\_39 Start: 28934, Stop: 27069, Start Num: 267

Candidate Starts for WildNOut\_39:

(Start: 267 @28934 has 137 MA's), (Start: 275 @28925 has 5 MA's), (321, 28820), (325, 28811), (338, 28781), (340, 28778), (395, 28658), (397, 28646), (400, 28640), (436, 28535), (445, 28508), (490, 28367), (492, 28361), (494, 28358), (498, 28346), (513, 28319), (516, 28316), (525, 28301), (527, 28295), (530, 28289), (553, 28256), (612, 28127), (634, 28067), (666, 27992), (726, 27752), (729, 27743), (730, 27740), (733, 27722), (743, 27680), (745, 27674), (747, 27665), (751, 27650), (768, 27593), (815, 27434), (827, 27404), (828, 27395), (847, 27335), (852, 27311), (863, 27272), (875, 27239), (876, 27227), (893, 27167),

Gene: Wildwest\_40 Start: 29139, Stop: 30983, Start Num: 231

Candidate Starts for Wildwest\_40:

(120, 28944), (149, 29022), (168, 29052), (Start: 231 @29139 has 845 MA's), (317, 29313), (329, 29343), (348, 29370), (378, 29436), (406, 29526), (489, 29712), (492, 29721), (505, 29751), (549, 29820), (558, 29835), (613, 29973), (674, 30111), (700, 30231), (720, 30318), (731, 30375), (733, 30384), (780, 30549), (846, 30720), (896, 30879), (901, 30888), (906, 30900),

Gene: Wile\_44 Start: 31553, Stop: 29724, Start Num: 231

Candidate Starts for Wile\_44:

(Start: 231 @31553 has 845 MA's), (256, 31502), (274, 31472), (350, 31310), (360, 31292), (367, 31277), (390, 31220), (392, 31211), (426, 31091), (434, 31067), (468, 31025), (487, 30974), (511, 30926), (524, 30905), (549, 30866), (570, 30821), (573, 30815), (603, 30734), (613, 30713), (638, 30668), (697, 30503), (700, 30482), (733, 30329), (742, 30290), (761, 30218), (766, 30203), (772, 30179), (777, 30161), (780, 30155), (782, 30149), (851, 29948), (896, 29813), (902, 29801), (906, 29792),

Gene: Wilkins\_44 Start: 34221, Stop: 32395, Start Num: 231

Candidate Starts for Wilkins\_44:

(Start: 231 @34221 has 845 MA's), (332, 34008), (337, 33993), (367, 33945), (378, 33915), (388, 33894), (390, 33888), (392, 33879), (425, 33762), (434, 33735), (487, 33642), (492, 33627), (541, 33543), (543, 33540), (575, 33474), (589, 33444), (598, 33414), (616, 33369), (638, 33330), (700, 33150), (709, 33102), (720, 33063), (733, 32997), (742, 32958), (755, 32937), (760, 32916), (766, 32898), (786, 32832), (846, 32682), (847, 32679), (855, 32643), (868, 32619), (870, 32610), (874, 32598), (889, 32550), (896, 32523), (906, 32502),

Gene: WilliamStrong\_38 Start: 28667, Stop: 26775, Start Num: 267

Candidate Starts for WilliamStrong\_38:

(Start: 267 @28667 has 137 MA's), (Start: 275 @28658 has 5 MA's), (314, 28571), (332, 28532), (338, 28517), (342, 28511), (370, 28460), (397, 28382), (400, 28376), (430, 28286), (476, 28154), (490, 28100), (494, 28091), (498, 28079), (516, 28049), (527, 28028), (530, 28022), (534, 28016), (536, 28013), (612, 27866), (633, 27821), (634, 27806), (677, 27695), (690, 27641), (693, 27629), (730, 27446), (733, 27428), (743, 27386), (751, 27356), (758, 27335), (768, 27299), (785, 27227), (815, 27140), (828, 27101), (847, 27041), (852, 27017), (868, 26969), (875, 26945), (893, 26873),

Gene: Windsor\_60 Start: 54584, Stop: 52725, Start Num: 196

Candidate Starts for Windsor\_60:

(Start: 175 @54608 has 1 MA's), (Start: 196 @54584 has 254 MA's), (Start: 221 @54560 has 2 MA's), (Start: 227 @54554 has 3 MA's), (246, 54512), (259, 54491), (307, 54377), (311, 54371), (326, 54341), (355, 54281), (366, 54260), (386, 54206), (391, 54194), (396, 54176), (398, 54164), (431, 54059), (454, 54002), (466, 53966), (471, 53954), (482, 53930), (486, 53918), (491, 53900), (499, 53882), (509, 53864), (533, 53825), (540, 53816), (542, 53813), (544, 53810), (695, 53453), (701, 53420), (706, 53399), (727, 53306), (730, 53297), (744, 53234), (760, 53198), (761, 53195), (766, 53180), (790, 53102), (794, 53090), (800, 53069), (817, 53030), (851, 52940), (856, 52922), (858, 52916), (868, 52901), (875, 52877), (877, 52862), (878, 52859), (881, 52847), (890, 52823), (907, 52775), (912, 52751),

Gene: Winzigespinne\_38 Start: 28618, Stop: 26753, Start Num: 267

Candidate Starts for Winzigespinne\_38:

(Start: 214 @28705 has 4 MA's), (Start: 267 @28618 has 137 MA's), (Start: 275 @28609 has 5 MA's), (321, 28504), (325, 28495), (338, 28465), (340, 28462), (395, 28342), (397, 28330), (400, 28324), (436, 28219), (445, 28192), (490, 28051), (492, 28045), (494, 28042), (498, 28030), (513, 28003), (516, 28000), (525, 27985), (527, 27979), (530, 27973), (553, 27940), (634, 27751), (726, 27436), (729, 27427), (730, 27424), (733, 27406), (743, 27364), (745, 27358), (751, 27334), (768, 27277), (815, 27118), (827, 27088), (828, 27079), (847, 27019), (852, 26995), (863, 26956), (875, 26923), (876, 26911), (893, 26851),

