

Pham 224118

1: Chargerpower_29	88	83	96	108	116	120	139	144	153	161	183	192	226	239	283	305	310	318	321	331	377	381
2: Corvo_28 + 10	88	83			120	139	144		153		183	192				310	318	321			377	381
3: Bexan_26 + 7	88	83			120	139	144		153		183	192				310	318	321			377	381
4: Eyeball_27 + 77	88	83			120	139	144		153		183	192	205			310	318	321			377	381
5: Naira_28 + 4	88	83			120	139	144		153		183	192				310	318	321			377	381
6: Nnonho_27 + 3	88	83			120	139	144		153		183	192				310	318	321			377	381
7: Rutherford_29	88	83			120	139	144		153		183	192				310	318	321			377	381
8: SarFire_27 + 3	88	83			120	139	144		153		183	192				310	318	321			377	381
9: Magnit_26 + 3	88	83			120	139	144		153		183	192				310	318	321			377	381
10: CactusRose_26	88	83			120	139	144		153		183	192				310	318	321			377	381
11: Laminat3_27 + 3	88	83			120	139	144		153		183	192				310	318	321			377	381
12: Oogway_26 + 23	88	83			120	139	144		153		183	192				310	318	321			377	381
13: Monet_29 + 15	88	83			120	139	144		153		183	192				310	318	321			377	381
14: Rubeus_28 + 2	88	83			120	139	144		153		183	192				310	318	321			377	381
15: MirGordo_27	88	83			120	139	144		153		183	192				310	318	321			377	381
16: Pinto_30 + 5	88	83			120	139	144		153		183	192				310	318	321			377	381
17: Papez_29 + 4	88	83			120	139	144		153		183	192				310	318	321			377	381
18: NEHalo_27 + 5	88	83			120	139	144		153		183	192				310	318	321			377	381
19: Bigfoot_26 + 1	88	83			120	139	144		153		183	192				310	318	321			377	381
20: Aisiro_31	88	83			120	139	144		153		183	192				310	318	321			377	381
21: Agalliana_28	88	83			120	139	144		153		183	192				310	318	321			377	381
22: Petruccio_28	88	83			120	139	144		153		183	192				310	318	321			377	381
23: Bruns_26 + 1	88	83			120	139	144		153		183	192				310	318	321			377	381
24: EnzoK_27	88	83			120	139	144		153		183	192				310	318	321			377	381
25: Bigchungl_27 + 2	88	83			120	139	144		153		183	192	205			310	318	321			377	381
26: DD5_28 + 1	88	83			120	139	144		153		183	192				310	318	321			377	381
27: Bones_27 + 3	88	83			120	139	144		153		183	192				310	318	321			377	381
28: Peterson_30	88	83			120	139	144		153		183	192				310	318	321			377	381
29: Bircsak_27 + 2	88	83			120	139	144		153		183	192				310	318	321			377	381
30: Ajay_28	88	83			120	139	144		153		183	192				310	318	321			377	381
31: BillKnuckles_28 + 1	88	83			120	139	144		153		183	192				310	318	321			377	381
32: Graduation_29	88	83			120	139	144		153		183	192				310	318	321			377	381
33: Perseus_28	88	83			120	139	144		153		183	192				310	318	321			377	381
34: Carlyle_29	88	83			120	139	144		153		183	192				310	318	321			377	381
35: ProMouse_26	88	83			120	139	144		153		183	192				310	318	321			377	381
36: IgnatiusPatJac_26	88	83			120	139	144		153		183	192				310	318	321			377	381
37: JC27_29	88	83			120	139	144		153		183	192				310	318	321			377	381
38: Cueyllyss_27	88	83			120	139	144		153		183	192				310	318	321			377	381
39: Magnar_27	88	83			120	139	144		153		183	192				310	318	321			377	381
40: Dexes_28	88	83			120	139	144		153		183	192	205			310	318	321			377	381
41: Siagathor_28	88	83			120	139	144		153		183	192				310	318	321			377	381
42: Anglerfish_28 + 2	88	83			120	139	144		153		183	192				310	318	321			377	381
43: Fushigi_28	88	83			120	139	144		153		183	192				310	318	321			377	381
44: Zephyr_27	88	83			120	139	144		153		183	192	205			310	318	321			377	381
45: Buttons_29	88	83			120	139	144		153		183	192				310	318	321			377	381
46: Paphu_26	88	83			120	139	144		153		183	192				310	318	321			377	381
47: Smeagol_29	88	83			120	139	144		153		183	192				310	318	321			377	381
48: A6_25 + 1	88	83			120	139	144		153		183	192				310	318	321			377	381
49: Topgun_27	88	83			120	139	144		153		183	192				310	318	321			377	381
50: Hermia_30	88	83			120	139	144		153		183	192				310	318	321			377	381

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51: Mikhuseil_28	59	70	83	120	130	134	140	153	183	195	224	230	244	256	310	316	322	342	351	371
52: Wilkins_27	59	70	83	120	130	134	140	153	183	195	224	230	244	256	310	316	322	342	351	371
53: GIMonster_26	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
54: DontArgue_26	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
55: Kristof_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
56: Rowdy_31 + 2	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
57: Eaglepride_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
58: Rhyno_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
59: Edison31_27 + 2	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
60: Topanga_27	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
61: PeaceMeal_26 + 4	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
62: OKCentral2016_27 + 2	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
63: Poompha_26	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
64: Rebeuca_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
65: Aneem_28 + 15	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
66: Flaverint_28 + 2	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
67: Bachome_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
68: TinyJimmy_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
69: Mabel_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
70: Bowtie_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
71: Gilberta_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
72: MaCh_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
73: Zimmer_30	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
74: Pharaoh_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
75: Refuge_31	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
76: DarthPhader_29	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
77: Steamy_29	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
78: Pmer_23	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
79: Jeeves_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
80: SorotFago_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
81: Luchador_30	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
82: Sunhee_27	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
83: Gail_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
84: Anon_28	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
85: Boonoo_30 + 19	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
86: DekHockey33_30	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
87: Nedarya_29	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
88: Lucyedi_29	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
89: EagleEye_30	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
90: PainterBoy_29	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
91: 40AC_31	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
92: MyraDee_25	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
93: Kimona_24	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
94: Sempert_30	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
95: First_0028	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
96: Superchunk_27 + 1	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
97: Loser_31	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
98: TopsytheTRex_27	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
99: Bradman_27 + 2	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371
100: Benvolio_28 + 1	39	70	83	100	120	130	144	161	178	181	191	211	218	224	230	300	314	342	351	371











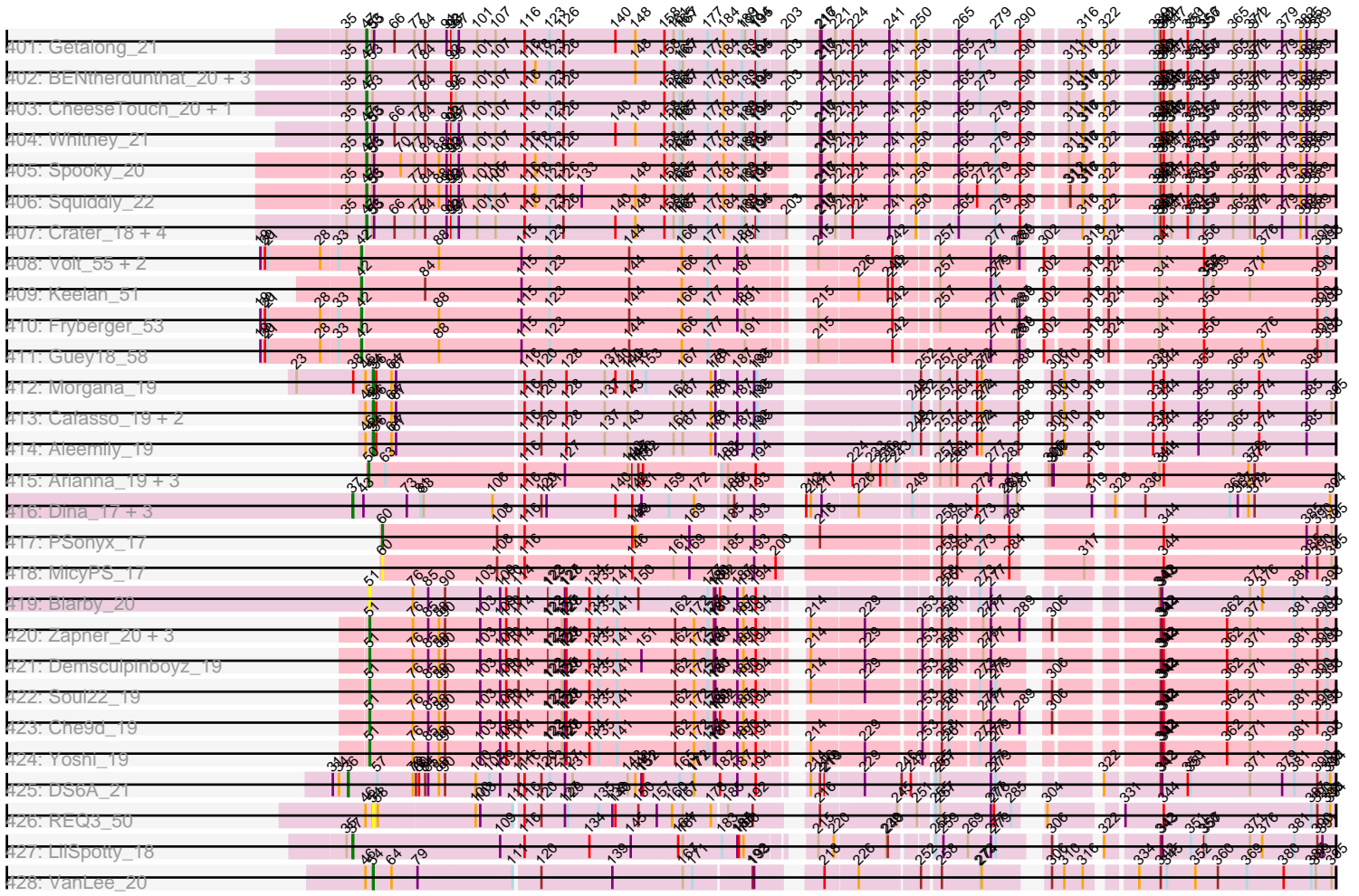




551: Danyail_33 + 3	26	3	3	51	136	101	112	120	152	158	216	222					
552: Bakery_32	26	3	3	51	136	101	112	120	152	158	216	222					
553: Wizard_31 + 5	26	3	3	51	136	101	112	120	152	158	216	222					
554: ClamChowder_33 + 3	26	3	3	51	136	101	112	120	152	158	216	222					
555: YungMoney_33	26	3	3	51	136	101	112	120	152	158	216	222					
556: Shinji_31	26	3	3	51	136	101	112	120	152	158	216	222					
557: Fireball_32 + 1	26	3	3	51	136	101	112	120	152	158	216	222					
558: Evamon_31 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
559: Mutzi_33	26	3	3	51	136	101	112	120	142	158	216	222					
560: VanDeWege_34	26	3	3	51	136	101	112	120	142	158	216	222					
561: RogerDodger_34	26	3	3	51	136	101	112	120	142	158	216	222					
562: Clown_35	26	3	3	51	136	101	112	120	142	158	216	222					
563: Shivamishola_36 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
564: Geodin_32 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
565: Fitzgerald_33	26	3	3	51	136	101	112	120	142	158	216	222					
566: Ribeye_35	26	3	3	51	136	101	112	120	142	158	216	222					
567: ChadMasterC_35	26	3	3	51	136	101	112	120	142	158	216	222					
568: StorminiNorm_34	26	3	3	51	136	101	112	120	142	158	216	222					
569: Tangerine_34 + 3	26	3	3	51	136	101	112	120	142	158	216	222					
570: Kamashten_34 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
571: Alfeca_33 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
572: Baddon_34 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
573: Angelicage_33	26	3	3	51	136	101	112	120	142	158	216	222					
574: Keltabear_35	26	3	3	51	136	101	112	120	142	158	216	222					
575: Nordenberg_29 + 3	26	3	3	51	136	101	112	120	142	158	216	222					
576: Lennon_35 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
577: Gaea_34	26	3	3	51	136	101	112	120	142	158	216	222					
578: KewpieDon_34 + 4	26	3	3	51	136	101	112	120	142	158	216	222					
579: FuegoCuervo_37	26	3	3	51	136	101	112	120	142	158	216	222					
580: JKSyngboy_32	26	3	3	51	136	101	112	120	142	158	216	222					
581: BrandonK123_36	26	3	3	51	136	101	112	120	142	158	216	222					
582: Ashertheman_35	26	3	3	51	136	101	112	120	142	158	216	222					
583: YorkOnyx_35	26	3	3	51	136	101	112	120	142	158	216	222					
584: Charming_35	26	3	3	51	136	101	112	120	142	158	216	222					
585: Tangen_35	26	3	3	51	136	101	112	120	142	158	216	222					
586: Sedona_35 + 2	26	3	3	51	136	101	112	120	142	158	216	222					
587: Bidwit_34	26	3	3	51	136	101	112	120	142	158	216	222					
588: Tycho_34	26	3	3	51	136	101	112	120	142	158	216	222					
589: Bizzy_35	26	3	3	51	136	101	112	120	142	158	216	222					
590: RiverRaider_35	26	3	3	51	136	101	112	120	142	158	216	222					
591: Fosterous_33	26	3	3	51	136	101	112	120	142	158	216	222					
592: Flatwoods_35	26	3	3	51	136	101	112	120	142	158	216	222					
593: Kwobi_35 + 1	26	3	3	51	136	101	112	120	142	158	216	222					
594: Stutus_33	26	3	3	51	136	101	112	120	142	158	216	222					
595: SchottB_33	26	3	3	51	136	101	112	120	142	158	216	222					
596: Baumdotcom_34	26	3	3	51	136	101	112	120	142	158	216	222					
597: Budski_20 + 2	26	3	3	51	136	101	112	120	142	158	216	222					
598: Malisha_21	26	3	3	51	136	101	112	120	142	158	216	222					
599: Kenna_19 + 3	26	3	3	51	136	101	112	120	142	158	216	222					
600: Penwinkie_22	26	3	3	51	136	101	112	120	142	158	216	222					



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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 224118 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224118 has 1074 members, 117 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_29
- Track 2 : Corvo\_28, HermioneGrange\_27, Arcanine\_28, MetalQZJ\_27, MaryBeth\_27, Rajelicia\_27, Alvin\_28, HanShotFirst\_27, Rufus\_28, Bethlehem\_27, STLscum\_28
- Track 3 : Bexan\_26, SwissCheese\_28, Forsytheast\_26, Seanderson\_28, StrongArm\_26, Pelly\_28, Moose\_26, LilBib\_28
- Track 4 : Eyeball\_27, QTRlifeCrisis\_27, ILeeKay\_29, PhineBark\_27, Jerm2\_28, KSSJEB\_27, Seabiscuit\_29, Bob3\_26, TwoPeat\_28, LunarLander\_27, Espresso\_27, Gandalf20\_28, MPlant7149\_26, Dulcie\_26, Gwendoluna\_29, Levia\_26, Fascinus\_26, Ciao\_27, Mule\_27, Pita2\_29, Acme\_29, Mryolo\_26, Beatrix\_27, Lopton\_28, Paraselene\_26, Pepe\_28, Aeneas\_29, PattyP\_29, TheloniousMonk\_29, Gyzlar\_29, Lesedi\_26, Big3\_27, Payneful\_27, Teodoridan\_25, PSullivan\_29, Adahisdi\_28, Applejack\_27, Petp2012\_29, Abrogate\_280, Abbysshoes\_28, Dussy\_28, Maroc7\_26, Marchy\_26, Nerujay\_28, BaconJack\_29, BigMau\_29, Makemake\_27, Tote\_29, JuliaChild\_29, Ohno789\_27, KyMonks1A\_29, Sibs6\_29, Bxb1\_25, Norz\_29, PhrostyMug\_27, Kugel\_28, Raid\_28, Pippin\_29, Jorgensen\_27, Michley\_27, Rohr\_28, Rhynn\_27, JackSparrow\_28, Molly\_28, Jasper\_28, Ichabod\_28, Ashballer\_27, Marco3\_27, Tripl3t\_28, BeesKnees\_28, Kenmech\_30, Sagefire\_28, Ruotula\_26, Swole\_29, GrecoEtereo\_29, Kanely\_28, Target\_30, Zeeculate\_27
- Track 5 : Naira\_28, Barriga\_27, Niza\_29, Fenn\_28, Squee\_28
- Track 6 : Nhonho\_27, Wheeler\_27, Marge\_28, Homines\_27
- Track 7 : Rutherferd\_29
- Track 8 : SarFire\_27, SkiPole\_29, Pari\_28, Thor\_27
- Track 9 : Magnito\_26, Hami1\_29, Turj99\_26, Trouble\_28
- Track 10 : CactusRose\_26
- Track 11 : Lamina13\_27, Briton15\_29, Tasp14\_28, Hope4ever\_27
- Track 12 : Oogway\_26, Iqorha\_26, Licorice\_29, Marcell\_27, Ringer\_27, GageAP\_29, Inyanga\_26, DrFeelGood\_26, Violet\_26, Snazzy\_26, BigPaolini\_28, Watermelon\_29, Doom\_28, PherrisBueller\_28, McSinger\_28, Atkinbua\_29, AFIS\_27, DreamCatcher\_30, Manatee\_28, Kykar\_25, Switzer\_28, RidgeCB\_27, Trafft412\_29, Sunshine924\_26
- Track 13 : Monet\_29, BPBiabs31\_28, Solon\_27, HarryOW\_28, Altman\_29, Chanagan\_26, Burton\_28, Arlo\_26, Edtherson\_28, Marsha\_27, Conceptll\_29, Froghopper\_28, PascalRango\_26, Treddle\_29, Museum\_29, Scowl\_28
- Track 14 : Rubeus\_28, Euphoria\_27, Killigrew\_25
- Track 15 : MrGordo\_27

- Track 16 : Pinto\_30, SpikeBT\_29, Sumter\_26, Dreamboat\_28, Greg\_29, Fajezeel\_29
- Track 17 : Papez\_29, BarrowTuph\_26, Zeuska\_28, StewieG\_26, ShortQueendom\_26
- Track 18 : NEHalo\_27, PinkPlastic\_26, Blue\_27, U2\_27, BluSpix\_27, Sanya\_26
- Track 19 : Bigfoot\_26, Phlippers\_26
- Track 20 : Alsfro\_31
- Track 21 : Agaliana\_28
- Track 22 : Petruchio\_28
- Track 23 : Bruns\_26, Parliament\_26
- Track 24 : EnzoK\_27
- Track 25 : Bigchungi\_27, Sandaddy\_26, Sorpresa\_27
- Track 26 : DD5\_28, Lockley\_27
- Track 27 : Bones\_27, PacerPaul\_27, KBG\_28, Smairt\_28
- Track 28 : Peterson\_30
- Track 29 : Bircsak\_27, Francis47\_27, Gompeii16\_27
- Track 30 : Ajay\_28
- Track 31 : BillKnuckles\_28, Crispicious1\_26
- Track 32 : Graduation\_29
- Track 33 : Perseus\_28
- Track 34 : Carlyle\_29
- Track 35 : ProMouse\_26
- Track 36 : IgnatiusPatJac\_26
- Track 37 : JC27\_29
- Track 38 : Cueilyss\_27
- Track 39 : Magnar\_27
- Track 40 : Dexes\_28
- Track 41 : Slagathor\_28
- Track 42 : Anglerfish\_28, Dynamix\_28, McGuire\_28
- Track 43 : Fushigi\_28
- Track 44 : Zephyr\_27
- Track 45 : Buttons\_29
- Track 46 : Paphu\_26
- Track 47 : Smeagol\_29
- Track 48 : A6\_25, BK1\_25
- Track 49 : Topgun\_27
- Track 50 : Hermia\_30
- Track 51 : Mkhusele\_28
- Track 52 : Wilkins\_27
- Track 53 : GMonster\_26
- Track 54 : DontArgue\_26
- Track 55 : Kristoff\_28
- Track 56 : Rowdy\_31, Shapes\_31, DustyMartin\_31
- Track 57 : Eaglepride\_28
- Track 58 : RhynO\_28
- Track 59 : Edison31\_27, WalterMcMickey\_27, Twister\_27
- Track 60 : Topanga\_27
- Track 61 : PeaceMeal1\_26, Drake94\_26, KittenMittens\_26, Trike\_25, Severus\_26
- Track 62 : OKCentral2016\_27, Goose\_27, Chupacabra\_27
- Track 63 : Poompha\_26
- Track 64 : Rebeuca\_28
- Track 65 : Aneem\_28, Salz\_28, Hutc2\_28, Orange\_28, Ebony\_28, Sham4\_28, Insomnia\_28, Joselito\_28, Jabith\_28, Et2Brutus\_27, Bud\_28, Mulciber\_28,



Snape\_28, Munch\_28, Lucivia\_28, Petersenfast\_27

- Track 66 : Flaverint\_28, Fibonacci\_28, Timothy\_28
- Track 67 : Bachome\_28
- Track 68 : TinyTimmy\_28
- Track 69 : Mabel\_28
- Track 70 : Bowtie\_28
- Track 71 : Gilberta\_28
- Track 72 : MaCh\_28
- Track 73 : Zimmer\_30
- Track 74 : Pharaoh\_28
- Track 75 : Refuge\_31
- Track 76 : DarthPhader\_29
- Track 77 : Steamy\_29
- Track 78 : Phlei\_23
- Track 79 : Jeeves\_28
- Track 80 : SororFago\_28
- Track 81 : Luchador\_30
- Track 82 : Sunhee\_27
- Track 83 : Gail\_28
- Track 84 : Anon\_28
- Track 85 : Boohoo\_30, Strosahl\_30, Looper\_31, MinecraftSteve\_31, Rosalind\_30, Battleship\_31, JSwag\_30, Oofda\_31, Soups\_30, Waits\_30, KatherineG\_30, Nebulosus\_30, ShayRa\_31, Switzerland\_30, LastResort\_30, Anaysia\_30, Epsocamisio\_30, ReMo\_30, Warrior24\_31, Remus\_30
- Track 86 : DekHockey33\_30
- Track 87 : Nedarya\_29
- Track 88 : Lucyedi\_29
- Track 89 : EagleEye\_30
- Track 90 : PainterBoy\_29
- Track 91 : 40AC\_31
- Track 92 : MyraDee\_25
- Track 93 : Kimona\_24
- Track 94 : SemperFi\_30
- Track 95 : First\_0028
- Track 96 : Superchunk\_27, Caraxes\_27
- Track 97 : Loser\_31
- Track 98 : TipsytheTRex\_27
- Track 99 : Bradman\_27, Quokka\_26, MajorMajor\_27
- Track 100 : Benvolio\_28, Echild\_28
- Track 101 : Herbertwm\_25
- Track 102 : Odin\_27
- Track 103 : JoshKayV\_30, ChipMunk\_30
- Track 104 : Naji\_31, D29\_28, D32\_31
- Track 105 : Whabigail7\_30, Dignity\_30, Jerm\_30, AbbyPaige\_30, Buggy\_30, LilTurb\_30, Turbido\_30
- Track 106 : Agape74\_30
- Track 107 : Jaan\_31, Landor\_29
- Track 108 : NaSiaTalie\_28, Piro94\_29
- Track 109 : Leogania\_30
- Track 110 : Adzzy\_29, Ph8s\_29
- Track 111 : IronMan\_30
- Track 112 : WeiHuaDA\_34
- Track 113 : Flare16\_28, MiculUcigas\_28

- Track 114 : Retro23\_28
- Track 115 : L5\_28, Koduck\_28
- Track 116 : MissWhite\_28
- Track 117 : Kerberos\_31, StarStuff\_31, Pomar16\_31
- Track 118 : Tristan\_29
- Track 119 : Heffalump\_30, Fameo\_28, QueenB2\_28
- Track 120 : Trooper\_28
- Track 121 : Baehexic\_29
- Track 122 : VC3\_31, ANI8\_31, C3\_26, AN9\_31, AN3\_28, VA6\_28
- Track 123 : NothingSpecial\_30
- Track 124 : Dalmatian\_28
- Track 125 : BiancaTri92\_30
- Track 126 : Leviathan\_30
- Track 127 : NicoleTera\_32
- Track 128 : Tomathan\_31, Travvers\_31
- Track 129 : Terrific\_32, Gratitude\_29
- Track 130 : DBQu4n\_31, Duplo\_31
- Track 131 : Sknot\_29
- Track 132 : Pukovnik\_30
- Track 133 : KingCyrus\_30
- Track 134 : BobSwaget\_31
- Track 135 : Malec\_29, Larenn\_29
- Track 136 : Anselm\_28
- Track 137 : EZMoney23\_32
- Track 138 : Serenity\_27
- Track 139 : TarsusIV\_28
- Track 140 : Trixie\_31
- Track 141 : HarryHoudini\_30
- Track 142 : CRB1\_28
- Track 143 : Phaded\_31
- Track 144 : SnapTap\_28
- Track 145 : Updawg\_30, Equemioh13\_30, WideWale\_30, Centaur\_30
- Track 146 : SweetiePie\_28, Georgie2\_29, Power\_28
- Track 147 : DudeLittle\_28
- Track 148 : Changeling\_30
- Track 149 : ArcherNM\_30
- Track 150 : LadyBird\_28
- Track 151 : Iwokeuplikedis\_29
- Track 152 : Drake55\_30
- Track 153 : Acolyte\_28
- Track 154 : 20ES\_28
- Track 155 : Lokk\_31
- Track 156 : Deloris\_29, BengiVuitton\_29
- Track 157 : FiringLine\_28, QueenBeesly\_28
- Track 158 : Bactobuster\_29
- Track 159 : Smeagan\_30
- Track 160 : BabyBack\_30
- Track 161 : SwirlSquare\_30
- Track 162 : GaugeLDP\_30
- Track 163 : Miko\_31
- Track 164 : Jsquared\_27
- Track 165 : Kalpine\_31
- Track 166 : Journey13\_26

- Track 167 : LionsBait\_29
- Track 168 : Colin\_32
- Track 169 : EvilGenius\_30
- Track 170 : RedRock\_31
- Track 171 : Rachaly\_31
- Track 172 : AnnaL29\_31
- Track 173 : Che12\_30
- Track 174 : Crucio\_28
- Track 175 : XianYue\_28
- Track 176 : Anthony\_27
- Track 177 : FatCactus\_26
- Track 178 : Kinmap\_29
- Track 179 : Texage\_27, Margo\_28, QuinnKiro\_27, Veracruz\_27, Lambert1\_28, Norbert\_27, Todacoro\_28, Caviar\_28, Panamaxus\_27, Noella\_28, ResDef\_28, Hookmount\_28, Popcicle\_28, Pocahontas\_28
- Track 180 : Sabinator\_29, LBerry\_29, PotatoSplit\_30, AugsMagnumOpus\_31, KADY\_30, Watson\_29, Cullens\_29, LugYA\_31, Ollie\_29, Lilith\_29, AgronaGT15\_29, Wooldri\_31, Vix\_29, Malinsilva\_31, Phoebe\_29, Anubis\_31, Spike509\_29, Daishi\_28, SoYo\_29, Grub\_29, Methuselah\_28, Beauxregard13\_29, Louie6\_29, TinyPebbles\_29, Bxz2\_28, Soshari\_31, PGHhamlin\_31, Penny1\_29, EpicPhail\_29, Farber\_29, Aglet\_29, Tiffany\_29, GtownJaz\_29, MuchMore\_31, GingkoMaracino\_29, Microwolf\_29, Pembroke\_29, Bigflo\_29, Marie\_29, BuzzBuzz\_28, Phoxy\_29, Fernando\_29, Misomonster\_31, DaHudson\_29, LarryKay\_29, MarQuardt\_29, Colbster\_29, Rummer\_29, Lowa\_29, MoneyMay\_29, Taurus\_29
- Track 181 : Scout\_27, Fred313\_27, Heathen\_27, HelDan\_27, Kachowdy\_27, Marchesa\_27, DropBear\_27
- Track 182 : Hercules11\_29
- Track 183 : PurpleHaze\_29, PhishRPhriends\_28, Gemma\_29, Manu\_30, Groupthink\_30, Calvinny\_30, Kalb97\_30, Pawn\_29, Heliosoles\_29
- Track 184 : JF2\_27, B1\_25, JF4\_27
- Track 185 : ACFishhook\_29, JeppNRM\_30, HaveUMetTed\_30, Kalnoky\_30
- Track 186 : Mainiac\_29, Stagni\_29, Sabia\_29, MadMarie\_29, BreSam8\_29, P28Green\_29, Grif\_29
- Track 187 : BabyJohn\_26, Chiqui\_26
- Track 188 : BlueBird\_28, Giroux\_27, Idleandcovert\_27, Bugatti\_27, SaturnRing\_27, Pistachio\_28
- Track 189 : Phantastic\_27
- Track 190 : Dieselweasel\_29
- Track 191 : Phranny\_30, Reba\_30
- Track 192 : TNguyen7\_27
- Track 193 : MK4\_27
- Track 194 : SoilDragon\_29, Zetzy\_28, Jobu08\_29
- Track 195 : Isca\_27, Rockstar\_27
- Track 196 : StepMih\_29
- Track 197 : Puppy\_28
- Track 198 : BabyRay\_27
- Track 199 : MA5\_27
- Track 200 : Snickers\_29
- Track 201 : OlanP\_29
- Track 202 : Marius\_30
- Track 203 : Grum1\_29
- Track 204 : JHC117\_29
- Track 205 : JenCasNa\_29



- Track 206 : HashRod\_30
- Track 207 : Mundrea\_27
- Track 208 : MeeZee\_27, Alberto7\_28, Deano\_27, JetBlade\_27, Connomayer\_27, Florean\_27, Nemo27\_27, ICleared\_27, Caelakin\_27, Dhanush\_27, LittleB\_27, Druantia\_27, Iceman\_28, LittleGuy\_27, Holli\_27, Citius\_27, TygerBlood\_27, TinaFeyge\_27, Lunsford\_28, Skipitt\_27, Kingmustik0402\_27, Palestino\_26, Kamy\_27, Funston\_27, Romney\_27, Burger\_26, Eros\_27, Taquarus\_27, Bombshell\_27, Bartimeaus\_27, Wilbur\_27, Ulysses\_26, Arturo\_26, Koreni\_26, Chaph\_27, Wizard007\_27, Albee\_27, Flux\_27, Maverick\_27, Phacado\_27, Eagle\_26, BubbleTrouble\_27, Sabertooth\_27, OKaNui\_28, Mazhar510\_27, Melvin\_27, Abdiel\_26, Millski\_26, Cintron\_27, Gadost\_27, YoSam321\_27, Broseidon\_27, Phelipe\_27, Polymorphads\_27, Lorenzo\_27, NotAPhaseMom\_27, Relief\_27, Nebs\_27, CentreCat\_27, Lemur\_27, LappelDuVide\_27, Blackmoor\_27, Eris\_26, Morrow\_27, Wander\_27, Pipcraft\_27, Clarenza\_27, HamSlice\_26, Scamp\_27, Jaykayelowell\_27, Spino\_27, Bruiser\_26, Maxo\_27, JoongJeon\_27, Ruin\_27, Cocoaberry\_27, Houdini22\_27, Medusa\_27, Sparxx\_27, NorthStar\_27, Baby16\_27, Kremtemulon\_27, Eapen\_27, Annyong\_27, Koan\_26, Peaches\_27, Roosevelt\_27, Avle17\_27
- Track 209 : Camperdownii\_26
- Track 210 : LHTSCC\_28, Cerulean\_28, ChampagnePapi\_28, BangNhom\_27, SheldonCooper\_28, Obama12\_28
- Track 211 : LeoAvram\_27
- Track 212 : Phighter1804\_27, Happiness\_27, Iracema64\_28, LochMonster\_27
- Track 213 : Badger\_27, Datway\_27, Backyardigan\_27, Wile\_27, Xena\_27, Achebe\_26, Cici\_27
- Track 214 : Bumblebee11\_27
- Track 215 : KFPoly\_27
- Track 216 : Stink\_28
- Track 217 : Commander\_27
- Track 218 : BellusTerra\_27, Phontbonne\_27, Ohfah\_27, Kyee\_27, Thanksgivukkah\_27, Kratark\_27, DirtyDunning\_27, Nyxis\_27, Huxley\_27
- Track 219 : Morpher26\_27, Katalie136\_27
- Track 220 : Stasia\_28
- Track 221 : PetiteSangsue\_27
- Track 222 : Shygu2\_27
- Track 223 : TiroTheta9\_27
- Track 224 : Miramae\_27
- Track 225 : Shaka\_27
- Track 226 : Mayonnaise\_27, PeterPeter\_27
- Track 227 : SenorClean\_26
- Track 228 : Pumbaa\_27
- Track 229 : TroyPia\_27
- Track 230 : Cindaradix\_26
- Track 231 : Tinybot\_26, Rosa24\_26
- Track 232 : Noelle\_27
- Track 233 : Perplexer\_27
- Track 234 : AbbysRanger\_27
- Track 235 : AvatarAhPeg\_28
- Track 236 : Eurydice\_27
- Track 237 : Micasa\_24
- Track 238 : AgentM\_24, Lev2\_24, Phlorence\_24, Aragog\_24, Discoknowium\_24
- Track 239 : Milcery\_24, Bonamassa\_24, Tarynearal\_23, Prinasse11\_25
- Track 240 : Archetta\_24, Bluefalcon\_23, ForGetIt\_24, Jovo\_24, Conspiracy\_24

- Track 241 : Jabiru\_24
- Track 242 : Midas2\_24, Coog\_24
- Track 243 : EITiger69\_24
- Track 244 : Chadwick\_25, Naca\_24, Scorpia\_25, Benedict\_24
- Track 245 : Theia\_22
- Track 246 : PickleBack\_24
- Track 247 : PetterN\_25
- Track 248 : LittleCherry\_24, George\_23
- Track 249 : Ghoulboy\_24, Zolita\_23, SydNat\_24
- Track 250 : UnionJack\_24
- Track 251 : Twigg\_24
- Track 252 : Dublin\_23
- Track 253 : HuhtaEnerson15\_24
- Track 254 : MarysWell\_23
- Track 255 : Cuco\_24
- Track 256 : Swirley\_24
- Track 257 : Tiger\_24
- Track 258 : Airmid\_24
- Track 259 : McFly\_31, SuperAwesome\_31, Neeharika16\_31, Polyphemus\_30, GreedyLawyer\_31, SuperCallie99\_31, Kazan\_31, EricB\_31, Pmask\_31, VohminGhazi\_31, Newrala\_31, Kipper29\_31, DaVinci\_31, Cookiedough\_31, Chartreuse\_31, Hoot\_31
- Track 260 : Indra\_31, Garak\_32, Helmet\_32, Temprado\_32
- Track 261 : Hexamo\_31, Jeffabunny\_31, Blue7\_31, Wiks\_31, Tucker\_31, Koko\_31, Zaka\_31, Lilbunny\_31, Yokurt\_31, Roksolana\_31, BlessJoy\_31, ToneTone\_29, Artemis2UCLA\_31, Zulu\_31
- Track 262 : JewelBug\_31
- Track 263 : CloudWang3\_31
- Track 264 : Gladiator\_31, Gruunaga\_31, WunderPhul\_31
- Track 265 : Hammer\_31
- Track 266 : Candra\_31
- Track 267 : SmellyB\_31
- Track 268 : Isiphiwo\_31
- Track 269 : Dorothea\_31
- Track 270 : Blinn1\_31, Priamo\_31
- Track 271 : Rifter\_31
- Track 272 : BABullseye\_31
- Track 273 : Jordennis\_31
- Track 274 : Toro\_30, FlyCatcher\_31, Sheen\_29
- Track 275 : HINdeR\_27
- Track 276 : PP\_37
- Track 277 : DroogsArmy\_28
- Track 278 : Timshel\_28
- Track 279 : Danforth\_23, Expelliarmus\_23, Dixon\_24, Smeadley\_24, Saintus\_24, Stephig9\_24, Groundhog\_23, Roary\_24, Astro\_24, NearlyHeadless\_24
- Track 280 : Phillis\_24
- Track 281 : Jiawan\_29, Lilleskat\_28, Beemo\_30, ExplosioNervosa\_30, Hanray\_29, Scherzo\_30, EdogawaKiddo\_28, Onglai\_29, RyeScarlet\_31, Ugenie5\_27, Pioneer\_30, Fayely\_30, Phonnegut\_30, Sachima\_28
- Track 282 : Darrell\_30
- Track 283 : Eidsmoe\_30, Alma\_30
- Track 284 : Aliter\_30, PackMan\_30, Phaeder\_30, Myxus\_30, HortumSL17\_30
- Track 285 : Conquerage\_30

- Track 286 : Spouty\_30, Priya\_30, EmyBug\_30
- Track 287 : Toaka\_27
- Track 288 : Tubs\_30
- Track 289 : BogosyJay\_29, Maminiaina\_29
- Track 290 : SheaKeira\_28
- Track 291 : Vanisoa\_27
- Track 292 : Rahalelujah\_27
- Track 293 : Yecey3\_29
- Track 294 : Qobbit\_30
- Track 295 : Elephantoon\_29
- Track 296 : Keziacharles14\_28
- Track 297 : LoneWolf\_29
- Track 298 : Charm\_28
- Track 299 : Arissanae\_28
- Track 300 : Halex\_29
- Track 301 : DreamTeam1\_28
- Track 302 : Harlequin\_23, Yoncess\_23, Bryce\_23
- Track 303 : Swann\_23, CosmicSans\_23, Belenaria\_23, Lillie\_23, Alatin\_23, Phrankenstien\_23, TWAMP\_23, StCroix\_23, Erik\_23, Nancinator\_23, Rhodalysa\_23, Espica\_23, Bradshaw\_23, Naiad\_23, UhSalsa\_23, Natosaleda\_23
- Track 304 : Hiro\_23, AppleCloud\_21, Krishelle\_23
- Track 305 : Dinger\_23
- Track 306 : Rasputin\_23, Alpacados\_22, Yogi\_23
- Track 307 : Bonanza\_23
- Track 308 : RER2\_16, Gollum\_23, RexFury\_23
- Track 309 : PhailMary\_22
- Track 310 : Takoda\_23, AngryOrchard\_22
- Track 311 : Jester\_23
- Track 312 : BobbyDazzler\_23
- Track 313 : RGL3\_16
- Track 314 : Partridge\_23, Shuman\_23
- Track 315 : Yakult\_19
- Track 316 : Survivors\_20
- Track 317 : Jamzy\_21
- Track 318 : Zareef\_22
- Track 319 : Orla\_20
- Track 320 : Hexbug\_20
- Track 321 : Button\_19
- Track 322 : Azira\_20
- Track 323 : MaVan\_20, Nibbles\_20
- Track 324 : Nodigi\_20
- Track 325 : Margaret\_21
- Track 326 : Fribs8\_19
- Track 327 : GiKK\_21
- Track 328 : RanchParmCat\_21
- Track 329 : HannahD\_19, GEazy\_19
- Track 330 : Bunker\_19
- Track 331 : BackstagePass\_19
- Track 332 : Eyes\_19
- Track 333 : Doggs\_18
- Track 334 : DirtyBoi\_20
- Track 335 : Coriander\_19
- Track 336 : TaronosaurusRx\_19



- Track 337 : Dmitri\_19
- Track 338 : Schnabeltier\_19, MagicMan\_19
- Track 339 : Hedwig\_20
- Track 340 : ZAYM\_19
- Track 341 : RayTheFireFly\_19
- Track 342 : Opie\_19
- Track 343 : Moonflower\_19
- Track 344 : BBQValindra\_19
- Track 345 : Bowser\_19
- Track 346 : Gezellig\_32, Egi03\_33
- Track 347 : CherryCola\_35
- Track 348 : CoveyB\_34
- Track 349 : Valary\_34
- Track 350 : Nubi\_31, Togo\_31, Portcullis\_31, SmokingBunny\_31
- Track 351 : Danyall\_33, Twister6\_33, Jambalaya\_31, Savbucketdawg\_31
- Track 352 : Bakery\_32
- Track 353 : Wizard\_31, Phlop\_31, Arri\_34, KimmyK\_33, Halo3\_32, PullumCavea\_31
- Track 354 : ClamChowder\_33, Fugax\_33, PinkCoffee\_33, Barb\_33
- Track 355 : YungMoney\_33
- Track 356 : Shinji\_31
- Track 357 : Fireball\_32, TillyBobJoe\_31
- Track 358 : Evamon\_31, Salvador\_31
- Track 359 : Mutzi\_33
- Track 360 : VanDeWege\_34
- Track 361 : RogerDodger\_34
- Track 362 : Clown\_35
- Track 363 : Shivanishola\_36, MoontowerMania\_34
- Track 364 : Geodirt\_32, McKinley\_37
- Track 365 : Fitzgerald\_33
- Track 366 : Ribeye\_35
- Track 367 : ChadMasterC\_35
- Track 368 : StorminNorm\_34
- Track 369 : Tangerine\_34, Gustavo\_34, LilHam\_32, Saronaya\_34
- Track 370 : Kamashten\_34, Thing3\_34
- Track 371 : Affeca\_33, BobBob\_32
- Track 372 : Baddon\_34, Derg\_30
- Track 373 : Angelicage\_33
- Track 374 : Keitabear\_35
- Track 375 : Nordenberg\_29, Rofo\_35, Love\_38, Galadriel\_35
- Track 376 : Lennon\_35, Sitar\_35
- Track 377 : Gaea\_34
- Track 378 : Kewpiedoll\_34, Sanjuju\_33, Ailee\_33, Barsten\_35, Jabberwocky\_33
- Track 379 : FuegoCuervo\_37
- Track 380 : JKSyngboy\_32
- Track 381 : Brandonk123\_36
- Track 382 : Ashertheman\_35
- Track 383 : YorkOnyx\_35
- Track 384 : Charming\_35
- Track 385 : Tangent\_35
- Track 386 : Sedona\_35, Vivi2\_37, Paries\_37
- Track 387 : Bibwit\_34
- Track 388 : Tycho\_34

- Track 389 : Bizzy\_35
- Track 390 : RiverRaider\_35
- Track 391 : Fosterous\_33
- Track 392 : Flatwoods\_35
- Track 393 : Kwobi\_35, Kroos\_35
- Track 394 : Stultus\_33
- Track 395 : SchottB\_33
- Track 396 : Baumdotcom\_34
- Track 397 : Budski\_20, Kamaru\_20, Holliday\_20
- Track 398 : Malisha\_21
- Track 399 : Kenna\_19, Lutum\_20, Phabuloso\_20, LitninMcQueen\_20
- Track 400 : Periwinkle\_22
- Track 401 : Getalong\_21
- Track 402 : BENtherdunthat\_20, Asapag\_20, BotCity\_21, Frickyeah\_20
- Track 403 : CheeseTouch\_20, ShawBrad\_20
- Track 404 : Whitney\_21
- Track 405 : Spooky\_20
- Track 406 : Squiddly\_22
- Track 407 : Crater\_18, Horus\_20, Apricot\_19, Leroy\_20, Phistory\_21
- Track 408 : Volt\_55, Ziko\_56, Ronaldo\_56
- Track 409 : Keelan\_51
- Track 410 : Fryberger\_53
- Track 411 : Guey18\_58
- Track 412 : Morgana\_19
- Track 413 : Cafasso\_19, ObLaDi\_19, ModicumRichard\_19
- Track 414 : Aleemily\_19
- Track 415 : Arianna\_19, Poushou\_19, TouchMeNot\_19, Colleen\_19
- Track 416 : Dina\_17, Lederberg\_17, SamW\_17, Troy\_17
- Track 417 : PSonyx\_17
- Track 418 : MicyPS\_17
- Track 419 : Blarby\_20
- Track 420 : Zapner\_20, SilverChicken\_19, Avani\_19, Jabbawokkie\_21
- Track 421 : Demsculpinboyz\_19
- Track 422 : Soul22\_19
- Track 423 : Che9d\_19
- Track 424 : Yoshi\_19
- Track 425 : DS6A\_21
- Track 426 : REQ3\_50
- Track 427 : LilSpotty\_18
- Track 428 : VanLee\_20

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

The start number called the most often in the published annotations is 48, it was called in 538 of the 957 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_28, 40AC\_31, ACFishhook\_29, AN3\_28, AN9\_31, ANI8\_31, AbbyPaige\_30, AbbysRanger\_27, Abdiel\_26, Achebe\_26, Acolyte\_28, Adzzy\_29, Agape74\_30, AgentM\_24, Aglet\_29, AgronaGT15\_29, Airmid\_24, Albee\_27, Alberto7\_28,