Gene: Wizard007\_45 Start: 31575, Stop: 29749, Start Num: 231

Candidate Starts for Wizard007\_45:

(Start: 231 @31575 has 845 MA's), (240, 31554), (256, 31524), (274, 31494), (350, 31332), (360, 31314), (390, 31242), (392, 31233), (426, 31113), (434, 31089), (487, 30996), (511, 30948), (524, 30927), (549, 30888), (603, 30756), (613, 30735), (638, 30690), (643, 30678), (697, 30525), (700,

30504), (726, 30381), (733, 30351), (742, 30312), (760, 30246), (761, 30243), (766, 30228), (772, 30204), (780, 30180), (851, 29973), (896, 29838), (902, 29826), (906, 29817),

Gene: Wooldri\_50 Start: 31764, Stop: 29950, Start Num: 231

Candidate Starts for Wooldri\_50:

(Start: 231 @31764 has 845 MA's), (248, 31725), (256, 31713), (329, 31560), (333, 31545), (367, 31488), (390, 31431), (392, 31422), (403, 31380), (415, 31329), (434, 31278), (487, 31185), (509, 31137), (513, 31128), (524, 31113), (549, 31074), (562, 31047), (575, 31017), (610, 30924), (641, 30864), (652, 30849), (700, 30693), (720, 30606), (733, 30540), (742, 30501), (761, 30429), (772, 30390), (780, 30366), (786, 30348), (796, 30315), (806, 30288), (834, 30234), (851, 30174), (877, 30096), (896, 30039), (902, 30027), (906, 30018),

Gene: Wooper\_54 Start: 47982, Stop: 46165, Start Num: 219

Candidate Starts for Wooper\_54:

(Start: 219 @47982 has 12 MA's), (Start: 227 @47973 has 3 MA's), (240, 47946), (245, 47934), (259, 47910), (Start: 266 @47901 has 4 MA's), (347, 47727), (379, 47652), (405, 47577), (431, 47499), (454, 47442), (466, 47406), (471, 47394), (482, 47370), (526, 47277), (542, 47253), (555, 47235), (681, 46962), (689, 46923), (696, 46893), (701, 46866), (725, 46758), (727, 46752), (730, 46743), (757, 46653), (760, 46644), (761, 46641), (766, 46626), (790, 46548), (794, 46536), (795, 46530), (800, 46515), (822, 46467), (844, 46419), (851, 46386), (858, 46362), (875, 46323), (877, 46308), (890, 46263), (912, 46191),

Gene: WunderPhul\_45 Start: 29420, Stop: 27579, Start Num: 231

Candidate Starts for WunderPhul\_45:

(Start: 210 @29450 has 1 MA's), (Start: 231 @29420 has 845 MA's), (329, 29216), (367, 29141), (369, 29138), (378, 29111), (384, 29096), (390, 29084), (403, 29033), (430, 28943), (434, 28931), (487, 28838), (502, 28799), (513, 28781), (524, 28766), (562, 28700), (576, 28667), (577, 28664), (619, 28562), (652, 28502), (683, 28418), (700, 28337), (719, 28253), (720, 28250), (722, 28241), (726, 28214), (733, 28184), (755, 28124), (766, 28085), (846, 27869), (847, 27866), (851, 27845), (896, 27710), (902, 27698), (906, 27689), (907, 27686), (939, 27593),

Gene: Xavier\_59 Start: 54026, Stop: 52167, Start Num: 196

Candidate Starts for Xavier\_59:

(Start: 175 @54050 has 1 MA's), (Start: 196 @54026 has 254 MA's), (Start: 221 @54002 has 2 MA's), (Start: 227 @53996 has 3 MA's), (246, 53954), (259, 53933), (307, 53819), (311, 53813), (326, 53783), (355, 53723), (366, 53702), (386, 53648), (391, 53636), (396, 53618), (398, 53606), (431, 53501), (454, 53444), (466, 53408), (471, 53396), (483, 53369), (499, 53324), (533, 53267), (540, 53258), (542, 53255), (695, 52895), (701, 52862), (706, 52841), (727, 52748), (730, 52739), (744, 52676), (760, 52640), (761, 52637), (766, 52622), (790, 52544), (794, 52532), (800, 52511), (817, 52472), (851, 52382), (856, 52364), (858, 52358), (868, 52343), (875, 52319), (877, 52304), (878, 52301), (881, 52289), (890, 52265), (907, 52217), (912, 52193),

Gene: Xena\_43 Start: 31519, Stop: 29690, Start Num: 231

Candidate Starts for Xena\_43:

(Start: 231 @31519 has 845 MA's), (256, 31468), (274, 31438), (350, 31276), (360, 31258), (367, 31243), (390, 31186), (392, 31177), (426, 31057), (434, 31033), (468, 30991), (487, 30940), (511, 30892), (524, 30871), (549, 30832), (570, 30787), (573, 30781), (603, 30700), (613, 30679), (638, 30634), (697, 30469), (700, 30448), (733, 30295), (742, 30256), (761, 30184), (766, 30169), (772, 30145), (777, 30127), (780, 30121), (782, 30115), (851, 29914), (896, 29779), (902, 29767), (906, 29758),

Gene: XianYue\_44 Start: 31263, Stop: 29476, Start Num: 231

Candidate Starts for XianYue\_44:

(Start: 231 @31263 has 845 MA's), (329, 31059), (330, 31056), (332, 31050), (350, 31020), (363, 30999), (367, 30987), (378, 30957), (390, 30930), (395, 30909), (434, 30777), (487, 30684), (513, 30627), (524, 30612), (562, 30546), (595, 30465), (613, 30417), (653, 30345), (700, 30192), (711, 30141), (719, 30108), (720, 30105), (733, 30039), (742, 30000), (755, 29979), (775, 29904), (780, 29892), (782, 29886), (796, 29841), (823, 29778), (846, 29724), (851, 29700), (877, 29622), (896, 29565), (902, 29553), (906, 29544),

Gene: Yago84\_49 Start: 46049, Stop: 44235, Start Num: 216

Candidate Starts for Yago84\_49:

(151, 46139), (154, 46133), (Start: 216 @46049 has 7 MA's), (Start: 227 @46040 has 3 MA's), (246, 45998), (307, 45872), (330, 45830), (350, 45788), (379, 45719), (395, 45680), (397, 45668), (398, 45665), (424, 45590), (431, 45569), (466, 45476), (524, 45350), (533, 45335), (542, 45323), (586, 45233), (684, 45011), (701, 44936), (727, 44822), (730, 44813), (744, 44750), (761, 44711), (766, 44696), (790, 44618), (794, 44606), (795, 44600), (800, 44585), (803, 44576), (807, 44567), (844, 44489), (851, 44456), (852, 44453), (873, 44399), (875, 44393), (882, 44357), (890, 44333), (912, 44261),

Gene: Yahalom\_57 Start: 53658, Stop: 51841, Start Num: 223

Candidate Starts for Yahalom\_57:

(59, 54042), (123, 53841), (Start: 223 @53658 has 42 MA's), (240, 53628), (332, 53448), (395, 53295), (397, 53283), (407, 53253), (412, 53247), (431, 53184), (433, 53178), (454, 53127), (464, 53100), (466, 53091), (486, 53043), (542, 52938), (589, 52842), (610, 52791), (681, 52647), (689, 52608), (696, 52578), (701, 52551), (704, 52539), (725, 52443), (727, 52437), (730, 52428), (732, 52416), (754, 52344), (760, 52314), (766, 52296), (768, 52287), (790, 52218), (794, 52206), (800, 52185), (834, 52116), (841, 52101), (847, 52077), (851, 52056), (856, 52038), (858, 52032), (873, 51999), (875, 51993), (878, 51975), (881, 51963), (886, 51951), (890, 51939), (904, 51897), (912, 51867),

Gene: Yakult\_46 Start: 33938, Stop: 31554, Start Num: 41

Candidate Starts for Yakult\_46:

(Start: 41 @33938 has 23 MA's), (Start: 51 @33908 has 1 MA's), (81, 33824), (91, 33794), (127, 33686), (135, 33665), (235, 33527), (241, 33512), (Start: 267 @33464 has 137 MA's), (303, 33389), (306, 33383), (308, 33377), (312, 33371), (337, 33302), (352, 33278), (364, 33257), (365, 33254), (369, 33245), (393, 33179), (397, 33158), (415, 33107), (455, 33011), (470, 32957), (490, 32897), (498, 32876), (546, 32819), (551, 32813), (576, 32768), (603, 32720), (608, 32708), (640, 32636), (660, 32594), (664, 32582), (690, 32483), (698, 32441), (703, 32417), (714, 32366), (733, 32273), (741, 32237), (743, 32231), (745, 32225), (746, 32219), (761, 32162), (768, 32138), (815, 31979), (825, 31958), (836, 31919), (847, 31880), (851, 31859), (857, 31838), (861, 31826), (868, 31808), (880, 31760), (893, 31712), (901, 31688), (908, 31667), (934, 31580),

Gene: Yang\_41 Start: 29089, Stop: 31023, Start Num: 173

Candidate Starts for Yang\_41:

(Start: 173 @29089 has 1 MA's), (Start: 231 @29158 has 845 MA's), (254, 29206), (378, 29455), (413, 29575), (489, 29752), (492, 29761), (549, 29860), (558, 29875), (562, 29887), (613, 30013), (674, 30151), (700, 30271), (720, 30358), (731, 30415), (733, 30424), (738, 30448), (783, 30598), (846, 30760), (896, 30919),

Gene: Yarn\_40 Start: 32156, Stop: 29769, Start Num: 41

Candidate Starts for Yarn\_40:

(19, 32228), (21, 32213), (Start: 41 @32156 has 23 MA's), (46, 32147), (48, 32141), (71, 32060), (109, 31940), (127, 31889), (Start: 214 @31757 has 4 MA's), (235, 31730), (285, 31637), (303, 31592), (337, 31514), (365, 31466), (384, 31412), (386, 31409), (393, 31391), (397, 31370), (415, 31319), (418, 31310), (419, 31307), (449, 31232), (463, 31187), (486, 31127), (490, 31112), (551, 31028),

(576, 30983), (588, 30959), (596, 30953), (603, 30929), (607, 30920), (639, 30851), (640, 30848), (642, 30845), (690, 30698), (705, 30629), (724, 30530), (733, 30494), (741, 30458), (743, 30452), (745, 30446), (746, 30440), (753, 30416), (761, 30383), (768, 30359), (777, 30314), (795, 30254), (856, 30062), (857, 30059), (893, 29933), (908, 29888), (910, 29879),

Gene: Yecey3\_46 Start: 30987, Stop: 29194, Start Num: 231

Candidate Starts for Yecey3\_46:

(Start: 231 @30987 has 845 MA's), (236, 30978), (329, 30783), (347, 30747), (350, 30741), (367, 30708), (378, 30678), (390, 30651), (392, 30642), (434, 30498), (487, 30405), (575, 30237), (603, 30159), (671, 30039), (673, 30033), (700, 29910), (716, 29844), (726, 29787), (730, 29775), (733, 29757), (758, 29685), (760, 29676), (834, 29478), (851, 29418), (877, 29340), (896, 29283), (902, 29271), (913, 29232),

Gene: Yeezus\_55 Start: 36878, Stop: 34710, Start Num: 209

Candidate Starts for Yeezus\_55:

(207, 36881), (Start: 209 @36878 has 11 MA's), (240, 36824), (286, 36740), (337, 36587), (343, 36578), (367, 36533), (393, 36455), (395, 36446), (398, 36431), (403, 36416), (404, 36413), (417, 36356), (446, 36263), (458, 36221), (506, 36026), (514, 36014), (521, 36008), (531, 35984), (545, 35963), (559, 35942), (564, 35927), (566, 35921), (592, 35858), (607, 35807), (638, 35720), (670, 35660), (683, 35612), (707, 35510), (708, 35504), (713, 35477), (714, 35474), (719, 35453), (727, 35411), (729, 35405), (734, 35381), (740, 35339), (741, 35336), (748, 35309), (756, 35276), (759, 35264), (769, 35228), (775, 35204), (777, 35198), (780, 35192), (797, 35138), (817, 35090), (818, 35087), (840, 35027), (846, 35003), (853, 34973), (872, 34919), (890, 34850), (893, 34838), (907, 34799),

Gene: YesChef\_41 Start: 29651, Stop: 31516, Start Num: 231

Candidate Starts for YesChef\_41:

(Start: 231 @29651 has 845 MA's), (254, 29699), (378, 29948), (406, 30038), (489, 30245), (492, 30254), (542, 30344), (549, 30353), (558, 30368), (576, 30413), (595, 30458), (613, 30506), (643, 30563), (674, 30644), (694, 30731), (700, 30764), (708, 30794), (720, 30851), (733, 30917), (738, 30941), (759, 31010), (780, 31082), (783, 31091), (820, 31190), (846, 31253), (851, 31277), (890, 31388), (896, 31412), (901, 31421),

Gene: Yinz\_58 Start: 53540, Stop: 51720, Start Num: 221

Candidate Starts for Yinz\_58:

(123, 53720), (Start: 221 @53540 has 2 MA's), (240, 53507), (332, 53327), (395, 53174), (397, 53162), (407, 53132), (412, 53126), (431, 53063), (433, 53057), (454, 53006), (464, 52979), (466, 52970), (486, 52922), (542, 52817), (589, 52721), (610, 52670), (681, 52526), (689, 52487), (696, 52457), (701, 52430), (704, 52418), (725, 52322), (727, 52316), (730, 52307), (732, 52295), (754, 52223), (760, 52193), (766, 52175), (768, 52166), (790, 52097), (794, 52085), (800, 52064), (834, 51995), (841, 51980), (847, 51956), (851, 51935), (858, 51911), (875, 51872), (878, 51854), (881, 51842), (886, 51830), (890, 51818), (904, 51776), (912, 51746),

Gene: YoSam321\_45 Start: 31564, Stop: 29738, Start Num: 231

Candidate Starts for YoSam321\_45:

(Start: 231 @31564 has 845 MA's), (240, 31543), (256, 31513), (274, 31483), (350, 31321), (360, 31303), (390, 31231), (392, 31222), (426, 31102), (434, 31078), (487, 30985), (511, 30937), (524, 30916), (549, 30877), (603, 30745), (613, 30724), (638, 30679), (643, 30667), (697, 30514), (700, 30493), (726, 30370), (733, 30340), (742, 30301), (760, 30235), (761, 30232), (766, 30217), (772, 30193), (780, 30169), (851, 29962), (896, 29827), (902, 29815), (906, 29806),

Gene: Yogi\_36 Start: 28087, Stop: 26303, Start Num: 231

Candidate Starts for Yogi\_36:

(Start: 231 @28087 has 845 MA's), (345, 27853), (363, 27823), (366, 27814), (367, 27811), (384, 27766), (390, 27754), (392, 27745), (403, 27703), (434, 27601), (450, 27580), (487, 27508), (505, 27463), (509, 27460), (535, 27418), (539, 27412), (549, 27397), (562, 27370), (603, 27265), (616, 27238), (638, 27199), (700, 27019), (709, 26971), (733, 26866), (734, 26863), (755, 26806), (760, 26785), (774, 26737), (798, 26662), (832, 26593), (846, 26551), (851, 26527), (877, 26449), (896, 26392), (902, 26380), (917, 26323),

Gene: Yokurt\_45 Start: 29422, Stop: 27581, Start Num: 231

Candidate Starts for Yokurt\_45:

(Start: 210 @29452 has 1 MA's), (Start: 231 @29422 has 845 MA's), (329, 29218), (367, 29143), (369, 29140), (378, 29113), (384, 29098), (390, 29086), (403, 29035), (430, 28945), (434, 28933), (487, 28840), (502, 28801), (513, 28783), (524, 28768), (562, 28702), (576, 28669), (577, 28666), (619, 28564), (652, 28504), (683, 28420), (700, 28339), (719, 28255), (720, 28252), (722, 28243), (726, 28216), (733, 28186), (755, 28126), (766, 28087), (846, 27871), (847, 27868), (851, 27847), (896, 27712), (902, 27700), (906, 27691), (907, 27688), (939, 27595),

Gene: Yoncess\_36 Start: 28088, Stop: 26304, Start Num: 231

Candidate Starts for Yoncess\_36:

(Start: 231 @28088 has 845 MA's), (345, 27854), (363, 27824), (366, 27815), (367, 27812), (384, 27767), (390, 27755), (403, 27704), (434, 27602), (450, 27581), (487, 27509), (505, 27464), (509, 27461), (535, 27419), (539, 27413), (541, 27410), (549, 27398), (562, 27371), (588, 27317), (603, 27266), (616, 27239), (638, 27200), (700, 27020), (709, 26972), (733, 26867), (734, 26864), (755, 26807), (760, 26786), (774, 26738), (798, 26663), (832, 26594), (846, 26552), (851, 26528), (877, 26450), (896, 26393), (902, 26381), (917, 26324),

Gene: Yoshand\_62 Start: 54312, Stop: 52453, Start Num: 196

Candidate Starts for Yoshand\_62:

(Start: 175 @54336 has 1 MA's), (Start: 196 @54312 has 254 MA's), (Start: 221 @54288 has 2 MA's), (Start: 227 @54282 has 3 MA's), (246, 54240), (259, 54219), (307, 54105), (311, 54099), (326, 54069), (355, 54009), (366, 53988), (386, 53934), (391, 53922), (396, 53904), (398, 53892), (431, 53787), (454, 53730), (466, 53694), (471, 53682), (482, 53658), (486, 53646), (491, 53628), (499, 53610), (509, 53592), (533, 53553), (540, 53544), (542, 53541), (544, 53538), (695, 53181), (701, 53148), (706, 53127), (727, 53034), (730, 53025), (744, 52962), (760, 52926), (761, 52923), (766, 52908), (790, 52830), (794, 52818), (800, 52797), (817, 52758), (851, 52668), (856, 52650), (858, 52644), (868, 52629), (875, 52605), (877, 52590), (878, 52587), (881, 52575), (890, 52551), (907, 52503), (912, 52479),