Anaysia\_30, Aneem\_28, AnnaL29\_31, Annyong\_27, Anon\_28, Anselm\_28, Anthony\_27, Anubis\_31, Aragog\_24, ArcherNM\_30, Archetta\_24, Arissanae\_28, Artemis2UCLA\_31, Arturo\_26, Astro\_24, AugsMagnumOpus\_31, AvatarAhPeg\_28, Avle17\_27, B1\_25, BABullseye\_31, Baby16\_27, BabyJohn\_26, BabyRay\_27, Bachome\_28, Backyardigan\_27, Bactobuster\_29, Badger\_27, Baehexic\_29, BangNhom\_27, Bartimeaus\_27, Battleship\_31, Beauxregard13\_29, Beemo\_30, BellusTerra\_27, Benedict\_24, BengiVuitton\_29, Benvolio\_28, BiancaTri92\_30, Bigflo\_29, Blackmoor\_27, BlessJoy\_31, Blinn1\_31, Blue7\_31, BlueBird\_28, Bluefalcon\_23, BogosyJay\_29, Bombshell\_27, Bonamassa\_24, Boohoo\_30, Bowtie\_28, Bradman\_27, BreSam8\_29, Broseidon\_27, Bruiser\_26, BubbleTrouble\_27, Bud\_28, Bugatti\_27, Buggy\_30, Bumblebee11\_27, Burger\_26, BuzzBuzz\_28, Bxz2\_28, C3\_26, CRB1\_28, Caelakin\_27, Calvinny\_30, Camperdownii\_26, Candra\_31, Caraxes\_27, Caviar\_28, Centaur\_30, CentreCat\_27, Cerulean\_28, Chadwick\_25, ChampagnePapi\_28, Changeling\_30, Chaph\_27, Chargerpower\_29, Charm\_28, Chartreuse\_31, Che12\_30, ChipMunk\_30, Chiqui\_26, Chupacabra\_27, Cici\_27, Cintron\_27, Citius\_27, Clarenza\_27, Cocoaberry\_27, Colbster\_29, Commander\_27, Connomayer\_27, Conquerage\_30, Conspiracy\_24, Coog\_24, Cookiedough\_31, Crucio\_28, Cuco\_24, Cullens\_29, D29\_28, D32\_31, DBQu4n\_31, DaHudson\_29, DaVinci\_31, Daishi\_28, Dalmatian\_28, Danforth\_23, Darrell\_30, DARTHPhader\_29, Datway\_27, Deano\_27, Deloris\_29, Dhanush\_27, Dieselweasel\_29, Dignity\_30, DirtyDunning\_27, Discoknowium\_24, Dixon\_24, DontArgue\_26, Dorothea\_31, Drake55\_30, Drake94\_26, DreamTeam1\_28, DroogsArmy\_28, DropBear\_27, Druantia\_27, Dublin\_23, DudeLittle\_28, Duplo\_31, DustyMartin\_31, EZMoney23\_32, EagleEye\_30, Eagle\_26, Eaglepride\_28, Eapen\_27, Ebony\_28, Echild\_28, Edison31\_27, EdogawaKiddo\_28, ElTiger69\_24, Elephantoon\_29, EmyBug\_30, EpicPhail\_29, Epsocamisio\_30, Equemioh13\_30, EricB\_31, Eris\_26, Eros\_27, Et2Brutus\_27, Eurydice\_27, EvilGenius\_30, Expelliarmus\_23, ExplosioNervosa\_30, Fameo\_28, Farber\_29, FatCactus\_26, Fayely\_30, Fernando\_29, Fibonacci\_28, FiringLine\_28, First\_0028, Flare16\_28, Flaverint\_28, Florean\_27, Flux\_27, FlyCatcher\_31, ForGetIt\_24, Fred313\_27, Funston\_27, Gadost\_27, Gail\_28, Garak\_32, GaugeLDP\_30, Gemma\_29, George\_23, Georgie2\_29, Ghoulboy\_24, Gilberta\_28, GingkoMaracino\_29, Giroux\_27, Gladiator\_31, Goose\_27, GreedyLawyer\_31, Grif\_29, Groundhog\_23, Groupthink\_30, Grub\_29, Grum1\_29, Gruunaga\_31, GtownJaz\_29, HINdeR\_27, HamSlice\_26, Hammer\_31, Hanray\_29, Happiness\_27, HarryHoudini\_30, HashRod\_30, HaveUMetTed\_30, Heathen\_27, Heffalump\_30, HelDan\_27, Heliosoles\_29, Helmet\_32, Herbertwm\_25, Hercules11\_29, Hexamo\_31, Holey\_29, Holli\_27, Hookmount\_28, Hoot\_31, Houdini22\_27, HuhtaEnerson15\_24, Hutc2\_28, Huxley\_27, ICleared\_27, Iceman\_28, Idleandcovert\_27, Indra\_31, Insomnia\_28, Iracema64\_28, IronMan\_30, Isca\_27, Isiphiwo\_31, Iwokeuplikedis\_29, JF2\_27, JF4\_27, JHC117\_29, JSwag\_30, Jaan\_31, Jabiru\_24, Jabith\_28, Jaykayelowell\_27, Jeeves\_28, Jeffabunny\_31, JenCasNa\_29, JeppNRM\_30, Jerm\_30, JetBlade\_27, JewelBug\_31, Jiawan\_29, Jobu08\_29, JoongJeon\_27, Joselito\_28, JoshKayV\_30, Journey13\_26, Jovo\_24, Jsquared\_27, KADY\_30, KFPoly\_27, Kachowdy\_27, Kalb97\_30, Kalnoky\_30, Kamy\_27, Katalie136\_27, KatherineG\_30, Kazan\_31, Kerberos\_31, Keziacharles14\_28, Kimona\_24, KingCyrus\_30, Kingmustik0402\_27, Kinmap\_29, Kipper29\_31, KittenMittens\_26, Koan\_26, Koduck\_28, Koko\_31, Koreni\_26, Kratak\_27, Kremtemulon\_27, Kristoff\_28, Kyee\_27, L5\_28, LBerry\_29, LHTSCC\_28, LadyBird\_28, Lambert1\_28, Landor\_29, LappelDuVide\_27, Larenn\_29, LarryKay\_29, LastResort\_30, Lemur\_27, LeoAvram\_27, Leogania\_30, Lev2\_24, Leviathan\_30, LilTurb\_30, Lilbunny\_31, Lilith\_29, Lilleskat\_28, LionsBait\_29, LittleB\_27, LittleCherry\_24, LittleGuy\_27, LochMonster\_27, LoneWolf\_29, Looper\_31, Lorenzo\_27, Loser\_31, Louie6\_29, Iowa\_29, Luchador\_30, Lucivia\_28, Lucyedi\_29,

LugYA\_31, Lunsford\_28, MA5\_27, MK4\_27, MaCh\_28, Mabel\_28, MadMarie\_29, Mainiac\_29, MajorMajor\_27, Malec\_29, Malinsilva\_31, Maminiaina\_29, Manu\_30, MarQuardt\_29, Marchesa\_27, Margo\_28, Marie\_29, Marius\_30, Maverick\_27, Maxo\_27, Mayonnaise\_27, Mazhar510\_27, McFly\_31, Medusa\_27, MeeZee\_27, Melvin\_27, Methuselah\_28, Micasa\_24, Microwolf\_29, MiculUcigas\_28, Midas2\_24, Miko\_31, Milcery\_24, Millski\_26, MinecraftSteve\_31, Misomonster\_31, MissWhite\_28, MoneyMay\_29, Morpher26\_27, Morrow\_27, MuchMore\_31, Mulciber\_28, Munch\_28, Mundrea\_27, NaSiaTalie\_28, Naca\_24, Naji\_31, NearlyHeadless\_24, Nebs\_27, Nebulosus\_30, Nedarya\_29, Neeharika16\_31, Nemo27\_27, Newrala\_31, NicoleTera\_32, Noella\_28, Norbert\_27, NorthStar\_27, NotAPhaseMom\_27, NothingSpecial\_30, Nyxis\_27, OKCentral2016\_27, OKaNui\_28, Obama12\_28, Odin\_27, Ohfah\_27, OlanP\_29, Ollie\_29, Onglai\_29, Oofda\_31, Orange\_28, P28Green\_29, PGHhamlin\_31, PP\_37, PainterBoy\_29, Palestino\_26, Panamaxus\_27, Pawn\_29, PeaceMeal1\_26, Peaches\_27, Pembroke\_29, Penny1\_29, Perplexer\_27, PeterPeter\_27, Petersenfast\_27, PetiteSangsue\_27, PetterN\_25, Ph8s\_29, Phacado\_27, Phaded\_31, Phantastic\_27, Pharaoh\_28, Phelipe\_27, Phighter1804\_27, Phillis\_24, PhishRPhriends\_28, Phlei\_23, Phlorence\_24, Phoebe\_29, Phonnegut\_30, Phontbonne\_27, Phoxy\_29, Phranny\_30, PickleBack\_24, Pioneer\_30, Pipcraft\_27, Piro94\_29, Pistachio\_28, Pmask\_31, Pocahontas\_28, Polymorphads\_27, Polyphemus\_30, Pomar16\_31, Poompha\_26, Popcicle\_28, PotatoSplit\_30, Power\_28, Priamo\_31, Prinash11\_25, Priya\_30, Pukovnik\_30, Pumbaa\_27, Puppy\_28, PurpleHaze\_29, QueenB2\_28, QueenBeesly\_28, QuinnKiro\_27, Quokka\_26, Rachaly\_31, Rahalelujah\_27, ReMo\_30, Reba\_30, Rebeuca\_28, RedRock\_31, Refuge\_31, Relief\_27, Remus\_30, ResDef\_28, Retro23\_28, RhynO\_28, Rifter\_31, Roary\_24, Rockstar\_27, Roksolana\_31, Romney\_27, Roosevelt\_27, Rosa24\_26, Rosalind\_30, Rowdy\_31, Ruin\_27, Rummer\_29, RyeScarlet\_31, Sabertooth\_27, Sabia\_29, Sabinator\_29, Sachima\_28, Saintus\_24, Salz\_28, SaturnRing\_27, Scamp\_27, Scherzo\_30, Scorpia\_25, Scout\_27, SemperFi\_30, SenorClean\_26, Serenity\_27, Severus\_26, Shaka\_27, Sham4\_28, Shapes\_31, ShayRa\_31, SheaKeira\_28, Sheen\_29, SheldonCooper\_28, Shygu2\_27, Skipitt\_27, Sknot\_29, Smeadley\_24, Smeagan\_30, SmellyB\_31, SnapTap\_28, Snape\_28, Snickers\_29, SoYo\_29, SoilDragon\_29, SororFago\_28, Soshari\_31, Soups\_30, Sparxx\_27, Spike509\_29, Spino\_27, Spouty\_30, Stagni\_29, StarStuff\_31, Stasia\_28, Steamy\_29, Stephig9\_24, Stink\_28, Strosahl\_30, Sunhee\_27, SuperAwesome\_31, SuperCallie99\_31, Superchunk\_27, SweetiePie\_28, Swirley\_24, Switzerland\_30, SydNat\_24, TNguyen7\_27, Taquarus\_27, TarsusIV\_28, Tarynearal\_23, Taurus\_29, Temprado\_32, Texage\_27, Thanksgivukkah\_27, Theia\_22, Tiffany\_29, Tiger\_24, Timothy\_28, Timshel\_28, TinaFeyge\_27, TinyPebbles\_29, TinyTimmy\_28, Tinybot\_26, TipsytheTRex\_27, TiroTheta9\_27, Toaka\_27, Todacoro\_28, Tomathan\_31, ToneTone\_29, Topanga\_27, Toro\_30, Travvers\_31, Trike\_25, Tristan\_29, Trixie\_31, Trooper\_28, TroyPia\_27, Tubs\_30, Tucker\_31, Turbido\_30, Twigg\_24, Twister\_27, TygerBlood\_27, Ugenie5\_27, Ulysses\_26, UnionJack\_24, Updawg\_30, VA6\_28, VC3\_31, Vanisoa\_27, Veracruz\_27, Vix\_29, VohminGhazi\_31, Waits\_30, WalterMcMickey\_27, Wander\_27, Warrior24\_31, Watson\_29, Whabigail7\_30, WideWale\_30, Wiks\_31, Wilbur\_27, Wile\_27, Wizard007\_27, Wooldri\_31, WunderPhul\_31, Xena\_27, Yecey3\_29, YoSam321\_27, Yokurt\_31, Zaka\_31, Zetzy\_28, Zimmer\_30, Zolita\_23, Zulu\_31,

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

- Aliter\_30, Alma\_30, BabyBack\_30, BobSwaget\_31, Cindaradix\_26, CloudWang3\_31, Colin\_32, DekHockey33\_30, Eidsmoe\_30, Gratitude\_29, HortumSL17\_30, Jordennis\_31, Kalpine\_31, Lokk\_31, MarysWell\_23, Miramae\_27,

Myxus\_30, Noelle\_27, PackMan\_30, Paphu\_26, Phaeder\_30, Qobbit\_30, StepMih\_29, SwirlSquare\_30, Terrific\_32, WeiHuaDA\_34, XianYue\_28,

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

- A6\_25, AFIS\_27, Abbyshoes\_28, Abrogate\_280, Acme\_29, Adahisdi\_28, Aeneas\_29, Affeca\_33, Agaliana\_28, Ailee\_33, Ajay\_28, Alatin\_23, Aleemily\_19, Alpacados\_22, Alsfro\_31, Altman\_29, Alvin\_28, Angelicage\_33, Anglerfish\_28, AngryOrchard\_22, AppleCloud\_21, Applejack\_27, Apricot\_19, Arcanine\_28, Arianna\_19, Arlo\_26, Arri\_34, Asapag\_20, Ashballer\_27, Ashertheman\_35, Atkinbua\_29, Avani\_19, Azira\_20, BBQValindra\_19, BENtherdunthat\_20, BK1\_25, BPBiabs31\_28, BackstagePass\_19, BaconJack\_29, Baddon\_34, Bakery\_32, Barb\_33, Barriga\_27, BarrowTuph\_26, Barsten\_35, Baumdotcom\_34, Beatrix\_27, BeesKnees\_28, Belenaria\_23, Bethlehem\_27, Bexan\_26, Bibwit\_34, Big3\_27, BigMau\_29, BigPaolini\_28, Bigchungi\_27, Bigfoot\_26, BillKnuckles\_28, Bircsak\_27, Bizzy\_35, Blarby\_20, BluSpix\_27, Blue\_27, Bob3\_26, BobBob\_32, BobbyDazzler\_23, Bonanza\_23, Bones\_27, BotCity\_21, Bowser\_19, Bradshaw\_23, Brandonk123\_36, Briton15\_29, Bruns\_26, Bryce\_23, Budski\_20, Bunker\_19, Burton\_28, Button\_19, Buttons\_29, Bxb1\_25, CactusRose\_26, Cafasso\_19, Carlyle\_29, ChadMasterC\_35, Chanagan\_26, Charming\_35, Che9d\_19, CheeseTouch\_20, CherryCola\_35, Ciao\_27, ClamChowder\_33, Clown\_35, Colleen\_19, ConceptII\_29, Coriander\_19, Corvo\_28, CosmicSans\_23, CoveyB\_34, Crater\_18, Crispicious1\_26, Cueyliss\_27, DD5\_28, DS6A\_21, Danyall\_33, Demsculpinboyz\_19, Derg\_30, Dexes\_28, Dina\_17, Dinger\_23, DirtyBoi\_20, Dmitri\_19, Doggs\_18, Doom\_28, DrFeelGood\_26, DreamCatcher\_30, Dreamboat\_28, Dulcie\_26, Dussy\_28, Dynamix\_28, Edtherson\_28, Egi03\_33, EnzoK\_27, Erik\_23, Espica\_23, Espresso\_27, Euphoria\_27, Evamon\_31, Eyeball\_27, Eyes\_19, Fajezeel\_29, Fascinus\_26, Fenn\_28, Fireball\_32, Fitzgerald\_33, Flatwoods\_35, Forsytheast\_26, Fosterous\_33, Francis47\_27, Fribs8\_19, Frickyeah\_20, FrogHopper\_28, Fryberger\_53, FuegoCuervo\_37, Fugax\_33, Fushigi\_28, GEazy\_19, GMonster\_26, Gaea\_34, GageAP\_29, Galadriel\_35, Gandalf20\_28, Geodirt\_32, Getalong\_21, Gezellig\_32, GiKK\_21, Gollum\_23, Gompeii16\_27, Graduation\_29, GrecoEtereo\_29, Greg\_29, Guey18\_58, Gustavo\_34, Gwendoluna\_29, Gyzlar\_29, Halo3\_32, Hami1\_29, HanShotFirst\_27, HannahD\_19, Harlequin\_23, HarryOW\_28, Hedwig\_20, Hermia\_30, HermioneGrange\_27, Hexbug\_20, Hiro\_23, Holliday\_20, Homines\_27, Hope4ever\_27, Horus\_20, ILeeKay\_29, Ichabod\_28, IgnatiusPatJac\_26, Inyanga\_26, Iqorha\_26, JC27\_29, JKSyngboy\_32, Jabbawokkie\_21, Jabberwocky\_33, JackSparrow\_28, Jambalaya\_31, Jamzy\_21, Jasper\_28, Jerm2\_28, Jester\_23, Jorgensen\_27, JuliaChild\_29, KBG\_28, KSSJEB\_27, Kamaru\_20, Kamashten\_34, Kanely\_28, Keelan\_51, Keitabear\_35, Kenmech\_30, Kenna\_19, Kewpiedoll\_34, Killigrew\_25, KimmyK\_33, Krishelle\_23, Kroos\_35, Kugel\_28, Kwobi\_35, KyMonks1A\_29, Kykar\_25, Lamina13\_27, Lederberg\_17, Lennon\_35, Leroy\_20, Lesedi\_26, Levia\_26, Licorice\_29, LilBib\_28, LilHam\_32, LilSpotty\_18, Lillie\_23, LitninMcQueen\_20, Lockley\_27, Lopton\_28, Love\_38, LunarLander\_27, Lutum\_20, MPlant7149\_26, MaVan\_20, MagicMan\_19, Magnar\_27, Magnito\_26, Makemake\_27, Malisha\_21, Manatee\_28, Marcell\_27, Marchy\_26, Marco3\_27, Margaret\_21, Marge\_28, Maroc7\_26, Marsha\_27, MaryBeth\_27, McGuire\_28, McKinley\_37, McSinger\_28, MetalQZJ\_27, Michley\_27, MicyPS\_17, Mkhuseleli\_28, ModicumRichard\_19, Molly\_28, Monet\_29, Moonflower\_19, MoontowerMania\_34, Moose\_26, Morgana\_19, MrGordo\_27, Mryolo\_26, Mule\_27, Museum\_29, Mutzi\_33, MyraDee\_25, NEHalo\_27, Naiad\_23, Naira\_28, Nancinator\_23, Natosaleda\_23, Nerujay\_28, Nhonho\_27, Nibbles\_20, Niza\_29, Nodigi\_20, Nordenberg\_29, Norz\_29, Nubi\_31, ObLaDi\_19, Ohno789\_27, Oogway\_26, Opie\_19, Orla\_20, PSonyx\_17, PSullivan\_29, PacerPaul\_27, Papez\_29, Paraselene\_26, Pari\_28, Paries\_37,



Parliament\_26, Partridge\_23, PascalRango\_26, PattyP\_29, Payneful\_27, Pelly\_28, Pepe\_28, Periwinkle\_22, Perseus\_28, Peterson\_30, Petp2012\_29, Petruccio\_28, Phabuloso\_20, PhailMary\_22, PherrisBueller\_28, PhineBark\_27, Phistory\_21, Phippers\_26, Phlop\_31, Phrankenstein\_23, PhrostyMug\_27, PinkCoffee\_33, PinkPlastic\_26, Pinto\_30, Pippin\_29, Pita2\_29, Portcullis\_31, Poushou\_19, ProMouse\_26, PullumCavea\_31, QTRlifeCrisis\_27, REQ3\_50, RER2\_16, RGL3\_16, Raid\_28, Rajelicia\_27, RanchParmCat\_21, Rasputin\_23, RayTheFireFly\_19, RexFury\_23, Rhodalysa\_23, Rhynn\_27, Ribeye\_35, RidgeCB\_27, Ringer\_27, RiverRaider\_35, Rofo\_35, RogerDodger\_34, Rohr\_28, Ronaldo\_56, Rubeus\_28, Rufus\_28, Ruotula\_26, Rutherford\_29, STLscum\_28, Sagefire\_28, Salvador\_31, SamW\_17, Sandaddy\_26, Sanjuju\_33, Sanya\_26, SarFire\_27, Saronaya\_34, Savbucketdawg\_31, Schnabeltier\_19, SchottB\_33, Scowl\_28, Seabiscuit\_29, Seanderson\_28, Sedona\_35, ShawBrad\_20, Shinji\_31, Shivanishola\_36, ShortQueendom\_26, Shuman\_23, Sibs6\_29, SilverChicken\_19, Sitar\_35, SkiPole\_29, Slagathor\_28, Smairt\_28, Smeagol\_29, SmokingBunny\_31, Snazzy\_26, Solon\_27, Sorpresa\_27, Soul22\_19, SpikeBT\_29, Spooky\_20, Squee\_28, Squiddly\_22, StCroix\_23, StewieG\_26, StorminNorm\_34, StrongArm\_26, Stultus\_33, Sumter\_26, Sunshine924\_26, Survivors\_20, Swann\_23, SwissCheese\_28, Switzer\_28, Swole\_29, TWAMP\_23, Takoda\_23, Tangent\_35, Tangerine\_34, Target\_30, TaronosaurusRx\_19, Tasp14\_28, Teodoridan\_25, TheloniousMonk\_29, Thing3\_34, Thor\_27, TillyBobJoe\_31, Togo\_31, Topgun\_27, Tote\_29, TouchMeNot\_19, Traft412\_29, Treddle\_29, Tripl3t\_28, Trouble\_28, Troy\_17, Turj99\_26, Twister6\_33, TwoPeat\_28, Tycho\_34, U2\_27, UhSalsa\_23, Valary\_34, VanDeWege\_34, VanLee\_20, Violet\_26, Vivi2\_37, Volt\_55, Watermelon\_29, Wheeler\_27, Whitney\_21, Wilkins\_27, Wizard\_31, Yakult\_19, Yogi\_23, Yoncess\_23, YorkOnyx\_35, Yoshi\_19, YungMoney\_33, ZAYM\_19, Zapner\_20, Zareef\_22, Zeeculate\_27, Zephyr\_27, Zeuska\_28, Ziko\_56,

### Summary by start number:

#### Start 26:

- Found in 33 of 1074 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 15.2% of time when present
- Phage (with cluster) where this start called: CherryCola\_35 (DC1), CoveyB\_34 (DC1), Egi03\_33 (DC1), Gezellig\_32 (DC1), Shinji\_31 (DC1),

#### Start 32:

- Found in 87 of 1074 ( 8.1% ) of genes in pham
- Manual Annotations of this start: 74 of 957
- Called 94.3% of time when present
- Phage (with cluster) where this start called: Affeca\_33 (DE1), Ailee\_33 (DE1), Angelicage\_33 (DE1), Arri\_34 (DC1), Ashertheman\_35 (DE1), Baddon\_34 (DE1), Bakery\_32 (DC1), Barb\_33 (DC1), Barsten\_35 (DE1), Baumdotcom\_34 (DE1), Bibwit\_34 (DE1), Bizzy\_35 (DE1), BobBob\_32 (DE1), Brandonk123\_36 (DE1), ChadMasterC\_35 (DE1), Charming\_35 (DE1), ClamChowder\_33 (DC1), Clown\_35 (DC2), Danyall\_33 (DC1), Derg\_30 (DE1), Evamon\_31 (DC1), Fireball\_32 (DC1), Fitzgerald\_33 (DE1), Flatwoods\_35 (DE1), Fosterous\_33 (DE1), FuegoCuervo\_37 (DE1), Fugax\_33 (DC1), Gaea\_34 (DE1), Galadriel\_35 (DE1), Geodirt\_32 (DE1), Gustavo\_34 (DE1), Halo3\_32 (DC1), JKSyngboy\_32 (DE1), Jabberwocky\_33 (DE1), Jambalaya\_31 (DC1), Kamashten\_34 (DE1), Keitabear\_35 (DE1), Kewpiedoll\_34 (DE1), KimmyK\_33 (DC1), Kroos\_35 (DE1), Kwobi\_35 (DE1), Lennon\_35 (DE1), LilHam\_32 (DE1), Love\_38 (DE1), McKinley\_37 (DE1), MoontowerMania\_34 (DE1),

Mutzi\_33 (DC1), Nordenberg\_29 (DE1), Nubi\_31 (DC1), Paries\_37 (DE1), Phlop\_31 (DC1), PinkCoffee\_33 (DC1), Portcullis\_31 (DC1), PullumCavea\_31 (DC1), Ribeye\_35 (DE1), RiverRaider\_35 (DE1), Rofo\_35 (DE1), RogerDodger\_34 (DC1), Salvador\_31 (DC1), Sanjuju\_33 (DE1), Saronaya\_34 (DE1), Savbucketdawg\_31 (DC1), SchottB\_33 (DE1), Sedona\_35 (DE1), Shivanishola\_36 (DE1), Sitar\_35 (DE1), SmokingBunny\_31 (DC1), StorminNorm\_34 (DE1), Stultus\_33 (DE1), Tangent\_35 (DE1), Tangerine\_34 (DE1), Thing3\_34 (DE1), TillyBobJoe\_31 (DC1), Togo\_31 (DC1), Twister6\_33 (DC1), Tycho\_34 (DE1), Valary\_34 (DC1), VanDeWege\_34 (DC1), Vivi2\_37 (DE1), Wizard\_31 (DC1), YorkOnyx\_35 (DE1), YungMoney\_33 (DC1),

Start 35:

- Found in 49 of 1074 ( 4.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.0% of time when present
- Phage (with cluster) where this start called: ZAYM\_19 (DB),

Start 36:

- Found in 1 of 1074 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 957
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DS6A\_21 (singleton),

Start 37:

- Found in 105 of 1074 ( 9.8% ) of genes in pham
- Manual Annotations of this start: 5 of 957
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Dina\_17 (EP), Lederberg\_17 (EP), LilSpotty\_18 (singleton), SamW\_17 (EP), Troy\_17 (EP),

Start 39:

- Found in 401 of 1074 ( 37.3% ) of genes in pham
- Manual Annotations of this start: 8 of 957
- Called 3.2% of time when present
- Phage (with cluster) where this start called: BabyBack\_30 (A2), BobSwaget\_31 (A2), CloudWang3\_31 (A6), Colin\_32 (A2), DekHockey33\_30 (A15), Gratitude\_29 (A2), Jordennis\_31 (A6), Kalpine\_31 (A2), Lokk\_31 (A2), SwirlSquare\_30 (A2), Terrific\_32 (A2), WeiHuaDA\_34 (A2), XianYue\_28 (A2),

Start 41:

- Found in 20 of 1074 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 2 of 957
- Called 10.0% of time when present
- Phage (with cluster) where this start called: MarysWell\_23 (A5), Nodigi\_20 (CT),

Start 42:

- Found in 6 of 1074 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 6 of 957
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_53 (DP), Guey18\_58 (DP), Keelan\_51 (DP), Ronaldo\_56 (DP), Volt\_55 (DP), Ziko\_56 (DP),

Start 43:

- Found in 11 of 1074 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 5 of 957
- Called 54.5% of time when present
- Phage (with cluster) where this start called: Bowser\_19 (DB), Eyes\_19 (DB), MagicMan\_19 (DB), Opie\_19 (DB), Schnabeltier\_19 (DB), TaronosaurusRx\_19 (DB),

#### Start 45:

- Found in 6 of 1074 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 4 of 957
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BBQValindra\_19 (DB), BackstagePass\_19 (DB), Bunker\_19 (DB), GEazy\_19 (DB), HannahD\_19 (DB),

#### Start 46:

- Found in 44 of 1074 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 8 of 957
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Aliter\_30 (A9), Alma\_30 (A9), Eidsmoe\_30 (A9), HortumSL17\_30 (A9), Myxus\_30 (A9), PackMan\_30 (A9), Phaeder\_30 (A9), Qobbit\_30 (A9),

#### Start 47:

- Found in 39 of 1074 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 34 of 957
- Called 94.9% of time when present
- Phage (with cluster) where this start called: Apricot\_19 (DN3), Asapag\_20 (DN1), Azira\_20 (CT), BENtherdunthat\_20 (DN1), BotCity\_21 (DN), Budski\_20 (DN), Button\_19 (CT), CheeseTouch\_20 (DN1), Crater\_18 (DN3), Fribs8\_19 (CT), Frickyeah\_20 (DN1), Getalong\_21 (DN1), GiKK\_21 (CT), Hexbug\_20 (CT), Holliday\_20 (DN1), Horus\_20 (DN1), Jamzy\_21 (CT), Kamaru\_20 (DN1), Kenna\_19 (DN1), Leroy\_20 (DN1), LitninMcQueen\_20 (DN1), Lutum\_20 (DN1), MaVan\_20 (CT), Malisha\_21 (DN), Margaret\_21 (CT), Nibbles\_20 (CT), Orla\_20 (CT), Periwinkle\_22 (DN1), Phabuloso\_20 (DN1), Phistory\_21 (DN1), RanchParmCat\_21 (CT), ShawBrad\_20 (DN1), Spooky\_20 (DN2), Squiddly\_22 (DN2), Survivors\_20 (CT), Whitney\_21 (DN1), Yakult\_19 (CT),

#### Start 48:

- Found in 627 of 1074 ( 58.4% ) of genes in pham
- Manual Annotations of this start: 538 of 957
- Called 95.7% of time when present
- Phage (with cluster) where this start called: 20ES\_28 (A2), 40AC\_31 (A17), ACFishhook\_29 (A3), AN3\_28 (A2), AN9\_31 (A2), ANI8\_31 (A2), AbbyPaige\_30 (A2), AbbysRanger\_27 (A4), Abdiel\_26 (A4), Achebe\_26 (A4), Acolyte\_28 (A2), Adzzy\_29 (A2), Agape74\_30 (A2), AgentM\_24 (A5), Aglet\_29 (A3), AgronaGT15\_29 (A3), Airmid\_24 (A5), Albee\_27 (A4), Alberto7\_28 (A4), Anaysia\_30 (A15), Aneem\_28 (A11), AnnaL29\_31 (A2), Annyong\_27 (A4), Anon\_28 (A15), Anselm\_28 (A2), Anthony\_27 (A20), Anubis\_31 (A3), Aragog\_24 (A5), ArcherNM\_30 (A2), Archetta\_24 (A5), Arissanae\_28 (A9), Artemis2UCLA\_31 (A6), Arturo\_26 (A4), Astro\_24 (A8), AugsMagnumOpus\_31 (A3), AvatarAhPeg\_28 (A4), Avle17\_27 (A4), B1\_25 (A3), BABullseye\_31 (A6), Baby16\_27 (A4), BabyJohn\_26 (A3), BabyRay\_27 (A3), Bachome\_28 (A11), Backyardigan\_27 (A4), Bactobuster\_29 (A2), Badger\_27 (A4), Baehexic\_29 (A2), BangNhom\_27 (A4), Bartimeaus\_27 (A4), Battleship\_31 (A15), Beauxregard13\_29 (A3), Beemo\_30 (A9), BellusTerra\_27 (A4), Benedict\_24 (A5),

BengiVuitton\_29 (A2), Benvolio\_28 (A2), BiancaTri92\_30 (A2), Bigflo\_29 (A3), Blackmoor\_27 (A4), BlessJoy\_31 (A6), Blinn1\_31 (A6), Blue7\_31 (A6), BlueBird\_28 (A3), Bluefalcon\_23 (A5), BogosyJay\_29 (A9), Bombshell\_27 (A4), Bonamassa\_24 (A5), Boohoo\_30 (A15), Bowtie\_28 (A11), Bradman\_27 (A2), BreSam8\_29 (A3), Broseidon\_27 (A4), Bruiser\_26 (A4), BubbleTrouble\_27 (A4), Bud\_28 (A11), Bugatti\_27 (A3), Buggy\_30 (A2), Bumblebee11\_27 (A4), Burger\_26 (A4), BuzzBuzz\_28 (A3), Bxz2\_28 (A3), C3\_26 (A2), CRB1\_28 (A2), Caelakin\_27 (A4), Calvinny\_30 (A3), Camperdownii\_26 (A4), Candra\_31 (A6), Caraxes\_27 (A2), Caviar\_28 (A3), Centaur\_30 (A2), CentreCat\_27 (A4), Cerulean\_28 (A4), Chadwick\_25 (A5), ChampagnePapi\_28 (A4), Changeling\_30 (A2), Chaph\_27 (A4), Chargerpower\_29 (A), Charm\_28 (A9), Chartreuse\_31 (A6), Che12\_30 (A2), ChipMunk\_30 (A2), Chiqui\_26 (A3), Chupacabra\_27 (A10), Cici\_27 (A4), Cintron\_27 (A4), Citius\_27 (A4), Clarenza\_27 (A4), Cocoaberry\_27 (A4), Colbster\_29 (A3), Commander\_27 (A4), Connomayer\_27 (A4), Conquerage\_30 (A9), Conspiracy\_24 (A5), Coog\_24 (A5), Cookiedough\_31 (A6), Crucio\_28 (A2), Cuco\_24 (A5), Cullens\_29 (A3), D29\_28 (A2), D32\_31 (A2), DBQu4n\_31 (A2), DaHudson\_29 (A3), DaVinci\_31 (A6), Daishi\_28 (A3), Dalmatian\_28 (A2), Danforth\_23 (A8), Darrell\_30 (A9), DARTHPhader\_29 (A12), Datway\_27 (A4), Deano\_27 (A4), Deloris\_29 (A2), Dhanush\_27 (A4), Dieselweasel\_29 (A3), Dignity\_30 (A2), DirtyDunning\_27 (A4), Discoknowium\_24 (A5), Dixon\_24 (A8), DontArgue\_26 (A10), Dorothea\_31 (A6), Drake55\_30 (A2), Drake94\_26 (A10), DreamTeam1\_28 (A9), DroogsArmy\_28 (A7), DropBear\_27 (A3), Druantia\_27 (A4), Dublin\_23 (A5), DudeLittle\_28 (A2), Duplo\_31 (A2), DustyMartin\_31 (A10), EZMoney23\_32 (A2), EagleEye\_30 (A16), Eagle\_26 (A4), Eaglepride\_28 (A10), Eapen\_27 (A4), Ebony\_28 (A11), Echild\_28 (A2), Edison31\_27 (A10), EdogawaKiddo\_28 (A9), EITiger69\_24 (A5), Elephantoon\_29 (A9), EmyBug\_30 (A9), EpicPhail\_29 (A3), Epsocamisio\_30 (A15), Equemioh13\_30 (A2), EricB\_31 (A6), Eris\_26 (A4), Eros\_27 (A4), Et2Brutus\_27 (A11), Eurydice\_27 (A4), EvilGenius\_30 (A2), Expelliarmus\_23 (A8), ExplosioNervosa\_30 (A9), Fameo\_28 (A2), Farber\_29 (A3), FatCactus\_26 (A20), Fayely\_30 (A9), Fernando\_29 (A3), Fibonacci\_28 (A11), FiringLine\_28 (A2), First\_0028 (A2), Flare16\_28 (A2), Flaverint\_28 (A11), Florean\_27 (A4), Flux\_27 (A4), FlyCatcher\_31 (A7), ForGetIt\_24 (A5), Fred313\_27 (A3), Funston\_27 (A4), Gadost\_27 (A4), Gail\_28 (A14), Garak\_32 (A6), GaugeLDP\_30 (A2), Gemma\_29 (A3), George\_23 (A5), Georgie2\_29 (A2), Ghoulboy\_24 (A5), Gilberta\_28 (A11), GingkoMaracino\_29 (A3), Giroux\_27 (A3), Gladiator\_31 (A6), Goose\_27 (A10), GreedyLawyer\_31 (A6), Grif\_29 (A3), Groundhog\_23 (A8), Groupthink\_30 (A3), Grub\_29 (A3), Grum1\_29 (A3), Gruunaga\_31 (A6), GtownJaz\_29 (A3), HINdeR\_27 (A7), HamSlice\_26 (A4), Hammer\_31 (A6), Hanray\_29 (A9), Happiness\_27 (A4), HarryHoudini\_30 (A2), HashRod\_30 (A3), HaveUMetTed\_30 (A3), Heathen\_27 (A3), Heffalump\_30 (A2), HelDan\_27 (A3), Heliosoles\_29 (A3), Helmet\_32 (A6), Herbertwm\_25 (A2), Hercules11\_29 (A3), Hexamo\_31 (A6), Horex\_29 (A9), Holli\_27 (A4), Hookmount\_28 (A3), Hoot\_31 (A6), Houdini22\_27 (A4), HuhtaEnerson15\_24 (A5), Hutc2\_28 (A11), Huxley\_27 (A4), ICleared\_27 (A4), Iceman\_28 (A4), Idleandcovert\_27 (A3), Indra\_31 (A6), Insomnia\_28 (A11), Iracema64\_28 (A4), IronMan\_30 (A2), Isca\_27 (A3), Isiphiwo\_31 (A6), Iwokeuplikedis\_29 (A2), JF2\_27 (A3), JF4\_27 (A3), JHC117\_29 (A3), JSwag\_30 (A15), Jaan\_31 (A2), Jabiru\_24 (A5), Jabith\_28 (A11), Jaykayelowell\_27 (A4), Jeeves\_28 (A14), Jeffabunny\_31 (A6), JenCasNa\_29 (A3), JeppNRM\_30 (A3), Jerm\_30 (A2), JetBlade\_27 (A4), JewelBug\_31 (A6), Jiawan\_29 (A9), Jobu08\_29 (A3), JoongJeon\_27 (A4), Joselito\_28 (A11), JoshKayV\_30 (A2), Journey13\_26 (A2), Jovo\_24 (A5), Jsquared\_27 (A2), KADY\_30 (A3), KFPoly\_27 (A4), Kachowdy\_27 (A3), Kalb97\_30 (A3), Kalnoky\_30 (A3), Kampy\_27 (A4), Katalie136\_27 (A4), KatherineG\_30 (A15), Kazan\_31 (A6), Kerberos\_31 (A2), Keziacharles14\_28 (A9), Kimona\_24 (A19), KingCyrus\_30 (A2), Kingmustik0402\_27

(A4), Kinmap\_29 (A21), Kipper29\_31 (A6), KittenMittens\_26 (A10), Koan\_26 (A4), Koduck\_28 (A2), Koko\_31 (A6), Koreni\_26 (A4), Kratark\_27 (A4), Kremtemulon\_27 (A4), Kristoff\_28 (A10), Kye\_27 (A4), L5\_28 (A2), LBerry\_29 (A3), LHTSCC\_28 (A4), LadyBird\_28 (A2), Lambert1\_28 (A3), Landor\_29 (A2), LappelDuVide\_27 (A4), Larenn\_29 (A2), LarryKay\_29 (A3), LastResort\_30 (A15), Lemur\_27 (A4), LeoAvram\_27 (A4), Leogania\_30 (A2), Lev2\_24 (A5), Leviathan\_30 (A2), LilTurb\_30 (A2), Lilbunny\_31 (A6), Lilith\_29 (A3), Lilleskat\_28 (A9), LionsBait\_29 (A2), LittleB\_27 (A4), LittleCherry\_24 (A5), LittleGuy\_27 (A4), LochMonster\_27 (A4), LoneWolf\_29 (A9), Looper\_31 (A15), Lorenzo\_27 (A4), Loser\_31 (A2), Louie6\_29 (A3), Iowa\_29 (A3), Luchador\_30 (A14), Lucivia\_28 (A11), Lucyedi\_29 (A16), LugYA\_31 (A3), Lunsford\_28 (A4), MA5\_27 (A3), MK4\_27 (A3), MaCh\_28 (A11), Mabel\_28 (A11), MadMarie\_29 (A3), Mainiac\_29 (A3), MajorMajor\_27 (A2), Malec\_29 (A2), Malinsilva\_31 (A3), Maminiaina\_29 (A9), Manu\_30 (A3), MarQuardt\_29 (A3), Marchesa\_27 (A3), Margo\_28 (A3), Marie\_29 (A3), Marius\_30 (A3), Maverick\_27 (A4), Maxo\_27 (A4), Mayonnaise\_27 (A4), Mazhar510\_27 (A4), McFly\_31 (A6), Medusa\_27 (A4), MeeZee\_27 (A4), Melvin\_27 (A4), Methuselah\_28 (A3), Micasa\_24 (A5), Microwolf\_29 (A3), MiculUcigas\_28 (A2), Midas2\_24 (A5), Miko\_31 (A2), Milcery\_24 (A5), Millski\_26 (A4), MinecraftSteve\_31 (A15), Misomonster\_31 (A3), MissWhite\_28 (A2), MoneyMay\_29 (A3), Morpher26\_27 (A4), Morrow\_27 (A4), MuchMore\_31 (A3), Mulciber\_28 (A11), Munch\_28 (A11), Mundrea\_27 (A4), NaSiaTalie\_28 (A2), Naca\_24 (A5), Naji\_31 (A2), NearlyHeadless\_24 (A8), Nebs\_27 (A4), Nebulosus\_30 (A15), Nedarya\_29 (A15), Neeharika16\_31 (A6), Nemo27\_27 (A4), Newrala\_31 (A6), NicoleTera\_32 (A2), Noella\_28 (A3), Norbert\_27 (A3), NorthStar\_27 (A4), NotAPhaseMom\_27 (A4), NothingSpecial\_30 (A2), Nyxis\_27 (A4), OKCentral2016\_27 (A10), OKaNui\_28 (A4), Obama12\_28 (A4), Odin\_27 (A2), Ohfah\_27 (A4), OlanP\_29 (A3), Ollie\_29 (A3), Onglai\_29 (A9), Oofda\_31 (A15), Orange\_28 (A11), P28Green\_29 (A3), PGHhamlin\_31 (A3), PP\_37 (A7), PainterBoy\_29 (A16), Palestino\_26 (A4), Panamaxus\_27 (A3), Pawn\_29 (A3), PeaceMeal1\_26 (A10), Peaches\_27 (A4), Pembroke\_29 (A3), Penny1\_29 (A3), Perplexer\_27 (A4), PeterPeter\_27 (A4), Petersenfast\_27 (A11), PetiteSangsue\_27 (A4), PetterN\_25 (A5), Ph8s\_29 (A2), Phacado\_27 (A4), Phaded\_31 (A2), Phantastic\_27 (A3), Pharaoh\_28 (A12), Phelipe\_27 (A4), Phighter1804\_27 (A4), Phillis\_24 (A8), PhishRPhriends\_28 (A3), Phlei\_23 (A13), Phlorence\_24 (A5), Phoebe\_29 (A3), Phonnegut\_30 (A9), Phontbonne\_27 (A4), Phoxy\_29 (A3), Phranny\_30 (A3), PickleBack\_24 (A5), Pioneer\_30 (A9), Pipcraft\_27 (A4), Piro94\_29 (A2), Pistachio\_28 (A3), Pmask\_31 (A6), Pocahontas\_28 (A3), Polymorphads\_27 (A4), Polyphemus\_30 (A6), Pomar16\_31 (A2), Poompha\_26 (A10), Popcicle\_28 (A3), PotatoSplit\_30 (A3), Power\_28 (A2), Priamo\_31 (A6), Prinashe11\_25 (A5), Priya\_30 (A9), Pukovnik\_30 (A2), Pumbaa\_27 (A4), Puppy\_28 (A3), PurpleHaze\_29 (A3), QueenB2\_28 (A2), QueenBeesly\_28 (A2), QuinnKiro\_27 (A3), Quokka\_26 (A2), Rachaly\_31 (A2), Rahalelujah\_27 (A9), ReMo\_30 (A15), Reba\_30 (A3), Rebeuca\_28 (A10), RedRock\_31 (A2), Refuge\_31 (A12), Relief\_27 (A4), Remus\_30 (A15), ResDef\_28 (A3), Retro23\_28 (A2), RhynO\_28 (A10), Rifter\_31 (A6), Roary\_24 (A8), Rockstar\_27 (A3), Roksolana\_31 (A6), Romney\_27 (A4), Roosevelt\_27 (A4), Rosa24\_26 (A4), Rosalind\_30 (A15), Rowdy\_31 (A10), Ruin\_27 (A4), Rummer\_29 (A3), RyeScarlet\_31 (A9), Sabertooth\_27 (A4), Sabia\_29 (A3), Sabinator\_29 (A3), Sachima\_28 (A9), Saintus\_24 (A8), Salz\_28 (A11), SaturnRing\_27 (A3), Scamp\_27 (A4), Scherzo\_30 (A9), Scorpia\_25 (A5), Scout\_27 (A3), SemperFi\_30 (A2), SenorClean\_26 (A4), Serenity\_27 (A2), Severus\_26 (A10), Shaka\_27 (A4), Sham4\_28 (A11), Shapes\_31 (A10), ShayRa\_31 (A15), SheaKeira\_28 (A9), Sheen\_29 (A7), SheldonCooper\_28 (A4), Shygu2\_27 (A4), Skipitt\_27 (A4), Sknot\_29 (A2), Smeadley\_24 (A8), Smeagan\_30 (A2), SmellyB\_31 (A6), SnapTap\_28 (A2), Snape\_28 (A11), Snickers\_29 (A3), SoYo\_29 (A3), SoilDragon\_29 (A3),



SororFago\_28 (A14), Soshari\_31 (A3), Soups\_30 (A15), Sparxx\_27 (A4), Spike509\_29 (A3), Spino\_27 (A4), Spouty\_30 (A9), Stagni\_29 (A3), StarStuff\_31 (A2), Stasia\_28 (A4), Steamy\_29 (A12), Stephig9\_24 (A8), Stink\_28 (A4), Strosahl\_30 (A15), Sunhee\_27 (A14), SuperAwesome\_31 (A6), SuperCallie99\_31 (A6), Superchunk\_27 (A2), SweetiePie\_28 (A2), Swirley\_24 (A5), Switzerland\_30 (A15), SydNat\_24 (A5), TNguyen7\_27 (A3), Taquarus\_27 (A4), TarsusIV\_28 (A2), Tarynearl\_23 (A5), Taurus\_29 (A3), Temprado\_32 (A6), Texage\_27 (A3), Thanksgivukkah\_27 (A4), Theia\_22 (A5), Tiffany\_29 (A3), Tiger\_24 (A5), Timothy\_28 (A11), Timshel\_28 (A7), TinaFeyge\_27 (A4), TinyPebbles\_29 (A3), TinyTimmy\_28 (A11), Tinybot\_26 (A4), TopsytheTRex\_27 (A2), TiroTheta9\_27 (A4), Toaka\_27 (A9), Todacoro\_28 (A3), Tomathan\_31 (A2), ToneTone\_29 (A6), Topanga\_27 (A10), Toro\_30 (A7), Travvers\_31 (A2), Trike\_25 (A10), Tristan\_29 (A2), Trixie\_31 (A2), Trooper\_28 (A2), TroyPia\_27 (A4), Tubs\_30 (A9), Tucker\_31 (A6), Turbido\_30 (A2), Twigg\_24 (A5), Twister\_27 (A10), TygerBlood\_27 (A4), Ugenie5\_27 (A9), Ulysses\_26 (A4), UnionJack\_24 (A5), Updawg\_30 (A2), VA6\_28 (A2), VC3\_31 (A2), Vanisoa\_27 (A9), Veracruz\_27 (A3), Vix\_29 (A3), VohminGhazi\_31 (A6), Waits\_30 (A15), WalterMcMickey\_27 (A10), Wander\_27 (A4), Warrior24\_31 (A15), Watson\_29 (A3), Whabigail7\_30 (A2), WideWale\_30 (A2), Wiks\_31 (A6), Wilbur\_27 (A4), Wile\_27 (A4), Wizard007\_27 (A4), Wooldri\_31 (A3), WunderPhul\_31 (A6), Xena\_27 (A4), Yecey3\_29 (A9), YoSam321\_27 (A4), Yokurt\_31 (A6), Zaka\_31 (A6), Zetzy\_28 (A3), Zimmer\_30 (A12), Zolita\_23 (A5), Zulu\_31 (A6),

#### Start 49:

- Found in 7 of 1074 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 5 of 957
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coriander\_19 (DB), DirtyBoi\_20 (DB), Dmitri\_19 (DB), Doggs\_18 (DB), Hedwig\_20 (DB), Moonflower\_19 (DB), RayTheFireFly\_19 (DB),