Gene: YouGoGlencoco\_61 Start: 54264, Stop: 52405, Start Num: 196

Candidate Starts for YouGoGlencoco\_61:

(Start: 175 @54288 has 1 MA's), (Start: 196 @54264 has 254 MA's), (Start: 221 @54240 has 2 MA's), (Start: 227 @54234 has 3 MA's), (246, 54192), (259, 54171), (307, 54057), (311, 54051), (326, 54021), (355, 53961), (366, 53940), (386, 53886), (391, 53874), (396, 53856), (398, 53844), (431, 53739), (454, 53682), (466, 53646), (471, 53634), (483, 53607), (491, 53580), (499, 53562), (509, 53544), (533, 53505), (540, 53496), (542, 53493), (668, 53235), (695, 53133), (701, 53100), (706, 53079), (727, 52986), (730, 52977), (744, 52914), (760, 52878), (761, 52875), (766, 52860), (790, 52782), (794, 52770), (800, 52749), (817, 52710), (851, 52620), (856, 52602), (858, 52596), (868, 52581), (875, 52557), (877, 52542), (878, 52539), (881, 52527), (890, 52503), (907, 52455), (912, 52431),

Gene: Yummy\_45 Start: 32562, Stop: 30172, Start Num: 33

Candidate Starts for Yummy\_45:

(Start: 33 @32562 has 15 MA's), (58, 32499), (65, 32481), (71, 32466), (91, 32412), (94, 32400), (98, 32379), (109, 32346), (119, 32319), (127, 32295), (147, 32268), (Start: 214 @32163 has 4 MA's),

(243, 32115), (303, 31998), (337, 31917), (354, 31890), (365, 31869), (384, 31815), (386, 31812), (393, 31794), (397, 31773), (418, 31713), (490, 31515), (519, 31473), (576, 31386), (588, 31362), (596, 31356), (617, 31302), (622, 31296), (639, 31254), (640, 31251), (642, 31248), (690, 31101), (698, 31059), (705, 31032), (714, 30990), (733, 30897), (741, 30861), (743, 30855), (745, 30849), (746, 30843), (753, 30819), (761, 30786), (768, 30762), (777, 30717), (795, 30657), (847, 30504), (893, 30336), (908, 30291), (910, 30282), (911, 30273),

Gene: YuuY\_37 Start: 29162, Stop: 27261, Start Num: 267

Candidate Starts for YuuY\_37:

(Start: 267 @29162 has 137 MA's), (332, 29024), (338, 29009), (342, 29003), (359, 28976), (370, 28952), (384, 28916), (397, 28874), (400, 28868), (417, 28817), (430, 28778), (453, 28718), (476, 28649), (490, 28592), (494, 28583), (498, 28571), (516, 28541), (536, 28505), (620, 28337), (634, 28292), (677, 28181), (723, 27956), (724, 27950), (727, 27941), (733, 27914), (768, 27785), (779, 27734), (847, 27527), (852, 27503), (862, 27470), (863, 27464), (893, 27359),

Gene: Zada\_39 Start: 28906, Stop: 27041, Start Num: 267

Candidate Starts for Zada\_39:

(Start: 214 @28993 has 4 MA's), (Start: 216 @28990 has 7 MA's), (Start: 267 @28906 has 137 MA's), (Start: 275 @28897 has 5 MA's), (321, 28792), (325, 28783), (338, 28753), (340, 28750), (395, 28630), (397, 28618), (400, 28612), (436, 28507), (445, 28480), (490, 28339), (492, 28333), (494, 28330), (498, 28318), (513, 28291), (516, 28288), (525, 28273), (527, 28267), (530, 28261), (553, 28228), (612, 28099), (634, 28039), (726, 27724), (729, 27715), (730, 27712), (733, 27694), (743, 27652), (745, 27646), (747, 27637), (751, 27622), (768, 27565), (815, 27406), (827, 27376), (828, 27367), (847, 27307), (852, 27283), (863, 27244), (875, 27211), (876, 27199), (893, 27139),

Gene: Zaider\_61 Start: 54505, Stop: 52646, Start Num: 196

Candidate Starts for Zaider\_61:

(Start: 175 @54529 has 1 MA's), (Start: 196 @54505 has 254 MA's), (Start: 221 @54481 has 2 MA's), (Start: 227 @54475 has 3 MA's), (246, 54433), (259, 54412), (307, 54298), (311, 54292), (326, 54262), (355, 54202), (366, 54181), (386, 54127), (391, 54115), (396, 54097), (398, 54085), (431, 53980), (454, 53923), (466, 53887), (471, 53875), (482, 53851), (486, 53839), (491, 53821), (499, 53803), (509, 53785), (533, 53746), (540, 53737), (542, 53734), (544, 53731), (695, 53374), (701, 53341), (706, 53320), (727, 53227), (730, 53218), (744, 53155), (760, 53119), (761, 53116), (766, 53101), (790, 53023), (794, 53011), (800, 52990), (817, 52951), (851, 52861), (856, 52843), (858, 52837), (868, 52822), (875, 52798), (877, 52783), (878, 52780), (881, 52768), (890, 52744), (907, 52696), (912, 52672),

Gene: Zaka\_45 Start: 29422, Stop: 27581, Start Num: 231

Candidate Starts for Zaka\_45:

(Start: 210 @29452 has 1 MA's), (Start: 231 @29422 has 845 MA's), (329, 29218), (367, 29143), (369, 29140), (378, 29113), (384, 29098), (390, 29086), (403, 29035), (430, 28945), (434, 28933), (487, 28840), (502, 28801), (513, 28783), (524, 28768), (562, 28702), (576, 28669), (577, 28666), (619, 28564), (652, 28504), (683, 28420), (700, 28339), (719, 28255), (720, 28252), (722, 28243), (726, 28216), (733, 28186), (755, 28126), (766, 28087), (846, 27871), (847, 27868), (851, 27847), (896, 27712), (902, 27700), (906, 27691), (907, 27688), (939, 27595),