#### Start 50:

- Found in 235 of 1074 ( 21.9% ) of genes in pham
- Manual Annotations of this start: 210 of 957
- Called 95.7% of time when present
- Phage (with cluster) where this start called: A6\_25 (A1), AFIS\_27 (A1), Abbysshoes\_28 (A1), Abrogate\_280 (A1), Acme\_29 (A1), Adahisdi\_28 (A1), Aeneas\_29 (A1), Ajay\_28 (A1), Alsfro\_31 (A1), Altman\_29 (A1), Alvin\_28 (A1), Anglerfish\_28 (A1), Applejack\_27 (A1), Arcanine\_28 (A1), Arianna\_19 (EO), Arlo\_26 (A1), Ashballer\_27 (A1), Atkinbua\_29 (A1), BK1\_25 (A1), BPBiEbs31\_28 (A1), BaconJack\_29 (A1), Barriga\_27 (A1), Beatrix\_27 (A1), BeesKnees\_28 (A1), Bethlehem\_27 (A1), Bexan\_26 (A1), Big3\_27 (A1), BigMau\_29 (A1), BigPaolini\_28 (A1), Bigchungi\_27 (A1), Bigfoot\_26 (A1), BillKnuckles\_28 (A1), Bircsak\_27 (A1), BluSpix\_27 (A1), Blue\_27 (A1), Bob3\_26 (A1), Bones\_27 (A1), Briton15\_29 (A1), Bruns\_26 (A1), Burton\_28 (A1), Buttons\_29 (A1), Bxb1\_25 (A1), CactusRose\_26 (A1), Carlyle\_29 (A1), Chanagan\_26 (A1), Ciao\_27 (A1), Colleen\_19 (EO), Conceptll\_29 (A1), Corvo\_28 (A1), Crispicous1\_26 (A1), Cueylyss\_27 (A1), DD5\_28 (A1), Dexes\_28 (A1), Doom\_28 (A1), DrFeelGood\_26 (A1), DreamCatcher\_30 (A1), Dreamboat\_28 (A1), Dulcie\_26 (A1), Dussy\_28 (A1), Dynamix\_28 (A1), Edtherson\_28 (A1), Espresso\_27 (A1), Euphoria\_27 (A1), Eyeball\_27 (A1), Fajezeel\_29 (A1), Fascinus\_26 (A1), Fenn\_28 (A1), Forsytheast\_26 (A1), Francis47\_27 (A1), Froghopper\_28 (A1), Fushigi\_28 (A1), GageAP\_29 (A1), Gandalf20\_28 (A1), Gompeii16\_27 (A1), Graduation\_29 (A1), GrecoEtereo\_29 (A1), Greg\_29 (A1), Gwendoluna\_29 (A1), Gyzlar\_29 (A1), Hami1\_29 (A1),

HanShotFirst\_27 (A1), HarryOW\_28 (A1), Hermia\_30 (A1), HermioneGrange\_27 (A1), Homines\_27 (A1), Hope4ever\_27 (A1), ILeeKay\_29 (A1), Ichabod\_28 (A1), Inyanga\_26 (A1), Iqorha\_26 (A1), JC27\_29 (A1), JackSparrow\_28 (A1), Jasper\_28 (A1), Jerm2\_28 (A1), Jorgensen\_27 (A1), JuliaChild\_29 (A1), KBG\_28 (A1), KSSJEB\_27 (A1), Kanely\_28 (A1), Kenmech\_30 (A1), Killigrew\_25 (A1), Kugel\_28 (A1), KyMonks1A\_29 (A1), Kykar\_25 (A1), Lamina13\_27 (A1), Lesedi\_26 (A1), Levia\_26 (A1), Licorice\_29 (A1), LilBib\_28 (A1), Lockley\_27 (A1), Lopton\_28 (A1), LunarLander\_27 (A1), MPlant7149\_26 (A1), Magnito\_26 (A1), Makemake\_27 (A1), Manatee\_28 (A1), Marcell\_27 (A1), Marchy\_26 (A1), Marco3\_27 (A1), Marge\_28 (A1), Maroc7\_26 (A1), Marsha\_27 (A1), MaryBeth\_27 (A1), McGuire\_28 (A1), McSinger\_28 (A1), MetalQZJ\_27 (A1), Michley\_27 (A1), Mkhuseleli\_28 (A1), Molly\_28 (A1), Monet\_29 (A1), Moose\_26 (A1), MrGordo\_27 (A1), Mryolo\_26 (A1), Mule\_27 (A1), Museum\_29 (A1), MyraDee\_25 (A18), NEHalo\_27 (A1), Naira\_28 (A1), Nerujay\_28 (A1), Nhonho\_27 (A1), Niza\_29 (A1), Norz\_29 (A1), Ohno789\_27 (A1), Oogway\_26 (A1), PSullivan\_29 (A1), PacerPaul\_27 (A1), Paphu\_26 (A1), Paraselene\_26 (A1), Pari\_28 (A1), Parliament\_26 (A1), PascalRango\_26 (A1), PattyP\_29 (A1), Payneful\_27 (A1), Pelly\_28 (A1), Pepe\_28 (A1), Perseus\_28 (A1), Peterson\_30 (A1), Petp2012\_29 (A1), Petruccio\_28 (A1), PherrisBueller\_28 (A1), PhineBark\_27 (A1), Phlippers\_26 (A1), PhrostyMug\_27 (A1), PinkPlastic\_26 (A1), Pinto\_30 (A1), Pippin\_29 (A1), Pita2\_29 (A1), Poushou\_19 (EO), ProMouse\_26 (A1), QTRLifeCrisis\_27 (A1), Raid\_28 (A1), Rajelicia\_27 (A1), Rhynn\_27 (A1), RidgeCB\_27 (A1), Ringer\_27 (A1), Rohr\_28 (A1), Rubeus\_28 (A1), Rufus\_28 (A1), Ruotula\_26 (A1), Rutherford\_29 (A1), STLscum\_28 (A1), Sagefire\_28 (A1), Sandaddy\_26 (A1), Sanya\_26 (A1), SarFire\_27 (A1), Scowl\_28 (A1), Seabiscuit\_29 (A1), Seanderson\_28 (A1), Sibs6\_29 (A1), SkiPole\_29 (A1), Slagathor\_28 (A1), Smairt\_28 (A1), Smeagol\_29 (A1), Snazzy\_26 (A1), Solon\_27 (A1), Sorpresa\_27 (A1), SpikeBT\_29 (A1), Squee\_28 (A1), StrongArm\_26 (A1), Sumter\_26 (A1), Sunshine924\_26 (A1), SwissCheese\_28 (A1), Switzer\_28 (A1), Swole\_29 (A1), Target\_30 (A1), Tasp14\_28 (A1), Teodoridan\_25 (A1), TheloniousMonk\_29 (A1), Thor\_27 (A1), Topgun\_27 (A1), Tote\_29 (A1), TouchMeNot\_19 (EO), Traft412\_29 (A1), Treddle\_29 (A1), Tripl3t\_28 (A1), Trouble\_28 (A1), Turj99\_26 (A1), TwoPeat\_28 (A1), U2\_27 (A1), Violet\_26 (A1), Watermelon\_29 (A1), Wheeler\_27 (A1), Wilkins\_27 (A1), Zeeculate\_27 (A1), Zephyr\_27 (A1),

#### Start 51:

- Found in 43 of 1074 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 7 of 957
- Called 20.9% of time when present
- Phage (with cluster) where this start called: Avani\_19 (F2), Blarby\_20 (F), Che9d\_19 (F2), Demsculpinboyz\_19 (F2), Jabbawokkie\_21 (F2), SilverChicken\_19 (F2), Soul22\_19 (F2), Yoshi\_19 (F2), Zapner\_20 (F2),

#### Start 52:

- Found in 25 of 1074 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 3 of 957
- Called 12.0% of time when present
- Phage (with cluster) where this start called: Cindaradix\_26 (A4), Miramae\_27 (A4), Noelle\_27 (A4),

#### Start 53:

- Found in 27 of 1074 ( 2.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.7% of time when present

- Phage (with cluster) where this start called: Zareef\_22 (CT),

#### Start 54:

- Found in 7 of 1074 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 5 of 957
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily\_19 (DZ), Cafasso\_19 (DZ), ModicumRichard\_19 (DZ), Morgana\_19 (DZ), ObLaDi\_19 (DZ), REQ3\_50 (singleton), VanLee\_20 (singleton),

#### Start 56:

- Found in 27 of 1074 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 3 of 957
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Bonanza\_23 (CA), Dinger\_23 (CA), Jester\_23 (CA),

#### Start 59:

- Found in 234 of 1074 ( 21.8% ) of genes in pham
- Manual Annotations of this start: 4 of 957
- Called 4.3% of time when present
- Phage (with cluster) where this start called: Agaliana\_28 (A1), BarrowTuph\_26 (A1), EnzoK\_27 (A1), GMonster\_26 (A1), IgnatiusPatJac\_26 (A1), Magnar\_27 (A1), Papez\_29 (A1), ShortQueendom\_26 (A1), StewieG\_26 (A1), Zeuska\_28 (A1),

#### Start 60:

- Found in 2 of 1074 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 957
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MicyPS\_17 (EQ), PSonyx\_17 (EQ),

#### Start 62:

- Found in 38 of 1074 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 32 of 957
- Called 86.8% of time when present
- Phage (with cluster) where this start called: Alatin\_23 (CA), Alpacados\_22 (CA), AngryOrchard\_22 (CA), AppleCloud\_21 (CA), Belenaria\_23 (CA), Bradshaw\_23 (CA), Bryce\_23 (CA), CosmicSans\_23 (CA), Erik\_23 (CA), Espica\_23 (CA), Gollum\_23 (CA), Harlequin\_23 (CA), Hiro\_23 (CA), Krishelle\_23 (CA), Lillie\_23 (CA), Naiad\_23 (CA), Nancinator\_23 (CA), Natosaleda\_23 (CA), Partridge\_23 (CA), PhailMary\_22 (CA), Phrankenstein\_23 (CA), RER2\_16 (CA), Rasputin\_23 (CA), RexFury\_23 (CA), Rhodalysa\_23 (CA), Shuman\_23 (CA), StCroix\_23 (CA), Swann\_23 (CA), TWAMP\_23 (CA), Takoda\_23 (CA), UhSalsa\_23 (CA), Yogi\_23 (CA), Yoncess\_23 (CA),

#### Start 70:

- Found in 523 of 1074 ( 48.7% ) of genes in pham
- Manual Annotations of this start: 1 of 957
- Called 0.2% of time when present
- Phage (with cluster) where this start called: StepMih\_29 (A3),

#### Start 81:

- Found in 62 of 1074 ( 5.8% ) of genes in pham

- No Manual Annotations of this start.
- Called 1.6% of time when present
- Phage (with cluster) where this start called: RGL3\_16 (CA),

Start 156:

- Found in 38 of 1074 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 1 of 957
- Called 2.6% of time when present
- Phage (with cluster) where this start called: BobbyDazzler\_23 (CA),

### **Summary by clusters:**

There are 40 clusters represented in this pham: DN, singleton, DB, DZ, DP, A15, A14, A17, A16, A11, A10, A13, A12, EQ, A19, A18, A1, A3, A2, DN1, A4, A7, A6, A9, A5, CT, A, EO, DN3, F, CA, DN2, A8, DC2, EP, DC1, A20, A21, F2, DE1,

Info for manual annotations of cluster A:

- Start number 48 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A1:

- Start number 50 was manually annotated 205 times for cluster A1.
- Start number 59 was manually annotated 4 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 48 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 48 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 48 was manually annotated 5 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 48 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 39 was manually annotated 1 time for cluster A15.
- Start number 48 was manually annotated 20 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 48 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 50 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 48 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 39 was manually annotated 5 times for cluster A2.
- Start number 48 was manually annotated 97 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 48 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 48 was manually annotated 112 times for cluster A3.
- Start number 70 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 48 was manually annotated 134 times for cluster A4.
- Start number 52 was manually annotated 3 times for cluster A4.

Info for manual annotations of cluster A5:

- Start number 41 was manually annotated 1 time for cluster A5.
- Start number 48 was manually annotated 37 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 39 was manually annotated 2 times for cluster A6.
- Start number 48 was manually annotated 40 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 48 was manually annotated 5 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 48 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 46 was manually annotated 8 times for cluster A9.
- Start number 48 was manually annotated 26 times for cluster A9.

Info for manual annotations of cluster CA:

- Start number 56 was manually annotated 3 times for cluster CA.
- Start number 62 was manually annotated 32 times for cluster CA.
- Start number 156 was manually annotated 1 time for cluster CA.

Info for manual annotations of cluster CT:

- Start number 41 was manually annotated 1 time for cluster CT.
- Start number 47 was manually annotated 13 times for cluster CT.

Info for manual annotations of cluster DB:

- Start number 43 was manually annotated 5 times for cluster DB.
- Start number 45 was manually annotated 4 times for cluster DB.
- Start number 49 was manually annotated 5 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 32 was manually annotated 28 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 32 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:

- Start number 32 was manually annotated 45 times for cluster DE1.



Info for manual annotations of cluster DN:

- Start number 47 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 47 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 47 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 47 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DP:

- Start number 42 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DZ:

- Start number 54 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster EO:

- Start number 50 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster EP:

- Start number 37 was manually annotated 4 times for cluster EP.

Info for manual annotations of cluster EQ:

- Start number 60 was manually annotated 1 time for cluster EQ.

Info for manual annotations of cluster F2:

- Start number 51 was manually annotated 7 times for cluster F2.

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

Gene: 20ES\_28 Start: 20226, Stop: 21998, Start Num: 48

Candidate Starts for 20ES\_28:

(Start: 39 @20202 has 8 MA's), (Start: 48 @20226 has 538 MA's), (84, 20325), (107, 20460), (108, 20463), (119, 20535), (120, 20538), (130, 20592), (131, 20598), (134, 20631), (144, 20709), (161, 20796), (181, 20877), (183, 20880), (230, 21153), (254, 21258), (258, 21273), (283, 21399), (285, 21405), (305, 21453), (315, 21516), (318, 21531), (319, 21537), (329, 21591), (334, 21630), (337, 21645), (351, 21729),

Gene: 40AC\_31 Start: 22419, Stop: 24191, Start Num: 48

Candidate Starts for 40AC\_31:

(Start: 39 @22395 has 8 MA's), (Start: 48 @22419 has 538 MA's), (84, 22518), (89, 22554), (107, 22653), (108, 22656), (119, 22728), (120, 22731), (130, 22785), (135, 22842), (144, 22902), (150, 22920), (161, 22989), (179, 23064), (181, 23070), (183, 23073), (216, 23262), (230, 23346), (231, 23349), (239, 23385), (254, 23451), (258, 23466), (282, 23589), (285, 23598), (288, 23613), (305, 23646), (310, 23676), (315, 23709), (318, 23724), (320, 23739), (329, 23784), (334, 23823), (337, 23838), (351, 23922), (362, 23988), (369, 24027), (371, 24033), (378, 24087), (383, 24129),

Gene: A6\_25 Start: 20661, Stop: 22463, Start Num: 50

Candidate Starts for A6\_25:

(Start: 50 @20661 has 210 MA's), (Start: 59 @20682 has 4 MA's), (Start: 70 @20724 has 1 MA's), (83, 20769), (120, 20985), (127, 21030), (130, 21039), (134, 21078), (140, 21129), (141, 21132), (183, 21327), (195, 21396), (226, 21585), (229, 21597), (230, 21600), (234, 21621), (257, 21717), (258, 21720), (260, 21726), (274, 21795), (277, 21813), (279, 21822), (285, 21852), (310, 21948), (315, 21981), (318, 21996), (342, 22137), (351, 22194), (371, 22305),

Gene: ACFishhook\_29 Start: 20541, Stop: 22337, Start Num: 48

Candidate Starts for ACFishhook\_29:

(Start: 48 @20541 has 538 MA's), (Start: 70 @20598 has 1 MA's), (74, 20613), (86, 20667), (89, 20682), (105, 20769), (107, 20781), (108, 20784), (120, 20859), (123, 20874), (161, 21117), (195, 21270), (211, 21357), (229, 21471), (234, 21495), (237, 21507), (239, 21513), (258, 21594), (274, 21669), (277, 21687), (279, 21696), (283, 21720), (285, 21726), (295, 21765), (309, 21819), (310, 21822), (314, 21843), (351, 22068), (369, 22173), (371, 22179), (391, 22314),

Gene: AFIS\_27 Start: 21204, Stop: 23006, Start Num: 50

Candidate Starts for AFIS\_27:

(Start: 50 @21204 has 210 MA's), (Start: 59 @21225 has 4 MA's), (Start: 70 @21267 has 1 MA's), (83, 21312), (120, 21528), (127, 21573), (130, 21582), (134, 21621), (140, 21672), (141, 21675), (183, 21870), (195, 21939), (229, 22140), (230, 22143), (234, 22164), (257, 22260), (258, 22263), (260, 22269), (274, 22338), (277, 22356), (279, 22365), (285, 22395), (310, 22491), (315, 22524), (318, 22539), (342, 22680), (351, 22737), (371, 22848), (395, 23001),

Gene: AN3\_28 Start: 20204, Stop: 21994, Start Num: 48

Candidate Starts for AN3\_28:

(30, 20138), (Start: 39 @20180 has 8 MA's), (Start: 48 @20204 has 538 MA's), (107, 20438), (108, 20441), (119, 20513), (120, 20516), (123, 20531), (130, 20570), (131, 20576), (144, 20687), (150, 20705), (153, 20720), (161, 20774), (181, 20855), (183, 20858), (211, 21014), (215, 21044), (232, 21137), (258, 21251), (283, 21377), (315, 21512), (318, 21527), (321, 21551), (334, 21626), (335, 21629), (337, 21641), (351, 21725), (365, 21803), (369, 21830), (371, 21836), (377, 21881), (378, 21890), (391, 21971),

Gene: AN9\_31 Start: 20192, Stop: 21982, Start Num: 48

Candidate Starts for AN9\_31:

(30, 20126), (Start: 39 @20168 has 8 MA's), (Start: 48 @20192 has 538 MA's), (107, 20426), (108, 20429), (119, 20501), (120, 20504), (123, 20519), (130, 20558), (131, 20564), (144, 20675), (150, 20693), (153, 20708), (161, 20762), (181, 20843), (183, 20846), (211, 21002), (215, 21032), (232, 21125), (258, 21239), (283, 21365), (315, 21500), (318, 21515), (321, 21539), (334, 21614), (335, 21617), (337, 21629), (351, 21713), (365, 21791), (369, 21818), (371, 21824), (377, 21869), (378, 21878), (391, 21959),

Gene: ANI8\_31 Start: 20192, Stop: 21982, Start Num: 48

Candidate Starts for ANI8\_31:

(30, 20126), (Start: 39 @20168 has 8 MA's), (Start: 48 @20192 has 538 MA's), (107, 20426), (108, 20429), (119, 20501), (120, 20504), (123, 20519), (130, 20558), (131, 20564), (144, 20675), (150, 20693), (153, 20708), (161, 20762), (181, 20843), (183, 20846), (211, 21002), (215, 21032), (232, 21125), (258, 21239), (283, 21365), (315, 21500), (318, 21515), (321, 21539), (334, 21614), (335, 21617), (337, 21629), (351, 21713), (365, 21791), (369, 21818), (371, 21824), (377, 21869), (378, 21878), (391, 21959),

Gene: AbbyPaige\_30 Start: 20697, Stop: 22469, Start Num: 48

Candidate Starts for AbbyPaige\_30:

(Start: 39 @20673 has 8 MA's), (Start: 48 @20697 has 538 MA's), (84, 20796), (98, 20880), (107, 20931), (108, 20934), (119, 21006), (120, 21009), (130, 21063), (134, 21102), (144, 21180), (161, 21267), (181, 21348), (183, 21351), (215, 21537), (230, 21624), (254, 21729), (258, 21744), (283, 21870), (285, 21876), (305, 21924), (318, 22002), (319, 22008), (329, 22062), (334, 22101), (337, 22116), (351, 22200), (371, 22311),

Gene: AbbysRanger\_27 Start: 19840, Stop: 21639, Start Num: 48

Candidate Starts for AbbysRanger\_27:

(Start: 39 @19816 has 8 MA's), (Start: 48 @19840 has 538 MA's), (Start: 70 @19900 has 1 MA's), (86, 19969), (101, 20047), (105, 20071), (107, 20083), (108, 20086), (115, 20122), (120, 20161), (123, 20176), (130, 20215), (141, 20308), (144, 20332), (161, 20419), (187, 20533), (195, 20572), (211, 20659), (219, 20704), (229, 20773), (234, 20797), (237, 20809), (258, 20896), (274, 20971), (277, 20989), (279, 20998), (283, 21022), (285, 21028), (288, 21043), (300, 21076), (309, 21121), (310, 21124), (314, 21145), (351, 21370), (365, 21448), (369, 21475), (371, 21481), (391, 21616),

Gene: Abbysshoes\_28 Start: 21319, Stop: 23121, Start Num: 50

Candidate Starts for Abbysshoes\_28:

(Start: 50 @21319 has 210 MA's), (Start: 59 @21340 has 4 MA's), (Start: 70 @21382 has 1 MA's), (83, 21427), (120, 21643), (127, 21688), (130, 21697), (134, 21736), (140, 21787), (141, 21790), (183, 21985), (195, 22054), (229, 22255), (230, 22258), (234, 22279), (257, 22375), (258, 22378), (260, 22384), (274, 22453), (277, 22471), (279, 22480), (285, 22510), (310, 22606), (315, 22639), (318, 22654), (342, 22795), (351, 22852), (371, 22963),

Gene: Abdiel\_26 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Abdiel\_26:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Abrogate\_280 Start: 21879, Stop: 23681, Start Num: 50

Candidate Starts for Abrogate\_280:

(Start: 50 @21879 has 210 MA's), (Start: 59 @21900 has 4 MA's), (Start: 70 @21942 has 1 MA's), (83, 21987), (120, 22203), (127, 22248), (130, 22257), (134, 22296), (140, 22347), (141, 22350), (183, 22545), (195, 22614), (229, 22815), (230, 22818), (234, 22839), (257, 22935), (258, 22938), (260, 22944), (274, 23013), (277, 23031), (279, 23040), (285, 23070), (310, 23166), (315, 23199), (318, 23214), (342, 23355), (351, 23412), (371, 23523),

Gene: Achebe\_26 Start: 19823, Stop: 21622, Start Num: 48

Candidate Starts for Achebe\_26:

(Start: 39 @19799 has 8 MA's), (Start: 48 @19823 has 538 MA's), (Start: 52 @19829 has 3 MA's), (Start: 70 @19883 has 1 MA's), (86, 19952), (101, 20030), (105, 20054), (108, 20069), (115, 20105), (120, 20144), (123, 20159), (130, 20198), (141, 20291), (144, 20315), (161, 20402), (187, 20516), (195, 20555), (211, 20642), (219, 20687), (229, 20756), (234, 20780), (237, 20792), (258, 20879), (274, 20954), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (288, 21026), (300, 21059), (309, 21104), (310, 21107), (314, 21128), (351, 21353), (365, 21431), (369, 21458), (371, 21464), (391, 21599),

Gene: Acme\_29 Start: 21420, Stop: 23222, Start Num: 50

Candidate Starts for Acme\_29:

(Start: 50 @21420 has 210 MA's), (Start: 59 @21441 has 4 MA's), (Start: 70 @21483 has 1 MA's), (83, 21528), (120, 21744), (127, 21789), (130, 21798), (134, 21837), (140, 21888), (141, 21891), (183, 22086), (195, 22155), (229, 22356), (230, 22359), (234, 22380), (257, 22476), (258, 22479), (260, 22485), (274, 22554), (277, 22572), (279, 22581), (285, 22611), (310, 22707), (315, 22740), (318, 22755), (342, 22896), (351, 22953), (371, 23064),

Gene: Acolyte\_28 Start: 20741, Stop: 22531, Start Num: 48

Candidate Starts for Acolyte\_28:

(30, 20675), (Start: 39 @20717 has 8 MA's), (Start: 48 @20741 has 538 MA's), (84, 20840), (89, 20876), (94, 20894), (101, 20939), (105, 20963), (107, 20975), (108, 20978), (119, 21050), (120, 21053), (130, 21107), (131, 21113), (144, 21224), (150, 21242), (161, 21311), (176, 21371), (183, 21395), (192, 21455), (195, 21464), (211, 21551), (215, 21581), (237, 21701), (239, 21707), (258, 21788), (283, 21914), (295, 21959), (310, 22016), (315, 22049), (318, 22064), (321, 22088), (329, 22124), (334, 22163), (337, 22178), (351, 22262), (369, 22367), (371, 22373), (378, 22427), (391, 22508),

Gene: Adahisdi\_28 Start: 21327, Stop: 23129, Start Num: 50

Candidate Starts for Adahisdi\_28:

(Start: 50 @21327 has 210 MA's), (Start: 59 @21348 has 4 MA's), (Start: 70 @21390 has 1 MA's), (83, 21435), (120, 21651), (127, 21696), (130, 21705), (134, 21744), (140, 21795), (141, 21798), (183, 21993), (195, 22062), (229, 22263), (230, 22266), (234, 22287), (257, 22383), (258, 22386), (260, 22392), (274, 22461), (277, 22479), (279, 22488), (285, 22518), (310, 22614), (315, 22647), (318, 22662), (342, 22803), (351, 22860), (371, 22971),

Gene: Adzzy\_29 Start: 18919, Stop: 20709, Start Num: 48

Candidate Starts for Adzzy\_29:

(30, 18853), (Start: 39 @18895 has 8 MA's), (Start: 48 @18919 has 538 MA's), (68, 18964), (72, 18979), (94, 19072), (107, 19153), (108, 19156), (119, 19228), (120, 19231), (123, 19246), (130, 19285), (131, 19291), (144, 19402), (146, 19408), (153, 19435), (161, 19489), (181, 19570), (211, 19729), (215, 19759), (232, 19852), (239, 19885), (252, 19936), (258, 19966), (283, 20092), (307, 20173), (308, 20182), (315, 20227), (318, 20242), (321, 20266), (334, 20341), (335, 20344), (337, 20356), (351, 20440), (369, 20545), (378, 20605), (391, 20686),

Gene: Aeneas\_29 Start: 21456, Stop: 23258, Start Num: 50

Candidate Starts for Aeneas\_29:

(Start: 50 @21456 has 210 MA's), (Start: 59 @21477 has 4 MA's), (Start: 70 @21519 has 1 MA's), (83, 21564), (120, 21780), (127, 21825), (130, 21834), (134, 21873), (140, 21924), (141, 21927), (183, 22122), (195, 22191), (229, 22392), (230, 22395), (234, 22416), (257, 22512), (258, 22515), (260, 22521), (274, 22590), (277, 22608), (279, 22617), (285, 22647), (310, 22743), (315, 22776), (318, 22791), (342, 22932), (351, 22989), (371, 23100),

Gene: Affeca\_33 Start: 30652, Stop: 32415, Start Num: 32

Candidate Starts for Affeca\_33:

(29, 30634), (Start: 32 @30652 has 74 MA's), (Start: 37 @30688 has 5 MA's), (84, 30826), (100, 30922), (103, 30931), (112, 31000), (120, 31051), (127, 31096), (131, 31111), (140, 31192), (150, 31237), (152, 31246), (171, 31336), (177, 31366), (181, 31381), (185, 31405), (190, 31435), (218, 31540), (239, 31657), (244, 31675), (247, 31690), (254, 31720), (257, 31732), (258, 31735), (264, 31762), (342, 32086), (343, 32089), (350, 32137), (356, 32164), (360, 32191), (369, 32245), (375, 32272), (395, 32410),

Gene: Agaliana\_28 Start: 21421, Stop: 23202, Start Num: 59

Candidate Starts for Agaliana\_28:

(Start: 50 @21400 has 210 MA's), (Start: 59 @21421 has 4 MA's), (Start: 70 @21463 has 1 MA's), (83, 21508), (120, 21724), (127, 21769), (130, 21778), (140, 21868), (141, 21871), (144, 21895), (183, 22066), (195, 22135), (229, 22336), (230, 22339), (234, 22360), (257, 22456), (258, 22459), (260, 22465), (274, 22534), (277, 22552), (279, 22561), (285, 22591), (310, 22687), (315, 22720), (318, 22735), (342, 22876), (351, 22933), (371, 23044),

Gene: Agape74\_30 Start: 20673, Stop: 22445, Start Num: 48

Candidate Starts for Agape74\_30:

(Start: 39 @20649 has 8 MA's), (Start: 48 @20673 has 538 MA's), (84, 20772), (98, 20856), (107, 20907), (108, 20910), (119, 20982), (120, 20985), (130, 21039), (134, 21078), (144, 21156), (161, 21243), (181, 21324), (183, 21327), (230, 21600), (254, 21705), (258, 21720), (283, 21846), (285, 21852), (305, 21900), (318, 21978), (319, 21984), (329, 22038), (334, 22077), (337, 22092), (351, 22176), (371, 22287),

Gene: AgentM\_24 Start: 19734, Stop: 21533, Start Num: 48

Candidate Starts for AgentM\_24:

(Start: 48 @19734 has 538 MA's), (85, 19839), (90, 19872), (108, 19971), (120, 20046), (123, 20061), (129, 20097), (137, 20169), (139, 20184), (144, 20217), (146, 20223), (192, 20448), (194, 20454), (211, 20544), (227, 20649), (229, 20658), (239, 20700), (243, 20718), (257, 20778), (258, 20781), (274, 20856), (277, 20874), (309, 21015), (315, 21051), (351, 21264), (368, 21366), (371, 21375), (387, 21489), (391, 21510), (393, 21519),

Gene: Aglet\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for Aglet\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (84, 20485), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (187, 21070), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309, 21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: AgronaGT15\_29 Start: 20287, Stop: 22083, Start Num: 48

Candidate Starts for AgronaGT15\_29:

(Start: 48 @20287 has 538 MA's), (Start: 70 @20344 has 1 MA's), (74, 20359), (84, 20392), (86, 20413), (89, 20428), (105, 20515), (107, 20527), (108, 20530), (120, 20605), (123, 20620), (129, 20656), (161, 20863), (187, 20977), (195, 21016), (211, 21103), (229, 21217), (234, 21241), (239, 21259), (258, 21340), (274, 21415), (277, 21433), (283, 21466), (285, 21472), (295, 21511), (309, 21565), (310, 21568), (314, 21589), (322, 21646), (351, 21814), (369, 21919), (371, 21925), (391, 22060),

Gene: Ailee\_33 Start: 31142, Stop: 32905, Start Num: 32

Candidate Starts for Ailee\_33:

(29, 31124), (Start: 32 @31142 has 74 MA's), (Start: 37 @31178 has 5 MA's), (84, 31316), (100, 31412), (103, 31421), (112, 31490), (120, 31541), (127, 31586), (131, 31601), (140, 31682), (150, 31727), (152, 31736), (171, 31826), (177, 31856), (181, 31871), (185, 31895), (190, 31925), (218, 32030), (239, 32147), (244, 32165), (247, 32180), (254, 32210), (257, 32222), (258, 32225), (264, 32252), (342, 32576), (343, 32579), (350, 32627), (356, 32654), (360, 32681), (369, 32735), (375, 32762), (393, 32891),

Gene: Airmid\_24 Start: 18975, Stop: 20774, Start Num: 48

Candidate Starts for Airmid\_24:

(Start: 48 @18975 has 538 MA's), (108, 19212), (120, 19287), (123, 19302), (129, 19338), (137, 19410), (139, 19425), (144, 19458), (145, 19461), (146, 19464), (187, 19659), (192, 19689), (194,

19695), (211, 19785), (219, 19830), (229, 19899), (239, 19941), (243, 19959), (257, 20019), (258, 20022), (277, 20115), (309, 20256), (315, 20292), (368, 20607), (371, 20616), (391, 20751),

Gene: Ajay\_28 Start: 21632, Stop: 23434, Start Num: 50

Candidate Starts for Ajay\_28:

(Start: 50 @21632 has 210 MA's), (Start: 59 @21653 has 4 MA's), (Start: 70 @21695 has 1 MA's), (83, 21740), (120, 21956), (127, 22001), (130, 22010), (140, 22100), (141, 22103), (183, 22298), (195, 22367), (226, 22556), (229, 22568), (230, 22571), (234, 22592), (257, 22688), (258, 22691), (260, 22697), (274, 22766), (277, 22784), (279, 22793), (285, 22823), (310, 22919), (315, 22952), (318, 22967), (342, 23108), (351, 23165), (371, 23276),

Gene: Alatin\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Alatin\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Albee\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Albee\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Alberto7\_28 Start: 20129, Stop: 21907, Start Num: 48

Candidate Starts for Alberto7\_28:

(Start: 39 @20105 has 8 MA's), (Start: 48 @20129 has 538 MA's), (Start: 70 @20186 has 1 MA's), (85, 20240), (86, 20255), (90, 20273), (105, 20357), (107, 20369), (108, 20372), (120, 20447), (123, 20462), (130, 20501), (144, 20618), (161, 20705), (181, 20786), (191, 20834), (195, 20858), (211, 20945), (219, 20990), (230, 21062), (234, 21083), (239, 21101), (258, 21182), (277, 21275), (279, 21284), (283, 21308), (285, 21314), (291, 21338), (310, 21392), (314, 21413), (321, 21464), (326, 21488), (335, 21542), (351, 21638), (369, 21743), (372, 21758), (388, 21866), (391, 21884),

Gene: Aleemily\_19 Start: 16551, Stop: 18215, Start Num: 54

Candidate Starts for Aleemily\_19:

(Start: 46 @16536 has 8 MA's), (Start: 54 @16551 has 5 MA's), (Start: 56 @16557 has 3 MA's), (64, 16587), (67, 16596), (116, 16830), (120, 16863), (128, 16911), (137, 16986), (143, 17031), (161, 17121), (167, 17136), (178, 17190), (181, 17199), (187, 17232), (193, 17265), (195, 17271), (249, 17505), (252, 17517), (257, 17544), (264, 17577), (272, 17616), (274, 17625), (288, 17697), (306, 17712), (310, 17736), (318, 17784), (338, 17871), (344, 17892), (355, 17958), (365, 18024), (374, 18072), (385, 18162),

Gene: Aliter\_30 Start: 21674, Stop: 23467, Start Num: 46

Candidate Starts for Aliter\_30:

(Start: 46 @21674 has 8 MA's), (Start: 48 @21677 has 538 MA's), (107, 21911), (108, 21914), (119, 21986), (120, 21989), (123, 22004), (130, 22043), (131, 22049), (144, 22160), (161, 22247), (181, 22328), (183, 22331), (215, 22517), (225, 22580), (230, 22604), (232, 22610), (239, 22643), (258, 22724), (283, 22850), (294, 22892), (295, 22895), (310, 22952), (315, 22985), (318, 23000), (334, 23099), (335, 23102), (337, 23114), (351, 23198), (362, 23264), (369, 23303), (371, 23309), (377,

23354), (384, 23411), (385, 23414),

Gene: Alma\_30 Start: 21753, Stop: 23546, Start Num: 46

Candidate Starts for Alma\_30:

(Start: 46 @21753 has 8 MA's), (Start: 48 @21756 has 538 MA's), (107, 21990), (108, 21993), (119, 22065), (120, 22068), (123, 22083), (130, 22122), (131, 22128), (144, 22239), (161, 22326), (181, 22407), (183, 22410), (192, 22470), (215, 22596), (225, 22659), (230, 22683), (232, 22689), (239, 22722), (258, 22803), (283, 22929), (294, 22971), (295, 22974), (310, 23031), (315, 23064), (318, 23079), (334, 23178), (335, 23181), (337, 23193), (351, 23277), (362, 23343), (369, 23382), (371, 23388), (377, 23433), (384, 23490), (385, 23493),

Gene: Alpacados\_22 Start: 16285, Stop: 17910, Start Num: 62

Candidate Starts for Alpacados\_22:

(Start: 56 @16270 has 3 MA's), (Start: 62 @16285 has 32 MA's), (81, 16354), (88, 16390), (120, 16576), (138, 16705), (144, 16747), (152, 16774), (Start: 156 @16798 has 1 MA's), (158, 16816), (167, 16846), (170, 16861), (183, 16912), (198, 16996), (225, 17113), (230, 17137), (257, 17251), (268, 17299), (274, 17329), (280, 17368), (283, 17380), (305, 17410), (318, 17488), (349, 17635), (354, 17659), (360, 17695), (367, 17734), (394, 17902),

Gene: Alsfro\_31 Start: 21865, Stop: 23667, Start Num: 50

Candidate Starts for Alsfro\_31:

(Start: 50 @21865 has 210 MA's), (Start: 59 @21886 has 4 MA's), (Start: 70 @21928 has 1 MA's), (83, 21973), (120, 22189), (127, 22234), (130, 22243), (140, 22333), (141, 22336), (144, 22360), (158, 22429), (183, 22531), (195, 22600), (226, 22789), (229, 22801), (230, 22804), (234, 22825), (257, 22921), (258, 22924), (260, 22930), (274, 22999), (277, 23017), (279, 23026), (285, 23056), (310, 23152), (315, 23185), (318, 23200), (342, 23341), (351, 23398), (371, 23509), (395, 23662),

Gene: Altman\_29 Start: 21923, Stop: 23725, Start Num: 50

Candidate Starts for Altman\_29:

(Start: 50 @21923 has 210 MA's), (Start: 59 @21944 has 4 MA's), (Start: 70 @21986 has 1 MA's), (83, 22031), (120, 22247), (127, 22292), (130, 22301), (134, 22340), (140, 22391), (141, 22394), (158, 22487), (183, 22589), (195, 22658), (229, 22859), (230, 22862), (234, 22883), (257, 22979), (258, 22982), (260, 22988), (274, 23057), (277, 23075), (279, 23084), (285, 23114), (310, 23210), (315, 23243), (318, 23258), (342, 23399), (351, 23456), (371, 23567),

Gene: Alvin\_28 Start: 21635, Stop: 23437, Start Num: 50

Candidate Starts for Alvin\_28:

(Start: 50 @21635 has 210 MA's), (Start: 59 @21656 has 4 MA's), (Start: 70 @21698 has 1 MA's), (83, 21743), (120, 21959), (127, 22004), (130, 22013), (140, 22103), (141, 22106), (158, 22199), (183, 22301), (195, 22370), (226, 22559), (229, 22571), (230, 22574), (234, 22595), (257, 22691), (258, 22694), (260, 22700), (274, 22769), (277, 22787), (279, 22796), (285, 22826), (310, 22922), (315, 22955), (318, 22970), (342, 23111), (351, 23168), (371, 23279),

Gene: Anaysia\_30 Start: 19096, Stop: 20883, Start Num: 48

Candidate Starts for Anaysia\_30:

(30, 19030), (Start: 39 @19072 has 8 MA's), (Start: 48 @19096 has 538 MA's), (90, 19234), (100, 19291), (108, 19333), (115, 19369), (120, 19408), (132, 19477), (134, 19501), (141, 19555), (172, 19705), (183, 19750), (187, 19780), (194, 19816), (202, 19867), (210, 19903), (219, 19951), (227, 20011), (257, 20140), (274, 20218), (318, 20419), (319, 20425), (335, 20521), (363, 20686), (379, 20785),

Gene: Aneem\_28 Start: 20755, Stop: 22554, Start Num: 48

Candidate Starts for Aneem\_28:



(30, 20689), (Start: 39 @20731 has 8 MA's), (Start: 48 @20755 has 538 MA's), (67, 20797), (90, 20893), (94, 20908), (107, 20989), (108, 20992), (120, 21067), (123, 21082), (130, 21121), (131, 21127), (135, 21178), (144, 21238), (146, 21244), (161, 21325), (183, 21409), (204, 21535), (209, 21553), (214, 21580), (239, 21721), (254, 21787), (257, 21799), (258, 21802), (300, 21991), (307, 22018), (308, 22027), (311, 22048), (312, 22051), (315, 22072), (318, 22087), (321, 22111), (334, 22186), (337, 22201), (351, 22285), (369, 22390), (371, 22396), (378, 22450), (395, 22549),

Gene: Angelicage\_33 Start: 31069, Stop: 32832, Start Num: 32

Candidate Starts for Angelicage\_33:

(29, 31051), (Start: 32 @31069 has 74 MA's), (Start: 37 @31105 has 5 MA's), (84, 31243), (87, 31267), (100, 31339), (103, 31348), (120, 31468), (127, 31513), (131, 31528), (133, 31546), (140, 31609), (150, 31654), (152, 31663), (171, 31753), (177, 31783), (181, 31798), (182, 31807), (185, 31822), (190, 31852), (239, 32074), (244, 32092), (247, 32107), (254, 32137), (257, 32149), (258, 32152), (264, 32179), (342, 32503), (343, 32506), (350, 32554), (356, 32581), (360, 32608), (369, 32662), (374, 32686), (375, 32689), (385, 32779), (395, 32827),

Gene: Anglerfish\_28 Start: 21836, Stop: 23638, Start Num: 50

Candidate Starts for Anglerfish\_28:

(Start: 50 @21836 has 210 MA's), (Start: 59 @21857 has 4 MA's), (Start: 70 @21899 has 1 MA's), (83, 21944), (120, 22160), (127, 22205), (130, 22214), (140, 22304), (141, 22307), (158, 22400), (183, 22502), (195, 22571), (229, 22772), (230, 22775), (234, 22796), (257, 22892), (258, 22895), (260, 22901), (274, 22970), (277, 22988), (279, 22997), (285, 23027), (310, 23123), (315, 23156), (318, 23171), (342, 23312), (351, 23369), (371, 23480), (395, 23633),

Gene: AngryOrchard\_22 Start: 16268, Stop: 17893, Start Num: 62

Candidate Starts for AngryOrchard\_22:

(Start: 56 @16253 has 3 MA's), (Start: 62 @16268 has 32 MA's), (81, 16337), (88, 16373), (111, 16514), (120, 16559), (138, 16688), (144, 16730), (150, 16748), (152, 16757), (Start: 156 @16781 has 1 MA's), (158, 16799), (167, 16829), (170, 16844), (171, 16847), (179, 16886), (183, 16895), (225, 17096), (257, 17234), (274, 17312), (280, 17351), (283, 17363), (305, 17393), (318, 17471), (349, 17618), (367, 17717), (369, 17732), (394, 17885),

Gene: AnnaL29\_31 Start: 22021, Stop: 23793, Start Num: 48

Candidate Starts for AnnaL29\_31:

(Start: 39 @21997 has 8 MA's), (Start: 48 @22021 has 538 MA's), (98, 22204), (107, 22255), (108, 22258), (119, 22330), (120, 22333), (130, 22387), (131, 22393), (134, 22426), (144, 22504), (146, 22510), (150, 22522), (161, 22591), (179, 22666), (181, 22672), (183, 22675), (190, 22717), (216, 22864), (229, 22945), (230, 22948), (239, 22987), (254, 23053), (258, 23068), (285, 23200), (305, 23248), (314, 23299), (315, 23311), (318, 23326), (319, 23332), (329, 23386), (337, 23440), (351, 23524), (362, 23590), (369, 23629), (371, 23635),

Gene: Annyong\_27 Start: 19828, Stop: 21606, Start Num: 48

Candidate Starts for Annyong\_27:

(Start: 39 @19804 has 8 MA's), (Start: 48 @19828 has 538 MA's), (Start: 70 @19885 has 1 MA's), (85, 19939), (86, 19954), (90, 19972), (105, 20056), (107, 20068), (108, 20071), (120, 20146), (123, 20161), (130, 20200), (144, 20317), (161, 20404), (181, 20485), (191, 20533), (195, 20557), (211, 20644), (219, 20689), (230, 20761), (234, 20782), (239, 20800), (258, 20881), (277, 20974), (279, 20983), (283, 21007), (285, 21013), (291, 21037), (310, 21091), (314, 21112), (321, 21163), (326, 21187), (335, 21241), (351, 21337), (369, 21442), (372, 21457), (388, 21565), (391, 21583),

Gene: Anon\_28 Start: 19727, Stop: 21511, Start Num: 48

Candidate Starts for Anon\_28:

(Start: 39 @19703 has 8 MA's), (Start: 48 @19727 has 538 MA's), (76, 19802), (86, 19847), (90, 19865), (108, 19964), (111, 19994), (115, 20000), (120, 20039), (123, 20054), (132, 20108), (134, 20132), (141, 20186), (146, 20216), (163, 20303), (172, 20336), (181, 20378), (183, 20381), (194, 20447), (202, 20498), (219, 20582), (257, 20771), (258, 20774), (271, 20837), (279, 20876), (288, 20921), (310, 21002), (315, 21035), (319, 21056), (330, 21113), (335, 21149), (351, 21242), (372, 21362), (384, 21455),

Gene: Anselm\_28 Start: 20293, Stop: 22065, Start Num: 48

Candidate Starts for Anselm\_28:

(Start: 39 @20269 has 8 MA's), (Start: 48 @20293 has 538 MA's), (84, 20392), (107, 20527), (108, 20530), (119, 20602), (120, 20605), (130, 20659), (134, 20698), (139, 20743), (144, 20776), (161, 20863), (181, 20944), (183, 20947), (230, 21220), (258, 21340), (283, 21466), (305, 21520), (307, 21529), (310, 21550), (315, 21583), (318, 21598), (319, 21604), (329, 21658), (334, 21697), (337, 21712), (351, 21796), (371, 21907), (391, 22042),

Gene: Anthony\_27 Start: 18675, Stop: 20474, Start Num: 48

Candidate Starts for Anthony\_27:

(30, 18609), (Start: 39 @18651 has 8 MA's), (Start: 48 @18675 has 538 MA's), (Start: 59 @18684 has 4 MA's), (84, 18774), (90, 18813), (107, 18909), (108, 18912), (119, 18984), (120, 18987), (130, 19041), (131, 19047), (144, 19158), (161, 19245), (181, 19326), (183, 19329), (211, 19485), (215, 19515), (239, 19641), (258, 19722), (283, 19848), (309, 19956), (310, 19959), (318, 20007), (329, 20067), (334, 20106), (337, 20121), (351, 20205), (369, 20310), (371, 20316), (374, 20334), (378, 20370), (391, 20451),

Gene: Anubis\_31 Start: 20265, Stop: 22061, Start Num: 48

Candidate Starts for Anubis\_31:

(Start: 48 @20265 has 538 MA's), (Start: 70 @20322 has 1 MA's), (74, 20337), (84, 20370), (86, 20391), (89, 20406), (105, 20493), (107, 20505), (108, 20508), (120, 20583), (123, 20598), (129, 20634), (161, 20841), (187, 20955), (195, 20994), (211, 21081), (229, 21195), (234, 21219), (239, 21237), (258, 21318), (274, 21393), (277, 21411), (283, 21444), (285, 21450), (295, 21489), (309, 21543), (310, 21546), (314, 21567), (322, 21624), (351, 21792), (369, 21897), (371, 21903), (391, 22038),

Gene: AppleCloud\_21 Start: 16314, Stop: 17939, Start Num: 62

Candidate Starts for AppleCloud\_21:

(Start: 56 @16299 has 3 MA's), (Start: 62 @16314 has 32 MA's), (73, 16356), (81, 16383), (88, 16419), (111, 16560), (120, 16605), (138, 16734), (144, 16776), (150, 16794), (152, 16803), (Start: 156 @16827 has 1 MA's), (158, 16845), (167, 16875), (170, 16890), (171, 16893), (179, 16932), (183, 16941), (198, 17025), (215, 17079), (219, 17094), (225, 17142), (230, 17166), (257, 17280), (274, 17358), (280, 17397), (283, 17409), (286, 17418), (305, 17439), (318, 17517), (349, 17664), (367, 17763), (369, 17778), (394, 17931),

Gene: Applejack\_27 Start: 21097, Stop: 22899, Start Num: 50

Candidate Starts for Applejack\_27:

(Start: 50 @21097 has 210 MA's), (Start: 59 @21118 has 4 MA's), (Start: 70 @21160 has 1 MA's), (83, 21205), (120, 21421), (127, 21466), (130, 21475), (134, 21514), (140, 21565), (141, 21568), (183, 21763), (195, 21832), (229, 22033), (230, 22036), (234, 22057), (257, 22153), (258, 22156), (260, 22162), (274, 22231), (277, 22249), (279, 22258), (285, 22288), (310, 22384), (315, 22417), (318, 22432), (342, 22573), (351, 22630), (371, 22741),

Gene: Apricot\_19 Start: 15970, Stop: 17667, Start Num: 47

Candidate Starts for Apricot\_19:

(35, 15931), (Start: 47 @15970 has 34 MA's), (53, 15982), (55, 15985), (66, 16021), (77, 16060), (84, 16081), (91, 16123), (92, 16129), (93, 16132), (97, 16144), (101, 16180), (107, 16216), (116, 16273), (123, 16321), (126, 16348), (140, 16450), (148, 16489), (158, 16546), (161, 16564), (165, 16573), (167, 16579), (177, 16627), (184, 16657), (189, 16693), (191, 16699), (194, 16720), (195, 16723), (203, 16774), (216, 16801), (217, 16804), (221, 16831), (224, 16858), (241, 16930), (250, 16969), (265, 17023), (279, 17095), (290, 17140), (316, 17230), (322, 17248), (339, 17332), (341, 17341), (342, 17344), (344, 17350), (347, 17365), (350, 17395), (351, 17401), (356, 17422), (357, 17425), (365, 17479), (371, 17509), (372, 17518), (379, 17569), (382, 17602), (385, 17614), (389, 17632),

Gene: Aragog\_24 Start: 19764, Stop: 21563, Start Num: 48

Candidate Starts for Aragog\_24:

(Start: 48 @19764 has 538 MA's), (85, 19869), (90, 19902), (108, 20001), (120, 20076), (123, 20091), (129, 20127), (137, 20199), (139, 20214), (144, 20247), (146, 20253), (192, 20478), (194, 20484), (211, 20574), (227, 20679), (229, 20688), (239, 20730), (243, 20748), (257, 20808), (258, 20811), (274, 20886), (277, 20904), (309, 21045), (315, 21081), (351, 21294), (368, 21396), (371, 21405), (387, 21519), (391, 21540), (393, 21549),

Gene: Arcanine\_28 Start: 20852, Stop: 22654, Start Num: 50

Candidate Starts for Arcanine\_28:

(Start: 50 @20852 has 210 MA's), (Start: 59 @20873 has 4 MA's), (Start: 70 @20915 has 1 MA's), (83, 20960), (120, 21176), (127, 21221), (130, 21230), (140, 21320), (141, 21323), (158, 21416), (183, 21518), (195, 21587), (226, 21776), (229, 21788), (230, 21791), (234, 21812), (257, 21908), (258, 21911), (260, 21917), (274, 21986), (277, 22004), (279, 22013), (285, 22043), (310, 22139), (315, 22172), (318, 22187), (342, 22328), (351, 22385), (371, 22496),

Gene: ArcherNM\_30 Start: 21966, Stop: 23738, Start Num: 48

Candidate Starts for ArcherNM\_30:

(30, 21900), (Start: 39 @21942 has 8 MA's), (Start: 48 @21966 has 538 MA's), (98, 22149), (107, 22200), (108, 22203), (119, 22275), (120, 22278), (130, 22332), (131, 22338), (134, 22371), (144, 22449), (146, 22455), (150, 22467), (161, 22536), (179, 22611), (181, 22617), (183, 22620), (215, 22806), (229, 22890), (230, 22893), (239, 22932), (252, 22983), (254, 22998), (258, 23013), (283, 23139), (285, 23145), (305, 23193), (314, 23244), (315, 23256), (318, 23271), (319, 23277), (329, 23331), (337, 23385), (351, 23469), (362, 23535), (369, 23574), (371, 23580),

Gene: Archetta\_24 Start: 19557, Stop: 21356, Start Num: 48

Candidate Starts for Archetta\_24:

(Start: 48 @19557 has 538 MA's), (90, 19695), (108, 19794), (120, 19869), (129, 19920), (137, 19992), (139, 20007), (144, 20040), (146, 20046), (165, 20139), (187, 20241), (192, 20271), (194, 20277), (211, 20367), (215, 20397), (226, 20469), (229, 20481), (230, 20484), (239, 20523), (243, 20541), (257, 20601), (258, 20604), (270, 20655), (277, 20697), (309, 20838), (317, 20880), (371, 21198), (391, 21333),

Gene: Arianna\_19 Start: 17425, Stop: 19089, Start Num: 50

Candidate Starts for Arianna\_19:

(Start: 50 @17425 has 210 MA's), (63, 17458), (116, 17716), (127, 17794), (143, 17917), (146, 17926), (147, 17929), (150, 17938), (152, 17947), (183, 18088), (185, 18100), (194, 18154), (224, 18289), (233, 18322), (236, 18340), (239, 18352), (243, 18367), (257, 18427), (263, 18448), (264, 18457), (277, 18523), (283, 18556), (305, 18586), (306, 18592), (307, 18595), (318, 18664), (341, 18763), (344, 18772), (370, 18928), (372, 18940),

Gene: Arissanae\_28 Start: 19809, Stop: 21599, Start Num: 48

Candidate Starts for Arissanae\_28:

(Start: 46 @19806 has 8 MA's), (Start: 48 @19809 has 538 MA's), (61, 19827), (76, 19884), (83, 19905), (95, 19965), (101, 20007), (107, 20043), (108, 20046), (120, 20121), (130, 20175), (131, 20181), (140, 20265), (144, 20292), (146, 20298), (161, 20379), (181, 20460), (183, 20463), (192, 20523), (195, 20532), (225, 20712), (230, 20736), (239, 20775), (258, 20856), (295, 21027), (310, 21084), (311, 21093), (315, 21117), (318, 21132), (321, 21156), (329, 21192), (334, 21231), (337, 21246), (351, 21330), (362, 21396), (369, 21435), (371, 21441), (377, 21486),

Gene: Arlo\_26 Start: 20726, Stop: 22528, Start Num: 50

Candidate Starts for Arlo\_26:

(Start: 50 @20726 has 210 MA's), (Start: 59 @20747 has 4 MA's), (Start: 70 @20789 has 1 MA's), (83, 20834), (120, 21050), (127, 21095), (130, 21104), (134, 21143), (140, 21194), (141, 21197), (158, 21290), (183, 21392), (195, 21461), (229, 21662), (230, 21665), (234, 21686), (257, 21782), (258, 21785), (260, 21791), (274, 21860), (277, 21878), (279, 21887), (285, 21917), (310, 22013), (315, 22046), (318, 22061), (342, 22202), (351, 22259), (371, 22370),

Gene: Arri\_34 Start: 26557, Stop: 28323, Start Num: 32

Candidate Starts for Arri\_34:

(26, 26515), (Start: 32 @26557 has 74 MA's), (Start: 37 @26593 has 5 MA's), (Start: 51 @26626 has 7 MA's), (102, 26836), (103, 26839), (107, 26869), (117, 26935), (120, 26959), (121, 26968), (126, 27001), (152, 27154), (158, 27193), (171, 27244), (173, 27256), (177, 27274), (180, 27286), (182, 27298), (185, 27313), (190, 27343), (191, 27346), (194, 27367), (216, 27439), (222, 27487), (247, 27598), (255, 27631), (264, 27670), (265, 27673), (279, 27745), (296, 27811), (304, 27823), (342, 27994), (343, 27997), (350, 28045), (356, 28072), (360, 28099), (369, 28153), (385, 28270), (390, 28291), (395, 28318),

Gene: Artemis2UCLA\_31 Start: 19873, Stop: 21645, Start Num: 48

Candidate Starts for Artemis2UCLA\_31:

(30, 19807), (Start: 39 @19849 has 8 MA's), (Start: 48 @19873 has 538 MA's), (108, 20110), (119, 20182), (120, 20185), (123, 20200), (130, 20239), (131, 20245), (144, 20356), (146, 20362), (155, 20401), (161, 20443), (172, 20482), (181, 20524), (183, 20527), (211, 20683), (235, 20824), (239, 20839), (285, 21052), (314, 21151), (318, 21178), (327, 21229), (329, 21238), (334, 21277), (337, 21292), (351, 21376), (369, 21481), (371, 21487), (391, 21622),

Gene: Arturo\_26 Start: 19939, Stop: 21717, Start Num: 48

Candidate Starts for Arturo\_26:

(Start: 39 @19915 has 8 MA's), (Start: 48 @19939 has 538 MA's), (Start: 70 @19996 has 1 MA's), (85, 20050), (86, 20065), (90, 20083), (105, 20167), (107, 20179), (108, 20182), (120, 20257), (123, 20272), (130, 20311), (144, 20428), (161, 20515), (181, 20596), (191, 20644), (195, 20668), (211, 20755), (219, 20800), (230, 20872), (234, 20893), (239, 20911), (258, 20992), (277, 21085), (279, 21094), (283, 21118), (285, 21124), (291, 21148), (310, 21202), (314, 21223), (321, 21274), (326, 21298), (335, 21352), (351, 21448), (369, 21553), (372, 21568), (388, 21676), (391, 21694),

Gene: Asapag\_20 Start: 16428, Stop: 18125, Start Num: 47

Candidate Starts for Asapag\_20:

(35, 16389), (Start: 47 @16428 has 34 MA's), (53, 16440), (77, 16518), (84, 16539), (92, 16587), (95, 16596), (101, 16638), (107, 16674), (116, 16731), (118, 16752), (123, 16779), (126, 16806), (148, 16947), (158, 17004), (165, 17031), (167, 17037), (177, 17085), (184, 17115), (189, 17151), (194, 17178), (195, 17181), (203, 17232), (216, 17259), (217, 17262), (221, 17289), (224, 17316), (241, 17388), (250, 17427), (265, 17481), (273, 17523), (290, 17598), (311, 17661), (316, 17688), (322, 17706), (339, 17790), (341, 17799), (342, 17802), (344, 17808), (347, 17823), (350, 17853), (351, 17859), (356, 17880), (357, 17883), (365, 17937), (371, 17967), (372, 17976), (379, 18027), (382, 18060), (385, 18072), (389, 18090),

Gene: Ashballer\_27 Start: 21575, Stop: 23377, Start Num: 50

Candidate Starts for Ashballer\_27:

(Start: 50 @21575 has 210 MA's), (Start: 59 @21596 has 4 MA's), (Start: 70 @21638 has 1 MA's), (83, 21683), (120, 21899), (127, 21944), (130, 21953), (134, 21992), (140, 22043), (141, 22046), (183, 22241), (195, 22310), (229, 22511), (230, 22514), (234, 22535), (257, 22631), (258, 22634), (260, 22640), (274, 22709), (277, 22727), (279, 22736), (285, 22766), (310, 22862), (315, 22895), (318, 22910), (342, 23051), (351, 23108), (371, 23219),

Gene: Ashertheman\_35 Start: 29935, Stop: 31698, Start Num: 32

Candidate Starts for Ashertheman\_35:

(Start: 32 @29935 has 74 MA's), (Start: 37 @29971 has 5 MA's), (81, 30100), (84, 30109), (100, 30205), (103, 30214), (112, 30283), (120, 30334), (121, 30343), (127, 30379), (131, 30394), (133, 30412), (140, 30475), (150, 30520), (152, 30529), (175, 30640), (177, 30649), (181, 30664), (185, 30688), (190, 30718), (239, 30940), (244, 30958), (247, 30973), (257, 31015), (258, 31018), (264, 31045), (289, 31165), (342, 31369), (343, 31372), (350, 31420), (356, 31447), (360, 31474), (369, 31528), (375, 31555),

Gene: Astro\_24 Start: 18655, Stop: 20445, Start Num: 48

Candidate Starts for Astro\_24:

(Start: 39 @18631 has 8 MA's), (Start: 48 @18655 has 538 MA's), (82, 18748), (90, 18793), (108, 18892), (115, 18928), (120, 18967), (123, 18982), (129, 19018), (144, 19138), (146, 19144), (172, 19264), (198, 19393), (211, 19465), (229, 19579), (277, 19795), (283, 19828), (310, 19930), (315, 19963), (318, 19978), (322, 20008), (368, 20278), (371, 20287), (372, 20296), (389, 20410),

Gene: Atkinbua\_29 Start: 21550, Stop: 23352, Start Num: 50

Candidate Starts for Atkinbua\_29:

(Start: 50 @21550 has 210 MA's), (Start: 59 @21571 has 4 MA's), (Start: 70 @21613 has 1 MA's), (83, 21658), (120, 21874), (127, 21919), (130, 21928), (134, 21967), (140, 22018), (141, 22021), (183, 22216), (195, 22285), (229, 22486), (230, 22489), (234, 22510), (257, 22606), (258, 22609), (260, 22615), (274, 22684), (277, 22702), (279, 22711), (285, 22741), (310, 22837), (315, 22870), (318, 22885), (342, 23026), (351, 23083), (371, 23194), (395, 23347),

Gene: AugsMagnumOpus\_31 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for AugsMagnumOpus\_31:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: Avani\_19 Start: 13744, Stop: 15408, Start Num: 51

Candidate Starts for Avani\_19:

(Start: 51 @13744 has 7 MA's), (76, 13825), (85, 13855), (88, 13876), (90, 13888), (103, 13954), (109, 13993), (110, 14005), (114, 14029), (122, 14086), (123, 14089), (125, 14113), (127, 14119), (128, 14122), (134, 14167), (135, 14185), (141, 14221), (162, 14332), (172, 14368), (177, 14395), (180, 14407), (181, 14410), (187, 14452), (190, 14464), (194, 14488), (214, 14542), (229, 14641), (253, 14734), (258, 14761), (261, 14773), (275, 14824), (277, 14839), (289, 14893), (306, 14920), (342, 15082), (343, 15085), (344, 15088), (362, 15205), (371, 15247), (381, 15331), (390, 15376), (393, 15394),

Gene: AvatarAhPeg\_28 Start: 20105, Stop: 21904, Start Num: 48

Candidate Starts for AvatarAhPeg\_28:

(Start: 39 @20081 has 8 MA's), (Start: 48 @20105 has 538 MA's), (Start: 52 @20111 has 3 MA's), (Start: 70 @20165 has 1 MA's), (86, 20234), (101, 20312), (105, 20336), (107, 20348), (108, 20351), (120, 20426), (123, 20441), (130, 20480), (141, 20573), (144, 20597), (161, 20684), (187, 20798), (211, 20924), (219, 20969), (229, 21038), (234, 21062), (237, 21074), (258, 21161), (277, 21254), (283, 21287), (285, 21293), (288, 21308), (309, 21386), (310, 21389), (314, 21410), (351, 21635), (365, 21713), (366, 21716), (369, 21740), (371, 21746), (391, 21881), (395, 21899),

Gene: Avle17\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Avle17\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Azira\_20 Start: 16710, Stop: 18404, Start Num: 47

Candidate Starts for Azira\_20:

(10, 16299), (12, 16335), (16, 16386), (Start: 47 @16710 has 34 MA's), (53, 16722), (110, 16974), (113, 16995), (114, 16998), (120, 17043), (123, 17058), (134, 17136), (139, 17181), (158, 17283), (167, 17316), (168, 17328), (170, 17331), (182, 17388), (187, 17421), (191, 17436), (201, 17502), (217, 17544), (219, 17553), (224, 17598), (238, 17661), (257, 17742), (262, 17760), (264, 17769), (266, 17778), (277, 17835), (279, 17844), (318, 17976), (327, 18003), (332, 18024), (341, 18075), (342, 18078), (359, 18174), (362, 18201), (364, 18210), (365, 18213), (371, 18243), (374, 18261), (380, 18306), (394, 18396),

Gene: B1\_25 Start: 19592, Stop: 21391, Start Num: 48

Candidate Starts for B1\_25:

(Start: 48 @19592 has 538 MA's), (Start: 70 @19652 has 1 MA's), (86, 19721), (105, 19823), (107, 19835), (108, 19838), (120, 19913), (123, 19928), (124, 19931), (130, 19967), (150, 20102), (161, 20171), (187, 20285), (211, 20411), (229, 20525), (230, 20528), (234, 20549), (239, 20567), (258, 20648), (274, 20723), (277, 20741), (279, 20750), (283, 20774), (285, 20780), (288, 20795), (295, 20819), (300, 20828), (309, 20873), (310, 20876), (314, 20897), (315, 20909), (351, 21122), (357, 21146), (369, 21227), (371, 21233), (391, 21368),

Gene: BABullseye\_31 Start: 20049, Stop: 21821, Start Num: 48

Candidate Starts for BABullseye\_31:

(Start: 48 @20049 has 538 MA's), (101, 20247), (108, 20286), (119, 20358), (120, 20361), (124, 20379), (130, 20415), (131, 20421), (144, 20532), (146, 20538), (155, 20577), (161, 20619), (172, 20658), (181, 20700), (183, 20703), (192, 20763), (235, 21000), (239, 21015), (258, 21096), (285, 21228), (318, 21354), (327, 21405), (329, 21414), (334, 21453), (335, 21456), (337, 21468), (351, 21552), (369, 21657), (371, 21663), (391, 21798),

Gene: BBQValindra\_19 Start: 16628, Stop: 18358, Start Num: 45

Candidate Starts for BBQValindra\_19:

(2, 16001), (3, 16034), (8, 16169), (13, 16271), (15, 16292), (17, 16313), (24, 16508), (35, 16592), (Start: 45 @16628 has 4 MA's), (110, 16898), (155, 17183), (161, 17225), (171, 17261), (177, 17291), (182, 17315), (189, 17357), (194, 17384), (213, 17441), (214, 17447), (226, 17534), (293, 17828), (312, 17894), (316, 17918), (322, 17936), (342, 18032), (346, 18050), (373, 18209), (383, 18296), (389, 18323),

Gene: BENtherdunthat\_20 Start: 16428, Stop: 18125, Start Num: 47

Candidate Starts for BENtherdunthat\_20:

(35, 16389), (Start: 47 @16428 has 34 MA's), (53, 16440), (77, 16518), (84, 16539), (92, 16587), (95, 16596), (101, 16638), (107, 16674), (116, 16731), (118, 16752), (123, 16779), (126, 16806), (148, 16947), (158, 17004), (165, 17031), (167, 17037), (177, 17085), (184, 17115), (189, 17151), (194, 17178), (195, 17181), (203, 17232), (216, 17259), (217, 17262), (221, 17289), (224, 17316), (241, 17388), (250, 17427), (265, 17481), (273, 17523), (290, 17598), (311, 17661), (316, 17688), (322, 17706), (339, 17790), (341, 17799), (342, 17802), (344, 17808), (347, 17823), (350, 17853), (351, 17859), (356, 17880), (357, 17883), (365, 17937), (371, 17967), (372, 17976), (379, 18027), (382, 18060), (385, 18072), (389, 18090),

Gene: BK1\_25 Start: 20661, Stop: 22463, Start Num: 50

Candidate Starts for BK1\_25:

(Start: 50 @20661 has 210 MA's), (Start: 59 @20682 has 4 MA's), (Start: 70 @20724 has 1 MA's), (83, 20769), (120, 20985), (127, 21030), (130, 21039), (134, 21078), (140, 21129), (141, 21132), (183, 21327), (195, 21396), (226, 21585), (229, 21597), (230, 21600), (234, 21621), (257, 21717), (258, 21720), (260, 21726), (274, 21795), (277, 21813), (279, 21822), (285, 21852), (310, 21948), (315, 21981), (318, 21996), (342, 22137), (351, 22194), (371, 22305),

Gene: BPBiabs31\_28 Start: 21364, Stop: 23166, Start Num: 50

Candidate Starts for BPBiabs31\_28:

(Start: 50 @21364 has 210 MA's), (Start: 59 @21385 has 4 MA's), (Start: 70 @21427 has 1 MA's), (83, 21472), (120, 21688), (127, 21733), (130, 21742), (134, 21781), (140, 21832), (141, 21835), (158, 21928), (183, 22030), (195, 22099), (229, 22300), (230, 22303), (234, 22324), (257, 22420), (258, 22423), (260, 22429), (274, 22498), (277, 22516), (279, 22525), (285, 22555), (310, 22651), (315, 22684), (318, 22699), (342, 22840), (351, 22897), (371, 23008),

Gene: Baby16\_27 Start: 19836, Stop: 21614, Start Num: 48

Candidate Starts for Baby16\_27:

(Start: 39 @19812 has 8 MA's), (Start: 48 @19836 has 538 MA's), (Start: 70 @19893 has 1 MA's), (85, 19947), (86, 19962), (90, 19980), (105, 20064), (107, 20076), (108, 20079), (120, 20154), (123, 20169), (130, 20208), (144, 20325), (161, 20412), (181, 20493), (191, 20541), (195, 20565), (211, 20652), (219, 20697), (230, 20769), (234, 20790), (239, 20808), (258, 20889), (277, 20982), (279, 20991), (283, 21015), (285, 21021), (291, 21045), (310, 21099), (314, 21120), (321, 21171), (326, 21195), (335, 21249), (351, 21345), (369, 21450), (372, 21465), (388, 21573), (391, 21591),

Gene: BabyBack\_30 Start: 21767, Stop: 23563, Start Num: 39

Candidate Starts for BabyBack\_30:

(Start: 39 @21767 has 8 MA's), (Start: 48 @21791 has 538 MA's), (107, 22025), (108, 22028), (120, 22103), (124, 22121), (131, 22163), (144, 22274), (155, 22319), (161, 22361), (181, 22442), (183, 22445), (211, 22601), (215, 22631), (229, 22715), (230, 22718), (258, 22838), (283, 22964), (285, 22970), (305, 23018), (312, 23060), (314, 23069), (318, 23096), (321, 23120), (323, 23132), (334, 23195), (335, 23198), (337, 23210), (351, 23294), (369, 23399), (371, 23405), (374, 23423), (378, 23459), (391, 23540),

Gene: BabyJohn\_26 Start: 20176, Stop: 21975, Start Num: 48

Candidate Starts for BabyJohn\_26:

(Start: 48 @20176 has 538 MA's), (Start: 70 @20236 has 1 MA's), (86, 20305), (105, 20407), (107, 20419), (108, 20422), (120, 20497), (123, 20512), (124, 20515), (130, 20551), (150, 20686), (161, 20755), (187, 20869), (211, 20995), (229, 21109), (230, 21112), (234, 21133), (239, 21151), (258, 21232), (274, 21307), (277, 21325), (279, 21334), (283, 21358), (285, 21364), (288, 21379), (300, 21412), (309, 21457), (310, 21460), (314, 21481), (315, 21493), (351, 21706), (357, 21730), (369, 21811), (371, 21817), (386, 21928), (391, 21952),

Gene: BabyRay\_27 Start: 20152, Stop: 21951, Start Num: 48



Candidate Starts for BabyRay\_27:

(Start: 48 @20152 has 538 MA's), (Start: 70 @20212 has 1 MA's), (86, 20281), (105, 20383), (107, 20395), (108, 20398), (120, 20473), (123, 20488), (124, 20491), (130, 20527), (150, 20662), (161, 20731), (187, 20845), (211, 20971), (229, 21085), (230, 21088), (234, 21109), (239, 21127), (258, 21208), (274, 21283), (277, 21301), (279, 21310), (283, 21334), (285, 21340), (288, 21355), (300, 21388), (309, 21433), (310, 21436), (314, 21457), (315, 21469), (351, 21682), (357, 21706), (369, 21787), (371, 21793), (379, 21853), (391, 21928),

Gene: Bachome\_28 Start: 20746, Stop: 22545, Start Num: 48

Candidate Starts for Bachome\_28:

(30, 20680), (Start: 39 @20722 has 8 MA's), (Start: 48 @20746 has 538 MA's), (67, 20788), (90, 20884), (94, 20899), (107, 20980), (108, 20983), (120, 21058), (123, 21073), (130, 21112), (131, 21118), (144, 21229), (146, 21235), (161, 21316), (183, 21400), (204, 21526), (212, 21562), (239, 21712), (254, 21778), (257, 21790), (258, 21793), (300, 21982), (307, 22009), (311, 22039), (312, 22042), (315, 22063), (318, 22078), (321, 22102), (334, 22177), (337, 22192), (351, 22276), (369, 22381), (371, 22387), (378, 22441), (395, 22540),

Gene: BackstagePass\_19 Start: 16768, Stop: 18498, Start Num: 45

Candidate Starts for BackstagePass\_19:

(24, 16648), (35, 16732), (Start: 45 @16768 has 4 MA's), (85, 16888), (105, 17005), (110, 17038), (123, 17122), (155, 17323), (161, 17365), (171, 17401), (177, 17431), (182, 17455), (189, 17497), (194, 17524), (213, 17581), (214, 17587), (226, 17674), (293, 17968), (312, 18034), (316, 18058), (322, 18076), (342, 18172), (346, 18190), (373, 18349), (383, 18436), (389, 18463),

Gene: Backyardigan\_27 Start: 19835, Stop: 21634, Start Num: 48

Candidate Starts for Backyardigan\_27:

(Start: 39 @19811 has 8 MA's), (Start: 48 @19835 has 538 MA's), (Start: 52 @19841 has 3 MA's), (Start: 70 @19895 has 1 MA's), (86, 19964), (101, 20042), (105, 20066), (108, 20081), (115, 20117), (120, 20156), (123, 20171), (130, 20210), (141, 20303), (144, 20327), (161, 20414), (187, 20528), (195, 20567), (211, 20654), (219, 20699), (229, 20768), (234, 20792), (237, 20804), (258, 20891), (274, 20966), (277, 20984), (279, 20993), (283, 21017), (285, 21023), (288, 21038), (300, 21071), (309, 21116), (310, 21119), (314, 21140), (351, 21365), (365, 21443), (369, 21470), (371, 21476), (391, 21611),

Gene: BaconJack\_29 Start: 21344, Stop: 23146, Start Num: 50

Candidate Starts for BaconJack\_29:

(Start: 50 @21344 has 210 MA's), (Start: 59 @21365 has 4 MA's), (Start: 70 @21407 has 1 MA's), (83, 21452), (120, 21668), (127, 21713), (130, 21722), (134, 21761), (140, 21812), (141, 21815), (183, 22010), (195, 22079), (229, 22280), (230, 22283), (234, 22304), (257, 22400), (258, 22403), (260, 22409), (274, 22478), (277, 22496), (279, 22505), (285, 22535), (310, 22631), (315, 22664), (318, 22679), (342, 22820), (351, 22877), (371, 22988),

Gene: Bactobuster\_29 Start: 21784, Stop: 23556, Start Num: 48

Candidate Starts for Bactobuster\_29:

(Start: 39 @21760 has 8 MA's), (Start: 48 @21784 has 538 MA's), (89, 21919), (94, 21937), (107, 22018), (108, 22021), (119, 22093), (120, 22096), (135, 22207), (139, 22234), (144, 22267), (155, 22312), (161, 22354), (183, 22438), (211, 22594), (216, 22627), (254, 22816), (258, 22831), (283, 22957), (285, 22963), (315, 23074), (318, 23089), (319, 23095), (321, 23113), (329, 23149), (334, 23188), (337, 23203), (369, 23392), (371, 23398), (374, 23416), (377, 23443),

Gene: Baddon\_34 Start: 30732, Stop: 32495, Start Num: 32

Candidate Starts for Baddon\_34:

(Start: 32 @30732 has 74 MA's), (Start: 37 @30768 has 5 MA's), (81, 30897), (84, 30906), (100, 31002), (103, 31011), (112, 31080), (120, 31131), (121, 31140), (127, 31176), (131, 31191), (133, 31209), (140, 31272), (150, 31317), (152, 31326), (177, 31446), (181, 31461), (185, 31485), (190, 31515), (239, 31737), (244, 31755), (247, 31770), (257, 31812), (258, 31815), (264, 31842), (289, 31962), (311, 32025), (342, 32166), (343, 32169), (350, 32217), (356, 32244), (360, 32271), (369, 32325), (375, 32352),

Gene: Badger\_27 Start: 19824, Stop: 21623, Start Num: 48

Candidate Starts for Badger\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 52 @19830 has 3 MA's), (Start: 70 @19884 has 1 MA's), (86, 19953), (101, 20031), (105, 20055), (108, 20070), (115, 20106), (120, 20145), (123, 20160), (130, 20199), (141, 20292), (144, 20316), (161, 20403), (187, 20517), (195, 20556), (211, 20643), (219, 20688), (229, 20757), (234, 20781), (237, 20793), (258, 20880), (274, 20955), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (288, 21027), (300, 21060), (309, 21105), (310, 21108), (314, 21129), (351, 21354), (365, 21432), (369, 21459), (371, 21465), (391, 21600),

Gene: Baehexic\_29 Start: 20675, Stop: 22447, Start Num: 48

Candidate Starts for Baehexic\_29:

(Start: 39 @20651 has 8 MA's), (Start: 48 @20675 has 538 MA's), (89, 20810), (107, 20909), (108, 20912), (119, 20984), (120, 20987), (130, 21041), (131, 21047), (137, 21110), (144, 21158), (161, 21245), (181, 21326), (183, 21329), (187, 21359), (211, 21485), (215, 21515), (230, 21602), (258, 21722), (282, 21845), (283, 21848), (285, 21854), (305, 21902), (315, 21965), (318, 21980), (319, 21986), (329, 22040), (334, 22079), (337, 22094), (344, 22127), (350, 22172), (369, 22283), (371, 22289), (378, 22343),

Gene: Bakery\_32 Start: 25768, Stop: 27534, Start Num: 32

Candidate Starts for Bakery\_32:

(26, 25726), (29, 25756), (Start: 32 @25768 has 74 MA's), (Start: 37 @25804 has 5 MA's), (Start: 45 @25828 has 4 MA's), (Start: 51 @25837 has 7 MA's), (92, 25993), (93, 25996), (102, 26047), (103, 26050), (107, 26080), (112, 26119), (120, 26170), (121, 26179), (126, 26212), (152, 26365), (158, 26404), (171, 26455), (173, 26467), (177, 26485), (180, 26497), (182, 26509), (185, 26524), (190, 26554), (191, 26557), (194, 26578), (222, 26698), (247, 26809), (255, 26842), (265, 26884), (279, 26956), (296, 27022), (342, 27205), (343, 27208), (350, 27256), (356, 27283), (360, 27310), (369, 27364), (385, 27481), (390, 27502), (395, 27529),

Gene: BangNhom\_27 Start: 20138, Stop: 21919, Start Num: 48

Candidate Starts for BangNhom\_27:

(Start: 39 @20114 has 8 MA's), (Start: 48 @20138 has 538 MA's), (Start: 52 @20144 has 3 MA's), (Start: 70 @20198 has 1 MA's), (74, 20213), (86, 20267), (90, 20285), (105, 20369), (107, 20381), (108, 20384), (120, 20459), (123, 20474), (130, 20513), (144, 20630), (161, 20717), (181, 20798), (191, 20846), (195, 20870), (211, 20957), (219, 21002), (230, 21074), (234, 21095), (239, 21113), (258, 21194), (274, 21269), (277, 21287), (279, 21296), (283, 21320), (285, 21326), (291, 21350), (308, 21392), (310, 21404), (314, 21425), (321, 21476), (326, 21500), (335, 21554), (351, 21650), (369, 21755), (372, 21770), (388, 21878), (391, 21896),

Gene: Barb\_33 Start: 26575, Stop: 28341, Start Num: 32

Candidate Starts for Barb\_33:

(26, 26533), (Start: 32 @26575 has 74 MA's), (Start: 37 @26611 has 5 MA's), (Start: 51 @26644 has 7 MA's), (102, 26854), (103, 26857), (107, 26887), (117, 26953), (120, 26977), (121, 26986), (126, 27019), (152, 27172), (158, 27211), (171, 27262), (173, 27274), (177, 27292), (180, 27304), (182, 27316), (185, 27331), (190, 27361), (191, 27364), (194, 27385), (216, 27457), (222, 27505), (247, 27616), (255, 27649), (265, 27691), (279, 27763), (296, 27829), (304, 27841), (342, 28012), (343,

28015), (350, 28063), (356, 28090), (360, 28117), (369, 28171), (385, 28288), (390, 28309), (395, 28336),

Gene: Barriga\_27 Start: 20952, Stop: 22754, Start Num: 50

Candidate Starts for Barriga\_27:

(Start: 50 @20952 has 210 MA's), (Start: 59 @20973 has 4 MA's), (Start: 70 @21015 has 1 MA's), (83, 21060), (120, 21276), (127, 21321), (130, 21330), (134, 21369), (140, 21420), (141, 21423), (183, 21618), (195, 21687), (205, 21747), (229, 21888), (230, 21891), (234, 21912), (257, 22008), (258, 22011), (260, 22017), (274, 22086), (277, 22104), (279, 22113), (285, 22143), (310, 22239), (315, 22272), (318, 22287), (342, 22428), (351, 22485), (371, 22596),

Gene: BarrowTuph\_26 Start: 20994, Stop: 22775, Start Num: 59

Candidate Starts for BarrowTuph\_26:

(Start: 50 @20973 has 210 MA's), (Start: 59 @20994 has 4 MA's), (Start: 70 @21036 has 1 MA's), (83, 21081), (120, 21297), (127, 21342), (130, 21351), (134, 21390), (140, 21441), (141, 21444), (183, 21639), (195, 21708), (229, 21909), (230, 21912), (234, 21933), (257, 22029), (258, 22032), (260, 22038), (274, 22107), (277, 22125), (279, 22134), (285, 22164), (310, 22260), (315, 22293), (318, 22308), (342, 22449), (351, 22506), (371, 22617),

Gene: Barsten\_35 Start: 30283, Stop: 32046, Start Num: 32

Candidate Starts for Barsten\_35:

(29, 30265), (Start: 32 @30283 has 74 MA's), (Start: 37 @30319 has 5 MA's), (84, 30457), (100, 30553), (103, 30562), (112, 30631), (120, 30682), (127, 30727), (131, 30742), (140, 30823), (150, 30868), (152, 30877), (171, 30967), (177, 30997), (181, 31012), (185, 31036), (190, 31066), (218, 31171), (239, 31288), (244, 31306), (247, 31321), (254, 31351), (257, 31363), (258, 31366), (264, 31393), (342, 31717), (343, 31720), (350, 31768), (356, 31795), (360, 31822), (369, 31876), (375, 31903), (393, 32032),

Gene: Bartimeaus\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Bartimeaus\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Battleship\_31 Start: 19208, Stop: 20995, Start Num: 48

Candidate Starts for Battleship\_31:

(30, 19142), (Start: 39 @19184 has 8 MA's), (Start: 48 @19208 has 538 MA's), (90, 19346), (100, 19403), (108, 19445), (115, 19481), (120, 19520), (132, 19589), (134, 19613), (141, 19667), (172, 19817), (183, 19862), (187, 19892), (194, 19928), (202, 19979), (210, 20015), (219, 20063), (227, 20123), (257, 20252), (274, 20330), (318, 20531), (319, 20537), (335, 20633), (363, 20798), (379, 20897),

Gene: Baumdotcom\_34 Start: 29556, Stop: 31319, Start Num: 32

Candidate Starts for Baumdotcom\_34:

(Start: 32 @29556 has 74 MA's), (Start: 37 @29592 has 5 MA's), (81, 29721), (84, 29730), (100, 29826), (103, 29835), (112, 29904), (120, 29955), (121, 29964), (127, 30000), (131, 30015), (133, 30033), (140, 30096), (150, 30141), (152, 30150), (175, 30261), (177, 30270), (181, 30285), (185, 30309), (190, 30339), (239, 30561), (244, 30579), (247, 30594), (257, 30636), (258, 30639), (264, 30666), (289, 30786), (311, 30849), (342, 30990), (343, 30993), (350, 31041), (356, 31068), (360, 31095), (369, 31149), (375, 31176), (385, 31266), (395, 31314),

Gene: Beatrix\_27 Start: 22534, Stop: 24336, Start Num: 50

Candidate Starts for Beatrix\_27:

(Start: 50 @22534 has 210 MA's), (Start: 59 @22555 has 4 MA's), (Start: 70 @22597 has 1 MA's), (83, 22642), (120, 22858), (127, 22903), (130, 22912), (134, 22951), (140, 23002), (141, 23005), (183, 23200), (195, 23269), (229, 23470), (230, 23473), (234, 23494), (257, 23590), (258, 23593), (260, 23599), (274, 23668), (277, 23686), (279, 23695), (285, 23725), (310, 23821), (315, 23854), (318, 23869), (342, 24010), (351, 24067), (371, 24178),

Gene: Beauxregard13\_29 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for Beauxregard13\_29:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: Beemo\_30 Start: 21783, Stop: 23573, Start Num: 48

Candidate Starts for Beemo\_30:

(Start: 46 @21780 has 8 MA's), (Start: 48 @21783 has 538 MA's), (107, 22017), (108, 22020), (119, 22092), (120, 22095), (123, 22110), (130, 22149), (131, 22155), (144, 22266), (161, 22353), (181, 22434), (183, 22437), (215, 22623), (225, 22686), (230, 22710), (232, 22716), (239, 22749), (258, 22830), (283, 22956), (294, 22998), (310, 23058), (315, 23091), (318, 23106), (334, 23205), (335, 23208), (337, 23220), (351, 23304), (362, 23370), (369, 23409), (371, 23415), (377, 23460), (384, 23517), (385, 23520),

Gene: BeesKnees\_28 Start: 21151, Stop: 22953, Start Num: 50

Candidate Starts for BeesKnees\_28:

(Start: 50 @21151 has 210 MA's), (Start: 59 @21172 has 4 MA's), (Start: 70 @21214 has 1 MA's), (83, 21259), (120, 21475), (127, 21520), (130, 21529), (134, 21568), (140, 21619), (141, 21622), (183, 21817), (195, 21886), (229, 22087), (230, 22090), (234, 22111), (257, 22207), (258, 22210), (260, 22216), (274, 22285), (277, 22303), (279, 22312), (285, 22342), (310, 22438), (315, 22471), (318, 22486), (342, 22627), (351, 22684), (371, 22795),

Gene: Belenaria\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Belenaria\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: BellusTerra\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for BellusTerra\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Benedict\_24 Start: 18978, Stop: 20777, Start Num: 48

Candidate Starts for Benedict\_24:

(Start: 48 @18978 has 538 MA's), (108, 19215), (120, 19290), (123, 19305), (129, 19341), (137, 19413), (139, 19428), (144, 19461), (146, 19467), (187, 19662), (192, 19692), (194, 19698), (211, 19788), (219, 19833), (229, 19902), (239, 19944), (243, 19962), (257, 20022), (258, 20025), (277, 20118), (309, 20259), (315, 20295), (368, 20610), (371, 20619), (391, 20754),

Gene: BengiVuitton\_29 Start: 20620, Stop: 22392, Start Num: 48

Candidate Starts for BengiVuitton\_29:

(Start: 39 @20596 has 8 MA's), (Start: 48 @20620 has 538 MA's), (84, 20719), (107, 20854), (108, 20857), (119, 20929), (120, 20932), (130, 20986), (131, 20992), (134, 21025), (139, 21070), (144, 21103), (161, 21190), (181, 21271), (183, 21274), (190, 21316), (215, 21460), (230, 21547), (254, 21652), (258, 21667), (283, 21793), (285, 21799), (305, 21847), (318, 21925), (319, 21931), (329, 21985), (334, 22024), (337, 22039), (351, 22123), (371, 22234),

Gene: Benvolio\_28 Start: 20292, Stop: 22064, Start Num: 48

Candidate Starts for Benvolio\_28:

(Start: 39 @20268 has 8 MA's), (Start: 48 @20292 has 538 MA's), (84, 20391), (98, 20475), (107, 20526), (108, 20529), (119, 20601), (120, 20604), (130, 20658), (134, 20697), (144, 20775), (161, 20862), (181, 20943), (183, 20946), (230, 21219), (258, 21339), (283, 21465), (285, 21471), (305, 21519), (315, 21582), (318, 21597), (319, 21603), (329, 21657), (334, 21696), (337, 21711), (351, 21795), (371, 21906),

Gene: Bethlehem\_27 Start: 22379, Stop: 24181, Start Num: 50

Candidate Starts for Bethlehem\_27:

(Start: 50 @22379 has 210 MA's), (Start: 59 @22400 has 4 MA's), (Start: 70 @22442 has 1 MA's), (83, 22487), (120, 22703), (127, 22748), (130, 22757), (140, 22847), (141, 22850), (158, 22943), (183, 23045), (195, 23114), (226, 23303), (229, 23315), (230, 23318), (234, 23339), (257, 23435), (258, 23438), (260, 23444), (274, 23513), (277, 23531), (279, 23540), (285, 23570), (310, 23666), (315, 23699), (318, 23714), (342, 23855), (351, 23912), (371, 24023),

Gene: Bexan\_26 Start: 22101, Stop: 23903, Start Num: 50

Candidate Starts for Bexan\_26:

(Start: 50 @22101 has 210 MA's), (Start: 59 @22122 has 4 MA's), (Start: 70 @22164 has 1 MA's), (83, 22209), (120, 22425), (127, 22470), (130, 22479), (134, 22518), (140, 22569), (141, 22572), (183, 22767), (195, 22836), (229, 23037), (230, 23040), (234, 23061), (257, 23157), (258, 23160), (260, 23166), (274, 23235), (277, 23253), (279, 23262), (285, 23292), (310, 23388), (315, 23421), (318, 23436), (322, 23466), (342, 23577), (351, 23634), (371, 23745),

Gene: BiancaTri92\_30 Start: 21973, Stop: 23745, Start Num: 48

Candidate Starts for BiancaTri92\_30:

(Start: 39 @21949 has 8 MA's), (Start: 48 @21973 has 538 MA's), (89, 22108), (94, 22126), (107, 22207), (108, 22210), (119, 22282), (120, 22285), (130, 22339), (139, 22423), (144, 22456), (153, 22489), (161, 22543), (176, 22603), (181, 22624), (183, 22627), (215, 22813), (230, 22900), (239, 22939), (258, 23020), (283, 23146), (285, 23152), (291, 23176), (305, 23200), (315, 23263), (318, 23278), (319, 23284), (329, 23338), (334, 23377), (337, 23392), (371, 23587),

Gene: Bibwit\_34 Start: 30470, Stop: 32233, Start Num: 32

Candidate Starts for Bibwit\_34:

(29, 30452), (Start: 32 @30470 has 74 MA's), (Start: 37 @30506 has 5 MA's), (84, 30644), (100, 30740), (103, 30749), (112, 30818), (120, 30869), (127, 30914), (131, 30929), (140, 31010), (150, 31055), (152, 31064), (171, 31154), (177, 31184), (181, 31199), (182, 31208), (185, 31223), (190, 31253), (239, 31475), (244, 31493), (247, 31508), (254, 31538), (257, 31550), (258, 31553), (264, 31580), (342, 31904), (343, 31907), (350, 31955), (356, 31982), (360, 32009), (369, 32063), (374,

32087), (375, 32090), (385, 32180), (395, 32228),

Gene: Big3\_27 Start: 21732, Stop: 23534, Start Num: 50

Candidate Starts for Big3\_27:

(Start: 50 @21732 has 210 MA's), (Start: 59 @21753 has 4 MA's), (Start: 70 @21795 has 1 MA's), (83, 21840), (120, 22056), (127, 22101), (130, 22110), (134, 22149), (140, 22200), (141, 22203), (183, 22398), (195, 22467), (229, 22668), (230, 22671), (234, 22692), (257, 22788), (258, 22791), (260, 22797), (274, 22866), (277, 22884), (279, 22893), (285, 22923), (310, 23019), (315, 23052), (318, 23067), (342, 23208), (351, 23265), (371, 23376),

Gene: BigMau\_29 Start: 21333, Stop: 23135, Start Num: 50

Candidate Starts for BigMau\_29:

(Start: 50 @21333 has 210 MA's), (Start: 59 @21354 has 4 MA's), (Start: 70 @21396 has 1 MA's), (83, 21441), (120, 21657), (127, 21702), (130, 21711), (134, 21750), (140, 21801), (141, 21804), (183, 21999), (195, 22068), (229, 22269), (230, 22272), (234, 22293), (257, 22389), (258, 22392), (260, 22398), (274, 22467), (277, 22485), (279, 22494), (285, 22524), (310, 22620), (315, 22653), (318, 22668), (342, 22809), (351, 22866), (371, 22977),

Gene: BigPaolini\_28 Start: 21730, Stop: 23532, Start Num: 50

Candidate Starts for BigPaolini\_28:

(Start: 50 @21730 has 210 MA's), (Start: 59 @21751 has 4 MA's), (Start: 70 @21793 has 1 MA's), (83, 21838), (120, 22054), (127, 22099), (130, 22108), (134, 22147), (140, 22198), (141, 22201), (183, 22396), (195, 22465), (229, 22666), (230, 22669), (234, 22690), (257, 22786), (258, 22789), (260, 22795), (274, 22864), (277, 22882), (279, 22891), (285, 22921), (310, 23017), (315, 23050), (318, 23065), (342, 23206), (351, 23263), (371, 23374), (395, 23527),

Gene: Bigchungj\_27 Start: 21103, Stop: 22905, Start Num: 50

Candidate Starts for Bigchungj\_27:

(Start: 50 @21103 has 210 MA's), (Start: 59 @21124 has 4 MA's), (Start: 70 @21166 has 1 MA's), (120, 21427), (127, 21472), (130, 21481), (134, 21520), (140, 21571), (141, 21574), (183, 21769), (195, 21838), (229, 22039), (230, 22042), (234, 22063), (257, 22159), (258, 22162), (260, 22168), (274, 22237), (277, 22255), (279, 22264), (285, 22294), (310, 22390), (315, 22423), (318, 22438), (342, 22579), (351, 22636), (371, 22747),

Gene: Bigflo\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for Bigflo\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: Bigfoot\_26 Start: 20939, Stop: 22741, Start Num: 50

Candidate Starts for Bigfoot\_26:

(Start: 50 @20939 has 210 MA's), (Start: 59 @20960 has 4 MA's), (Start: 70 @21002 has 1 MA's), (83, 21047), (120, 21263), (127, 21308), (130, 21317), (140, 21407), (141, 21410), (158, 21503), (183, 21605), (195, 21674), (226, 21863), (229, 21875), (230, 21878), (234, 21899), (257, 21995), (258, 21998), (260, 22004), (274, 22073), (277, 22091), (279, 22100), (285, 22130), (310, 22226), (315, 22259), (318, 22274), (322, 22304), (342, 22415), (351, 22472), (371, 22583),

Gene: BillKnuckles\_28 Start: 21817, Stop: 23619, Start Num: 50

Candidate Starts for BillKnuckles\_28:

(Start: 50 @21817 has 210 MA's), (Start: 59 @21838 has 4 MA's), (Start: 70 @21880 has 1 MA's), (83, 21925), (120, 22141), (127, 22186), (130, 22195), (134, 22234), (140, 22285), (146, 22318), (183, 22483), (195, 22552), (229, 22753), (230, 22756), (234, 22777), (257, 22873), (258, 22876), (260, 22882), (274, 22951), (277, 22969), (279, 22978), (285, 23008), (310, 23104), (315, 23137), (318, 23152), (342, 23293), (351, 23350), (371, 23461),

Gene: Bircsak\_27 Start: 21589, Stop: 23391, Start Num: 50

Candidate Starts for Bircsak\_27:

(Start: 50 @21589 has 210 MA's), (Start: 59 @21610 has 4 MA's), (Start: 70 @21652 has 1 MA's), (83, 21697), (120, 21913), (127, 21958), (130, 21967), (140, 22057), (141, 22060), (144, 22084), (183, 22255), (195, 22324), (229, 22525), (230, 22528), (234, 22549), (257, 22645), (258, 22648), (260, 22654), (274, 22723), (277, 22741), (279, 22750), (285, 22780), (310, 22876), (315, 22909), (318, 22924), (342, 23065), (351, 23122), (371, 23233),