Gene: Zareef\_42 Start: 32040, Stop: 29683, Start Num: 41

Candidate Starts for Zareef\_42:

(38, 32049), (Start: 41 @32040 has 23 MA's), (48, 32025), (55, 31989), (105, 31854), (127, 31791), (157, 31749), (166, 31737), (Start: 229 @31635 has 7 MA's), (237, 31632), (278, 31557), (293, 31518), (303, 31497), (329, 31446), (349, 31404), (365, 31374), (384, 31320), (393, 31299), (397, 31278), (419, 31215), (469, 31080), (474, 31065), (485, 31038), (490, 31020), (551, 30936), (567, 30900), (622, 30807), (639, 30765), (640, 30762), (642, 30759), (654, 30735), (660, 30723), (664,

30711), (698, 30570), (705, 30543), (733, 30408), (741, 30372), (743, 30366), (745, 30360), (746, 30354), (753, 30330), (761, 30297), (768, 30273), (777, 30228), (779, 30222), (797, 30162), (836, 30054), (854, 29985), (857, 29973), (865, 29949), (886, 29871), (893, 29847), (912, 29778),

Gene: Zayuliv\_37 Start: 27590, Stop: 25725, Start Num: 267

Candidate Starts for Zayuliv\_37:

(Start: 267 @27590 has 137 MA's), (272, 27584), (316, 27485), (321, 27476), (332, 27452), (338, 27437), (342, 27431), (370, 27380), (371, 27377), (400, 27296), (453, 27146), (456, 27143), (484, 27044), (492, 27017), (494, 27014), (498, 27002), (516, 26972), (527, 26951), (551, 26915), (620, 26768), (683, 26588), (726, 26408), (733, 26378), (746, 26324), (751, 26306), (768, 26249), (775, 26222), (784, 26180), (827, 26060), (828, 26051), (847, 25991), (852, 25967), (855, 25955), (858, 25946), (863, 25928), (875, 25895), (893, 25823),

Gene: Zeeculate\_43 Start: 34848, Stop: 33013, Start Num: 231

Candidate Starts for Zeeculate\_43:

(Start: 231 @34848 has 845 MA's), (316, 34677), (337, 34620), (378, 34542), (388, 34521), (390, 34515), (392, 34506), (415, 34413), (425, 34389), (434, 34362), (487, 34269), (492, 34254), (509, 34221), (541, 34170), (543, 34167), (575, 34101), (589, 34071), (598, 34041), (616, 33996), (638, 33957), (700, 33777), (708, 33747), (709, 33729), (720, 33690), (733, 33624), (760, 33543), (761, 33540), (786, 33459), (846, 33309), (847, 33306), (855, 33270), (868, 33246), (874, 33225), (896, 33150), (906, 33129),

Gene: Zelda\_61 Start: 54666, Stop: 52807, Start Num: 196

Candidate Starts for Zelda\_61:

(Start: 175 @54690 has 1 MA's), (Start: 196 @54666 has 254 MA's), (Start: 221 @54642 has 2 MA's), (Start: 227 @54636 has 3 MA's), (246, 54594), (259, 54573), (307, 54459), (311, 54453), (326, 54423), (355, 54363), (366, 54342), (386, 54288), (391, 54276), (396, 54258), (398, 54246), (431, 54141), (454, 54084), (466, 54048), (471, 54036), (483, 54009), (499, 53964), (533, 53907), (540, 53898), (542, 53895), (695, 53535), (701, 53502), (706, 53481), (727, 53388), (730, 53379), (744, 53316), (760, 53280), (761, 53277), (766, 53262), (790, 53184), (794, 53172), (800, 53151), (817, 53112), (851, 53022), (856, 53004), (858, 52998), (868, 52983), (875, 52959), (877, 52944), (878, 52941), (881, 52929), (890, 52905), (907, 52857), (912, 52833),

Gene: Zemanar\_54 Start: 53874, Stop: 52054, Start Num: 184

Candidate Starts for Zemanar\_54:

(Start: 169 @53892 has 3 MA's), (Start: 184 @53874 has 1 MA's), (Start: 227 @53850 has 3 MA's), (240, 53823), (246, 53808), (291, 53736), (292, 53730), (350, 53601), (355, 53592), (356, 53589), (367, 53568), (375, 53544), (391, 53508), (393, 53502), (398, 53478), (400, 53475), (405, 53460), (407, 53451), (410, 53448), (454, 53325), (461, 53307), (466, 53289), (471, 53277), (483, 53250), (540, 53139), (542, 53136), (555, 53118), (561, 53106), (577, 53064), (583, 53052), (610, 52989), (681, 52845), (682, 52842), (689, 52806), (695, 52782), (696, 52776), (701, 52749), (727, 52635), (730, 52626), (758, 52536), (760, 52527), (766, 52509), (790, 52431), (794, 52419), (800, 52398), (807, 52380), (817, 52359), (834, 52329), (851, 52269), (856, 52251), (858, 52245), (875, 52206), (877, 52191), (878, 52188), (881, 52176), (890, 52152), (904, 52110), (907, 52104), (908, 52101), (912, 52080),

Gene: Zenitsu\_38 Start: 28753, Stop: 26888, Start Num: 267

Candidate Starts for Zenitsu\_38:

(Start: 267 @28753 has 137 MA's), (314, 28654), (342, 28594), (370, 28543), (397, 28465), (400, 28459), (415, 28414), (416, 28411), (417, 28408), (430, 28369), (453, 28309), (490, 28186), (494, 28177), (498, 28165), (507, 28153), (516, 28135), (527, 28114), (534, 28102), (620, 27931), (681, 27763), (722, 27598), (729, 27562), (733, 27541), (743, 27499), (768, 27412), (777, 27367), (811, 27268), (827, 27223), (847, 27154), (852, 27130), (862, 27097), (893, 26986),



Gene: Zenteno07\_62 Start: 54178, Stop: 52334, Start Num: 216

Candidate Starts for Zenteno07\_62:

(Start: 216 @54178 has 7 MA's), (246, 54121), (264, 54094), (288, 54058), (311, 53992), (355, 53905), (367, 53881), (377, 53851), (386, 53830), (395, 53806), (398, 53791), (431, 53686), (466, 53593), (471, 53581), (486, 53545), (542, 53440), (610, 53293), (645, 53209), (648, 53203), (681, 53143), (682, 53140), (689, 53104), (695, 53080), (701, 53047), (727, 52933), (730, 52924), (760, 52810), (766, 52792), (790, 52714), (794, 52702), (800, 52681), (834, 52612), (841, 52597), (851, 52552), (858, 52528), (875, 52489), (877, 52474), (881, 52459), (890, 52435), (904, 52390), (907, 52384), (912, 52360),

Gene: Zephyr\_44 Start: 34559, Stop: 32733, Start Num: 231

Candidate Starts for Zephyr\_44:

(Start: 231 @34559 has 845 MA's), (316, 34388), (332, 34346), (337, 34331), (367, 34283), (378, 34253), (388, 34232), (390, 34226), (392, 34217), (425, 34100), (434, 34073), (487, 33980), (492, 33965), (541, 33881), (543, 33878), (575, 33812), (589, 33782), (598, 33752), (616, 33707), (638, 33668), (700, 33488), (708, 33458), (709, 33440), (720, 33401), (733, 33335), (760, 33254), (761, 33251), (786, 33170), (846, 33020), (847, 33017), (855, 32981), (868, 32957), (870, 32948), (874, 32936), (896, 32861), (906, 32840),

Gene: Zepp\_38 Start: 27049, Stop: 25184, Start Num: 267

Candidate Starts for Zepp\_38:

(Start: 267 @27049 has 137 MA's), (272, 27043), (316, 26944), (321, 26935), (332, 26911), (338, 26896), (342, 26890), (370, 26839), (371, 26836), (400, 26755), (420, 26695), (453, 26605), (456, 26602), (484, 26503), (492, 26476), (494, 26473), (498, 26461), (516, 26431), (527, 26410), (551, 26374), (620, 26227), (683, 26047), (726, 25867), (733, 25837), (746, 25783), (751, 25765), (768, 25708), (775, 25681), (784, 25639), (827, 25519), (828, 25510), (847, 25450), (852, 25426), (855, 25414), (858, 25405), (863, 25387), (875, 25354), (893, 25282),

Gene: Zeta1847\_40 Start: 29119, Stop: 31065, Start Num: 229

Candidate Starts for Zeta1847\_40:

(143, 28978), (156, 29005), (190, 29059), (Start: 193 @29062 has 1 MA's), (Start: 229 @29119 has 7 MA's), (254, 29167), (290, 29227), (312, 29284), (317, 29293), (329, 29323), (365, 29380), (369, 29389), (395, 29464), (433, 29593), (483, 29692), (489, 29713), (538, 29806), (549, 29821), (558, 29836), (613, 29974), (647, 30040), (673, 30112), (700, 30235), (706, 30256), (724, 30352), (726, 30358), (746, 30442), (766, 30505), (772, 30529), (777, 30547), (787, 30574), (829, 30679), (847, 30727), (868, 30787), (896, 30883), (911, 30928),

Gene: Zetzy\_47 Start: 31416, Stop: 29602, Start Num: 231

Candidate Starts for Zetzy\_47:

(Start: 231 @31416 has 845 MA's), (248, 31377), (256, 31365), (329, 31212), (333, 31197), (367, 31140), (390, 31083), (392, 31074), (403, 31032), (415, 30981), (434, 30930), (487, 30837), (509, 30789), (513, 30780), (524, 30765), (549, 30726), (562, 30699), (575, 30669), (603, 30591), (610, 30576), (641, 30516), (652, 30501), (700, 30345), (719, 30261), (720, 30258), (733, 30192), (742, 30153), (761, 30081), (772, 30042), (780, 30018), (786, 30000), (796, 29967), (806, 29940), (834, 29886), (851, 29826), (896, 29691), (902, 29679), (906, 29670),

Gene: Zeuska\_44 Start: 34791, Stop: 32962, Start Num: 231

Candidate Starts for Zeuska\_44:

(Start: 231 @34791 has 845 MA's), (332, 34578), (337, 34563), (367, 34515), (378, 34485), (388, 34464), (390, 34458), (392, 34449), (425, 34332), (434, 34305), (487, 34212), (492, 34197), (509, 34164), (541, 34113), (543, 34110), (575, 34044), (589, 34014), (598, 33984), (616, 33939), (638, 33900), (700, 33720), (709, 33672), (722, 33624), (730, 33585), (733, 33567), (742, 33528), (755,

33507), (760, 33486), (765, 33471), (803, 33348), (871, 33177), (876, 33153), (893, 33105), (896, 33093), (906, 33072), (908, 33066), (921, 33018), (928, 33003),

Gene: Zimmer\_42 Start: 32129, Stop: 30285, Start Num: 231

Candidate Starts for Zimmer\_42:

(142, 32273), (153, 32246), (Start: 231 @32129 has 845 MA's), (300, 31991), (317, 31955), (329, 31925), (350, 31883), (369, 31847), (388, 31799), (390, 31793), (395, 31772), (430, 31652), (434, 31640), (487, 31547), (490, 31538), (509, 31499), (513, 31490), (524, 31475), (562, 31409), (583, 31361), (607, 31292), (652, 31211), (672, 31169), (683, 31124), (689, 31097), (700, 31043), (711, 30992), (720, 30956), (733, 30890), (742, 30851), (755, 30830), (760, 30809), (796, 30692), (823, 30629), (846, 30575), (847, 30572), (851, 30551), (873, 30494), (877, 30473), (896, 30416), (902, 30404), (917, 30347),

Gene: Zolita\_39 Start: 31121, Stop: 29256, Start Num: 231

Candidate Starts for Zolita\_39:

(Start: 231 @31121 has 845 MA's), (256, 31070), (291, 31010), (317, 30947), (329, 30917), (330, 30914), (363, 30857), (378, 30815), (390, 30788), (434, 30635), (487, 30539), (500, 30506), (509, 30491), (561, 30407), (562, 30401), (576, 30368), (610, 30281), (616, 30269), (638, 30230), (668, 30170), (700, 30035), (708, 30005), (709, 29987), (719, 29951), (720, 29948), (733, 29882), (742, 29843), (760, 29801), (766, 29783), (780, 29735), (782, 29729), (796, 29684), (818, 29630), (823, 29621), (834, 29603), (856, 29525), (876, 29468), (890, 29432), (896, 29408), (902, 29396), (949, 29264),

Gene: Zonia\_62 Start: 54586, Stop: 52727, Start Num: 196

Candidate Starts for Zonia\_62:

(Start: 175 @54610 has 1 MA's), (Start: 196 @54586 has 254 MA's), (Start: 221 @54562 has 2 MA's), (Start: 227 @54556 has 3 MA's), (246, 54514), (259, 54493), (307, 54379), (311, 54373), (326, 54343), (355, 54283), (366, 54262), (386, 54208), (391, 54196), (396, 54178), (398, 54166), (431, 54061), (454, 54004), (466, 53968), (471, 53956), (483, 53929), (499, 53884), (533, 53827), (540, 53818), (542, 53815), (668, 53557), (695, 53455), (701, 53422), (706, 53401), (727, 53308), (730, 53299), (744, 53236), (760, 53200), (761, 53197), (766, 53182), (790, 53104), (794, 53092), (800, 53071), (817, 53032), (851, 52942), (856, 52924), (858, 52918), (868, 52903), (875, 52879), (877, 52864), (878, 52861), (881, 52849), (890, 52825), (895, 52804), (907, 52777), (912, 52753), (915, 52738),

Gene: Zooman\_100 Start: 78594, Stop: 76723, Start Num: 222

Candidate Starts for Zooman\_100:

(Start: 182 @78654 has 24 MA's), (185, 78648), (203, 78624), (Start: 209 @78615 has 11 MA's), (215, 78606), (Start: 222 @78594 has 57 MA's), (316, 78393), (339, 78333), (355, 78318), (397, 78210), (400, 78204), (432, 78111), (438, 78093), (472, 78066), (490, 78018), (530, 77934), (549, 77907), (576, 77847), (591, 77814), (604, 77772), (638, 77709), (653, 77682), (663, 77661), (700, 77520), (710, 77469), (723, 77406), (739, 77322), (744, 77307), (746, 77298), (770, 77211), (772, 77202), (783, 77169), (841, 77013), (871, 76917), (877, 76890), (884, 76869), (896, 76833),

Gene: Zuko\_78 Start: 57486, Stop: 60083, Start Num: 13

Candidate Starts for Zuko\_78:

(Start: 13 @57486 has 1 MA's), (22, 57528), (25, 57549), (27, 57558), (Start: 34 @57591 has 1 MA's), (71, 57720), (Start: 74 @57726 has 1 MA's), (112, 57849), (139, 57927), (174, 57990), (Start: 197 @58023 has 4 MA's), (201, 58032), (244, 58110), (251, 58122), (280, 58167), (303, 58236), (313, 58257), (384, 58416), (391, 58431), (397, 58458), (418, 58518), (422, 58530), (451, 58578), (490, 58695), (567, 58815), (635, 58995), (640, 59010), (642, 59013), (677, 59103), (687, 59148), (705, 59232), (721, 59304), (726, 59337), (733, 59367), (741, 59403), (743, 59409), (745, 59415), (746, 59421), (761, 59478), (768, 59502), (809, 59643), (825, 59682), (851, 59781), (856, 59799), (865,

59826), (883, 59895), (889, 59913), (893, 59928), (906, 59967), (908, 59973), (918, 60021),

Gene: Zulu\_46 Start: 29773, Stop: 27932, Start Num: 231

Candidate Starts for Zulu\_46:

(Start: 210 @29803 has 1 MA's), (Start: 231 @29773 has 845 MA's), (329, 29569), (367, 29494), (369, 29491), (378, 29464), (384, 29449), (390, 29437), (403, 29386), (430, 29296), (434, 29284), (487, 29191), (502, 29152), (513, 29134), (524, 29119), (562, 29053), (576, 29020), (577, 29017), (619, 28915), (652, 28855), (683, 28771), (700, 28690), (719, 28606), (720, 28603), (722, 28594), (726, 28567), (733, 28537), (755, 28477), (766, 28438), (846, 28222), (847, 28219), (851, 28198), (896, 28063), (902, 28051), (906, 28042), (907, 28039), (939, 27946),

Gene: phiBT1\_11 Start: 28224, Stop: 30098, Start Num: 231

Candidate Starts for phiBT1\_11:

(Start: 231 @28224 has 845 MA's), (274, 28305), (292, 28338), (329, 28425), (373, 28512), (378, 28527), (388, 28548), (392, 28563), (433, 28704), (484, 28785), (489, 28803), (517, 28860), (541, 28902), (549, 28914), (560, 28932), (574, 28968), (603, 29046), (608, 29058), (613, 29067), (638, 29112), (643, 29124), (649, 29136), (681, 29232), (691, 29274), (700, 29325), (709, 29376), (724, 29448), (726, 29454), (727, 29457), (730, 29466), (733, 29484), (741, 29550), (758, 29604), (817, 29781), (820, 29787), (841, 29829), (844, 29841), (851, 29874), (855, 29889), (858, 29898), (871, 29925), (877, 29952), (896, 30009), (899, 30015), (906, 30030),

Gene: phiSASD1\_12 Start: 28284, Stop: 30140, Start Num: 231

Candidate Starts for phiSASD1\_12:

(Start: 231 @28284 has 845 MA's), (254, 28332), (256, 28335), (345, 28530), (391, 28638), (409, 28701), (489, 28881), (517, 28938), (535, 28971), (549, 28992), (595, 29097), (638, 29190), (647, 29208), (688, 29343), (697, 29382), (700, 29403), (702, 29409), (709, 29451), (720, 29490), (721, 29493), (723, 29514), (726, 29526), (727, 29529), (733, 29556), (746, 29610), (772, 29697), (787, 29742), (816, 29820), (858, 29940), (876, 29991), (896, 30051),