Gene: Bizzy\_35 Start: 29879, Stop: 31642, Start Num: 32

Candidate Starts for Bizzy\_35:

(Start: 32 @29879 has 74 MA's), (Start: 37 @29915 has 5 MA's), (81, 30044), (84, 30053), (100, 30149), (103, 30158), (112, 30227), (120, 30278), (127, 30323), (131, 30338), (133, 30356), (140, 30419), (150, 30464), (152, 30473), (175, 30584), (177, 30593), (181, 30608), (182, 30617), (185, 30632), (190, 30662), (239, 30884), (244, 30902), (247, 30917), (257, 30959), (258, 30962), (264, 30989), (289, 31109), (342, 31313), (343, 31316), (350, 31364), (356, 31391), (360, 31418), (369, 31472), (375, 31499),

Gene: Blackmoor\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Blackmoor\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Blarby\_20 Start: 14264, Stop: 15928, Start Num: 51

Candidate Starts for Blarby\_20:

(Start: 51 @14264 has 7 MA's), (76, 14345), (85, 14375), (90, 14408), (103, 14474), (109, 14513), (110, 14525), (114, 14549), (122, 14606), (123, 14609), (127, 14639), (128, 14642), (134, 14687), (135, 14705), (141, 14741), (150, 14783), (177, 14915), (180, 14927), (181, 14930), (182, 14939), (187, 14972), (190, 14984), (194, 15008), (258, 15281), (261, 15293), (273, 15338), (277, 15359), (341, 15599), (342, 15602), (343, 15605), (371, 15767), (376, 15791), (381, 15851), (393, 15914),

Gene: BlessJoy\_31 Start: 19971, Stop: 21743, Start Num: 48

Candidate Starts for BlessJoy\_31:

(30, 19905), (Start: 39 @19947 has 8 MA's), (Start: 48 @19971 has 538 MA's), (108, 20208), (119, 20280), (120, 20283), (123, 20298), (130, 20337), (131, 20343), (144, 20454), (146, 20460), (155, 20499), (161, 20541), (172, 20580), (181, 20622), (183, 20625), (211, 20781), (235, 20922), (239, 20937), (285, 21150), (314, 21249), (318, 21276), (327, 21327), (329, 21336), (334, 21375), (337, 21390), (351, 21474), (369, 21579), (371, 21585), (391, 21720),

Gene: Blinn1\_31 Start: 20042, Stop: 21814, Start Num: 48

Candidate Starts for Blinn1\_31:

(30, 19976), (Start: 39 @20018 has 8 MA's), (Start: 48 @20042 has 538 MA's), (90, 20180), (101, 20240), (107, 20276), (108, 20279), (119, 20351), (120, 20354), (130, 20408), (131, 20414), (135, 20465), (144, 20525), (146, 20531), (155, 20570), (161, 20612), (172, 20651), (181, 20693), (183,



20696), (192, 20756), (235, 20993), (239, 21008), (258, 21089), (276, 21176), (285, 21221), (318, 21347), (329, 21407), (334, 21446), (335, 21449), (337, 21461), (351, 21545), (369, 21650), (371, 21656), (391, 21791),

Gene: BluSpix\_27 Start: 21113, Stop: 22915, Start Num: 50

Candidate Starts for BluSpix\_27:

(Start: 50 @21113 has 210 MA's), (Start: 59 @21134 has 4 MA's), (Start: 70 @21176 has 1 MA's), (83, 21221), (120, 21437), (127, 21482), (130, 21491), (140, 21581), (141, 21584), (158, 21677), (183, 21779), (195, 21848), (229, 22049), (230, 22052), (234, 22073), (257, 22169), (258, 22172), (260, 22178), (274, 22247), (277, 22265), (279, 22274), (285, 22304), (310, 22400), (315, 22433), (318, 22448), (342, 22589), (351, 22646), (371, 22757),

Gene: Blue\_27 Start: 21585, Stop: 23387, Start Num: 50

Candidate Starts for Blue\_27:

(Start: 50 @21585 has 210 MA's), (Start: 59 @21606 has 4 MA's), (Start: 70 @21648 has 1 MA's), (83, 21693), (120, 21909), (127, 21954), (130, 21963), (140, 22053), (141, 22056), (158, 22149), (183, 22251), (195, 22320), (229, 22521), (230, 22524), (234, 22545), (257, 22641), (258, 22644), (260, 22650), (274, 22719), (277, 22737), (279, 22746), (285, 22776), (310, 22872), (315, 22905), (318, 22920), (342, 23061), (351, 23118), (371, 23229),

Gene: Blue7\_31 Start: 19963, Stop: 21735, Start Num: 48

Candidate Starts for Blue7\_31:

(30, 19897), (Start: 39 @19939 has 8 MA's), (Start: 48 @19963 has 538 MA's), (108, 20200), (119, 20272), (120, 20275), (123, 20290), (130, 20329), (131, 20335), (144, 20446), (146, 20452), (155, 20491), (161, 20533), (172, 20572), (181, 20614), (183, 20617), (211, 20773), (235, 20914), (239, 20929), (285, 21142), (314, 21241), (318, 21268), (327, 21319), (329, 21328), (334, 21367), (337, 21382), (351, 21466), (369, 21571), (371, 21577), (391, 21712),

Gene: BlueBird\_28 Start: 19904, Stop: 21700, Start Num: 48

Candidate Starts for BlueBird\_28:

(Start: 48 @19904 has 538 MA's), (Start: 70 @19961 has 1 MA's), (86, 20030), (105, 20132), (107, 20144), (108, 20147), (120, 20222), (123, 20237), (130, 20276), (150, 20411), (161, 20480), (187, 20594), (211, 20720), (229, 20834), (234, 20858), (239, 20876), (258, 20957), (274, 21032), (277, 21050), (279, 21059), (283, 21083), (285, 21089), (288, 21104), (300, 21137), (309, 21182), (310, 21185), (314, 21206), (315, 21218), (317, 21224), (326, 21281), (351, 21431), (357, 21455), (369, 21536), (371, 21542), (391, 21677),

Gene: Bluefalcon\_23 Start: 19814, Stop: 21613, Start Num: 48

Candidate Starts for Bluefalcon\_23:

(Start: 48 @19814 has 538 MA's), (90, 19952), (108, 20051), (120, 20126), (129, 20177), (137, 20249), (139, 20264), (144, 20297), (146, 20303), (165, 20396), (187, 20498), (192, 20528), (194, 20534), (211, 20624), (215, 20654), (226, 20726), (229, 20738), (230, 20741), (239, 20780), (243, 20798), (257, 20858), (258, 20861), (270, 20912), (277, 20954), (309, 21095), (317, 21137), (371, 21455), (391, 21590),

Gene: Bob3\_26 Start: 20673, Stop: 22475, Start Num: 50

Candidate Starts for Bob3\_26:

(Start: 50 @20673 has 210 MA's), (Start: 59 @20694 has 4 MA's), (Start: 70 @20736 has 1 MA's), (83, 20781), (120, 20997), (127, 21042), (130, 21051), (134, 21090), (140, 21141), (141, 21144), (183, 21339), (195, 21408), (229, 21609), (230, 21612), (234, 21633), (257, 21729), (258, 21732), (260, 21738), (274, 21807), (277, 21825), (279, 21834), (285, 21864), (310, 21960), (315, 21993), (318, 22008), (342, 22149), (351, 22206), (371, 22317),

Gene: BobBob\_32 Start: 29751, Stop: 31514, Start Num: 32

Candidate Starts for BobBob\_32:

(29, 29733), (Start: 32 @29751 has 74 MA's), (Start: 37 @29787 has 5 MA's), (84, 29925), (100, 30021), (103, 30030), (112, 30099), (120, 30150), (127, 30195), (131, 30210), (140, 30291), (150, 30336), (152, 30345), (171, 30435), (177, 30465), (181, 30480), (185, 30504), (190, 30534), (218, 30639), (239, 30756), (244, 30774), (247, 30789), (254, 30819), (257, 30831), (258, 30834), (264, 30861), (342, 31185), (343, 31188), (350, 31236), (356, 31263), (360, 31290), (369, 31344), (375, 31371), (395, 31509),

Gene: BobSwaget\_31 Start: 21794, Stop: 23590, Start Num: 39

Candidate Starts for BobSwaget\_31:

(Start: 39 @21794 has 8 MA's), (Start: 48 @21818 has 538 MA's), (98, 22001), (107, 22052), (108, 22055), (119, 22127), (120, 22130), (130, 22184), (134, 22223), (144, 22301), (161, 22388), (181, 22469), (183, 22472), (190, 22514), (215, 22658), (225, 22721), (230, 22745), (239, 22784), (258, 22865), (285, 22997), (315, 23108), (318, 23123), (319, 23129), (329, 23183), (334, 23222), (337, 23237), (344, 23270), (351, 23321), (365, 23399), (369, 23426), (371, 23432), (378, 23486),

Gene: BobbyDazzler\_23 Start: 16907, Stop: 18019, Start Num: 156

Candidate Starts for BobbyDazzler\_23:

(Start: 56 @16379 has 3 MA's), (Start: 62 @16394 has 32 MA's), (81, 16463), (88, 16499), (120, 16685), (138, 16814), (144, 16856), (152, 16883), (Start: 156 @16907 has 1 MA's), (158, 16925), (167, 16955), (170, 16970), (183, 17021), (198, 17105), (225, 17222), (230, 17246), (257, 17360), (268, 17408), (274, 17438), (280, 17477), (283, 17489), (305, 17519), (318, 17597), (349, 17744), (354, 17768), (360, 17804), (367, 17843), (394, 18011),

Gene: BogosyJay\_29 Start: 21309, Stop: 23099, Start Num: 48

Candidate Starts for BogosyJay\_29:

(Start: 39 @21285 has 8 MA's), (Start: 48 @21309 has 538 MA's), (107, 21543), (108, 21546), (119, 21618), (120, 21621), (123, 21636), (130, 21675), (131, 21681), (139, 21759), (144, 21792), (161, 21879), (181, 21960), (183, 21963), (204, 22089), (225, 22212), (227, 22224), (230, 22236), (232, 22242), (239, 22275), (258, 22356), (283, 22482), (300, 22536), (301, 22542), (310, 22584), (311, 22593), (315, 22617), (318, 22632), (321, 22656), (329, 22692), (334, 22731), (337, 22746), (351, 22830), (369, 22935), (371, 22941), (377, 22986), (384, 23043),

Gene: Bombshell\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Bombshell\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Bonamassa\_24 Start: 19658, Stop: 21454, Start Num: 48

Candidate Starts for Bonamassa\_24:

(Start: 48 @19658 has 538 MA's), (85, 19763), (90, 19796), (108, 19895), (120, 19970), (123, 19985), (129, 20021), (137, 20093), (139, 20108), (146, 20147), (153, 20174), (157, 20195), (163, 20234), (192, 20372), (194, 20378), (219, 20513), (226, 20570), (227, 20573), (229, 20582), (239, 20624), (243, 20642), (257, 20702), (258, 20705), (277, 20798), (279, 20807), (283, 20831), (309, 20939), (315, 20975), (351, 21185), (368, 21287), (371, 21296), (387, 21410), (391, 21431), (393, 21440),

Gene: Bonanza\_23 Start: 16308, Stop: 17948, Start Num: 56

Candidate Starts for Bonanza\_23:

(Start: 56 @16308 has 3 MA's), (Start: 62 @16323 has 32 MA's), (81, 16392), (88, 16428), (120, 16614), (138, 16743), (144, 16785), (152, 16812), (Start: 156 @16836 has 1 MA's), (158, 16854), (167, 16884), (170, 16899), (183, 16950), (198, 17034), (225, 17151), (230, 17175), (257, 17289), (268, 17337), (274, 17367), (280, 17406), (283, 17418), (305, 17448), (318, 17526), (349, 17673), (354, 17697), (360, 17733), (367, 17772), (394, 17940),

Gene: Bones\_27 Start: 21039, Stop: 22841, Start Num: 50

Candidate Starts for Bones\_27:

(Start: 50 @21039 has 210 MA's), (Start: 59 @21060 has 4 MA's), (Start: 70 @21102 has 1 MA's), (83, 21147), (120, 21363), (127, 21408), (130, 21417), (140, 21507), (141, 21510), (183, 21705), (195, 21774), (226, 21963), (229, 21975), (230, 21978), (234, 21999), (257, 22095), (258, 22098), (260, 22104), (274, 22173), (277, 22191), (279, 22200), (285, 22230), (310, 22326), (315, 22359), (318, 22374), (342, 22515), (351, 22572), (371, 22683), (395, 22836),

Gene: Boohoo\_30 Start: 19096, Stop: 20883, Start Num: 48

Candidate Starts for Boohoo\_30:

(30, 19030), (Start: 39 @19072 has 8 MA's), (Start: 48 @19096 has 538 MA's), (90, 19234), (100, 19291), (108, 19333), (115, 19369), (120, 19408), (132, 19477), (134, 19501), (141, 19555), (172, 19705), (183, 19750), (187, 19780), (194, 19816), (202, 19867), (210, 19903), (219, 19951), (227, 20011), (257, 20140), (274, 20218), (318, 20419), (319, 20425), (335, 20521), (363, 20686), (379, 20785),

Gene: BotCity\_21 Start: 16426, Stop: 18123, Start Num: 47

Candidate Starts for BotCity\_21:

(35, 16387), (Start: 47 @16426 has 34 MA's), (53, 16438), (77, 16516), (84, 16537), (92, 16585), (95, 16594), (101, 16636), (107, 16672), (116, 16729), (118, 16750), (123, 16777), (126, 16804), (148, 16945), (158, 17002), (165, 17029), (167, 17035), (177, 17083), (184, 17113), (189, 17149), (194, 17176), (195, 17179), (203, 17230), (216, 17257), (217, 17260), (221, 17287), (224, 17314), (241, 17386), (250, 17425), (265, 17479), (273, 17521), (290, 17596), (311, 17659), (316, 17686), (322, 17704), (339, 17788), (341, 17797), (342, 17800), (344, 17806), (347, 17821), (350, 17851), (351, 17857), (356, 17878), (357, 17881), (365, 17935), (371, 17965), (372, 17974), (379, 18025), (382, 18058), (385, 18070), (389, 18088),

Gene: Bowser\_19 Start: 16618, Stop: 18348, Start Num: 43

Candidate Starts for Bowser\_19:

(24, 16501), (35, 16585), (Start: 37 @16597 has 5 MA's), (Start: 43 @16618 has 5 MA's), (105, 16855), (110, 16888), (140, 17101), (155, 17173), (161, 17215), (171, 17251), (177, 17281), (182, 17305), (189, 17347), (194, 17374), (195, 17377), (213, 17431), (214, 17437), (226, 17524), (292, 17815), (293, 17818), (322, 17926), (342, 18022), (346, 18040), (356, 18100), (365, 18157), (372, 18196), (373, 18199), (376, 18211), (383, 18286), (389, 18313),

Gene: Bowtie\_28 Start: 20755, Stop: 22554, Start Num: 48

Candidate Starts for Bowtie\_28:

(30, 20689), (Start: 39 @20731 has 8 MA's), (Start: 48 @20755 has 538 MA's), (67, 20797), (90, 20893), (94, 20908), (107, 20989), (108, 20992), (120, 21067), (123, 21082), (130, 21121), (131, 21127), (144, 21238), (146, 21244), (161, 21325), (183, 21409), (204, 21535), (209, 21553), (214, 21580), (239, 21721), (254, 21787), (257, 21799), (258, 21802), (282, 21925), (300, 21991), (307, 22018), (311, 22048), (312, 22051), (315, 22072), (318, 22087), (321, 22111), (334, 22186), (337, 22201), (351, 22285), (369, 22390), (371, 22396), (378, 22450), (395, 22549),

Gene: Bradman\_27 Start: 19074, Stop: 20864, Start Num: 48

Candidate Starts for Bradman\_27:

(30, 19008), (Start: 39 @19050 has 8 MA's), (Start: 48 @19074 has 538 MA's), (90, 19212), (94, 19227), (107, 19308), (108, 19311), (119, 19383), (120, 19386), (130, 19440), (131, 19446), (133, 19464), (139, 19524), (144, 19557), (146, 19563), (155, 19602), (161, 19644), (181, 19725), (183, 19728), (192, 19788), (215, 19914), (229, 19998), (239, 20040), (252, 20091), (258, 20121), (283, 20247), (303, 20310), (315, 20382), (318, 20397), (321, 20421), (334, 20496), (337, 20511), (351, 20595), (369, 20700), (371, 20706), (374, 20724), (377, 20751), (378, 20760),

Gene: Bradshaw\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Bradshaw\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Brandonk123\_36 Start: 30817, Stop: 32580, Start Num: 32

Candidate Starts for Brandonk123\_36:

(29, 30799), (Start: 32 @30817 has 74 MA's), (Start: 37 @30853 has 5 MA's), (84, 30991), (100, 31087), (103, 31096), (112, 31165), (120, 31216), (127, 31261), (131, 31276), (140, 31357), (150, 31402), (152, 31411), (171, 31501), (177, 31531), (181, 31546), (185, 31570), (190, 31600), (239, 31822), (244, 31840), (247, 31855), (254, 31885), (257, 31897), (258, 31900), (264, 31927), (342, 32251), (343, 32254), (350, 32302), (356, 32329), (360, 32356), (369, 32410), (375, 32437), (395, 32575),

Gene: BreSam8\_29 Start: 20372, Stop: 22168, Start Num: 48

Candidate Starts for BreSam8\_29:

(Start: 48 @20372 has 538 MA's), (Start: 70 @20429 has 1 MA's), (74, 20444), (86, 20498), (89, 20513), (105, 20600), (107, 20612), (108, 20615), (120, 20690), (123, 20705), (129, 20741), (161, 20948), (195, 21101), (211, 21188), (229, 21302), (234, 21326), (239, 21344), (258, 21425), (274, 21500), (277, 21518), (283, 21551), (285, 21557), (295, 21596), (309, 21650), (310, 21653), (314, 21674), (322, 21731), (351, 21899), (369, 22004), (371, 22010), (391, 22145),

Gene: Briton15\_29 Start: 21386, Stop: 23188, Start Num: 50

Candidate Starts for Briton15\_29:

(Start: 50 @21386 has 210 MA's), (Start: 59 @21407 has 4 MA's), (Start: 70 @21449 has 1 MA's), (83, 21494), (120, 21710), (127, 21755), (130, 21764), (134, 21803), (140, 21854), (141, 21857), (158, 21950), (183, 22052), (195, 22121), (226, 22310), (229, 22322), (230, 22325), (234, 22346), (257, 22442), (258, 22445), (260, 22451), (274, 22520), (277, 22538), (279, 22547), (285, 22577), (310, 22673), (315, 22706), (318, 22721), (342, 22862), (351, 22919), (371, 23030),

Gene: Broseidon\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Broseidon\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Bruiser\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Bruiser\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123,

20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Bruns\_26 Start: 21014, Stop: 22816, Start Num: 50

Candidate Starts for Bruns\_26:

(Start: 50 @21014 has 210 MA's), (Start: 59 @21035 has 4 MA's), (Start: 70 @21077 has 1 MA's), (83, 21122), (120, 21338), (127, 21383), (130, 21392), (140, 21482), (141, 21485), (144, 21509), (158, 21578), (183, 21680), (195, 21749), (226, 21938), (229, 21950), (230, 21953), (234, 21974), (257, 22070), (258, 22073), (260, 22079), (274, 22148), (277, 22166), (279, 22175), (285, 22205), (310, 22301), (315, 22334), (318, 22349), (342, 22490), (351, 22547), (371, 22658),

Gene: Bryce\_23 Start: 16323, Stop: 17948, Start Num: 62

Candidate Starts for Bryce\_23:

(Start: 56 @16308 has 3 MA's), (Start: 62 @16323 has 32 MA's), (73, 16365), (81, 16392), (88, 16428), (120, 16614), (138, 16743), (144, 16785), (152, 16812), (Start: 156 @16836 has 1 MA's), (158, 16854), (167, 16884), (170, 16899), (183, 16950), (198, 17034), (225, 17151), (230, 17175), (257, 17289), (268, 17337), (274, 17367), (280, 17406), (283, 17418), (305, 17448), (318, 17526), (349, 17673), (354, 17697), (360, 17733), (367, 17772), (394, 17940),

Gene: BubbleTrouble\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for BubbleTrouble\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Bud\_28 Start: 20761, Stop: 22560, Start Num: 48

Candidate Starts for Bud\_28:

(30, 20695), (Start: 39 @20737 has 8 MA's), (Start: 48 @20761 has 538 MA's), (67, 20803), (90, 20899), (94, 20914), (107, 20995), (108, 20998), (120, 21073), (123, 21088), (130, 21127), (131, 21133), (135, 21184), (144, 21244), (146, 21250), (161, 21331), (183, 21415), (204, 21541), (209, 21559), (214, 21586), (239, 21727), (254, 21793), (257, 21805), (258, 21808), (300, 21997), (307, 22024), (308, 22033), (311, 22054), (312, 22057), (315, 22078), (318, 22093), (321, 22117), (334, 22192), (337, 22207), (351, 22291), (369, 22396), (371, 22402), (378, 22456), (395, 22555),

Gene: Budski\_20 Start: 16421, Stop: 18118, Start Num: 47

Candidate Starts for Budski\_20:

(35, 16382), (Start: 47 @16421 has 34 MA's), (53, 16433), (66, 16472), (77, 16511), (84, 16532), (92, 16580), (95, 16589), (101, 16631), (107, 16667), (116, 16724), (123, 16772), (126, 16799), (148, 16940), (158, 16997), (161, 17015), (165, 17024), (167, 17030), (177, 17078), (184, 17108), (189, 17144), (191, 17150), (194, 17171), (195, 17174), (203, 17225), (216, 17252), (217, 17255), (221, 17282), (224, 17309), (241, 17381), (250, 17420), (265, 17474), (273, 17516), (290, 17591), (311, 17654), (316, 17681), (317, 17684), (322, 17699), (339, 17783), (341, 17792), (342, 17795), (344, 17801), (346, 17813), (347, 17816), (350, 17846), (351, 17852), (356, 17873), (357, 17876), (365, 17930), (371, 17960), (372, 17969), (379, 18020), (382, 18053), (385, 18065), (389, 18083),

Gene: Bugatti\_27 Start: 19904, Stop: 21700, Start Num: 48

Candidate Starts for Bugatti\_27:

(Start: 48 @19904 has 538 MA's), (Start: 70 @19961 has 1 MA's), (86, 20030), (105, 20132), (107, 20144), (108, 20147), (120, 20222), (123, 20237), (130, 20276), (150, 20411), (161, 20480), (187, 20594), (211, 20720), (229, 20834), (234, 20858), (239, 20876), (258, 20957), (274, 21032), (277, 21050), (279, 21059), (283, 21083), (285, 21089), (288, 21104), (300, 21137), (309, 21182), (310, 21185), (314, 21206), (315, 21218), (317, 21224), (326, 21281), (351, 21431), (357, 21455), (369, 21536), (371, 21542), (391, 21677),

Gene: Buggy\_30 Start: 20696, Stop: 22468, Start Num: 48

Candidate Starts for Buggy\_30:

(Start: 39 @20672 has 8 MA's), (Start: 48 @20696 has 538 MA's), (84, 20795), (98, 20879), (107, 20930), (108, 20933), (119, 21005), (120, 21008), (130, 21062), (134, 21101), (144, 21179), (161, 21266), (181, 21347), (183, 21350), (215, 21536), (230, 21623), (254, 21728), (258, 21743), (283, 21869), (285, 21875), (305, 21923), (318, 22001), (319, 22007), (329, 22061), (334, 22100), (337, 22115), (351, 22199), (371, 22310),

Gene: Bumblebee11\_27 Start: 19826, Stop: 21625, Start Num: 48

Candidate Starts for Bumblebee11\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19886 has 1 MA's), (86, 19955), (101, 20033), (105, 20057), (108, 20072), (115, 20108), (120, 20147), (123, 20162), (130, 20201), (141, 20294), (144, 20318), (161, 20405), (187, 20519), (195, 20558), (211, 20645), (219, 20690), (229, 20759), (234, 20783), (237, 20795), (258, 20882), (274, 20957), (277, 20975), (279, 20984), (283, 21008), (285, 21014), (288, 21029), (300, 21062), (309, 21107), (310, 21110), (314, 21131), (351, 21356), (365, 21434), (369, 21461), (371, 21467), (391, 21602),

Gene: Bunker\_19 Start: 16748, Stop: 18478, Start Num: 45

Candidate Starts for Bunker\_19:

(24, 16628), (35, 16712), (Start: 45 @16748 has 4 MA's), (110, 17018), (123, 17102), (155, 17303), (161, 17345), (171, 17381), (177, 17411), (182, 17435), (189, 17477), (194, 17504), (195, 17507), (213, 17561), (214, 17567), (226, 17654), (293, 17948), (312, 18014), (316, 18038), (322, 18056), (342, 18152), (346, 18170), (373, 18329), (383, 18416), (384, 18422), (389, 18443),

Gene: Burger\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Burger\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Burton\_28 Start: 21234, Stop: 23036, Start Num: 50

Candidate Starts for Burton\_28:

(Start: 50 @21234 has 210 MA's), (Start: 59 @21255 has 4 MA's), (Start: 70 @21297 has 1 MA's), (83, 21342), (120, 21558), (127, 21603), (130, 21612), (134, 21651), (140, 21702), (141, 21705), (158, 21798), (183, 21900), (195, 21969), (229, 22170), (230, 22173), (234, 22194), (257, 22290), (258, 22293), (260, 22299), (274, 22368), (277, 22386), (279, 22395), (285, 22425), (310, 22521), (315, 22554), (318, 22569), (342, 22710), (351, 22767), (371, 22878),

Gene: Button\_19 Start: 14787, Stop: 16475, Start Num: 47

Candidate Starts for Button\_19:

(9, 14367), (35, 14757), (Start: 41 @14784 has 2 MA's), (Start: 47 @14787 has 34 MA's), (89, 14928), (107, 15027), (114, 15072), (139, 15255), (143, 15285), (154, 15327), (158, 15357), (167, 15387), (168, 15399), (170, 15402), (187, 15492), (199, 15558), (201, 15573), (215, 15609), (219, 15624),

(221, 15642), (226, 15681), (228, 15687), (248, 15771), (256, 15807), (257, 15810), (258, 15813), (262, 15828), (266, 15846), (267, 15849), (277, 15903), (316, 16032), (318, 16044), (322, 16050), (324, 16059), (327, 16071), (341, 16143), (342, 16146), (343, 16149), (359, 16245), (371, 16314), (372, 16323), (391, 16452), (393, 16461), (394, 16467),

Gene: Buttons\_29 Start: 22075, Stop: 23877, Start Num: 50

Candidate Starts for Buttons\_29:

(Start: 50 @22075 has 210 MA's), (Start: 59 @22096 has 4 MA's), (Start: 70 @22138 has 1 MA's), (83, 22183), (120, 22399), (127, 22444), (130, 22453), (134, 22492), (140, 22543), (141, 22546), (158, 22639), (183, 22741), (195, 22810), (205, 22870), (229, 23011), (230, 23014), (234, 23035), (257, 23131), (258, 23134), (260, 23140), (274, 23209), (277, 23227), (279, 23236), (285, 23266), (310, 23362), (315, 23395), (318, 23410), (342, 23551), (351, 23608), (371, 23719),

Gene: BuzzBuzz\_28 Start: 20463, Stop: 22259, Start Num: 48

Candidate Starts for BuzzBuzz\_28:

(Start: 48 @20463 has 538 MA's), (Start: 70 @20520 has 1 MA's), (74, 20535), (84, 20568), (86, 20589), (89, 20604), (105, 20691), (107, 20703), (108, 20706), (120, 20781), (123, 20796), (129, 20832), (161, 21039), (187, 21153), (195, 21192), (211, 21279), (229, 21393), (234, 21417), (239, 21435), (258, 21516), (274, 21591), (277, 21609), (283, 21642), (285, 21648), (295, 21687), (309, 21741), (310, 21744), (314, 21765), (322, 21822), (351, 21990), (369, 22095), (371, 22101), (391, 22236),

Gene: Bxb1\_25 Start: 21185, Stop: 22987, Start Num: 50

Candidate Starts for Bxb1\_25:

(Start: 50 @21185 has 210 MA's), (Start: 59 @21206 has 4 MA's), (Start: 70 @21248 has 1 MA's), (83, 21293), (120, 21509), (127, 21554), (130, 21563), (134, 21602), (140, 21653), (141, 21656), (183, 21851), (195, 21920), (229, 22121), (230, 22124), (234, 22145), (257, 22241), (258, 22244), (260, 22250), (274, 22319), (277, 22337), (279, 22346), (285, 22376), (310, 22472), (315, 22505), (318, 22520), (342, 22661), (351, 22718), (371, 22829),

Gene: Bxz2\_28 Start: 20473, Stop: 22269, Start Num: 48

Candidate Starts for Bxz2\_28:

(Start: 48 @20473 has 538 MA's), (Start: 70 @20530 has 1 MA's), (74, 20545), (84, 20578), (86, 20599), (89, 20614), (105, 20701), (107, 20713), (108, 20716), (120, 20791), (123, 20806), (129, 20842), (161, 21049), (187, 21163), (195, 21202), (211, 21289), (229, 21403), (234, 21427), (239, 21445), (258, 21526), (274, 21601), (277, 21619), (283, 21652), (285, 21658), (295, 21697), (309, 21751), (310, 21754), (314, 21775), (322, 21832), (351, 22000), (369, 22105), (371, 22111), (391, 22246),

Gene: C3\_26 Start: 20192, Stop: 21982, Start Num: 48

Candidate Starts for C3\_26:

(30, 20126), (Start: 39 @20168 has 8 MA's), (Start: 48 @20192 has 538 MA's), (107, 20426), (108, 20429), (119, 20501), (120, 20504), (123, 20519), (130, 20558), (131, 20564), (144, 20675), (150, 20693), (153, 20708), (161, 20762), (181, 20843), (183, 20846), (211, 21002), (215, 21032), (232, 21125), (258, 21239), (283, 21365), (315, 21500), (318, 21515), (321, 21539), (334, 21614), (335, 21617), (337, 21629), (351, 21713), (365, 21791), (369, 21818), (371, 21824), (377, 21869), (378, 21878), (391, 21959),

Gene: CRB1\_28 Start: 20183, Stop: 21955, Start Num: 48

Candidate Starts for CRB1\_28:

(Start: 39 @20159 has 8 MA's), (Start: 48 @20183 has 538 MA's), (84, 20282), (107, 20417), (108, 20420), (119, 20492), (120, 20495), (130, 20549), (131, 20555), (134, 20588), (144, 20666), (161, 20753), (181, 20834), (183, 20837), (215, 21023), (230, 21110), (254, 21215), (258, 21230), (283,



21356), (285, 21362), (305, 21410), (315, 21473), (318, 21488), (319, 21494), (323, 21524), (329, 21548), (334, 21587), (337, 21602), (351, 21686),

Gene: CactusRose\_26 Start: 21034, Stop: 22836, Start Num: 50

Candidate Starts for CactusRose\_26:

(Start: 50 @21034 has 210 MA's), (Start: 59 @21055 has 4 MA's), (Start: 70 @21097 has 1 MA's), (83, 21142), (120, 21358), (127, 21403), (130, 21412), (140, 21502), (158, 21598), (183, 21700), (195, 21769), (229, 21970), (230, 21973), (234, 21994), (257, 22090), (258, 22093), (260, 22099), (274, 22168), (277, 22186), (279, 22195), (285, 22225), (310, 22321), (315, 22354), (318, 22369), (322, 22399), (342, 22510), (351, 22567), (371, 22678),

Gene: Caelakin\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Caelakin\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Cafasso\_19 Start: 16548, Stop: 18212, Start Num: 54

Candidate Starts for Cafasso\_19:

(Start: 46 @16533 has 8 MA's), (Start: 54 @16548 has 5 MA's), (Start: 56 @16554 has 3 MA's), (64, 16584), (67, 16593), (116, 16827), (120, 16860), (128, 16908), (137, 16983), (143, 17028), (161, 17118), (167, 17133), (178, 17187), (181, 17196), (187, 17229), (193, 17262), (195, 17268), (249, 17502), (252, 17514), (257, 17541), (264, 17574), (272, 17613), (274, 17622), (288, 17694), (306, 17709), (310, 17733), (318, 17781), (338, 17868), (344, 17889), (355, 17955), (365, 18021), (374, 18069), (385, 18159), (395, 18207),

Gene: Calvinny\_30 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Calvinny\_30:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (225, 21369), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (288, 21660), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (369, 22092), (371, 22098), (391, 22233),

Gene: Camperdownii\_26 Start: 19446, Stop: 21227, Start Num: 48

Candidate Starts for Camperdownii\_26:

(Start: 39 @19422 has 8 MA's), (Start: 48 @19446 has 538 MA's), (Start: 52 @19452 has 3 MA's), (Start: 70 @19506 has 1 MA's), (74, 19521), (86, 19575), (90, 19593), (105, 19677), (107, 19689), (108, 19692), (120, 19767), (123, 19782), (130, 19821), (144, 19938), (161, 20025), (181, 20106), (191, 20154), (195, 20178), (211, 20265), (219, 20310), (230, 20382), (234, 20403), (239, 20421), (258, 20502), (277, 20595), (279, 20604), (283, 20628), (285, 20634), (291, 20658), (310, 20712), (314, 20733), (321, 20784), (326, 20808), (335, 20862), (351, 20958), (369, 21063), (372, 21078), (388, 21186), (391, 21204),

Gene: Candra\_31 Start: 20012, Stop: 21784, Start Num: 48

Candidate Starts for Candra\_31:

(30, 19946), (Start: 39 @19988 has 8 MA's), (Start: 48 @20012 has 538 MA's), (108, 20249), (119, 20321), (120, 20324), (123, 20339), (130, 20378), (131, 20384), (144, 20495), (146, 20501), (155, 20540), (161, 20582), (172, 20621), (181, 20663), (183, 20666), (211, 20822), (235, 20963), (239, 20978), (258, 21059), (285, 21191), (318, 21317), (327, 21368), (329, 21377), (334, 21416), (335,

21419), (337, 21431), (351, 21515), (369, 21620), (371, 21626), (391, 21761),

Gene: Caraxes\_27 Start: 18835, Stop: 20625, Start Num: 48

Candidate Starts for Caraxes\_27:

(30, 18769), (Start: 39 @18811 has 8 MA's), (Start: 48 @18835 has 538 MA's), (Start: 59 @18844 has 4 MA's), (94, 18988), (107, 19069), (108, 19072), (119, 19144), (120, 19147), (123, 19162), (130, 19201), (131, 19207), (144, 19318), (146, 19324), (153, 19351), (161, 19405), (181, 19486), (183, 19489), (211, 19645), (215, 19675), (229, 19759), (239, 19801), (252, 19852), (258, 19882), (283, 20008), (298, 20062), (307, 20089), (308, 20098), (310, 20110), (315, 20143), (318, 20158), (321, 20182), (334, 20257), (335, 20260), (337, 20272), (351, 20356), (369, 20461), (377, 20512), (378, 20521), (391, 20602),

Gene: Carlyle\_29 Start: 21914, Stop: 23716, Start Num: 50

Candidate Starts for Carlyle\_29:

(Start: 50 @21914 has 210 MA's), (Start: 59 @21935 has 4 MA's), (Start: 70 @21977 has 1 MA's), (83, 22022), (120, 22238), (127, 22283), (130, 22292), (134, 22331), (140, 22382), (141, 22385), (183, 22580), (195, 22649), (229, 22850), (230, 22853), (234, 22874), (257, 22970), (258, 22973), (260, 22979), (274, 23048), (277, 23066), (285, 23105), (310, 23201), (315, 23234), (318, 23249), (342, 23390), (351, 23447), (371, 23558), (395, 23711),

Gene: Caviar\_28 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for Caviar\_28:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Centaur\_30 Start: 20653, Stop: 22425, Start Num: 48

Candidate Starts for Centaur\_30:

(Start: 39 @20629 has 8 MA's), (Start: 48 @20653 has 538 MA's), (89, 20788), (107, 20887), (108, 20890), (119, 20962), (120, 20965), (130, 21019), (131, 21025), (137, 21088), (144, 21136), (153, 21169), (161, 21223), (181, 21304), (183, 21307), (187, 21337), (215, 21493), (230, 21580), (258, 21700), (282, 21823), (283, 21826), (285, 21832), (305, 21880), (315, 21943), (318, 21958), (319, 21964), (329, 22018), (334, 22057), (337, 22072), (344, 22105), (350, 22150), (369, 22261), (371, 22267), (378, 22321),

Gene: CentreCat\_27 Start: 19828, Stop: 21606, Start Num: 48

Candidate Starts for CentreCat\_27:

(Start: 39 @19804 has 8 MA's), (Start: 48 @19828 has 538 MA's), (Start: 70 @19885 has 1 MA's), (85, 19939), (86, 19954), (90, 19972), (105, 20056), (107, 20068), (108, 20071), (120, 20146), (123, 20161), (130, 20200), (144, 20317), (161, 20404), (181, 20485), (191, 20533), (195, 20557), (211, 20644), (219, 20689), (230, 20761), (234, 20782), (239, 20800), (258, 20881), (277, 20974), (279, 20983), (283, 21007), (285, 21013), (291, 21037), (310, 21091), (314, 21112), (321, 21163), (326, 21187), (335, 21241), (351, 21337), (369, 21442), (372, 21457), (388, 21565), (391, 21583),

Gene: Cerulean\_28 Start: 20139, Stop: 21920, Start Num: 48

Candidate Starts for Cerulean\_28:

(Start: 39 @20115 has 8 MA's), (Start: 48 @20139 has 538 MA's), (Start: 52 @20145 has 3 MA's), (Start: 70 @20199 has 1 MA's), (74, 20214), (86, 20268), (90, 20286), (105, 20370), (107, 20382), (108, 20385), (120, 20460), (123, 20475), (130, 20514), (144, 20631), (161, 20718), (181, 20799), (191, 20847), (195, 20871), (211, 20958), (219, 21003), (230, 21075), (234, 21096), (239, 21114),

(258, 21195), (274, 21270), (277, 21288), (279, 21297), (283, 21321), (285, 21327), (291, 21351), (308, 21393), (310, 21405), (314, 21426), (321, 21477), (326, 21501), (335, 21555), (351, 21651), (369, 21756), (372, 21771), (388, 21879), (391, 21897),

Gene: ChadMasterC\_35 Start: 31682, Stop: 33445, Start Num: 32

Candidate Starts for ChadMasterC\_35:

(29, 31664), (Start: 32 @31682 has 74 MA's), (Start: 37 @31718 has 5 MA's), (84, 31856), (100, 31952), (103, 31961), (112, 32030), (120, 32081), (127, 32126), (140, 32222), (150, 32267), (152, 32276), (171, 32366), (177, 32396), (181, 32411), (185, 32435), (190, 32465), (218, 32570), (239, 32687), (244, 32705), (247, 32720), (254, 32750), (257, 32762), (258, 32765), (264, 32792), (342, 33116), (343, 33119), (350, 33167), (356, 33194), (360, 33221), (369, 33275), (375, 33302), (393, 33431),

Gene: Chadwick\_25 Start: 18946, Stop: 20745, Start Num: 48

Candidate Starts for Chadwick\_25:

(Start: 48 @18946 has 538 MA's), (108, 19183), (120, 19258), (123, 19273), (129, 19309), (137, 19381), (139, 19396), (144, 19429), (146, 19435), (187, 19630), (192, 19660), (194, 19666), (211, 19756), (219, 19801), (229, 19870), (239, 19912), (243, 19930), (257, 19990), (258, 19993), (277, 20086), (309, 20227), (315, 20263), (368, 20578), (371, 20587), (391, 20722),

Gene: ChampagnePapi\_28 Start: 20138, Stop: 21919, Start Num: 48

Candidate Starts for ChampagnePapi\_28:

(Start: 39 @20114 has 8 MA's), (Start: 48 @20138 has 538 MA's), (Start: 52 @20144 has 3 MA's), (Start: 70 @20198 has 1 MA's), (74, 20213), (86, 20267), (90, 20285), (105, 20369), (107, 20381), (108, 20384), (120, 20459), (123, 20474), (130, 20513), (144, 20630), (161, 20717), (181, 20798), (191, 20846), (195, 20870), (211, 20957), (219, 21002), (230, 21074), (234, 21095), (239, 21113), (258, 21194), (274, 21269), (277, 21287), (279, 21296), (283, 21320), (285, 21326), (291, 21350), (308, 21392), (310, 21404), (314, 21425), (321, 21476), (326, 21500), (335, 21554), (351, 21650), (369, 21755), (372, 21770), (388, 21878), (391, 21896),

Gene: Chanagan\_26 Start: 20699, Stop: 22501, Start Num: 50

Candidate Starts for Chanagan\_26:

(Start: 50 @20699 has 210 MA's), (Start: 59 @20720 has 4 MA's), (Start: 70 @20762 has 1 MA's), (83, 20807), (120, 21023), (127, 21068), (130, 21077), (134, 21116), (140, 21167), (141, 21170), (158, 21263), (183, 21365), (195, 21434), (229, 21635), (230, 21638), (234, 21659), (257, 21755), (258, 21758), (260, 21764), (274, 21833), (277, 21851), (279, 21860), (285, 21890), (310, 21986), (315, 22019), (318, 22034), (342, 22175), (351, 22232), (371, 22343),

Gene: Changeling\_30 Start: 22020, Stop: 23792, Start Num: 48

Candidate Starts for Changeling\_30:

(Start: 39 @21996 has 8 MA's), (Start: 48 @22020 has 538 MA's), (107, 22254), (108, 22257), (119, 22329), (120, 22332), (130, 22386), (134, 22425), (144, 22503), (161, 22590), (181, 22671), (183, 22674), (215, 22860), (229, 22944), (230, 22947), (239, 22986), (252, 23037), (254, 23052), (258, 23067), (285, 23199), (305, 23247), (314, 23298), (315, 23310), (318, 23325), (319, 23331), (329, 23385), (337, 23439), (351, 23523), (362, 23589), (365, 23601), (369, 23628), (371, 23634),

Gene: Chaph\_27 Start: 19836, Stop: 21614, Start Num: 48

Candidate Starts for Chaph\_27:

(Start: 39 @19812 has 8 MA's), (Start: 48 @19836 has 538 MA's), (Start: 70 @19893 has 1 MA's), (85, 19947), (86, 19962), (90, 19980), (105, 20064), (107, 20076), (108, 20079), (120, 20154), (123, 20169), (130, 20208), (144, 20325), (161, 20412), (181, 20493), (191, 20541), (195, 20565), (211, 20652), (219, 20697), (230, 20769), (234, 20790), (239, 20808), (258, 20889), (277, 20982), (279, 20991), (283, 21015), (285, 21021), (291, 21045), (310, 21099), (314, 21120), (321, 21171), (326,

21195), (335, 21249), (351, 21345), (369, 21450), (372, 21465), (388, 21573), (391, 21591),

Gene: Chargerpower\_29 Start: 19510, Stop: 21282, Start Num: 48

Candidate Starts for Chargerpower\_29:

(Start: 46 @19507 has 8 MA's), (Start: 48 @19510 has 538 MA's), (83, 19606), (95, 19666), (99, 19699), (108, 19747), (116, 19789), (119, 19819), (120, 19822), (130, 19876), (131, 19882), (144, 19993), (155, 20038), (157, 20047), (161, 20080), (183, 20164), (192, 20224), (225, 20413), (239, 20476), (283, 20683), (305, 20737), (310, 20767), (311, 20776), (318, 20815), (321, 20839), (334, 20914), (335, 20917), (337, 20929), (369, 21118), (371, 21124), (377, 21169), (391, 21259),

Gene: Charm\_28 Start: 19700, Stop: 21490, Start Num: 48

Candidate Starts for Charm\_28:

(30, 19634), (Start: 39 @19676 has 8 MA's), (Start: 48 @19700 has 538 MA's), (107, 19934), (108, 19937), (119, 20009), (120, 20012), (124, 20030), (130, 20066), (131, 20072), (135, 20123), (139, 20150), (140, 20156), (144, 20183), (146, 20189), (161, 20270), (181, 20351), (183, 20354), (192, 20414), (225, 20603), (239, 20666), (252, 20717), (258, 20747), (283, 20873), (310, 20975), (311, 20984), (315, 21008), (318, 21023), (321, 21047), (334, 21122), (337, 21137), (351, 21221), (369, 21326), (371, 21332), (378, 21386), (384, 21434),

Gene: Charming\_35 Start: 30317, Stop: 32080, Start Num: 32

Candidate Starts for Charming\_35:

(29, 30299), (Start: 32 @30317 has 74 MA's), (Start: 37 @30353 has 5 MA's), (84, 30491), (100, 30587), (103, 30596), (112, 30665), (120, 30716), (127, 30761), (131, 30776), (140, 30857), (150, 30902), (152, 30911), (171, 31001), (172, 31004), (177, 31031), (181, 31046), (185, 31070), (190, 31100), (239, 31322), (244, 31340), (247, 31355), (254, 31385), (257, 31397), (258, 31400), (264, 31427), (341, 31748), (342, 31751), (343, 31754), (350, 31802), (356, 31829), (360, 31856), (369, 31910), (374, 31934), (375, 31937), (395, 32075),

Gene: Chartreuse\_31 Start: 19923, Stop: 21695, Start Num: 48

Candidate Starts for Chartreuse\_31:

(30, 19857), (Start: 39 @19899 has 8 MA's), (Start: 48 @19923 has 538 MA's), (101, 20121), (108, 20160), (119, 20232), (120, 20235), (124, 20253), (130, 20289), (131, 20295), (144, 20406), (146, 20412), (155, 20451), (161, 20493), (172, 20532), (181, 20574), (183, 20577), (192, 20637), (235, 20874), (239, 20889), (258, 20970), (285, 21102), (318, 21228), (327, 21279), (329, 21288), (334, 21327), (335, 21330), (337, 21342), (351, 21426), (369, 21531), (371, 21537), (391, 21672),

Gene: Che12\_30 Start: 19088, Stop: 20878, Start Num: 48

Candidate Starts for Che12\_30:

(Start: 39 @19064 has 8 MA's), (Start: 48 @19088 has 538 MA's), (94, 19241), (107, 19322), (108, 19325), (120, 19400), (123, 19415), (130, 19454), (131, 19460), (144, 19571), (146, 19577), (153, 19604), (161, 19658), (181, 19739), (183, 19742), (211, 19898), (215, 19928), (239, 20054), (252, 20105), (254, 20120), (258, 20135), (283, 20261), (307, 20342), (308, 20351), (315, 20396), (318, 20411), (321, 20435), (334, 20510), (335, 20513), (337, 20525), (351, 20609), (369, 20714), (378, 20774), (391, 20855),

Gene: Che9d\_19 Start: 13752, Stop: 15416, Start Num: 51

Candidate Starts for Che9d\_19:

(Start: 51 @13752 has 7 MA's), (76, 13833), (85, 13863), (88, 13884), (90, 13896), (103, 13962), (109, 14001), (110, 14013), (114, 14037), (122, 14094), (123, 14097), (125, 14121), (127, 14127), (128, 14130), (134, 14175), (135, 14193), (141, 14229), (162, 14340), (172, 14376), (177, 14403), (180, 14415), (181, 14418), (182, 14427), (187, 14460), (190, 14472), (194, 14496), (253, 14742), (258, 14769), (261, 14781), (275, 14832), (277, 14847), (289, 14901), (306, 14928), (342, 15090), (343, 15093), (344, 15096), (362, 15213), (371, 15255), (381, 15339), (390, 15384), (393, 15402),

Gene: CheeseTouch\_20 Start: 16421, Stop: 18118, Start Num: 47

Candidate Starts for CheeseTouch\_20:

(35, 16382), (Start: 47 @16421 has 34 MA's), (53, 16433), (77, 16511), (84, 16532), (92, 16580), (95, 16589), (101, 16631), (107, 16667), (116, 16724), (123, 16772), (126, 16799), (158, 16997), (161, 17015), (165, 17024), (167, 17030), (177, 17078), (184, 17108), (189, 17144), (194, 17171), (195, 17174), (203, 17225), (217, 17255), (221, 17282), (224, 17309), (241, 17381), (250, 17420), (265, 17474), (273, 17516), (290, 17591), (311, 17654), (316, 17681), (317, 17684), (322, 17699), (339, 17783), (341, 17792), (342, 17795), (344, 17801), (346, 17813), (347, 17816), (350, 17846), (351, 17852), (356, 17873), (357, 17876), (365, 17930), (371, 17960), (372, 17969), (379, 18020), (382, 18053), (385, 18065), (389, 18083),

Gene: CherryCola\_35 Start: 26753, Stop: 28561, Start Num: 26

Candidate Starts for CherryCola\_35:

(26, 26753), (Start: 32 @26795 has 74 MA's), (Start: 37 @26831 has 5 MA's), (Start: 51 @26864 has 7 MA's), (102, 27074), (103, 27077), (107, 27107), (117, 27173), (120, 27197), (121, 27206), (126, 27239), (152, 27392), (158, 27431), (171, 27482), (173, 27494), (177, 27512), (180, 27524), (182, 27536), (185, 27551), (190, 27581), (191, 27584), (194, 27605), (216, 27677), (239, 27803), (247, 27836), (255, 27869), (264, 27908), (265, 27911), (279, 27983), (296, 28049), (304, 28061), (342, 28232), (345, 28244), (346, 28250), (350, 28283), (356, 28310), (360, 28337), (369, 28391), (385, 28508), (390, 28529), (395, 28556),

Gene: ChipMunk\_30 Start: 20600, Stop: 22372, Start Num: 48

Candidate Starts for ChipMunk\_30:

(Start: 39 @20576 has 8 MA's), (Start: 48 @20600 has 538 MA's), (84, 20699), (98, 20783), (107, 20834), (108, 20837), (119, 20909), (120, 20912), (130, 20966), (134, 21005), (144, 21083), (161, 21170), (181, 21251), (183, 21254), (230, 21527), (254, 21632), (258, 21647), (283, 21773), (285, 21779), (305, 21827), (307, 21836), (310, 21857), (315, 21890), (318, 21905), (319, 21911), (329, 21965), (334, 22004), (337, 22019), (351, 22103), (371, 22214),

Gene: Chiqui\_26 Start: 20176, Stop: 21975, Start Num: 48

Candidate Starts for Chiqui\_26:

(Start: 48 @20176 has 538 MA's), (Start: 70 @20236 has 1 MA's), (86, 20305), (105, 20407), (107, 20419), (108, 20422), (120, 20497), (123, 20512), (124, 20515), (130, 20551), (150, 20686), (161, 20755), (187, 20869), (211, 20995), (229, 21109), (230, 21112), (234, 21133), (239, 21151), (258, 21232), (274, 21307), (277, 21325), (279, 21334), (283, 21358), (285, 21364), (288, 21379), (300, 21412), (309, 21457), (310, 21460), (314, 21481), (315, 21493), (351, 21706), (357, 21730), (369, 21811), (371, 21817), (386, 21928), (391, 21952),

Gene: Chupacabra\_27 Start: 19785, Stop: 21563, Start Num: 48

Candidate Starts for Chupacabra\_27:

(Start: 39 @19761 has 8 MA's), (Start: 48 @19785 has 538 MA's), (Start: 70 @19842 has 1 MA's), (74, 19857), (86, 19911), (105, 20013), (107, 20025), (108, 20028), (120, 20103), (123, 20118), (130, 20157), (144, 20274), (150, 20292), (161, 20361), (179, 20436), (187, 20475), (195, 20514), (211, 20601), (215, 20631), (219, 20646), (225, 20694), (234, 20739), (237, 20751), (239, 20757), (257, 20835), (258, 20838), (277, 20931), (279, 20940), (283, 20964), (285, 20970), (288, 20985), (305, 21018), (314, 21069), (317, 21087), (322, 21126), (323, 21132), (342, 21237), (351, 21294), (357, 21318), (358, 21324), (369, 21399), (371, 21405), (372, 21414), (391, 21540),

Gene: Ciao\_27 Start: 21042, Stop: 22844, Start Num: 50

Candidate Starts for Ciao\_27:

(Start: 50 @21042 has 210 MA's), (Start: 59 @21063 has 4 MA's), (Start: 70 @21105 has 1 MA's), (83, 21150), (120, 21366), (127, 21411), (130, 21420), (134, 21459), (140, 21510), (141, 21513), (183,

21708), (195, 21777), (229, 21978), (230, 21981), (234, 22002), (257, 22098), (258, 22101), (260, 22107), (274, 22176), (277, 22194), (279, 22203), (285, 22233), (310, 22329), (315, 22362), (318, 22377), (342, 22518), (351, 22575), (371, 22686),

Gene: Cici\_27 Start: 19820, Stop: 21619, Start Num: 48

Candidate Starts for Cici\_27:

(Start: 39 @19796 has 8 MA's), (Start: 48 @19820 has 538 MA's), (Start: 52 @19826 has 3 MA's), (Start: 70 @19880 has 1 MA's), (86, 19949), (101, 20027), (105, 20051), (108, 20066), (115, 20102), (120, 20141), (123, 20156), (130, 20195), (141, 20288), (144, 20312), (161, 20399), (187, 20513), (195, 20552), (211, 20639), (219, 20684), (229, 20753), (234, 20777), (237, 20789), (258, 20876), (274, 20951), (277, 20969), (279, 20978), (283, 21002), (285, 21008), (288, 21023), (300, 21056), (309, 21101), (310, 21104), (314, 21125), (351, 21350), (365, 21428), (369, 21455), (371, 21461), (391, 21596),

Gene: Cindaradix\_26 Start: 19557, Stop: 21350, Start Num: 52

Candidate Starts for Cindaradix\_26:

(Start: 39 @19527 has 8 MA's), (Start: 48 @19551 has 538 MA's), (Start: 52 @19557 has 3 MA's), (Start: 70 @19611 has 1 MA's), (86, 19680), (101, 19758), (105, 19782), (108, 19797), (115, 19833), (120, 19872), (123, 19887), (130, 19926), (141, 20019), (144, 20043), (161, 20130), (187, 20244), (195, 20283), (211, 20370), (219, 20415), (229, 20484), (234, 20508), (237, 20520), (258, 20607), (274, 20682), (277, 20700), (279, 20709), (283, 20733), (285, 20739), (288, 20754), (300, 20787), (309, 20832), (310, 20835), (314, 20856), (351, 21081), (369, 21186), (371, 21192), (391, 21327),

Gene: Cintron\_27 Start: 19875, Stop: 21653, Start Num: 48

Candidate Starts for Cintron\_27:

(Start: 39 @19851 has 8 MA's), (Start: 48 @19875 has 538 MA's), (Start: 70 @19932 has 1 MA's), (85, 19986), (86, 20001), (90, 20019), (105, 20103), (107, 20115), (108, 20118), (120, 20193), (123, 20208), (130, 20247), (144, 20364), (161, 20451), (181, 20532), (191, 20580), (195, 20604), (211, 20691), (219, 20736), (230, 20808), (234, 20829), (239, 20847), (258, 20928), (277, 21021), (279, 21030), (283, 21054), (285, 21060), (291, 21084), (310, 21138), (314, 21159), (321, 21210), (326, 21234), (335, 21288), (351, 21384), (369, 21489), (372, 21504), (388, 21612), (391, 21630),

Gene: Citius\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Citius\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: ClamChowder\_33 Start: 26575, Stop: 28341, Start Num: 32

Candidate Starts for ClamChowder\_33:

(26, 26533), (Start: 32 @26575 has 74 MA's), (Start: 37 @26611 has 5 MA's), (Start: 51 @26644 has 7 MA's), (102, 26854), (103, 26857), (107, 26887), (117, 26953), (120, 26977), (121, 26986), (126, 27019), (152, 27172), (158, 27211), (171, 27262), (173, 27274), (177, 27292), (180, 27304), (182, 27316), (185, 27331), (190, 27361), (191, 27364), (194, 27385), (216, 27457), (222, 27505), (247, 27616), (255, 27649), (265, 27691), (279, 27763), (296, 27829), (304, 27841), (342, 28012), (343, 28015), (350, 28063), (356, 28090), (360, 28117), (369, 28171), (385, 28288), (390, 28309), (395, 28336),

Gene: Clarenza\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Clarenza\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: CloudWang3\_31 Start: 19949, Stop: 21745, Start Num: 39

Candidate Starts for CloudWang3\_31:

(30, 19907), (Start: 39 @19949 has 8 MA's), (Start: 48 @19973 has 538 MA's), (108, 20210), (119, 20282), (120, 20285), (123, 20300), (130, 20339), (131, 20345), (144, 20456), (146, 20462), (155, 20501), (161, 20543), (172, 20582), (181, 20624), (183, 20627), (211, 20783), (235, 20924), (239, 20939), (285, 21152), (314, 21251), (318, 21278), (327, 21329), (329, 21338), (334, 21377), (337, 21392), (351, 21476), (369, 21581), (371, 21587), (391, 21722),

Gene: Clown\_35 Start: 28603, Stop: 30369, Start Num: 32

Candidate Starts for Clown\_35:

(25, 28540), (Start: 32 @28603 has 74 MA's), (Start: 51 @28672 has 7 MA's), (102, 28882), (103, 28885), (104, 28888), (107, 28915), (117, 28981), (120, 29005), (121, 29014), (142, 29152), (149, 29188), (177, 29320), (180, 29332), (182, 29344), (185, 29359), (190, 29389), (194, 29413), (198, 29431), (216, 29485), (222, 29533), (223, 29536), (234, 29593), (239, 29611), (247, 29644), (255, 29677), (257, 29686), (259, 29692), (279, 29791), (296, 29857), (342, 30040), (343, 30043), (345, 30052), (350, 30091), (356, 30118), (360, 30145), (361, 30151), (369, 30199), (371, 30205), (375, 30226), (385, 30316), (390, 30337),

Gene: Cocoaberry\_27 Start: 19831, Stop: 21609, Start Num: 48

Candidate Starts for Cocoaberry\_27:

(Start: 39 @19807 has 8 MA's), (Start: 48 @19831 has 538 MA's), (Start: 70 @19888 has 1 MA's), (85, 19942), (86, 19957), (90, 19975), (105, 20059), (107, 20071), (108, 20074), (120, 20149), (123, 20164), (130, 20203), (144, 20320), (161, 20407), (181, 20488), (191, 20536), (195, 20560), (211, 20647), (219, 20692), (230, 20764), (234, 20785), (239, 20803), (258, 20884), (277, 20977), (279, 20986), (283, 21010), (285, 21016), (291, 21040), (310, 21094), (314, 21115), (321, 21166), (326, 21190), (335, 21244), (351, 21340), (369, 21445), (372, 21460), (388, 21568), (391, 21586),

Gene: Colbster\_29 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for Colbster\_29:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: Colin\_32 Start: 21871, Stop: 23667, Start Num: 39

Candidate Starts for Colin\_32:

(Start: 39 @21871 has 8 MA's), (Start: 48 @21895 has 538 MA's), (107, 22129), (108, 22132), (119, 22204), (120, 22207), (130, 22261), (131, 22267), (134, 22300), (144, 22378), (161, 22465), (181, 22546), (183, 22549), (187, 22579), (230, 22822), (239, 22861), (252, 22912), (254, 22927), (258, 22942), (285, 23074), (305, 23122), (310, 23152), (312, 23164), (318, 23200), (319, 23206), (329, 23260), (337, 23314), (351, 23398), (362, 23464), (369, 23503), (371, 23509),

Gene: Colleen\_19 Start: 17425, Stop: 19089, Start Num: 50

Candidate Starts for Colleen\_19:

(Start: 50 @17425 has 210 MA's), (63, 17458), (116, 17716), (127, 17794), (143, 17917), (146, 17926), (147, 17929), (150, 17938), (152, 17947), (183, 18088), (185, 18100), (194, 18154), (224, 18289), (233, 18322), (236, 18340), (239, 18352), (243, 18367), (257, 18427), (263, 18448), (264, 18457), (277, 18523), (283, 18556), (305, 18586), (306, 18592), (307, 18595), (318, 18664), (341, 18763), (344, 18772), (370, 18928), (372, 18940),

Gene: Commander\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Commander\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: ConceptII\_29 Start: 22056, Stop: 23858, Start Num: 50

Candidate Starts for ConceptII\_29:

(Start: 50 @22056 has 210 MA's), (Start: 59 @22077 has 4 MA's), (Start: 70 @22119 has 1 MA's), (83, 22164), (120, 22380), (127, 22425), (130, 22434), (134, 22473), (140, 22524), (141, 22527), (158, 22620), (183, 22722), (195, 22791), (229, 22992), (230, 22995), (234, 23016), (257, 23112), (258, 23115), (260, 23121), (274, 23190), (277, 23208), (279, 23217), (285, 23247), (310, 23343), (315, 23376), (318, 23391), (342, 23532), (351, 23589), (371, 23700),

Gene: Connomayer\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Connomayer\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Conquerage\_30 Start: 21779, Stop: 23569, Start Num: 48

Candidate Starts for Conquerage\_30:

(Start: 46 @21776 has 8 MA's), (Start: 48 @21779 has 538 MA's), (107, 22013), (108, 22016), (119, 22088), (120, 22091), (123, 22106), (130, 22145), (131, 22151), (144, 22262), (161, 22349), (181, 22430), (183, 22433), (192, 22493), (215, 22619), (225, 22682), (230, 22706), (232, 22712), (239, 22745), (258, 22826), (283, 22952), (294, 22994), (310, 23054), (315, 23087), (318, 23102), (334, 23201), (335, 23204), (337, 23216), (351, 23300), (362, 23366), (369, 23405), (371, 23411), (377, 23456), (384, 23513), (385, 23516),

Gene: Conspiracy\_24 Start: 19564, Stop: 21363, Start Num: 48

Candidate Starts for Conspiracy\_24:

(Start: 48 @19564 has 538 MA's), (90, 19702), (108, 19801), (120, 19876), (129, 19927), (137, 19999), (139, 20014), (144, 20047), (146, 20053), (165, 20146), (187, 20248), (192, 20278), (194, 20284), (211, 20374), (215, 20404), (226, 20476), (229, 20488), (230, 20491), (239, 20530), (243, 20548), (257, 20608), (258, 20611), (270, 20662), (277, 20704), (309, 20845), (317, 20887), (371, 21205), (391, 21340),

Gene: Coog\_24 Start: 19707, Stop: 21503, Start Num: 48

Candidate Starts for Coog\_24:

(Start: 41 @19695 has 2 MA's), (Start: 48 @19707 has 538 MA's), (85, 19812), (90, 19845), (108, 19944), (120, 20019), (123, 20034), (129, 20070), (137, 20142), (139, 20157), (146, 20196), (192,



20421), (194, 20427), (219, 20562), (226, 20619), (227, 20622), (229, 20631), (239, 20673), (243, 20691), (257, 20751), (258, 20754), (277, 20847), (279, 20856), (283, 20880), (309, 20988), (315, 21024), (351, 21234), (368, 21336), (371, 21345), (391, 21480), (393, 21489),

Gene: Cookie dough\_31 Start: 19969, Stop: 21741, Start Num: 48

Candidate Starts for Cookie dough\_31:

(30, 19903), (Start: 39 @19945 has 8 MA's), (Start: 48 @19969 has 538 MA's), (101, 20167), (108, 20206), (119, 20278), (120, 20281), (124, 20299), (130, 20335), (131, 20341), (144, 20452), (146, 20458), (155, 20497), (161, 20539), (172, 20578), (181, 20620), (183, 20623), (192, 20683), (235, 20920), (239, 20935), (258, 21016), (285, 21148), (318, 21274), (327, 21325), (329, 21334), (334, 21373), (335, 21376), (337, 21388), (351, 21472), (369, 21577), (371, 21583), (391, 21718),

Gene: Coriander\_19 Start: 17505, Stop: 19199, Start Num: 49

Candidate Starts for Coriander\_19:

(8, 17034), (17, 17184), (35, 17463), (Start: 37 @17475 has 5 MA's), (Start: 49 @17505 has 5 MA's), (84, 17607), (88, 17634), (90, 17646), (92, 17658), (103, 17715), (110, 17766), (113, 17787), (121, 17844), (123, 17850), (143, 18000), (171, 18123), (184, 18183), (189, 18219), (213, 18303), (221, 18357), (277, 18618), (295, 18690), (296, 18693), (311, 18735), (322, 18780), (342, 18876), (343, 18879), (346, 18894), (373, 19053), (374, 19059), (385, 19146), (394, 19191),

Gene: Corvo\_28 Start: 22053, Stop: 23855, Start Num: 50

Candidate Starts for Corvo\_28:

(Start: 50 @22053 has 210 MA's), (Start: 59 @22074 has 4 MA's), (Start: 70 @22116 has 1 MA's), (83, 22161), (120, 22377), (127, 22422), (130, 22431), (140, 22521), (141, 22524), (158, 22617), (183, 22719), (195, 22788), (226, 22977), (229, 22989), (230, 22992), (234, 23013), (257, 23109), (258, 23112), (260, 23118), (274, 23187), (277, 23205), (279, 23214), (285, 23244), (310, 23340), (315, 23373), (318, 23388), (342, 23529), (351, 23586), (371, 23697),

Gene: CosmicSans\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for CosmicSans\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: CoveyB\_34 Start: 26333, Stop: 28141, Start Num: 26

Candidate Starts for CoveyB\_34:

(26, 26333), (Start: 32 @26375 has 74 MA's), (Start: 37 @26411 has 5 MA's), (Start: 51 @26444 has 7 MA's), (102, 26654), (103, 26657), (107, 26687), (117, 26753), (120, 26777), (121, 26786), (126, 26819), (152, 26972), (158, 27011), (171, 27062), (173, 27074), (177, 27092), (180, 27104), (182, 27116), (185, 27131), (190, 27161), (191, 27164), (194, 27185), (216, 27257), (222, 27305), (247, 27416), (255, 27449), (264, 27488), (265, 27491), (279, 27563), (296, 27629), (304, 27641), (342, 27812), (345, 27824), (346, 27830), (350, 27863), (356, 27890), (360, 27917), (369, 27971), (385, 28088), (390, 28109), (395, 28136),

Gene: Crater\_18 Start: 15970, Stop: 17667, Start Num: 47

Candidate Starts for Crater\_18:

(35, 15931), (Start: 47 @15970 has 34 MA's), (53, 15982), (55, 15985), (66, 16021), (77, 16060), (84, 16081), (91, 16123), (92, 16129), (93, 16132), (97, 16144), (101, 16180), (107, 16216), (116, 16273), (123, 16321), (126, 16348), (140, 16450), (148, 16489), (158, 16546), (161, 16564), (165, 16573), (167, 16579), (177, 16627), (184, 16657), (189, 16693), (191, 16699), (194, 16720), (195, 16723), (203, 16774), (216, 16801), (217, 16804), (221, 16831), (224, 16858), (241, 16930), (250, 16969),

(265, 17023), (279, 17095), (290, 17140), (316, 17230), (322, 17248), (339, 17332), (341, 17341), (342, 17344), (344, 17350), (347, 17365), (350, 17395), (351, 17401), (356, 17422), (357, 17425), (365, 17479), (371, 17509), (372, 17518), (379, 17569), (382, 17602), (385, 17614), (389, 17632),

Gene: Crispicous1\_26 Start: 20570, Stop: 22372, Start Num: 50

Candidate Starts for Crispicous1\_26:

(Start: 50 @20570 has 210 MA's), (Start: 59 @20591 has 4 MA's), (Start: 70 @20633 has 1 MA's), (83, 20678), (120, 20894), (127, 20939), (130, 20948), (134, 20987), (140, 21038), (146, 21071), (183, 21236), (195, 21305), (229, 21506), (230, 21509), (234, 21530), (257, 21626), (258, 21629), (260, 21635), (274, 21704), (277, 21722), (279, 21731), (285, 21761), (310, 21857), (315, 21890), (318, 21905), (342, 22046), (351, 22103), (371, 22214),

Gene: Crucio\_28 Start: 20118, Stop: 21890, Start Num: 48

Candidate Starts for Crucio\_28:

(30, 20052), (Start: 39 @20094 has 8 MA's), (Start: 48 @20118 has 538 MA's), (84, 20217), (98, 20301), (107, 20352), (108, 20355), (119, 20427), (120, 20430), (130, 20484), (134, 20523), (139, 20568), (144, 20601), (161, 20688), (181, 20769), (183, 20772), (230, 21045), (258, 21165), (305, 21345), (315, 21408), (318, 21423), (319, 21429), (329, 21483), (334, 21522), (337, 21537), (351, 21621), (371, 21732), (391, 21867),

Gene: Cuco\_24 Start: 19657, Stop: 21453, Start Num: 48

Candidate Starts for Cuco\_24:

(Start: 48 @19657 has 538 MA's), (85, 19762), (90, 19795), (108, 19894), (120, 19969), (123, 19984), (129, 20020), (137, 20092), (139, 20107), (146, 20146), (153, 20173), (157, 20194), (163, 20233), (192, 20371), (194, 20377), (219, 20512), (226, 20569), (227, 20572), (229, 20581), (239, 20623), (243, 20641), (257, 20701), (258, 20704), (277, 20797), (279, 20806), (283, 20830), (309, 20938), (315, 20974), (351, 21184), (368, 21286), (371, 21295), (391, 21430), (393, 21439),

Gene: Cueyllyss\_27 Start: 21272, Stop: 23074, Start Num: 50

Candidate Starts for Cueyllyss\_27:

(Start: 50 @21272 has 210 MA's), (Start: 59 @21293 has 4 MA's), (Start: 70 @21335 has 1 MA's), (83, 21380), (120, 21596), (127, 21641), (130, 21650), (140, 21740), (141, 21743), (158, 21836), (183, 21938), (195, 22007), (226, 22196), (229, 22208), (230, 22211), (234, 22232), (257, 22328), (258, 22331), (260, 22337), (274, 22406), (277, 22424), (279, 22433), (285, 22463), (310, 22559), (315, 22592), (318, 22607), (342, 22748), (351, 22805), (365, 22883),

Gene: Cullens\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for Cullens\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: D29\_28 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for D29\_28:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (297, 21273), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: D32\_31 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for D32\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (297, 21273), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: DBQu4n\_31 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for DBQu4n\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (94, 20202), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (152, 20559), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: DD5\_28 Start: 21820, Stop: 23622, Start Num: 50

Candidate Starts for DD5\_28:

(Start: 50 @21820 has 210 MA's), (Start: 59 @21841 has 4 MA's), (Start: 70 @21883 has 1 MA's), (83, 21928), (120, 22144), (127, 22189), (130, 22198), (140, 22288), (141, 22291), (183, 22486), (195, 22555), (205, 22615), (226, 22744), (229, 22756), (230, 22759), (234, 22780), (257, 22876), (258, 22879), (260, 22885), (274, 22954), (277, 22972), (279, 22981), (285, 23011), (310, 23107), (315, 23140), (318, 23155), (342, 23296), (351, 23353), (371, 23464),

Gene: DS6A\_21 Start: 16975, Stop: 18714, Start Num: 36

Candidate Starts for DS6A\_21:

(31, 16945), (34, 16957), (Start: 36 @16975 has 1 MA's), (57, 17029), (76, 17095), (78, 17101), (80, 17107), (84, 17119), (85, 17125), (88, 17146), (90, 17158), (100, 17215), (105, 17242), (109, 17263), (114, 17299), (116, 17311), (120, 17344), (123, 17359), (127, 17389), (131, 17404), (143, 17512), (148, 17527), (151, 17539), (152, 17542), (165, 17611), (171, 17635), (172, 17638), (182, 17689), (187, 17722), (194, 17758), (214, 17818), (216, 17836), (218, 17845), (219, 17848), (229, 17917), (246, 17989), (248, 18007), (255, 18037), (257, 18046), (277, 18142), (279, 18151), (322, 18289), (342, 18385), (343, 18388), (350, 18436), (351, 18442), (371, 18550), (379, 18613), (381, 18637), (390, 18682), (393, 18700), (394, 18706),

Gene: DaHudson\_29 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for DaHudson\_29:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: DaVinci\_31 Start: 19977, Stop: 21749, Start Num: 48

Candidate Starts for DaVinci\_31:

(30, 19911), (Start: 39 @19953 has 8 MA's), (Start: 48 @19977 has 538 MA's), (101, 20175), (108, 20214), (119, 20286), (120, 20289), (124, 20307), (130, 20343), (131, 20349), (144, 20460), (146, 20466), (155, 20505), (161, 20547), (172, 20586), (181, 20628), (183, 20631), (192, 20691), (235, 20928), (239, 20943), (258, 21024), (285, 21156), (318, 21282), (327, 21333), (329, 21342), (334,

21381), (335, 21384), (337, 21396), (351, 21480), (369, 21585), (371, 21591), (391, 21726),

Gene: Daishi\_28 Start: 19304, Stop: 21100, Start Num: 48

Candidate Starts for Daishi\_28:

(Start: 48 @19304 has 538 MA's), (Start: 70 @19361 has 1 MA's), (74, 19376), (84, 19409), (86, 19430), (89, 19445), (105, 19532), (107, 19544), (108, 19547), (120, 19622), (123, 19637), (129, 19673), (161, 19880), (187, 19994), (195, 20033), (211, 20120), (229, 20234), (234, 20258), (239, 20276), (258, 20357), (274, 20432), (277, 20450), (283, 20483), (285, 20489), (295, 20528), (309, 20582), (310, 20585), (314, 20606), (322, 20663), (351, 20831), (369, 20936), (371, 20942), (391, 21077),

Gene: Dalmatian\_28 Start: 20265, Stop: 22037, Start Num: 48

Candidate Starts for Dalmatian\_28:

(Start: 39 @20241 has 8 MA's), (Start: 48 @20265 has 538 MA's), (107, 20499), (108, 20502), (119, 20574), (120, 20577), (130, 20631), (134, 20670), (139, 20715), (144, 20748), (161, 20835), (181, 20916), (183, 20919), (230, 21192), (258, 21312), (283, 21438), (305, 21492), (315, 21555), (318, 21570), (319, 21576), (329, 21630), (334, 21669), (337, 21684), (351, 21768), (371, 21879),

Gene: Danforth\_23 Start: 18634, Stop: 20424, Start Num: 48

Candidate Starts for Danforth\_23:

(Start: 39 @18610 has 8 MA's), (Start: 48 @18634 has 538 MA's), (82, 18727), (90, 18772), (108, 18871), (115, 18907), (120, 18946), (123, 18961), (129, 18997), (144, 19117), (146, 19123), (172, 19243), (198, 19372), (211, 19444), (229, 19558), (277, 19774), (283, 19807), (310, 19909), (315, 19942), (318, 19957), (322, 19987), (368, 20257), (371, 20266), (372, 20275), (389, 20389),

Gene: Danyall\_33 Start: 26375, Stop: 28141, Start Num: 32

Candidate Starts for Danyall\_33:

(26, 26333), (Start: 32 @26375 has 74 MA's), (Start: 37 @26411 has 5 MA's), (Start: 51 @26444 has 7 MA's), (102, 26654), (103, 26657), (107, 26687), (117, 26753), (120, 26777), (121, 26786), (126, 26819), (152, 26972), (158, 27011), (171, 27062), (173, 27074), (177, 27092), (180, 27104), (182, 27116), (185, 27131), (190, 27161), (191, 27164), (194, 27185), (216, 27257), (222, 27305), (247, 27416), (255, 27449), (264, 27488), (265, 27491), (279, 27563), (296, 27629), (304, 27641), (342, 27812), (345, 27824), (346, 27830), (350, 27863), (356, 27890), (360, 27917), (369, 27971), (385, 28088), (390, 28109), (395, 28136),

Gene: Darrell\_30 Start: 21743, Stop: 23533, Start Num: 48

Candidate Starts for Darrell\_30:

(Start: 39 @21719 has 8 MA's), (Start: 48 @21743 has 538 MA's), (107, 21977), (108, 21980), (119, 22052), (120, 22055), (123, 22070), (130, 22109), (131, 22115), (133, 22133), (144, 22226), (153, 22259), (161, 22313), (181, 22394), (183, 22397), (204, 22523), (215, 22583), (225, 22646), (230, 22670), (232, 22676), (239, 22709), (283, 22916), (287, 22934), (294, 22958), (300, 22970), (310, 23018), (315, 23051), (318, 23066), (319, 23072), (334, 23165), (335, 23168), (337, 23180), (351, 23264), (362, 23330), (369, 23369), (371, 23375), (377, 23420), (384, 23477), (385, 23480),

Gene: DarthPhader\_29 Start: 21735, Stop: 23507, Start Num: 48

Candidate Starts for DarthPhader\_29:

(30, 21669), (Start: 39 @21711 has 8 MA's), (Start: 48 @21735 has 538 MA's), (94, 21888), (107, 21969), (108, 21972), (119, 22044), (120, 22047), (130, 22101), (131, 22107), (135, 22158), (144, 22218), (155, 22263), (161, 22305), (181, 22386), (239, 22701), (258, 22782), (262, 22797), (285, 22914), (315, 23025), (318, 23040), (321, 23064), (334, 23139), (337, 23154), (344, 23187), (351, 23238), (369, 23343), (391, 23484),

Gene: Datway\_27 Start: 19835, Stop: 21634, Start Num: 48

Candidate Starts for Datway\_27:

(Start: 39 @19811 has 8 MA's), (Start: 48 @19835 has 538 MA's), (Start: 52 @19841 has 3 MA's), (Start: 70 @19895 has 1 MA's), (86, 19964), (101, 20042), (105, 20066), (108, 20081), (115, 20117), (120, 20156), (123, 20171), (130, 20210), (141, 20303), (144, 20327), (161, 20414), (187, 20528), (195, 20567), (211, 20654), (219, 20699), (229, 20768), (234, 20792), (237, 20804), (258, 20891), (274, 20966), (277, 20984), (279, 20993), (283, 21017), (285, 21023), (288, 21038), (300, 21071), (309, 21116), (310, 21119), (314, 21140), (351, 21365), (365, 21443), (369, 21470), (371, 21476), (391, 21611),

Gene: Deano\_27 Start: 19835, Stop: 21613, Start Num: 48

Candidate Starts for Deano\_27:

(Start: 39 @19811 has 8 MA's), (Start: 48 @19835 has 538 MA's), (Start: 70 @19892 has 1 MA's), (85, 19946), (86, 19961), (90, 19979), (105, 20063), (107, 20075), (108, 20078), (120, 20153), (123, 20168), (130, 20207), (144, 20324), (161, 20411), (181, 20492), (191, 20540), (195, 20564), (211, 20651), (219, 20696), (230, 20768), (234, 20789), (239, 20807), (258, 20888), (277, 20981), (279, 20990), (283, 21014), (285, 21020), (291, 21044), (310, 21098), (314, 21119), (321, 21170), (326, 21194), (335, 21248), (351, 21344), (369, 21449), (372, 21464), (388, 21572), (391, 21590),

Gene: DekHockey33\_30 Start: 19191, Stop: 21002, Start Num: 39

Candidate Starts for DekHockey33\_30:

(30, 19149), (Start: 39 @19191 has 8 MA's), (Start: 48 @19215 has 538 MA's), (90, 19353), (100, 19410), (108, 19452), (115, 19488), (120, 19527), (132, 19596), (134, 19620), (141, 19674), (172, 19824), (183, 19869), (187, 19899), (194, 19935), (202, 19986), (210, 20022), (219, 20070), (227, 20130), (257, 20259), (274, 20337), (318, 20538), (319, 20544), (335, 20640), (363, 20805), (379, 20904),

Gene: Deloris\_29 Start: 20620, Stop: 22392, Start Num: 48

Candidate Starts for Deloris\_29:

(Start: 39 @20596 has 8 MA's), (Start: 48 @20620 has 538 MA's), (84, 20719), (107, 20854), (108, 20857), (119, 20929), (120, 20932), (130, 20986), (131, 20992), (134, 21025), (139, 21070), (144, 21103), (161, 21190), (181, 21271), (183, 21274), (190, 21316), (215, 21460), (230, 21547), (254, 21652), (258, 21667), (283, 21793), (285, 21799), (305, 21847), (318, 21925), (319, 21931), (329, 21985), (334, 22024), (337, 22039), (351, 22123), (371, 22234),

Gene: Demsculpinboyz\_19 Start: 13737, Stop: 15401, Start Num: 51

Candidate Starts for Demsculpinboyz\_19:

(Start: 51 @13737 has 7 MA's), (76, 13818), (85, 13848), (88, 13869), (90, 13881), (103, 13947), (109, 13986), (110, 13998), (114, 14022), (122, 14079), (123, 14082), (125, 14106), (127, 14112), (128, 14115), (134, 14160), (135, 14178), (141, 14214), (151, 14262), (162, 14325), (172, 14361), (177, 14388), (180, 14400), (181, 14403), (187, 14445), (190, 14457), (194, 14481), (214, 14535), (229, 14634), (253, 14727), (258, 14754), (261, 14766), (275, 14817), (277, 14832), (342, 15075), (343, 15078), (344, 15081), (362, 15198), (371, 15240), (381, 15324), (390, 15369), (393, 15387),

Gene: Derg\_30 Start: 29475, Stop: 31238, Start Num: 32

Candidate Starts for Derg\_30:

(Start: 32 @29475 has 74 MA's), (Start: 37 @29511 has 5 MA's), (81, 29640), (84, 29649), (100, 29745), (103, 29754), (112, 29823), (120, 29874), (121, 29883), (127, 29919), (131, 29934), (133, 29952), (140, 30015), (150, 30060), (152, 30069), (177, 30189), (181, 30204), (185, 30228), (190, 30258), (239, 30480), (244, 30498), (247, 30513), (257, 30555), (258, 30558), (264, 30585), (289, 30705), (311, 30768), (342, 30909), (343, 30912), (350, 30960), (356, 30987), (360, 31014), (369, 31068), (375, 31095),

Gene: Dexes\_28 Start: 21780, Stop: 23582, Start Num: 50

Candidate Starts for Dexes\_28:

(Start: 50 @21780 has 210 MA's), (Start: 59 @21801 has 4 MA's), (Start: 70 @21843 has 1 MA's), (83, 21888), (120, 22104), (127, 22149), (130, 22158), (134, 22197), (140, 22248), (141, 22251), (183, 22446), (229, 22716), (230, 22719), (234, 22740), (257, 22836), (258, 22839), (260, 22845), (274, 22914), (277, 22932), (279, 22941), (285, 22971), (310, 23067), (315, 23100), (318, 23115), (342, 23256), (351, 23313), (371, 23424),

Gene: Dhanush\_27 Start: 19830, Stop: 21608, Start Num: 48

Candidate Starts for Dhanush\_27:

(Start: 39 @19806 has 8 MA's), (Start: 48 @19830 has 538 MA's), (Start: 70 @19887 has 1 MA's), (85, 19941), (86, 19956), (90, 19974), (105, 20058), (107, 20070), (108, 20073), (120, 20148), (123, 20163), (130, 20202), (144, 20319), (161, 20406), (181, 20487), (191, 20535), (195, 20559), (211, 20646), (219, 20691), (230, 20763), (234, 20784), (239, 20802), (258, 20883), (277, 20976), (279, 20985), (283, 21009), (285, 21015), (291, 21039), (310, 21093), (314, 21114), (321, 21165), (326, 21189), (335, 21243), (351, 21339), (369, 21444), (372, 21459), (388, 21567), (391, 21585),

Gene: Dieselweasel\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for Dieselweasel\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (84, 20485), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (187, 21070), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (248, 21391), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309, 21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: Dignity\_30 Start: 20641, Stop: 22413, Start Num: 48

Candidate Starts for Dignity\_30:

(Start: 39 @20617 has 8 MA's), (Start: 48 @20641 has 538 MA's), (84, 20740), (98, 20824), (107, 20875), (108, 20878), (119, 20950), (120, 20953), (130, 21007), (134, 21046), (144, 21124), (161, 21211), (181, 21292), (183, 21295), (215, 21481), (230, 21568), (254, 21673), (258, 21688), (283, 21814), (285, 21820), (305, 21868), (318, 21946), (319, 21952), (329, 22006), (334, 22045), (337, 22060), (351, 22144), (371, 22255),

Gene: Dina\_17 Start: 16286, Stop: 17983, Start Num: 37

Candidate Starts for Dina\_17:

(Start: 37 @16286 has 5 MA's), (Start: 43 @16307 has 5 MA's), (73, 16391), (81, 16418), (83, 16424), (106, 16556), (116, 16607), (120, 16640), (121, 16649), (140, 16784), (146, 16817), (151, 16835), (159, 16889), (172, 16934), (185, 16991), (186, 17003), (193, 17042), (212, 17093), (214, 17102), (217, 17123), (226, 17189), (249, 17279), (272, 17387), (281, 17441), (283, 17447), (287, 17465), (319, 17561), (328, 17582), (336, 17627), (363, 17786), (367, 17801), (370, 17816), (372, 17828), (394, 17972),

Gene: Dinger\_23 Start: 16304, Stop: 17944, Start Num: 56

Candidate Starts for Dinger\_23:

(Start: 56 @16304 has 3 MA's), (Start: 62 @16319 has 32 MA's), (81, 16388), (88, 16424), (120, 16610), (138, 16739), (144, 16781), (150, 16799), (152, 16808), (Start: 156 @16832 has 1 MA's), (158, 16850), (167, 16880), (170, 16895), (171, 16898), (179, 16937), (183, 16946), (198, 17030), (225, 17147), (230, 17171), (257, 17285), (274, 17363), (280, 17402), (283, 17414), (286, 17423), (305, 17444), (318, 17522), (349, 17669), (367, 17768), (369, 17783), (394, 17936),

Gene: DirtyBoi\_20 Start: 16958, Stop: 18652, Start Num: 49

Candidate Starts for DirtyBoi\_20:

(Start: 37 @16928 has 5 MA's), (Start: 49 @16958 has 5 MA's), (84, 17060), (92, 17111), (103, 17168), (110, 17219), (121, 17297), (123, 17303), (143, 17453), (171, 17576), (184, 17636), (189, 17672), (197, 17714), (213, 17756), (216, 17780), (221, 17810), (277, 18071), (296, 18146), (311, 18188), (322, 18233), (342, 18329), (343, 18332), (346, 18347), (373, 18506), (374, 18512), (385, 18599), (394, 18644),

Gene: DirtyDunning\_27 Start: 19823, Stop: 21601, Start Num: 48

Candidate Starts for DirtyDunning\_27:

(Start: 39 @19799 has 8 MA's), (Start: 48 @19823 has 538 MA's), (Start: 70 @19880 has 1 MA's), (85, 19934), (86, 19949), (90, 19967), (105, 20051), (107, 20063), (108, 20066), (120, 20141), (123, 20156), (130, 20195), (144, 20312), (161, 20399), (181, 20480), (191, 20528), (195, 20552), (211, 20639), (219, 20684), (230, 20756), (234, 20777), (239, 20795), (258, 20876), (277, 20969), (279, 20978), (283, 21002), (285, 21008), (291, 21032), (310, 21086), (314, 21107), (321, 21158), (326, 21182), (351, 21332), (369, 21437), (372, 21452), (388, 21560), (391, 21578),

Gene: Discoknowium\_24 Start: 19773, Stop: 21572, Start Num: 48

Candidate Starts for Discoknowium\_24:

(Start: 48 @19773 has 538 MA's), (85, 19878), (90, 19911), (108, 20010), (120, 20085), (123, 20100), (129, 20136), (137, 20208), (139, 20223), (144, 20256), (146, 20262), (192, 20487), (194, 20493), (211, 20583), (227, 20688), (229, 20697), (239, 20739), (243, 20757), (257, 20817), (258, 20820), (274, 20895), (277, 20913), (309, 21054), (315, 21090), (351, 21303), (368, 21405), (371, 21414), (387, 21528), (391, 21549), (393, 21558),

Gene: Dixon\_24 Start: 18653, Stop: 20443, Start Num: 48

Candidate Starts for Dixon\_24:

(Start: 39 @18629 has 8 MA's), (Start: 48 @18653 has 538 MA's), (82, 18746), (90, 18791), (108, 18890), (115, 18926), (120, 18965), (123, 18980), (129, 19016), (144, 19136), (146, 19142), (172, 19262), (198, 19391), (211, 19463), (229, 19577), (277, 19793), (283, 19826), (310, 19928), (315, 19961), (318, 19976), (322, 20006), (368, 20276), (371, 20285), (372, 20294), (389, 20408),

Gene: Dmitri\_19 Start: 17502, Stop: 19196, Start Num: 49

Candidate Starts for Dmitri\_19:

(35, 17460), (Start: 37 @17472 has 5 MA's), (Start: 49 @17502 has 5 MA's), (84, 17604), (92, 17655), (103, 17712), (110, 17763), (121, 17841), (123, 17847), (143, 17997), (171, 18120), (184, 18180), (189, 18216), (197, 18258), (213, 18300), (221, 18354), (277, 18615), (296, 18690), (311, 18732), (322, 18777), (342, 18873), (343, 18876), (346, 18891), (373, 19050), (374, 19056), (385, 19143), (394, 19188),

Gene: Doggs\_18 Start: 17205, Stop: 18899, Start Num: 49

Candidate Starts for Doggs\_18:

(8, 16734), (17, 16884), (Start: 37 @17175 has 5 MA's), (Start: 49 @17205 has 5 MA's), (84, 17307), (88, 17334), (90, 17346), (92, 17358), (103, 17415), (110, 17466), (113, 17487), (121, 17544), (123, 17550), (143, 17700), (171, 17823), (184, 17883), (189, 17919), (213, 18003), (221, 18057), (277, 18318), (295, 18390), (296, 18393), (311, 18435), (322, 18480), (342, 18576), (343, 18579), (346, 18594), (373, 18753), (374, 18759), (385, 18846), (394, 18891),

Gene: DontArgue\_26 Start: 18145, Stop: 19923, Start Num: 48

Candidate Starts for DontArgue\_26:

(Start: 39 @18121 has 8 MA's), (Start: 48 @18145 has 538 MA's), (Start: 70 @18202 has 1 MA's), (74, 18217), (83, 18247), (86, 18271), (107, 18385), (108, 18388), (120, 18463), (144, 18634), (161, 18721), (179, 18796), (187, 18835), (211, 18961), (219, 19006), (234, 19099), (237, 19111), (277, 19291), (279, 19300), (283, 19324), (285, 19330), (288, 19345), (305, 19378), (314, 19429), (351, 19654), (369, 19759), (371, 19765), (372, 19774), (391, 19900),

Gene: Doom\_28 Start: 21888, Stop: 23690, Start Num: 50

Candidate Starts for Doom\_28:

(Start: 50 @21888 has 210 MA's), (Start: 59 @21909 has 4 MA's), (Start: 70 @21951 has 1 MA's), (83, 21996), (120, 22212), (127, 22257), (130, 22266), (134, 22305), (140, 22356), (141, 22359), (183, 22554), (195, 22623), (229, 22824), (230, 22827), (234, 22848), (257, 22944), (258, 22947), (260, 22953), (274, 23022), (277, 23040), (279, 23049), (285, 23079), (310, 23175), (315, 23208), (318, 23223), (342, 23364), (351, 23421), (371, 23532), (395, 23685),

Gene: Dorothea\_31 Start: 19977, Stop: 21749, Start Num: 48

Candidate Starts for Dorothea\_31:

(30, 19911), (Start: 39 @19953 has 8 MA's), (Start: 48 @19977 has 538 MA's), (101, 20175), (108, 20214), (119, 20286), (120, 20289), (124, 20307), (130, 20343), (131, 20349), (144, 20460), (146, 20466), (161, 20547), (172, 20586), (181, 20628), (183, 20631), (192, 20691), (235, 20928), (239, 20943), (258, 21024), (276, 21111), (285, 21156), (318, 21282), (327, 21333), (329, 21342), (334, 21381), (335, 21384), (337, 21396), (351, 21480), (369, 21585), (371, 21591), (391, 21726),

Gene: DrFeelGood\_26 Start: 21434, Stop: 23236, Start Num: 50

Candidate Starts for DrFeelGood\_26:

(Start: 50 @21434 has 210 MA's), (Start: 59 @21455 has 4 MA's), (Start: 70 @21497 has 1 MA's), (83, 21542), (120, 21758), (127, 21803), (130, 21812), (134, 21851), (140, 21902), (141, 21905), (183, 22100), (195, 22169), (229, 22370), (230, 22373), (234, 22394), (257, 22490), (258, 22493), (260, 22499), (274, 22568), (277, 22586), (279, 22595), (285, 22625), (310, 22721), (315, 22754), (318, 22769), (342, 22910), (351, 22967), (371, 23078), (395, 23231),

Gene: Drake55\_30 Start: 20670, Stop: 22442, Start Num: 48

Candidate Starts for Drake55\_30:

(Start: 39 @20646 has 8 MA's), (Start: 48 @20670 has 538 MA's), (89, 20805), (107, 20904), (108, 20907), (119, 20979), (120, 20982), (130, 21036), (131, 21042), (137, 21105), (144, 21153), (153, 21186), (155, 21198), (161, 21240), (181, 21321), (183, 21324), (187, 21354), (215, 21510), (230, 21597), (254, 21702), (258, 21717), (282, 21840), (283, 21843), (285, 21849), (305, 21897), (315, 21960), (318, 21975), (319, 21981), (329, 22035), (334, 22074), (337, 22089), (344, 22122), (350, 22167), (369, 22278), (371, 22284), (378, 22338),

Gene: Drake94\_26 Start: 17881, Stop: 19659, Start Num: 48

Candidate Starts for Drake94\_26:

(Start: 39 @17857 has 8 MA's), (Start: 48 @17881 has 538 MA's), (Start: 70 @17938 has 1 MA's), (74, 17953), (86, 18007), (107, 18121), (108, 18124), (120, 18199), (125, 18238), (144, 18370), (161, 18457), (179, 18532), (187, 18571), (195, 18610), (211, 18697), (219, 18742), (229, 18811), (234, 18835), (237, 18847), (239, 18853), (277, 19027), (279, 19036), (283, 19060), (285, 19066), (288, 19081), (305, 19114), (314, 19165), (322, 19222), (323, 19228), (351, 19390), (369, 19495), (371, 19501), (372, 19510), (391, 19636),

Gene: DreamCatcher\_30 Start: 22505, Stop: 24307, Start Num: 50

Candidate Starts for DreamCatcher\_30:

(Start: 50 @22505 has 210 MA's), (Start: 59 @22526 has 4 MA's), (Start: 70 @22568 has 1 MA's), (83, 22613), (120, 22829), (127, 22874), (130, 22883), (134, 22922), (140, 22973), (141, 22976), (183, 23171), (195, 23240), (229, 23441), (230, 23444), (234, 23465), (257, 23561), (258, 23564), (260, 23570), (274, 23639), (277, 23657), (279, 23666), (285, 23696), (310, 23792), (315, 23825), (318, 23840), (342, 23981), (351, 24038), (371, 24149), (395, 24302),

Gene: DreamTeam1\_28 Start: 19699, Stop: 21489, Start Num: 48

Candidate Starts for DreamTeam1\_28:



(30, 19633), (Start: 39 @19675 has 8 MA's), (Start: 48 @19699 has 538 MA's), (107, 19933), (108, 19936), (119, 20008), (120, 20011), (123, 20026), (124, 20029), (130, 20065), (131, 20071), (135, 20122), (139, 20149), (140, 20155), (144, 20182), (146, 20188), (153, 20215), (161, 20269), (181, 20350), (183, 20353), (192, 20413), (225, 20602), (239, 20665), (252, 20716), (258, 20746), (283, 20872), (310, 20974), (311, 20983), (315, 21007), (318, 21022), (321, 21046), (334, 21121), (337, 21136), (351, 21220), (369, 21325), (371, 21331), (378, 21385), (384, 21433),

Gene: Dreamboat\_28 Start: 21057, Stop: 22859, Start Num: 50

Candidate Starts for Dreamboat\_28:

(Start: 50 @21057 has 210 MA's), (Start: 59 @21078 has 4 MA's), (Start: 70 @21120 has 1 MA's), (83, 21165), (120, 21381), (127, 21426), (130, 21435), (140, 21525), (141, 21528), (183, 21723), (195, 21792), (229, 21993), (230, 21996), (234, 22017), (257, 22113), (258, 22116), (260, 22122), (274, 22191), (277, 22209), (279, 22218), (285, 22248), (310, 22344), (315, 22377), (318, 22392), (342, 22533), (351, 22590), (371, 22701),

Gene: DroogsArmy\_28 Start: 22621, Stop: 24423, Start Num: 48

Candidate Starts for DroogsArmy\_28:

(Start: 41 @22609 has 2 MA's), (Start: 48 @22621 has 538 MA's), (69, 22666), (75, 22687), (107, 22852), (108, 22855), (120, 22930), (123, 22945), (146, 23107), (148, 23113), (161, 23188), (192, 23332), (216, 23458), (219, 23470), (229, 23539), (239, 23581), (257, 23677), (258, 23680), (262, 23695), (274, 23755), (277, 23773), (279, 23782), (283, 23806), (285, 23812), (309, 23905), (310, 23908), (315, 23941), (318, 23956), (323, 23992), (325, 23998), (339, 24085), (341, 24094), (366, 24235), (371, 24265), (372, 24274), (385, 24370), (394, 24415),

Gene: DropBear\_27 Start: 19967, Stop: 21766, Start Num: 48

Candidate Starts for DropBear\_27:

(Start: 48 @19967 has 538 MA's), (Start: 70 @20027 has 1 MA's), (86, 20096), (105, 20198), (107, 20210), (108, 20213), (120, 20288), (123, 20303), (124, 20306), (130, 20342), (150, 20477), (161, 20546), (187, 20660), (211, 20786), (229, 20900), (234, 20924), (237, 20936), (239, 20942), (258, 21023), (274, 21098), (277, 21116), (279, 21125), (283, 21149), (285, 21155), (288, 21170), (303, 21212), (308, 21239), (309, 21248), (310, 21251), (314, 21272), (315, 21284), (351, 21497), (369, 21602), (371, 21608), (391, 21743),

Gene: Druantia\_27 Start: 19828, Stop: 21606, Start Num: 48

Candidate Starts for Druantia\_27:

(Start: 39 @19804 has 8 MA's), (Start: 48 @19828 has 538 MA's), (Start: 70 @19885 has 1 MA's), (85, 19939), (86, 19954), (90, 19972), (105, 20056), (107, 20068), (108, 20071), (120, 20146), (123, 20161), (130, 20200), (144, 20317), (161, 20404), (181, 20485), (191, 20533), (195, 20557), (211, 20644), (219, 20689), (230, 20761), (234, 20782), (239, 20800), (258, 20881), (277, 20974), (279, 20983), (283, 21007), (285, 21013), (291, 21037), (310, 21091), (314, 21112), (321, 21163), (326, 21187), (335, 21241), (351, 21337), (369, 21442), (372, 21457), (388, 21565), (391, 21583),

Gene: Dublin\_23 Start: 19626, Stop: 21422, Start Num: 48

Candidate Starts for Dublin\_23:

(Start: 48 @19626 has 538 MA's), (85, 19731), (90, 19764), (108, 19863), (120, 19938), (123, 19953), (129, 19989), (137, 20061), (139, 20076), (146, 20115), (163, 20202), (187, 20310), (192, 20340), (194, 20346), (219, 20481), (226, 20538), (227, 20541), (229, 20550), (239, 20592), (243, 20610), (257, 20670), (258, 20673), (277, 20766), (279, 20775), (283, 20799), (309, 20907), (315, 20943), (351, 21153), (361, 21207), (368, 21255), (371, 21264), (387, 21378), (391, 21399), (393, 21408),

Gene: DudeLittle\_28 Start: 20267, Stop: 22039, Start Num: 48

Candidate Starts for DudeLittle\_28:

(Start: 39 @20243 has 8 MA's), (Start: 48 @20267 has 538 MA's), (107, 20501), (108, 20504), (119, 20576), (120, 20579), (130, 20633), (134, 20672), (139, 20717), (144, 20750), (161, 20837), (181, 20918), (183, 20921), (230, 21194), (258, 21314), (283, 21440), (305, 21494), (307, 21503), (310, 21524), (315, 21557), (318, 21572), (319, 21578), (329, 21632), (334, 21671), (337, 21686), (351, 21770), (371, 21881),

Gene: Dulcie\_26 Start: 20754, Stop: 22556, Start Num: 50

Candidate Starts for Dulcie\_26:

(Start: 50 @20754 has 210 MA's), (Start: 59 @20775 has 4 MA's), (Start: 70 @20817 has 1 MA's), (83, 20862), (120, 21078), (127, 21123), (130, 21132), (134, 21171), (140, 21222), (141, 21225), (183, 21420), (195, 21489), (229, 21690), (230, 21693), (234, 21714), (257, 21810), (258, 21813), (260, 21819), (274, 21888), (277, 21906), (279, 21915), (285, 21945), (310, 22041), (315, 22074), (318, 22089), (342, 22230), (351, 22287), (371, 22398),

Gene: Duplo\_31 Start: 20087, Stop: 21877, Start Num: 48

Candidate Starts for Duplo\_31:

(30, 20021), (Start: 39 @20063 has 8 MA's), (Start: 48 @20087 has 538 MA's), (94, 20240), (107, 20321), (108, 20324), (119, 20396), (120, 20399), (123, 20414), (130, 20453), (131, 20459), (144, 20570), (150, 20588), (152, 20597), (161, 20657), (181, 20738), (183, 20741), (211, 20897), (215, 20927), (258, 21134), (283, 21260), (310, 21362), (315, 21395), (318, 21410), (321, 21434), (334, 21509), (335, 21512), (337, 21524), (351, 21608), (365, 21686), (369, 21713), (371, 21719), (377, 21764), (378, 21773), (391, 21854),

Gene: Dussy\_28 Start: 21319, Stop: 23121, Start Num: 50

Candidate Starts for Dussy\_28:

(Start: 50 @21319 has 210 MA's), (Start: 59 @21340 has 4 MA's), (Start: 70 @21382 has 1 MA's), (83, 21427), (120, 21643), (127, 21688), (130, 21697), (134, 21736), (140, 21787), (141, 21790), (183, 21985), (195, 22054), (229, 22255), (230, 22258), (234, 22279), (257, 22375), (258, 22378), (260, 22384), (274, 22453), (277, 22471), (279, 22480), (285, 22510), (310, 22606), (315, 22639), (318, 22654), (342, 22795), (351, 22852), (371, 22963),

Gene: DustyMartin\_31 Start: 19855, Stop: 21633, Start Num: 48

Candidate Starts for DustyMartin\_31:

(Start: 48 @19855 has 538 MA's), (Start: 70 @19912 has 1 MA's), (74, 19927), (84, 19960), (86, 19981), (105, 20083), (107, 20095), (108, 20098), (120, 20173), (123, 20188), (130, 20227), (144, 20344), (150, 20362), (161, 20431), (174, 20485), (179, 20506), (187, 20545), (195, 20584), (211, 20671), (219, 20716), (225, 20764), (229, 20785), (234, 20809), (237, 20821), (239, 20827), (258, 20908), (277, 21001), (279, 21010), (283, 21034), (285, 21040), (288, 21055), (305, 21088), (314, 21139), (317, 21157), (323, 21202), (351, 21364), (357, 21388), (358, 21394), (369, 21469), (371, 21475), (372, 21484), (379, 21535), (391, 21610),

Gene: Dynamix\_28 Start: 21136, Stop: 22938, Start Num: 50

Candidate Starts for Dynamix\_28:

(Start: 50 @21136 has 210 MA's), (Start: 59 @21157 has 4 MA's), (Start: 70 @21199 has 1 MA's), (83, 21244), (120, 21460), (127, 21505), (130, 21514), (140, 21604), (141, 21607), (158, 21700), (183, 21802), (195, 21871), (229, 22072), (230, 22075), (234, 22096), (257, 22192), (258, 22195), (260, 22201), (274, 22270), (277, 22288), (279, 22297), (285, 22327), (310, 22423), (315, 22456), (318, 22471), (342, 22612), (351, 22669), (371, 22780), (395, 22933),

Gene: EZMoney23\_32 Start: 22145, Stop: 23917, Start Num: 48

Candidate Starts for EZMoney23\_32:

(Start: 39 @22121 has 8 MA's), (Start: 48 @22145 has 538 MA's), (107, 22379), (108, 22382), (119, 22454), (120, 22457), (130, 22511), (134, 22550), (144, 22628), (161, 22715), (181, 22796), (183,

22799), (215, 22985), (225, 23048), (230, 23072), (239, 23111), (254, 23177), (258, 23192), (285, 23324), (310, 23402), (315, 23435), (318, 23450), (329, 23510), (334, 23549), (337, 23564), (344, 23597), (351, 23648), (369, 23753), (371, 23759),

Gene: Eagle\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Eagle\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: EagleEye\_30 Start: 20938, Stop: 22728, Start Num: 48

Candidate Starts for EagleEye\_30:

(Start: 39 @20914 has 8 MA's), (Start: 48 @20938 has 538 MA's), (94, 21091), (107, 21172), (108, 21175), (119, 21247), (120, 21250), (124, 21268), (125, 21289), (130, 21304), (131, 21310), (135, 21361), (144, 21421), (161, 21508), (181, 21589), (183, 21592), (215, 21778), (225, 21841), (230, 21865), (239, 21904), (258, 21985), (283, 22111), (303, 22174), (318, 22261), (334, 22360), (344, 22408), (351, 22459), (371, 22570), (378, 22624),

Gene: Eaglepride\_28 Start: 19807, Stop: 21585, Start Num: 48

Candidate Starts for Eaglepride\_28:

(Start: 39 @19783 has 8 MA's), (Start: 48 @19807 has 538 MA's), (Start: 70 @19864 has 1 MA's), (86, 19933), (105, 20035), (107, 20047), (108, 20050), (120, 20125), (123, 20140), (130, 20179), (144, 20296), (161, 20383), (179, 20458), (187, 20497), (211, 20623), (219, 20668), (229, 20737), (234, 20761), (237, 20773), (239, 20779), (277, 20953), (279, 20962), (283, 20986), (285, 20992), (305, 21040), (314, 21091), (317, 21109), (369, 21421), (371, 21427), (372, 21436), (391, 21562),

Gene: Eapen\_27 Start: 19826, Stop: 21604, Start Num: 48

Candidate Starts for Eapen\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19883 has 1 MA's), (85, 19937), (86, 19952), (90, 19970), (105, 20054), (107, 20066), (108, 20069), (120, 20144), (123, 20159), (130, 20198), (144, 20315), (161, 20402), (181, 20483), (191, 20531), (195, 20555), (211, 20642), (219, 20687), (230, 20759), (234, 20780), (239, 20798), (258, 20879), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (291, 21035), (310, 21089), (314, 21110), (321, 21161), (326, 21185), (335, 21239), (351, 21335), (369, 21440), (372, 21455), (388, 21563), (391, 21581),

Gene: Ebony\_28 Start: 20798, Stop: 22597, Start Num: 48

Candidate Starts for Ebony\_28:

(30, 20732), (Start: 39 @20774 has 8 MA's), (Start: 48 @20798 has 538 MA's), (67, 20840), (90, 20936), (94, 20951), (107, 21032), (108, 21035), (120, 21110), (123, 21125), (130, 21164), (131, 21170), (135, 21221), (144, 21281), (146, 21287), (161, 21368), (183, 21452), (204, 21578), (209, 21596), (214, 21623), (239, 21764), (254, 21830), (257, 21842), (258, 21845), (300, 22034), (307, 22061), (308, 22070), (311, 22091), (312, 22094), (315, 22115), (318, 22130), (321, 22154), (334, 22229), (337, 22244), (351, 22328), (369, 22433), (371, 22439), (378, 22493), (395, 22592),

Gene: Echild\_28 Start: 20292, Stop: 22064, Start Num: 48

Candidate Starts for Echild\_28:

(Start: 39 @20268 has 8 MA's), (Start: 48 @20292 has 538 MA's), (84, 20391), (98, 20475), (107, 20526), (108, 20529), (119, 20601), (120, 20604), (130, 20658), (134, 20697), (144, 20775), (161, 20862), (181, 20943), (183, 20946), (230, 21219), (258, 21339), (283, 21465), (285, 21471), (305, 21519), (315, 21582), (318, 21597), (319, 21603), (329, 21657), (334, 21696), (337, 21711), (351,

21795), (371, 21906),

Gene: Edison31\_27 Start: 19822, Stop: 21600, Start Num: 48

Candidate Starts for Edison31\_27:

(Start: 48 @19822 has 538 MA's), (Start: 70 @19879 has 1 MA's), (74, 19894), (84, 19927), (86, 19948), (105, 20050), (107, 20062), (108, 20065), (120, 20140), (123, 20155), (130, 20194), (144, 20311), (150, 20329), (161, 20398), (179, 20473), (187, 20512), (195, 20551), (211, 20638), (219, 20683), (229, 20752), (234, 20776), (237, 20788), (239, 20794), (258, 20875), (277, 20968), (279, 20977), (283, 21001), (285, 21007), (288, 21022), (305, 21055), (314, 21106), (317, 21124), (322, 21163), (339, 21262), (351, 21331), (357, 21355), (358, 21361), (369, 21436), (371, 21442), (372, 21451), (379, 21502), (391, 21577),

Gene: EdogawaKiddo\_28 Start: 21749, Stop: 23539, Start Num: 48

Candidate Starts for EdogawaKiddo\_28:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: Edtherson\_28 Start: 21883, Stop: 23685, Start Num: 50

Candidate Starts for Edtherson\_28:

(Start: 50 @21883 has 210 MA's), (Start: 59 @21904 has 4 MA's), (Start: 70 @21946 has 1 MA's), (83, 21991), (120, 22207), (127, 22252), (130, 22261), (134, 22300), (140, 22351), (141, 22354), (158, 22447), (183, 22549), (195, 22618), (229, 22819), (230, 22822), (234, 22843), (257, 22939), (258, 22942), (260, 22948), (274, 23017), (277, 23035), (279, 23044), (285, 23074), (310, 23170), (315, 23203), (318, 23218), (342, 23359), (351, 23416), (371, 23527),

Gene: Egi03\_33 Start: 26011, Stop: 27819, Start Num: 26

Candidate Starts for Egi03\_33:

(26, 26011), (Start: 32 @26053 has 74 MA's), (Start: 37 @26089 has 5 MA's), (Start: 51 @26122 has 7 MA's), (102, 26332), (103, 26335), (107, 26365), (117, 26431), (120, 26455), (121, 26464), (126, 26497), (152, 26650), (158, 26689), (171, 26740), (173, 26752), (177, 26770), (180, 26782), (182, 26794), (185, 26809), (190, 26839), (191, 26842), (194, 26863), (216, 26935), (222, 26983), (247, 27094), (255, 27127), (264, 27166), (265, 27169), (279, 27241), (296, 27307), (304, 27319), (342, 27490), (343, 27493), (350, 27541), (356, 27568), (360, 27595), (369, 27649), (385, 27766), (390, 27787), (395, 27814),

Gene: Eidsmoe\_30 Start: 21776, Stop: 23569, Start Num: 46

Candidate Starts for Eidsmoe\_30:

(Start: 46 @21776 has 8 MA's), (Start: 48 @21779 has 538 MA's), (107, 22013), (108, 22016), (119, 22088), (120, 22091), (123, 22106), (130, 22145), (131, 22151), (144, 22262), (161, 22349), (181, 22430), (183, 22433), (192, 22493), (215, 22619), (225, 22682), (230, 22706), (232, 22712), (239, 22745), (258, 22826), (283, 22952), (294, 22994), (295, 22997), (310, 23054), (315, 23087), (318, 23102), (334, 23201), (335, 23204), (337, 23216), (351, 23300), (362, 23366), (369, 23405), (371, 23411), (377, 23456), (384, 23513), (385, 23516),

Gene: EITiger69\_24 Start: 18976, Stop: 20775, Start Num: 48

Candidate Starts for EITiger69\_24:

(Start: 48 @18976 has 538 MA's), (108, 19213), (115, 19249), (120, 19288), (123, 19303), (129, 19339), (137, 19411), (139, 19426), (144, 19459), (146, 19465), (187, 19660), (192, 19690), (194, 19696), (211, 19786), (219, 19831), (229, 19900), (239, 19942), (243, 19960), (257, 20020), (258,

20023), (277, 20116), (309, 20257), (315, 20293), (368, 20608), (371, 20617), (391, 20752),

Gene: Elephantoon\_29 Start: 21187, Stop: 22977, Start Num: 48

Candidate Starts for Elephantoon\_29:

(Start: 39 @21163 has 8 MA's), (Start: 48 @21187 has 538 MA's), (107, 21421), (108, 21424), (119, 21496), (120, 21499), (124, 21517), (130, 21553), (131, 21559), (134, 21592), (135, 21610), (144, 21670), (153, 21703), (161, 21757), (181, 21838), (183, 21841), (204, 21967), (215, 22027), (225, 22090), (237, 22147), (258, 22234), (283, 22360), (287, 22378), (294, 22402), (310, 22462), (315, 22495), (318, 22510), (334, 22609), (335, 22612), (337, 22624), (351, 22708), (362, 22774), (369, 22813), (371, 22819), (377, 22864), (384, 22921), (385, 22924),

Gene: EmyBug\_30 Start: 21779, Stop: 23569, Start Num: 48

Candidate Starts for EmyBug\_30:

(Start: 46 @21776 has 8 MA's), (Start: 48 @21779 has 538 MA's), (107, 22013), (108, 22016), (119, 22088), (120, 22091), (123, 22106), (130, 22145), (131, 22151), (144, 22262), (161, 22349), (181, 22430), (183, 22433), (192, 22493), (215, 22619), (225, 22682), (230, 22706), (232, 22712), (239, 22745), (258, 22826), (283, 22952), (294, 22994), (295, 22997), (310, 23054), (315, 23087), (318, 23102), (334, 23201), (335, 23204), (337, 23216), (351, 23300), (362, 23366), (369, 23405), (371, 23411), (377, 23456), (384, 23513), (385, 23516),

Gene: EnzoK\_27 Start: 21329, Stop: 23110, Start Num: 59

Candidate Starts for EnzoK\_27:

(Start: 50 @21308 has 210 MA's), (Start: 59 @21329 has 4 MA's), (Start: 70 @21371 has 1 MA's), (83, 21416), (120, 21632), (127, 21677), (130, 21686), (140, 21776), (141, 21779), (183, 21974), (195, 22043), (226, 22232), (229, 22244), (230, 22247), (234, 22268), (257, 22364), (258, 22367), (260, 22373), (274, 22442), (277, 22460), (279, 22469), (285, 22499), (310, 22595), (315, 22628), (318, 22643), (342, 22784), (351, 22841), (371, 22952), (395, 23105),

Gene: EpicPhail\_29 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for EpicPhail\_29:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: Epsocamisio\_30 Start: 19093, Stop: 20880, Start Num: 48

Candidate Starts for Epsocamisio\_30:

(30, 19027), (Start: 39 @19069 has 8 MA's), (Start: 48 @19093 has 538 MA's), (90, 19231), (100, 19288), (108, 19330), (115, 19366), (120, 19405), (132, 19474), (134, 19498), (141, 19552), (172, 19702), (183, 19747), (187, 19777), (194, 19813), (202, 19864), (210, 19900), (219, 19948), (227, 20008), (257, 20137), (274, 20215), (318, 20416), (319, 20422), (335, 20518), (363, 20683), (379, 20782),

Gene: Equemioh13\_30 Start: 20656, Stop: 22428, Start Num: 48

Candidate Starts for Equemioh13\_30:

(Start: 39 @20632 has 8 MA's), (Start: 48 @20656 has 538 MA's), (89, 20791), (107, 20890), (108, 20893), (119, 20965), (120, 20968), (130, 21022), (131, 21028), (137, 21091), (144, 21139), (153, 21172), (161, 21226), (181, 21307), (183, 21310), (187, 21340), (215, 21496), (230, 21583), (258, 21703), (282, 21826), (283, 21829), (285, 21835), (305, 21883), (315, 21946), (318, 21961), (319, 21967), (329, 22021), (334, 22060), (337, 22075), (344, 22108), (350, 22153), (369, 22264), (371, 22270), (378, 22324),

Gene: EricB\_31 Start: 19969, Stop: 21741, Start Num: 48

Candidate Starts for EricB\_31:

(30, 19903), (Start: 39 @19945 has 8 MA's), (Start: 48 @19969 has 538 MA's), (101, 20167), (108, 20206), (119, 20278), (120, 20281), (124, 20299), (130, 20335), (131, 20341), (144, 20452), (146, 20458), (155, 20497), (161, 20539), (172, 20578), (181, 20620), (183, 20623), (192, 20683), (235, 20920), (239, 20935), (258, 21016), (285, 21148), (318, 21274), (327, 21325), (329, 21334), (334, 21373), (335, 21376), (337, 21388), (351, 21472), (369, 21577), (371, 21583), (391, 21718),

Gene: Erik\_23 Start: 16348, Stop: 17973, Start Num: 62

Candidate Starts for Erik\_23:

(Start: 62 @16348 has 32 MA's), (81, 16417), (88, 16453), (101, 16525), (120, 16639), (138, 16768), (144, 16810), (150, 16828), (152, 16837), (Start: 156 @16861 has 1 MA's), (158, 16879), (165, 16903), (167, 16909), (170, 16924), (171, 16927), (183, 16975), (225, 17176), (230, 17200), (257, 17314), (274, 17392), (280, 17431), (283, 17443), (305, 17473), (318, 17551), (349, 17698), (367, 17797), (369, 17812), (394, 17965),

Gene: Eris\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Eris\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Eros\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Eros\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Espica\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Espica\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Espresso\_27 Start: 21202, Stop: 23004, Start Num: 50

Candidate Starts for Espresso\_27:

(Start: 50 @21202 has 210 MA's), (Start: 59 @21223 has 4 MA's), (Start: 70 @21265 has 1 MA's), (83, 21310), (120, 21526), (127, 21571), (130, 21580), (134, 21619), (140, 21670), (141, 21673), (183, 21868), (195, 21937), (229, 22138), (230, 22141), (234, 22162), (257, 22258), (258, 22261), (260, 22267), (274, 22336), (277, 22354), (279, 22363), (285, 22393), (310, 22489), (315, 22522), (318, 22537), (342, 22678), (351, 22735), (371, 22846),

Gene: Et2Brutus\_27 Start: 20758, Stop: 22557, Start Num: 48

Candidate Starts for Et2Brutus\_27:

(30, 20692), (Start: 39 @20734 has 8 MA's), (Start: 48 @20758 has 538 MA's), (67, 20800), (90, 20896), (94, 20911), (107, 20992), (108, 20995), (120, 21070), (123, 21085), (130, 21124), (131, 21130), (135, 21181), (144, 21241), (146, 21247), (161, 21328), (183, 21412), (204, 21538), (209, 21556), (214, 21583), (239, 21724), (254, 21790), (257, 21802), (258, 21805), (300, 21994), (307, 22021), (308, 22030), (311, 22051), (312, 22054), (315, 22075), (318, 22090), (321, 22114), (334, 22189), (337, 22204), (351, 22288), (369, 22393), (371, 22399), (378, 22453), (395, 22552),

Gene: Euphoria\_27 Start: 21090, Stop: 22892, Start Num: 50

Candidate Starts for Euphoria\_27:

(Start: 50 @21090 has 210 MA's), (Start: 59 @21111 has 4 MA's), (Start: 70 @21153 has 1 MA's), (83, 21198), (120, 21414), (127, 21459), (130, 21468), (140, 21558), (141, 21561), (183, 21756), (195, 21825), (229, 22026), (230, 22029), (234, 22050), (257, 22146), (258, 22149), (260, 22155), (274, 22224), (277, 22242), (279, 22251), (285, 22281), (310, 22377), (315, 22410), (318, 22425), (342, 22566), (351, 22623), (371, 22734), (395, 22887),

Gene: Eurydice\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Eurydice\_27:

(22, 19674), (27, 19719), (Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Evamon\_31 Start: 25861, Stop: 27627, Start Num: 32

Candidate Starts for Evamon\_31:

(26, 25819), (Start: 32 @25861 has 74 MA's), (Start: 37 @25897 has 5 MA's), (Start: 51 @25930 has 7 MA's), (92, 26086), (102, 26140), (103, 26143), (107, 26173), (117, 26239), (120, 26263), (121, 26272), (126, 26305), (152, 26458), (158, 26497), (171, 26548), (173, 26560), (177, 26578), (180, 26590), (182, 26602), (185, 26617), (190, 26647), (191, 26650), (194, 26671), (216, 26743), (222, 26791), (247, 26902), (255, 26935), (264, 26974), (265, 26977), (279, 27049), (296, 27115), (304, 27127), (342, 27298), (343, 27301), (350, 27349), (356, 27376), (360, 27403), (369, 27457), (385, 27574), (390, 27595), (395, 27622),

Gene: EvilGenius\_30 Start: 20609, Stop: 22381, Start Num: 48

Candidate Starts for EvilGenius\_30:

(Start: 39 @20585 has 8 MA's), (Start: 48 @20609 has 538 MA's), (84, 20708), (98, 20792), (107, 20843), (108, 20846), (119, 20918), (120, 20921), (130, 20975), (134, 21014), (144, 21092), (161, 21179), (181, 21260), (183, 21263), (215, 21449), (230, 21536), (254, 21641), (258, 21656), (283, 21782), (285, 21788), (305, 21836), (307, 21845), (310, 21866), (315, 21899), (318, 21914), (319, 21920), (329, 21974), (334, 22013), (337, 22028), (351, 22112), (371, 22223),

Gene: Expelliarmus\_23 Start: 18620, Stop: 20410, Start Num: 48

Candidate Starts for Expelliarmus\_23:

(Start: 39 @18596 has 8 MA's), (Start: 48 @18620 has 538 MA's), (82, 18713), (90, 18758), (108, 18857), (115, 18893), (120, 18932), (123, 18947), (129, 18983), (144, 19103), (146, 19109), (172, 19229), (198, 19358), (211, 19430), (229, 19544), (277, 19760), (283, 19793), (310, 19895), (315, 19928), (318, 19943), (322, 19973), (368, 20243), (371, 20252), (372, 20261), (389, 20375),

Gene: ExplosioNervosa\_30 Start: 21782, Stop: 23572, Start Num: 48

Candidate Starts for ExplosioNervosa\_30:

(Start: 46 @21779 has 8 MA's), (Start: 48 @21782 has 538 MA's), (107, 22016), (108, 22019), (119, 22091), (120, 22094), (123, 22109), (130, 22148), (131, 22154), (144, 22265), (161, 22352), (181,

22433), (183, 22436), (215, 22622), (225, 22685), (230, 22709), (232, 22715), (239, 22748), (258, 22829), (283, 22955), (294, 22997), (310, 23057), (315, 23090), (318, 23105), (334, 23204), (335, 23207), (337, 23219), (351, 23303), (362, 23369), (369, 23408), (371, 23414), (377, 23459), (384, 23516), (385, 23519),

Gene: Eyeball\_27 Start: 20895, Stop: 22697, Start Num: 50

Candidate Starts for Eyeball\_27:

(Start: 50 @20895 has 210 MA's), (Start: 59 @20916 has 4 MA's), (Start: 70 @20958 has 1 MA's), (83, 21003), (120, 21219), (127, 21264), (130, 21273), (134, 21312), (140, 21363), (141, 21366), (183, 21561), (195, 21630), (229, 21831), (230, 21834), (234, 21855), (257, 21951), (258, 21954), (260, 21960), (274, 22029), (277, 22047), (279, 22056), (285, 22086), (310, 22182), (315, 22215), (318, 22230), (342, 22371), (351, 22428), (371, 22539),

Gene: Eyes\_19 Start: 16632, Stop: 18362, Start Num: 43

Candidate Starts for Eyes\_19:

(8, 16176), (15, 16299), (17, 16320), (24, 16515), (35, 16599), (Start: 37 @16611 has 5 MA's), (Start: 43 @16632 has 5 MA's), (105, 16869), (110, 16902), (123, 16986), (155, 17187), (161, 17229), (171, 17265), (177, 17295), (182, 17319), (189, 17361), (194, 17388), (213, 17445), (214, 17451), (226, 17538), (293, 17832), (312, 17898), (316, 17922), (322, 17940), (342, 18036), (346, 18054), (372, 18210), (373, 18213), (376, 18225), (383, 18300), (389, 18327),

Gene: Fajezeel\_29 Start: 21405, Stop: 23207, Start Num: 50

Candidate Starts for Fajezeel\_29:

(Start: 50 @21405 has 210 MA's), (Start: 59 @21426 has 4 MA's), (Start: 70 @21468 has 1 MA's), (83, 21513), (120, 21729), (127, 21774), (130, 21783), (140, 21873), (141, 21876), (183, 22071), (195, 22140), (229, 22341), (230, 22344), (234, 22365), (257, 22461), (258, 22464), (260, 22470), (274, 22539), (277, 22557), (279, 22566), (285, 22596), (310, 22692), (315, 22725), (318, 22740), (342, 22881), (351, 22938), (371, 23049),

Gene: Fameo\_28 Start: 20236, Stop: 22008, Start Num: 48

Candidate Starts for Fameo\_28:

(30, 20170), (Start: 39 @20212 has 8 MA's), (Start: 48 @20236 has 538 MA's), (107, 20470), (108, 20473), (119, 20545), (120, 20548), (130, 20602), (134, 20641), (139, 20686), (144, 20719), (161, 20806), (181, 20887), (183, 20890), (230, 21163), (258, 21283), (283, 21409), (305, 21463), (307, 21472), (310, 21493), (315, 21526), (318, 21541), (319, 21547), (329, 21601), (334, 21640), (337, 21655), (351, 21739), (371, 21850),

Gene: Farber\_29 Start: 20372, Stop: 22168, Start Num: 48

Candidate Starts for Farber\_29:

(Start: 48 @20372 has 538 MA's), (Start: 70 @20429 has 1 MA's), (74, 20444), (84, 20477), (86, 20498), (89, 20513), (105, 20600), (107, 20612), (108, 20615), (120, 20690), (123, 20705), (129, 20741), (161, 20948), (187, 21062), (195, 21101), (211, 21188), (229, 21302), (234, 21326), (239, 21344), (258, 21425), (274, 21500), (277, 21518), (283, 21551), (285, 21557), (295, 21596), (309, 21650), (310, 21653), (314, 21674), (322, 21731), (351, 21899), (369, 22004), (371, 22010), (391, 22145),

Gene: Fascinus\_26 Start: 20958, Stop: 22760, Start Num: 50

Candidate Starts for Fascinus\_26:

(Start: 50 @20958 has 210 MA's), (Start: 59 @20979 has 4 MA's), (Start: 70 @21021 has 1 MA's), (83, 21066), (120, 21282), (127, 21327), (130, 21336), (134, 21375), (140, 21426), (141, 21429), (183, 21624), (195, 21693), (229, 21894), (230, 21897), (234, 21918), (257, 22014), (258, 22017), (260, 22023), (274, 22092), (277, 22110), (279, 22119), (285, 22149), (310, 22245), (315, 22278), (318, 22293), (342, 22434), (351, 22491), (371, 22602),



Gene: FatCactus\_26 Start: 18608, Stop: 20407, Start Num: 48

Candidate Starts for FatCactus\_26:

(30, 18542), (Start: 39 @18584 has 8 MA's), (Start: 48 @18608 has 538 MA's), (65, 18644), (107, 18842), (108, 18845), (119, 18917), (120, 18920), (130, 18974), (131, 18980), (135, 19031), (144, 19091), (150, 19109), (161, 19178), (179, 19253), (181, 19259), (183, 19262), (211, 19418), (215, 19448), (232, 19541), (239, 19574), (257, 19652), (258, 19655), (283, 19781), (294, 19823), (299, 19841), (309, 19889), (310, 19892), (318, 19940), (334, 20039), (337, 20054), (339, 20069), (351, 20138), (369, 20243), (371, 20249), (378, 20303), (391, 20384),

Gene: Fayely\_30 Start: 21782, Stop: 23572, Start Num: 48

Candidate Starts for Fayely\_30:

(Start: 46 @21779 has 8 MA's), (Start: 48 @21782 has 538 MA's), (107, 22016), (108, 22019), (119, 22091), (120, 22094), (123, 22109), (130, 22148), (131, 22154), (144, 22265), (161, 22352), (181, 22433), (183, 22436), (215, 22622), (225, 22685), (230, 22709), (232, 22715), (239, 22748), (258, 22829), (283, 22955), (294, 22997), (310, 23057), (315, 23090), (318, 23105), (334, 23204), (335, 23207), (337, 23219), (351, 23303), (362, 23369), (369, 23408), (371, 23414), (377, 23459), (384, 23516), (385, 23519),

Gene: Fenn\_28 Start: 22770, Stop: 24572, Start Num: 50

Candidate Starts for Fenn\_28:

(Start: 50 @22770 has 210 MA's), (Start: 59 @22791 has 4 MA's), (Start: 70 @22833 has 1 MA's), (83, 22878), (120, 23094), (127, 23139), (130, 23148), (134, 23187), (140, 23238), (141, 23241), (183, 23436), (195, 23505), (205, 23565), (229, 23706), (230, 23709), (234, 23730), (257, 23826), (258, 23829), (260, 23835), (274, 23904), (277, 23922), (279, 23931), (285, 23961), (310, 24057), (315, 24090), (318, 24105), (342, 24246), (351, 24303), (371, 24414),

Gene: Fernando\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for Fernando\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: Fibonacci\_28 Start: 20752, Stop: 22551, Start Num: 48

Candidate Starts for Fibonacci\_28:

(30, 20686), (Start: 39 @20728 has 8 MA's), (Start: 48 @20752 has 538 MA's), (67, 20794), (90, 20890), (94, 20905), (107, 20986), (108, 20989), (120, 21064), (123, 21079), (130, 21118), (131, 21124), (144, 21235), (146, 21241), (161, 21322), (183, 21406), (204, 21532), (209, 21550), (214, 21577), (239, 21718), (254, 21784), (257, 21796), (258, 21799), (300, 21988), (307, 22015), (308, 22024), (311, 22045), (312, 22048), (315, 22069), (318, 22084), (321, 22108), (334, 22183), (337, 22198), (351, 22282), (369, 22387), (371, 22393), (378, 22447), (395, 22546),

Gene: Fireball\_32 Start: 25984, Stop: 27750, Start Num: 32

Candidate Starts for Fireball\_32:

(26, 25942), (Start: 32 @25984 has 74 MA's), (Start: 37 @26020 has 5 MA's), (Start: 51 @26053 has 7 MA's), (102, 26263), (103, 26266), (107, 26296), (117, 26362), (120, 26386), (121, 26395), (126, 26428), (152, 26581), (158, 26620), (171, 26671), (173, 26683), (177, 26701), (180, 26713), (182, 26725), (185, 26740), (190, 26770), (191, 26773), (194, 26794), (216, 26866), (222, 26914), (247, 27025), (255, 27058), (265, 27100), (279, 27172), (296, 27238), (304, 27250), (342, 27421), (343, 27424), (350, 27472), (356, 27499), (360, 27526), (361, 27532), (369, 27580), (385, 27697), (390,

27718),

Gene: FiringLine\_28 Start: 20118, Stop: 21890, Start Num: 48

Candidate Starts for FiringLine\_28:

(30, 20052), (Start: 39 @20094 has 8 MA's), (Start: 48 @20118 has 538 MA's), (84, 20217), (98, 20301), (107, 20352), (108, 20355), (119, 20427), (120, 20430), (130, 20484), (134, 20523), (139, 20568), (144, 20601), (161, 20688), (181, 20769), (183, 20772), (230, 21045), (258, 21165), (283, 21291), (305, 21345), (315, 21408), (318, 21423), (319, 21429), (329, 21483), (334, 21522), (337, 21537), (339, 21552), (351, 21621), (371, 21732), (391, 21867),

Gene: First\_0028 Start: 20226, Stop: 21998, Start Num: 48

Candidate Starts for First\_0028:

(Start: 39 @20202 has 8 MA's), (Start: 48 @20226 has 538 MA's), (84, 20325), (107, 20460), (108, 20463), (119, 20535), (120, 20538), (130, 20592), (131, 20598), (134, 20631), (144, 20709), (161, 20796), (181, 20877), (183, 20880), (230, 21153), (254, 21258), (258, 21273), (283, 21399), (285, 21405), (305, 21453), (315, 21516), (318, 21531), (319, 21537), (323, 21567), (329, 21591), (334, 21630), (337, 21645), (351, 21729), (366, 21810),

Gene: Fitzgerald\_33 Start: 30900, Stop: 32663, Start Num: 32

Candidate Starts for Fitzgerald\_33:

(29, 30882), (Start: 32 @30900 has 74 MA's), (Start: 37 @30936 has 5 MA's), (84, 31074), (100, 31170), (103, 31179), (112, 31248), (120, 31299), (127, 31344), (131, 31359), (140, 31440), (150, 31485), (152, 31494), (158, 31533), (171, 31584), (177, 31614), (181, 31629), (185, 31653), (190, 31683), (218, 31788), (239, 31905), (244, 31923), (247, 31938), (254, 31968), (257, 31980), (258, 31983), (264, 32010), (342, 32334), (343, 32337), (350, 32385), (356, 32412), (360, 32439), (369, 32493), (375, 32520), (393, 32649),

Gene: Flare16\_28 Start: 20214, Stop: 21986, Start Num: 48

Candidate Starts for Flare16\_28:

(Start: 39 @20190 has 8 MA's), (Start: 48 @20214 has 538 MA's), (89, 20349), (107, 20448), (108, 20451), (119, 20523), (120, 20526), (130, 20580), (131, 20586), (137, 20649), (144, 20697), (153, 20730), (161, 20784), (181, 20865), (183, 20868), (187, 20898), (215, 21054), (230, 21141), (258, 21261), (282, 21384), (283, 21387), (285, 21393), (305, 21441), (315, 21504), (318, 21519), (319, 21525), (329, 21579), (334, 21618), (337, 21633), (344, 21666), (369, 21822), (371, 21828), (378, 21882),

Gene: Flatwoods\_35 Start: 29836, Stop: 31599, Start Num: 32

Candidate Starts for Flatwoods\_35:

(Start: 32 @29836 has 74 MA's), (Start: 37 @29872 has 5 MA's), (81, 30001), (84, 30010), (100, 30106), (103, 30115), (112, 30184), (120, 30235), (121, 30244), (127, 30280), (131, 30295), (133, 30313), (140, 30376), (150, 30421), (152, 30430), (175, 30541), (177, 30550), (181, 30565), (182, 30574), (185, 30589), (190, 30619), (239, 30841), (244, 30859), (247, 30874), (257, 30916), (258, 30919), (264, 30946), (289, 31066), (342, 31270), (343, 31273), (350, 31321), (356, 31348), (360, 31375), (369, 31429), (375, 31456),

Gene: Flaverint\_28 Start: 20749, Stop: 22548, Start Num: 48

Candidate Starts for Flaverint\_28:

(30, 20683), (Start: 39 @20725 has 8 MA's), (Start: 48 @20749 has 538 MA's), (67, 20791), (90, 20887), (94, 20902), (107, 20983), (108, 20986), (120, 21061), (123, 21076), (130, 21115), (131, 21121), (144, 21232), (146, 21238), (161, 21319), (183, 21403), (204, 21529), (209, 21547), (214, 21574), (239, 21715), (254, 21781), (257, 21793), (258, 21796), (300, 21985), (307, 22012), (308, 22021), (311, 22042), (312, 22045), (315, 22066), (318, 22081), (321, 22105), (334, 22180), (337, 22195), (351, 22279), (369, 22384), (371, 22390), (378, 22444), (395, 22543),

Gene: Florean\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Florean\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Flux\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Flux\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: FlyCatcher\_31 Start: 22924, Stop: 24726, Start Num: 48

Candidate Starts for FlyCatcher\_31:

(Start: 41 @22912 has 2 MA's), (Start: 48 @22924 has 538 MA's), (Start: 70 @22972 has 1 MA's), (75, 22990), (107, 23155), (108, 23158), (120, 23233), (123, 23248), (130, 23287), (146, 23410), (148, 23416), (155, 23449), (161, 23491), (192, 23635), (216, 23761), (229, 23842), (239, 23884), (250, 23932), (257, 23980), (258, 23983), (274, 24058), (277, 24076), (279, 24085), (283, 24109), (285, 24115), (309, 24208), (310, 24211), (315, 24244), (318, 24259), (342, 24400), (366, 24538), (369, 24562), (371, 24568), (385, 24673),

Gene: ForGetIt\_24 Start: 19589, Stop: 21388, Start Num: 48

Candidate Starts for ForGetIt\_24:

(Start: 48 @19589 has 538 MA's), (90, 19727), (108, 19826), (120, 19901), (129, 19952), (137, 20024), (139, 20039), (144, 20072), (146, 20078), (165, 20171), (187, 20273), (192, 20303), (194, 20309), (211, 20399), (215, 20429), (226, 20501), (229, 20513), (230, 20516), (239, 20555), (243, 20573), (257, 20633), (258, 20636), (270, 20687), (277, 20729), (309, 20870), (317, 20912), (371, 21230), (391, 21365),

Gene: Forsytheast\_26 Start: 21094, Stop: 22896, Start Num: 50

Candidate Starts for Forsytheast\_26:

(Start: 50 @21094 has 210 MA's), (Start: 59 @21115 has 4 MA's), (Start: 70 @21157 has 1 MA's), (83, 21202), (120, 21418), (127, 21463), (130, 21472), (134, 21511), (140, 21562), (141, 21565), (183, 21760), (195, 21829), (229, 22030), (230, 22033), (234, 22054), (257, 22150), (258, 22153), (260, 22159), (274, 22228), (277, 22246), (279, 22255), (285, 22285), (310, 22381), (315, 22414), (318, 22429), (322, 22459), (342, 22570), (351, 22627), (371, 22738),

Gene: Fosterous\_33 Start: 30742, Stop: 32505, Start Num: 32

Candidate Starts for Fosterous\_33:

(29, 30724), (Start: 32 @30742 has 74 MA's), (Start: 37 @30778 has 5 MA's), (84, 30916), (100, 31012), (103, 31021), (112, 31090), (120, 31141), (127, 31186), (131, 31201), (140, 31282), (150, 31327), (152, 31336), (171, 31426), (177, 31456), (181, 31471), (185, 31495), (190, 31525), (239, 31747), (244, 31765), (247, 31780), (254, 31810), (257, 31822), (258, 31825), (264, 31852), (341, 32173), (342, 32176), (343, 32179), (350, 32227), (356, 32254), (360, 32281), (369, 32335), (374, 32359), (375, 32362), (385, 32452), (395, 32500),

Gene: Francis47\_27 Start: 21642, Stop: 23444, Start Num: 50

Candidate Starts for Francis47\_27:

(Start: 50 @21642 has 210 MA's), (Start: 59 @21663 has 4 MA's), (Start: 70 @21705 has 1 MA's), (83, 21750), (120, 21966), (127, 22011), (130, 22020), (140, 22110), (141, 22113), (144, 22137), (183, 22308), (195, 22377), (229, 22578), (230, 22581), (234, 22602), (257, 22698), (258, 22701), (260, 22707), (274, 22776), (277, 22794), (279, 22803), (285, 22833), (310, 22929), (315, 22962), (318, 22977), (342, 23118), (351, 23175), (371, 23286),

Gene: Fred313\_27 Start: 19652, Stop: 21451, Start Num: 48

Candidate Starts for Fred313\_27:

(Start: 48 @19652 has 538 MA's), (Start: 70 @19712 has 1 MA's), (86, 19781), (105, 19883), (107, 19895), (108, 19898), (120, 19973), (123, 19988), (124, 19991), (130, 20027), (150, 20162), (161, 20231), (187, 20345), (211, 20471), (229, 20585), (234, 20609), (237, 20621), (239, 20627), (258, 20708), (274, 20783), (277, 20801), (279, 20810), (283, 20834), (285, 20840), (288, 20855), (303, 20897), (308, 20924), (309, 20933), (310, 20936), (314, 20957), (315, 20969), (351, 21182), (369, 21287), (371, 21293), (391, 21428),

Gene: Fribs8\_19 Start: 16521, Stop: 18215, Start Num: 47

Candidate Starts for Fribs8\_19:

(Start: 47 @16521 has 34 MA's), (53, 16533), (85, 16635), (113, 16806), (114, 16809), (120, 16854), (127, 16899), (134, 16947), (139, 16992), (158, 17094), (167, 17127), (168, 17139), (170, 17142), (182, 17199), (187, 17232), (191, 17247), (196, 17274), (201, 17313), (217, 17355), (219, 17364), (224, 17409), (229, 17433), (238, 17472), (257, 17553), (262, 17571), (264, 17580), (266, 17589), (277, 17646), (279, 17655), (318, 17787), (322, 17793), (327, 17814), (341, 17886), (342, 17889), (359, 17985), (362, 18012), (364, 18021), (365, 18024), (371, 18054), (380, 18117),

Gene: Frickyeah\_20 Start: 16428, Stop: 18125, Start Num: 47

Candidate Starts for Frickyeah\_20:

(35, 16389), (Start: 47 @16428 has 34 MA's), (53, 16440), (77, 16518), (84, 16539), (92, 16587), (95, 16596), (101, 16638), (107, 16674), (116, 16731), (118, 16752), (123, 16779), (126, 16806), (148, 16947), (158, 17004), (165, 17031), (167, 17037), (177, 17085), (184, 17115), (189, 17151), (194, 17178), (195, 17181), (203, 17232), (216, 17259), (217, 17262), (221, 17289), (224, 17316), (241, 17388), (250, 17427), (265, 17481), (273, 17523), (290, 17598), (311, 17661), (316, 17688), (322, 17706), (339, 17790), (341, 17799), (342, 17802), (344, 17808), (347, 17823), (350, 17853), (351, 17859), (356, 17880), (357, 17883), (365, 17937), (371, 17967), (372, 17976), (379, 18027), (382, 18060), (385, 18072), (389, 18090),

Gene: Froghopper\_28 Start: 21057, Stop: 22859, Start Num: 50

Candidate Starts for Froghopper\_28:

(Start: 50 @21057 has 210 MA's), (Start: 59 @21078 has 4 MA's), (Start: 70 @21120 has 1 MA's), (83, 21165), (120, 21381), (127, 21426), (130, 21435), (134, 21474), (140, 21525), (141, 21528), (158, 21621), (183, 21723), (195, 21792), (229, 21993), (230, 21996), (234, 22017), (257, 22113), (258, 22116), (260, 22122), (274, 22191), (277, 22209), (279, 22218), (285, 22248), (310, 22344), (315, 22377), (318, 22392), (342, 22533), (351, 22590), (371, 22701),

Gene: Fryberger\_53 Start: 27936, Stop: 29621, Start Num: 42

Candidate Starts for Fryberger\_53:

(19, 27744), (20, 27753), (21, 27759), (28, 27861), (33, 27891), (Start: 42 @27936 has 6 MA's), (88, 28077), (115, 28236), (123, 28290), (144, 28446), (166, 28545), (177, 28593), (187, 28650), (191, 28665), (215, 28755), (242, 28893), (257, 28956), (277, 29052), (287, 29103), (289, 29106), (302, 29118), (318, 29193), (324, 29208), (341, 29292), (356, 29373), (390, 29589), (393, 29607),

Gene: FuegoCuervo\_37 Start: 29287, Stop: 31050, Start Num: 32

Candidate Starts for FuegoCuervo\_37:

(29, 29269), (Start: 32 @29287 has 74 MA's), (Start: 37 @29323 has 5 MA's), (84, 29461), (100, 29557), (103, 29566), (112, 29635), (120, 29686), (127, 29731), (131, 29746), (140, 29827), (150, 29872), (152, 29881), (171, 29971), (177, 30001), (181, 30016), (185, 30040), (190, 30070), (218, 30175), (239, 30292), (244, 30310), (247, 30325), (254, 30355), (257, 30367), (258, 30370), (264, 30397), (341, 30718), (342, 30721), (343, 30724), (350, 30772), (356, 30799), (360, 30826), (369, 30880), (375, 30907), (393, 31036),

Gene: Fugax\_33 Start: 26575, Stop: 28341, Start Num: 32

Candidate Starts for Fugax\_33:

(26, 26533), (Start: 32 @26575 has 74 MA's), (Start: 37 @26611 has 5 MA's), (Start: 51 @26644 has 7 MA's), (102, 26854), (103, 26857), (107, 26887), (117, 26953), (120, 26977), (121, 26986), (126, 27019), (152, 27172), (158, 27211), (171, 27262), (173, 27274), (177, 27292), (180, 27304), (182, 27316), (185, 27331), (190, 27361), (191, 27364), (194, 27385), (216, 27457), (222, 27505), (247, 27616), (255, 27649), (265, 27691), (279, 27763), (296, 27829), (304, 27841), (342, 28012), (343, 28015), (350, 28063), (356, 28090), (360, 28117), (369, 28171), (385, 28288), (390, 28309), (395, 28336),

Gene: Funston\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Funston\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Fushigi\_28 Start: 21514, Stop: 23316, Start Num: 50

Candidate Starts for Fushigi\_28:

(Start: 50 @21514 has 210 MA's), (Start: 59 @21535 has 4 MA's), (Start: 70 @21577 has 1 MA's), (83, 21622), (120, 21838), (127, 21883), (130, 21892), (134, 21931), (140, 21982), (141, 21985), (146, 22015), (183, 22180), (195, 22249), (229, 22450), (230, 22453), (234, 22474), (257, 22570), (258, 22573), (260, 22579), (274, 22648), (277, 22666), (279, 22675), (285, 22705), (310, 22801), (315, 22834), (318, 22849), (342, 22990), (351, 23047), (371, 23158),

Gene: GEazy\_19 Start: 16647, Stop: 18377, Start Num: 45

Candidate Starts for GEazy\_19:

(24, 16527), (35, 16611), (Start: 45 @16647 has 4 MA's), (85, 16767), (99, 16851), (105, 16884), (110, 16917), (123, 17001), (155, 17202), (161, 17244), (171, 17280), (177, 17310), (182, 17334), (189, 17376), (194, 17403), (195, 17406), (213, 17460), (214, 17466), (226, 17553), (312, 17913), (316, 17937), (322, 17955), (342, 18051), (346, 18069), (373, 18228), (383, 18315), (389, 18342),

Gene: GMonster\_26 Start: 20497, Stop: 22278, Start Num: 59

Candidate Starts for GMonster\_26:

(Start: 50 @20476 has 210 MA's), (Start: 59 @20497 has 4 MA's), (Start: 70 @20539 has 1 MA's), (83, 20584), (120, 20800), (127, 20845), (130, 20854), (140, 20944), (141, 20947), (144, 20971), (158, 21040), (183, 21142), (195, 21211), (226, 21400), (229, 21412), (230, 21415), (234, 21436), (257, 21532), (258, 21535), (260, 21541), (274, 21610), (277, 21628), (279, 21637), (285, 21667), (310, 21763), (315, 21796), (318, 21811), (342, 21952), (351, 22009), (371, 22120),

Gene: Gadost\_27 Start: 19831, Stop: 21609, Start Num: 48

Candidate Starts for Gadost\_27:

(Start: 39 @19807 has 8 MA's), (Start: 48 @19831 has 538 MA's), (Start: 70 @19888 has 1 MA's), (85, 19942), (86, 19957), (90, 19975), (105, 20059), (107, 20071), (108, 20074), (120, 20149), (123, 20164), (130, 20203), (144, 20320), (161, 20407), (181, 20488), (191, 20536), (195, 20560), (211, 20647), (219, 20692), (230, 20764), (234, 20785), (239, 20803), (258, 20884), (277, 20977), (279, 20986), (283, 21010), (285, 21016), (291, 21040), (310, 21094), (314, 21115), (321, 21166), (326, 21190), (335, 21244), (351, 21340), (369, 21445), (372, 21460), (388, 21568), (391, 21586),

Gene: Gaea\_34 Start: 29484, Stop: 31247, Start Num: 32

Candidate Starts for Gaea\_34:

(Start: 32 @29484 has 74 MA's), (Start: 37 @29520 has 5 MA's), (81, 29649), (84, 29658), (100, 29754), (103, 29763), (112, 29832), (120, 29883), (121, 29892), (127, 29928), (131, 29943), (133, 29961), (140, 30024), (150, 30069), (152, 30078), (177, 30198), (181, 30213), (182, 30222), (185, 30237), (190, 30267), (239, 30489), (244, 30507), (247, 30522), (257, 30564), (258, 30567), (264, 30594), (289, 30714), (317, 30807), (342, 30918), (343, 30921), (350, 30969), (356, 30996), (360, 31023), (369, 31077), (375, 31104),

Gene: GageAP\_29 Start: 21828, Stop: 23630, Start Num: 50

Candidate Starts for GageAP\_29:

(Start: 50 @21828 has 210 MA's), (Start: 59 @21849 has 4 MA's), (Start: 70 @21891 has 1 MA's), (83, 21936), (120, 22152), (127, 22197), (130, 22206), (134, 22245), (140, 22296), (141, 22299), (183, 22494), (195, 22563), (229, 22764), (230, 22767), (234, 22788), (257, 22884), (258, 22887), (260, 22893), (274, 22962), (277, 22980), (279, 22989), (285, 23019), (310, 23115), (315, 23148), (318, 23163), (342, 23304), (351, 23361), (371, 23472), (395, 23625),

Gene: Gail\_28 Start: 19405, Stop: 21204, Start Num: 48

Candidate Starts for Gail\_28:

(Start: 46 @19402 has 8 MA's), (Start: 48 @19405 has 538 MA's), (89, 19540), (103, 19609), (108, 19642), (119, 19714), (120, 19717), (124, 19735), (131, 19777), (144, 19888), (150, 19906), (155, 19933), (157, 19942), (161, 19975), (179, 20050), (181, 20056), (183, 20059), (192, 20119), (212, 20221), (216, 20248), (225, 20308), (230, 20332), (239, 20371), (258, 20452), (303, 20650), (318, 20737), (319, 20743), (334, 20836), (369, 21040), (371, 21046),

Gene: Galadriel\_35 Start: 31231, Stop: 32994, Start Num: 32

Candidate Starts for Galadriel\_35:

(29, 31213), (Start: 32 @31231 has 74 MA's), (Start: 37 @31267 has 5 MA's), (84, 31405), (100, 31501), (103, 31510), (112, 31579), (120, 31630), (127, 31675), (131, 31690), (140, 31771), (150, 31816), (152, 31825), (171, 31915), (177, 31945), (181, 31960), (185, 31984), (190, 32014), (218, 32119), (239, 32236), (244, 32254), (247, 32269), (254, 32299), (257, 32311), (258, 32314), (264, 32341), (342, 32665), (343, 32668), (350, 32716), (356, 32743), (360, 32770), (369, 32824), (374, 32848), (375, 32851), (385, 32941), (395, 32989),

Gene: Gandalf20\_28 Start: 21933, Stop: 23735, Start Num: 50

Candidate Starts for Gandalf20\_28:

(Start: 50 @21933 has 210 MA's), (Start: 59 @21954 has 4 MA's), (Start: 70 @21996 has 1 MA's), (83, 22041), (120, 22257), (127, 22302), (130, 22311), (134, 22350), (140, 22401), (141, 22404), (183, 22599), (195, 22668), (229, 22869), (230, 22872), (234, 22893), (257, 22989), (258, 22992), (260, 22998), (274, 23067), (277, 23085), (279, 23094), (285, 23124), (310, 23220), (315, 23253), (318, 23268), (342, 23409), (351, 23466), (371, 23577),

Gene: Garak\_32 Start: 19977, Stop: 21749, Start Num: 48

Candidate Starts for Garak\_32:

(30, 19911), (Start: 39 @19953 has 8 MA's), (Start: 48 @19977 has 538 MA's), (108, 20214), (119, 20286), (120, 20289), (123, 20304), (130, 20343), (131, 20349), (144, 20460), (146, 20466), (155,

20505), (161, 20547), (172, 20586), (181, 20628), (183, 20631), (211, 20787), (235, 20928), (239, 20943), (285, 21156), (314, 21255), (318, 21282), (327, 21333), (329, 21342), (334, 21381), (335, 21384), (369, 21585), (371, 21591), (391, 21726),

Gene: GaugeLDP\_30 Start: 21466, Stop: 23238, Start Num: 48

Candidate Starts for GaugeLDP\_30:

(Start: 39 @21442 has 8 MA's), (Start: 48 @21466 has 538 MA's), (89, 21601), (107, 21700), (108, 21703), (120, 21778), (124, 21796), (130, 21832), (131, 21838), (135, 21889), (144, 21949), (155, 21994), (161, 22036), (176, 22096), (181, 22117), (183, 22120), (211, 22276), (229, 22390), (230, 22393), (258, 22513), (283, 22639), (285, 22645), (312, 22735), (314, 22744), (318, 22771), (321, 22795), (334, 22870), (335, 22873), (337, 22885), (351, 22969), (366, 23050), (369, 23074), (371, 23080), (378, 23134), (391, 23215),

Gene: Gemma\_29 Start: 20456, Stop: 22252, Start Num: 48

Candidate Starts for Gemma\_29:

(Start: 48 @20456 has 538 MA's), (Start: 70 @20513 has 1 MA's), (74, 20528), (86, 20582), (89, 20597), (105, 20684), (107, 20696), (108, 20699), (120, 20774), (123, 20789), (161, 21032), (195, 21185), (211, 21272), (225, 21365), (229, 21386), (234, 21410), (237, 21422), (239, 21428), (258, 21509), (274, 21584), (277, 21602), (279, 21611), (283, 21635), (285, 21641), (288, 21656), (295, 21680), (309, 21734), (310, 21737), (314, 21758), (369, 22088), (371, 22094), (391, 22229),

Gene: Geodirt\_32 Start: 30217, Stop: 31980, Start Num: 32

Candidate Starts for Geodirt\_32:

(29, 30199), (Start: 32 @30217 has 74 MA's), (Start: 37 @30253 has 5 MA's), (84, 30391), (100, 30487), (103, 30496), (112, 30565), (120, 30616), (127, 30661), (131, 30676), (140, 30757), (150, 30802), (152, 30811), (171, 30901), (177, 30931), (181, 30946), (185, 30970), (190, 31000), (218, 31105), (239, 31222), (244, 31240), (247, 31255), (254, 31285), (257, 31297), (258, 31300), (264, 31327), (342, 31651), (343, 31654), (350, 31702), (356, 31729), (360, 31756), (369, 31810), (375, 31837), (395, 31975),

Gene: George\_23 Start: 19658, Stop: 21454, Start Num: 48

Candidate Starts for George\_23:

(Start: 48 @19658 has 538 MA's), (85, 19763), (90, 19796), (108, 19895), (120, 19970), (123, 19985), (129, 20021), (137, 20093), (139, 20108), (146, 20147), (153, 20174), (157, 20195), (163, 20234), (187, 20342), (192, 20372), (194, 20378), (219, 20513), (226, 20570), (227, 20573), (229, 20582), (239, 20624), (243, 20642), (257, 20702), (258, 20705), (277, 20798), (279, 20807), (283, 20831), (309, 20939), (315, 20975), (351, 21185), (368, 21287), (371, 21296), (387, 21410), (391, 21431), (393, 21440),

Gene: Georgie2\_29 Start: 20109, Stop: 21881, Start Num: 48

Candidate Starts for Georgie2\_29:

(30, 20043), (Start: 39 @20085 has 8 MA's), (Start: 48 @20109 has 538 MA's), (84, 20208), (98, 20292), (107, 20343), (108, 20346), (119, 20418), (120, 20421), (130, 20475), (134, 20514), (139, 20559), (144, 20592), (161, 20679), (181, 20760), (183, 20763), (230, 21036), (258, 21156), (283, 21282), (305, 21336), (315, 21399), (318, 21414), (319, 21420), (329, 21474), (334, 21513), (337, 21528), (351, 21612), (371, 21723), (391, 21858),

Gene: Getalong\_21 Start: 17225, Stop: 18922, Start Num: 47

Candidate Starts for Getalong\_21:

(35, 17186), (Start: 47 @17225 has 34 MA's), (53, 17237), (55, 17240), (66, 17276), (77, 17315), (84, 17336), (91, 17378), (92, 17384), (93, 17387), (97, 17399), (101, 17435), (107, 17471), (116, 17528), (123, 17576), (126, 17603), (140, 17705), (148, 17744), (158, 17801), (161, 17819), (165, 17828), (167, 17834), (177, 17882), (184, 17912), (189, 17948), (191, 17954), (194, 17975), (195, 17978),

(203, 18029), (216, 18056), (217, 18059), (221, 18086), (224, 18113), (241, 18185), (250, 18224), (265, 18278), (279, 18350), (290, 18395), (316, 18485), (322, 18503), (339, 18587), (341, 18596), (342, 18599), (344, 18605), (347, 18620), (350, 18650), (351, 18656), (356, 18677), (357, 18680), (365, 18734), (371, 18764), (372, 18773), (379, 18824), (382, 18857), (385, 18869), (389, 18887),

Gene: Gezellig\_32 Start: 25951, Stop: 27759, Start Num: 26

Candidate Starts for Gezellig\_32:

(26, 25951), (Start: 32 @25993 has 74 MA's), (Start: 37 @26029 has 5 MA's), (Start: 51 @26062 has 7 MA's), (102, 26272), (103, 26275), (107, 26305), (117, 26371), (120, 26395), (121, 26404), (126, 26437), (152, 26590), (158, 26629), (171, 26680), (173, 26692), (177, 26710), (180, 26722), (182, 26734), (185, 26749), (190, 26779), (191, 26782), (194, 26803), (216, 26875), (222, 26923), (247, 27034), (255, 27067), (264, 27106), (265, 27109), (279, 27181), (296, 27247), (304, 27259), (342, 27430), (343, 27433), (350, 27481), (356, 27508), (360, 27535), (369, 27589), (385, 27706), (390, 27727), (395, 27754),

Gene: Ghoulboy\_24 Start: 19904, Stop: 21703, Start Num: 48

Candidate Starts for Ghoulboy\_24:

(Start: 48 @19904 has 538 MA's), (90, 20042), (108, 20141), (120, 20216), (129, 20267), (137, 20339), (139, 20354), (144, 20387), (146, 20393), (165, 20486), (187, 20588), (192, 20618), (194, 20624), (211, 20714), (215, 20744), (229, 20828), (230, 20831), (239, 20870), (243, 20888), (257, 20948), (258, 20951), (277, 21044), (309, 21185), (317, 21227), (371, 21545), (391, 21680), (393, 21689),

Gene: GiKK\_21 Start: 15090, Stop: 16778, Start Num: 47

Candidate Starts for GiKK\_21:

(9, 14670), (35, 15060), (Start: 41 @15087 has 2 MA's), (Start: 47 @15090 has 34 MA's), (89, 15231), (107, 15330), (114, 15375), (139, 15558), (143, 15588), (154, 15630), (158, 15660), (167, 15690), (168, 15702), (170, 15705), (187, 15795), (199, 15861), (201, 15876), (215, 15912), (219, 15927), (221, 15945), (226, 15984), (228, 15990), (248, 16074), (256, 16110), (257, 16113), (258, 16116), (262, 16131), (266, 16149), (267, 16152), (277, 16206), (316, 16335), (318, 16347), (324, 16362), (327, 16374), (341, 16446), (342, 16449), (343, 16452), (359, 16548), (371, 16617), (372, 16626), (389, 16743), (393, 16764), (394, 16770),

Gene: Gilberta\_28 Start: 20746, Stop: 22545, Start Num: 48

Candidate Starts for Gilberta\_28:

(30, 20680), (Start: 39 @20722 has 8 MA's), (Start: 48 @20746 has 538 MA's), (67, 20788), (90, 20884), (94, 20899), (107, 20980), (108, 20983), (119, 21055), (120, 21058), (123, 21073), (130, 21112), (131, 21118), (144, 21229), (146, 21235), (161, 21316), (183, 21400), (204, 21526), (209, 21544), (214, 21571), (239, 21712), (254, 21778), (257, 21790), (258, 21793), (300, 21982), (307, 22009), (308, 22018), (311, 22039), (312, 22042), (315, 22063), (318, 22078), (321, 22102), (334, 22177), (337, 22192), (351, 22276), (369, 22381), (371, 22387), (378, 22441), (395, 22540),

Gene: GingkoMaracino\_29 Start: 20265, Stop: 22061, Start Num: 48

Candidate Starts for GingkoMaracino\_29:

(Start: 48 @20265 has 538 MA's), (Start: 70 @20322 has 1 MA's), (74, 20337), (84, 20370), (86, 20391), (89, 20406), (105, 20493), (107, 20505), (108, 20508), (120, 20583), (123, 20598), (129, 20634), (161, 20841), (187, 20955), (195, 20994), (211, 21081), (229, 21195), (234, 21219), (239, 21237), (258, 21318), (274, 21393), (277, 21411), (283, 21444), (285, 21450), (295, 21489), (309, 21543), (310, 21546), (314, 21567), (322, 21624), (351, 21792), (369, 21897), (371, 21903), (391, 22038),

Gene: Giroux\_27 Start: 19904, Stop: 21700, Start Num: 48

Candidate Starts for Giroux\_27:



(Start: 48 @19904 has 538 MA's), (Start: 70 @19961 has 1 MA's), (86, 20030), (105, 20132), (107, 20144), (108, 20147), (120, 20222), (123, 20237), (130, 20276), (150, 20411), (161, 20480), (187, 20594), (211, 20720), (229, 20834), (234, 20858), (239, 20876), (258, 20957), (274, 21032), (277, 21050), (279, 21059), (283, 21083), (285, 21089), (288, 21104), (300, 21137), (309, 21182), (310, 21185), (314, 21206), (315, 21218), (317, 21224), (326, 21281), (351, 21431), (357, 21455), (369, 21536), (371, 21542), (391, 21677),

Gene: Gladiator\_31 Start: 19963, Stop: 21735, Start Num: 48

Candidate Starts for Gladiator\_31:

(30, 19897), (Start: 39 @19939 has 8 MA's), (Start: 48 @19963 has 538 MA's), (108, 20200), (119, 20272), (120, 20275), (123, 20290), (130, 20329), (131, 20335), (144, 20446), (146, 20452), (155, 20491), (161, 20533), (172, 20572), (181, 20614), (183, 20617), (211, 20773), (235, 20914), (239, 20929), (285, 21142), (314, 21241), (318, 21268), (327, 21319), (329, 21328), (334, 21367), (335, 21370), (351, 21466), (369, 21571), (371, 21577), (391, 21712),

Gene: Gollum\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Gollum\_23:

(Start: 56 @16334 has 3 MA's), (Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Gompeii16\_27 Start: 21590, Stop: 23392, Start Num: 50

Candidate Starts for Gompeii16\_27:

(Start: 50 @21590 has 210 MA's), (Start: 59 @21611 has 4 MA's), (Start: 70 @21653 has 1 MA's), (83, 21698), (120, 21914), (127, 21959), (130, 21968), (140, 22058), (141, 22061), (144, 22085), (183, 22256), (195, 22325), (229, 22526), (230, 22529), (234, 22550), (257, 22646), (258, 22649), (260, 22655), (274, 22724), (277, 22742), (279, 22751), (285, 22781), (310, 22877), (315, 22910), (318, 22925), (342, 23066), (351, 23123), (371, 23234),

Gene: Goose\_27 Start: 19786, Stop: 21564, Start Num: 48

Candidate Starts for Goose\_27:

(Start: 39 @19762 has 8 MA's), (Start: 48 @19786 has 538 MA's), (Start: 70 @19843 has 1 MA's), (74, 19858), (86, 19912), (105, 20014), (107, 20026), (108, 20029), (120, 20104), (123, 20119), (130, 20158), (144, 20275), (150, 20293), (161, 20362), (179, 20437), (187, 20476), (195, 20515), (211, 20602), (215, 20632), (219, 20647), (225, 20695), (234, 20740), (237, 20752), (239, 20758), (257, 20836), (258, 20839), (277, 20932), (279, 20941), (283, 20965), (285, 20971), (288, 20986), (305, 21019), (314, 21070), (317, 21088), (322, 21127), (323, 21133), (342, 21238), (351, 21295), (357, 21319), (358, 21325), (369, 21400), (371, 21406), (372, 21415), (391, 21541),

Gene: Graduation\_29 Start: 21859, Stop: 23661, Start Num: 50

Candidate Starts for Graduation\_29:

(Start: 50 @21859 has 210 MA's), (Start: 59 @21880 has 4 MA's), (Start: 70 @21922 has 1 MA's), (83, 21967), (120, 22183), (127, 22228), (130, 22237), (134, 22276), (140, 22327), (141, 22330), (183, 22525), (195, 22594), (229, 22795), (230, 22798), (234, 22819), (257, 22915), (258, 22918), (260, 22924), (274, 22993), (277, 23011), (279, 23020), (285, 23050), (310, 23146), (315, 23179), (318, 23194), (342, 23335), (351, 23392),

Gene: Gratitude\_29 Start: 20632, Stop: 22428, Start Num: 39

Candidate Starts for Gratitude\_29:

(Start: 39 @20632 has 8 MA's), (Start: 48 @20656 has 538 MA's), (89, 20791), (107, 20890), (108, 20893), (119, 20965), (120, 20968), (130, 21022), (131, 21028), (137, 21091), (144, 21139), (153,

21172), (161, 21226), (181, 21307), (183, 21310), (187, 21340), (215, 21496), (230, 21583), (258, 21703), (282, 21826), (283, 21829), (285, 21835), (305, 21883), (315, 21946), (318, 21961), (319, 21967), (329, 22021), (334, 22060), (337, 22075), (344, 22108), (350, 22153), (369, 22264), (371, 22270), (378, 22324),

Gene: GrecoEtereo\_29 Start: 21899, Stop: 23701, Start Num: 50

Candidate Starts for GrecoEtereo\_29:

(Start: 50 @21899 has 210 MA's), (Start: 59 @21920 has 4 MA's), (Start: 70 @21962 has 1 MA's), (83, 22007), (120, 22223), (127, 22268), (130, 22277), (134, 22316), (140, 22367), (141, 22370), (183, 22565), (195, 22634), (229, 22835), (230, 22838), (234, 22859), (257, 22955), (258, 22958), (260, 22964), (274, 23033), (277, 23051), (279, 23060), (285, 23090), (310, 23186), (315, 23219), (318, 23234), (342, 23375), (351, 23432), (371, 23543),

Gene: GreedyLawyer\_31 Start: 19976, Stop: 21748, Start Num: 48

Candidate Starts for GreedyLawyer\_31:

(30, 19910), (Start: 39 @19952 has 8 MA's), (Start: 48 @19976 has 538 MA's), (101, 20174), (108, 20213), (119, 20285), (120, 20288), (124, 20306), (130, 20342), (131, 20348), (144, 20459), (146, 20465), (155, 20504), (161, 20546), (172, 20585), (181, 20627), (183, 20630), (192, 20690), (235, 20927), (239, 20942), (258, 21023), (285, 21155), (318, 21281), (327, 21332), (329, 21341), (334, 21380), (335, 21383), (337, 21395), (351, 21479), (369, 21584), (371, 21590), (391, 21725),

Gene: Greg\_29 Start: 21405, Stop: 23207, Start Num: 50

Candidate Starts for Greg\_29:

(Start: 50 @21405 has 210 MA's), (Start: 59 @21426 has 4 MA's), (Start: 70 @21468 has 1 MA's), (83, 21513), (120, 21729), (127, 21774), (130, 21783), (140, 21873), (141, 21876), (183, 22071), (195, 22140), (229, 22341), (230, 22344), (234, 22365), (257, 22461), (258, 22464), (260, 22470), (274, 22539), (277, 22557), (279, 22566), (285, 22596), (310, 22692), (315, 22725), (318, 22740), (342, 22881), (351, 22938), (371, 23049),

Gene: Grif\_29 Start: 20462, Stop: 22258, Start Num: 48

Candidate Starts for Grif\_29:

(Start: 48 @20462 has 538 MA's), (Start: 70 @20519 has 1 MA's), (74, 20534), (86, 20588), (89, 20603), (105, 20690), (107, 20702), (108, 20705), (120, 20780), (123, 20795), (129, 20831), (161, 21038), (195, 21191), (211, 21278), (229, 21392), (234, 21416), (239, 21434), (258, 21515), (274, 21590), (277, 21608), (283, 21641), (285, 21647), (295, 21686), (309, 21740), (310, 21743), (314, 21764), (322, 21821), (351, 21989), (369, 22094), (371, 22100), (391, 22235),

Gene: Groundhog\_23 Start: 18621, Stop: 20411, Start Num: 48

Candidate Starts for Groundhog\_23:

(Start: 39 @18597 has 8 MA's), (Start: 48 @18621 has 538 MA's), (82, 18714), (90, 18759), (108, 18858), (115, 18894), (120, 18933), (123, 18948), (129, 18984), (144, 19104), (146, 19110), (172, 19230), (198, 19359), (211, 19431), (229, 19545), (277, 19761), (283, 19794), (310, 19896), (315, 19929), (318, 19944), (322, 19974), (368, 20244), (371, 20253), (372, 20262), (389, 20376),

Gene: Groupthink\_30 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Groupthink\_30:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (225, 21369), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (288, 21660), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (369, 22092), (371, 22098), (391, 22233),

Gene: Grub\_29 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for Grub\_29:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: Grum1\_29 Start: 20375, Stop: 22171, Start Num: 48

Candidate Starts for Grum1\_29:

(Start: 48 @20375 has 538 MA's), (Start: 70 @20432 has 1 MA's), (74, 20447), (84, 20480), (86, 20501), (89, 20516), (105, 20603), (107, 20615), (108, 20618), (120, 20693), (123, 20708), (129, 20744), (145, 20867), (161, 20951), (187, 21065), (195, 21104), (211, 21191), (229, 21305), (234, 21329), (239, 21347), (258, 21428), (274, 21503), (277, 21521), (283, 21554), (285, 21560), (295, 21599), (309, 21653), (310, 21656), (314, 21677), (331, 21776), (369, 22007), (371, 22013), (391, 22148),

Gene: Gruunaga\_31 Start: 19963, Stop: 21735, Start Num: 48

Candidate Starts for Gruunaga\_31:

(30, 19897), (Start: 39 @19939 has 8 MA's), (Start: 48 @19963 has 538 MA's), (108, 20200), (119, 20272), (120, 20275), (123, 20290), (130, 20329), (131, 20335), (144, 20446), (146, 20452), (155, 20491), (161, 20533), (172, 20572), (181, 20614), (183, 20617), (211, 20773), (235, 20914), (239, 20929), (285, 21142), (314, 21241), (318, 21268), (327, 21319), (329, 21328), (334, 21367), (335, 21370), (351, 21466), (369, 21571), (371, 21577), (391, 21712),

Gene: GtownJaz\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for GtownJaz\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (84, 20485), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (187, 21070), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309, 21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: Guey18\_58 Start: 29129, Stop: 30814, Start Num: 42

Candidate Starts for Guey18\_58:

(19, 28937), (20, 28946), (21, 28952), (28, 29054), (33, 29084), (Start: 42 @29129 has 6 MA's), (88, 29270), (115, 29429), (123, 29483), (144, 29639), (166, 29738), (177, 29786), (191, 29858), (215, 29948), (242, 30086), (277, 30245), (287, 30296), (289, 30299), (302, 30311), (318, 30386), (324, 30401), (341, 30485), (356, 30566), (376, 30677), (390, 30782), (393, 30800),

Gene: Gustavo\_34 Start: 29639, Stop: 31402, Start Num: 32

Candidate Starts for Gustavo\_34:

(Start: 32 @29639 has 74 MA's), (Start: 37 @29675 has 5 MA's), (81, 29804), (84, 29813), (100, 29909), (103, 29918), (112, 29987), (120, 30038), (121, 30047), (127, 30083), (131, 30098), (133, 30116), (140, 30179), (150, 30224), (152, 30233), (175, 30344), (177, 30353), (181, 30368), (185, 30392), (190, 30422), (239, 30644), (244, 30662), (247, 30677), (257, 30719), (264, 30749), (289, 30869), (317, 30962), (342, 31073), (343, 31076), (350, 31124), (356, 31151), (360, 31178), (369, 31232),

Gene: Gwendoluna\_29 Start: 22990, Stop: 24792, Start Num: 50

Candidate Starts for Gwendoluna\_29:

(Start: 50 @22990 has 210 MA's), (Start: 59 @23011 has 4 MA's), (Start: 70 @23053 has 1 MA's), (83, 23098), (120, 23314), (127, 23359), (130, 23368), (134, 23407), (140, 23458), (141, 23461), (183, 23656), (195, 23725), (229, 23926), (230, 23929), (234, 23950), (257, 24046), (258, 24049), (260, 24055), (274, 24124), (277, 24142), (279, 24151), (285, 24181), (310, 24277), (315, 24310), (318, 24325), (342, 24466), (351, 24523), (371, 24634),

Gene: Gyzlar\_29 Start: 22353, Stop: 24155, Start Num: 50

Candidate Starts for Gyzlar\_29:

(Start: 50 @22353 has 210 MA's), (Start: 59 @22374 has 4 MA's), (Start: 70 @22416 has 1 MA's), (83, 22461), (120, 22677), (127, 22722), (130, 22731), (134, 22770), (140, 22821), (141, 22824), (183, 23019), (195, 23088), (229, 23289), (230, 23292), (234, 23313), (257, 23409), (258, 23412), (260, 23418), (274, 23487), (277, 23505), (279, 23514), (285, 23544), (310, 23640), (315, 23673), (318, 23688), (342, 23829), (351, 23886), (371, 23997),

Gene: HINdeR\_27 Start: 22725, Stop: 24527, Start Num: 48

Candidate Starts for HINdeR\_27:

(22, 22575), (27, 22620), (Start: 39 @22701 has 8 MA's), (Start: 41 @22713 has 2 MA's), (Start: 48 @22725 has 538 MA's), (69, 22770), (75, 22791), (84, 22821), (107, 22956), (108, 22959), (120, 23034), (130, 23088), (146, 23211), (148, 23217), (155, 23250), (161, 23292), (183, 23376), (187, 23406), (192, 23436), (216, 23562), (229, 23643), (239, 23685), (257, 23781), (258, 23784), (262, 23799), (274, 23859), (277, 23877), (279, 23886), (283, 23910), (285, 23916), (309, 24009), (310, 24012), (313, 24030), (315, 24045), (318, 24060), (323, 24096), (341, 24198), (371, 24369), (385, 24474), (394, 24519),

Gene: Halo3\_32 Start: 26286, Stop: 28052, Start Num: 32

Candidate Starts for Halo3\_32:

(26, 26244), (Start: 32 @26286 has 74 MA's), (Start: 37 @26322 has 5 MA's), (Start: 51 @26355 has 7 MA's), (102, 26565), (103, 26568), (107, 26598), (117, 26664), (120, 26688), (121, 26697), (126, 26730), (152, 26883), (158, 26922), (171, 26973), (173, 26985), (177, 27003), (180, 27015), (182, 27027), (185, 27042), (190, 27072), (191, 27075), (194, 27096), (216, 27168), (222, 27216), (247, 27327), (255, 27360), (264, 27399), (265, 27402), (279, 27474), (296, 27540), (304, 27552), (342, 27723), (343, 27726), (350, 27774), (356, 27801), (360, 27828), (369, 27882), (385, 27999), (390, 28020), (395, 28047),

Gene: HamSlice\_26 Start: 19825, Stop: 21603, Start Num: 48

Candidate Starts for HamSlice\_26:

(Start: 39 @19801 has 8 MA's), (Start: 48 @19825 has 538 MA's), (Start: 70 @19882 has 1 MA's), (85, 19936), (86, 19951), (90, 19969), (105, 20053), (107, 20065), (108, 20068), (120, 20143), (123, 20158), (130, 20197), (144, 20314), (161, 20401), (181, 20482), (191, 20530), (195, 20554), (211, 20641), (219, 20686), (230, 20758), (234, 20779), (239, 20797), (258, 20878), (277, 20971), (279, 20980), (283, 21004), (285, 21010), (291, 21034), (310, 21088), (314, 21109), (321, 21160), (326, 21184), (335, 21238), (351, 21334), (369, 21439), (372, 21454), (388, 21562), (391, 21580),

Gene: Hami1\_29 Start: 21499, Stop: 23301, Start Num: 50

Candidate Starts for Hami1\_29:

(Start: 50 @21499 has 210 MA's), (Start: 59 @21520 has 4 MA's), (Start: 70 @21562 has 1 MA's), (83, 21607), (120, 21823), (127, 21868), (130, 21877), (134, 21916), (140, 21967), (141, 21970), (183, 22165), (195, 22234), (229, 22435), (230, 22438), (234, 22459), (257, 22555), (258, 22558), (260, 22564), (277, 22651), (279, 22660), (285, 22690), (310, 22786), (315, 22819), (318, 22834), (342, 22975), (351, 23032), (371, 23143),

Gene: Hammer\_31 Start: 19978, Stop: 21750, Start Num: 48

Candidate Starts for Hammer\_31:

(30, 19912), (Start: 39 @19954 has 8 MA's), (Start: 48 @19978 has 538 MA's), (108, 20215), (119, 20287), (120, 20290), (123, 20305), (130, 20344), (131, 20350), (144, 20461), (146, 20467), (155, 20506), (161, 20548), (172, 20587), (181, 20629), (183, 20632), (211, 20788), (235, 20929), (239, 20944), (285, 21157), (318, 21283), (327, 21334), (329, 21343), (334, 21382), (335, 21385), (369, 21586), (371, 21592), (391, 21727),

Gene: HanShotFirst\_27 Start: 21033, Stop: 22835, Start Num: 50

Candidate Starts for HanShotFirst\_27:

(Start: 50 @21033 has 210 MA's), (Start: 59 @21054 has 4 MA's), (Start: 70 @21096 has 1 MA's), (83, 21141), (120, 21357), (127, 21402), (130, 21411), (140, 21501), (141, 21504), (158, 21597), (183, 21699), (195, 21768), (226, 21957), (229, 21969), (230, 21972), (234, 21993), (257, 22089), (258, 22092), (260, 22098), (274, 22167), (277, 22185), (279, 22194), (285, 22224), (310, 22320), (315, 22353), (318, 22368), (342, 22509), (351, 22566), (371, 22677),

Gene: HannahD\_19 Start: 16647, Stop: 18377, Start Num: 45

Candidate Starts for HannahD\_19:

(24, 16527), (35, 16611), (Start: 45 @16647 has 4 MA's), (85, 16767), (99, 16851), (105, 16884), (110, 16917), (123, 17001), (155, 17202), (161, 17244), (171, 17280), (177, 17310), (182, 17334), (189, 17376), (194, 17403), (195, 17406), (213, 17460), (214, 17466), (226, 17553), (312, 17913), (316, 17937), (322, 17955), (342, 18051), (346, 18069), (373, 18228), (383, 18315), (389, 18342),

Gene: Hanray\_29 Start: 21753, Stop: 23543, Start Num: 48

Candidate Starts for Hanray\_29:

(Start: 46 @21750 has 8 MA's), (Start: 48 @21753 has 538 MA's), (107, 21987), (108, 21990), (119, 22062), (120, 22065), (123, 22080), (130, 22119), (131, 22125), (144, 22236), (161, 22323), (181, 22404), (183, 22407), (215, 22593), (225, 22656), (230, 22680), (232, 22686), (239, 22719), (258, 22800), (283, 22926), (294, 22968), (310, 23028), (315, 23061), (318, 23076), (334, 23175), (335, 23178), (337, 23190), (351, 23274), (362, 23340), (369, 23379), (371, 23385), (377, 23430), (384, 23487), (385, 23490),

Gene: Happiness\_27 Start: 19833, Stop: 21611, Start Num: 48

Candidate Starts for Happiness\_27:

(Start: 39 @19809 has 8 MA's), (Start: 48 @19833 has 538 MA's), (Start: 70 @19890 has 1 MA's), (85, 19944), (86, 19959), (90, 19977), (105, 20061), (107, 20073), (108, 20076), (120, 20151), (123, 20166), (130, 20205), (144, 20322), (161, 20409), (181, 20490), (191, 20538), (195, 20562), (211, 20649), (219, 20694), (230, 20766), (234, 20787), (239, 20805), (277, 20979), (279, 20988), (283, 21012), (285, 21018), (291, 21042), (310, 21096), (314, 21117), (321, 21168), (326, 21192), (335, 21246), (351, 21342), (369, 21447), (372, 21462), (388, 21570), (391, 21588),

Gene: Harlequin\_23 Start: 16299, Stop: 17924, Start Num: 62

Candidate Starts for Harlequin\_23:

(Start: 56 @16284 has 3 MA's), (Start: 62 @16299 has 32 MA's), (73, 16341), (81, 16368), (88, 16404), (120, 16590), (138, 16719), (144, 16761), (152, 16788), (Start: 156 @16812 has 1 MA's), (158, 16830), (167, 16860), (170, 16875), (183, 16926), (198, 17010), (225, 17127), (230, 17151), (257, 17265), (268, 17313), (274, 17343), (280, 17382), (283, 17394), (305, 17424), (318, 17502), (349, 17649), (354, 17673), (360, 17709), (367, 17748), (394, 17916),

Gene: HarryHoudini\_30 Start: 20673, Stop: 22445, Start Num: 48

Candidate Starts for HarryHoudini\_30:

(Start: 39 @20649 has 8 MA's), (Start: 48 @20673 has 538 MA's), (89, 20808), (94, 20826), (107, 20907), (108, 20910), (119, 20982), (120, 20985), (130, 21039), (131, 21045), (137, 21108), (139, 21123), (144, 21156), (153, 21189), (161, 21243), (181, 21324), (183, 21327), (187, 21357), (215, 21513), (230, 21600), (258, 21720), (282, 21843), (283, 21846), (285, 21852), (305, 21900), (312,

21942), (315, 21963), (318, 21978), (319, 21984), (329, 22038), (334, 22077), (337, 22092), (344, 22125), (350, 22170), (369, 22281), (371, 22287), (374, 22305), (378, 22341),

Gene: HarryOW\_28 Start: 21487, Stop: 23289, Start Num: 50

Candidate Starts for HarryOW\_28:

(Start: 50 @21487 has 210 MA's), (Start: 59 @21508 has 4 MA's), (Start: 70 @21550 has 1 MA's), (83, 21595), (120, 21811), (127, 21856), (130, 21865), (134, 21904), (140, 21955), (141, 21958), (158, 22051), (183, 22153), (195, 22222), (229, 22423), (230, 22426), (234, 22447), (257, 22543), (258, 22546), (260, 22552), (274, 22621), (277, 22639), (279, 22648), (285, 22678), (310, 22774), (315, 22807), (318, 22822), (342, 22963), (351, 23020), (371, 23131),

Gene: HashRod\_30 Start: 20466, Stop: 22262, Start Num: 48

Candidate Starts for HashRod\_30:

(Start: 48 @20466 has 538 MA's), (Start: 70 @20523 has 1 MA's), (74, 20538), (84, 20571), (86, 20592), (89, 20607), (105, 20694), (107, 20706), (108, 20709), (120, 20784), (123, 20799), (129, 20835), (145, 20958), (161, 21042), (187, 21156), (195, 21195), (211, 21282), (229, 21396), (234, 21420), (239, 21438), (258, 21519), (274, 21594), (277, 21612), (283, 21645), (285, 21651), (295, 21690), (309, 21744), (310, 21747), (314, 21768), (322, 21825), (351, 21993), (369, 22098), (371, 22104), (391, 22239),

Gene: HaveUMetTed\_30 Start: 20453, Stop: 22249, Start Num: 48

Candidate Starts for HaveUMetTed\_30:

(Start: 48 @20453 has 538 MA's), (Start: 70 @20510 has 1 MA's), (74, 20525), (86, 20579), (89, 20594), (105, 20681), (107, 20693), (108, 20696), (120, 20771), (123, 20786), (161, 21029), (195, 21182), (211, 21269), (229, 21383), (234, 21407), (237, 21419), (239, 21425), (258, 21506), (274, 21581), (277, 21599), (279, 21608), (283, 21632), (285, 21638), (295, 21677), (309, 21731), (310, 21734), (314, 21755), (351, 21980), (369, 22085), (371, 22091), (391, 22226),

Gene: Heathen\_27 Start: 19708, Stop: 21507, Start Num: 48

Candidate Starts for Heathen\_27:

(Start: 48 @19708 has 538 MA's), (Start: 70 @19768 has 1 MA's), (86, 19837), (105, 19939), (107, 19951), (108, 19954), (120, 20029), (123, 20044), (124, 20047), (130, 20083), (150, 20218), (161, 20287), (187, 20401), (211, 20527), (229, 20641), (234, 20665), (237, 20677), (239, 20683), (258, 20764), (274, 20839), (277, 20857), (279, 20866), (283, 20890), (285, 20896), (288, 20911), (303, 20953), (308, 20980), (309, 20989), (310, 20992), (314, 21013), (315, 21025), (351, 21238), (369, 21343), (371, 21349), (391, 21484),

Gene: Hedwig\_20 Start: 16954, Stop: 18648, Start Num: 49

Candidate Starts for Hedwig\_20:

(Start: 37 @16924 has 5 MA's), (Start: 49 @16954 has 5 MA's), (84, 17056), (92, 17107), (103, 17164), (110, 17215), (121, 17293), (123, 17299), (143, 17449), (171, 17572), (184, 17632), (189, 17668), (197, 17710), (213, 17752), (216, 17776), (221, 17806), (277, 18067), (296, 18142), (311, 18184), (322, 18229), (342, 18325), (343, 18328), (346, 18343), (373, 18502), (374, 18508), (385, 18595), (394, 18640),

Gene: Heffalump\_30 Start: 22038, Stop: 23810, Start Num: 48

Candidate Starts for Heffalump\_30:

(30, 21972), (Start: 39 @22014 has 8 MA's), (Start: 48 @22038 has 538 MA's), (107, 22272), (108, 22275), (119, 22347), (120, 22350), (130, 22404), (134, 22443), (139, 22488), (144, 22521), (161, 22608), (181, 22689), (183, 22692), (230, 22965), (258, 23085), (283, 23211), (305, 23265), (307, 23274), (310, 23295), (315, 23328), (318, 23343), (319, 23349), (329, 23403), (334, 23442), (337, 23457), (351, 23541), (371, 23652),

Gene: HelDan\_27 Start: 19960, Stop: 21759, Start Num: 48

Candidate Starts for HelDan\_27:

(Start: 48 @19960 has 538 MA's), (Start: 70 @20020 has 1 MA's), (86, 20089), (105, 20191), (107, 20203), (108, 20206), (120, 20281), (123, 20296), (124, 20299), (130, 20335), (150, 20470), (161, 20539), (187, 20653), (211, 20779), (229, 20893), (234, 20917), (237, 20929), (239, 20935), (258, 21016), (274, 21091), (277, 21109), (279, 21118), (283, 21142), (285, 21148), (288, 21163), (303, 21205), (308, 21232), (309, 21241), (310, 21244), (314, 21265), (315, 21277), (351, 21490), (369, 21595), (371, 21601), (391, 21736),

Gene: Heliosoles\_29 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Heliosoles\_29:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (225, 21369), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (288, 21660), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (369, 22092), (371, 22098), (391, 22233),

Gene: Helmet\_32 Start: 19977, Stop: 21749, Start Num: 48

Candidate Starts for Helmet\_32:

(30, 19911), (Start: 39 @19953 has 8 MA's), (Start: 48 @19977 has 538 MA's), (108, 20214), (119, 20286), (120, 20289), (123, 20304), (130, 20343), (131, 20349), (144, 20460), (146, 20466), (155, 20505), (161, 20547), (172, 20586), (181, 20628), (183, 20631), (211, 20787), (235, 20928), (239, 20943), (285, 21156), (314, 21255), (318, 21282), (327, 21333), (329, 21342), (334, 21381), (335, 21384), (369, 21585), (371, 21591), (391, 21726),

Gene: Herbertwm\_25 Start: 18795, Stop: 20585, Start Num: 48

Candidate Starts for Herbertwm\_25:

(30, 18729), (Start: 39 @18771 has 8 MA's), (Start: 48 @18795 has 538 MA's), (72, 18855), (89, 18930), (90, 18933), (94, 18948), (107, 19029), (108, 19032), (120, 19107), (123, 19122), (130, 19161), (137, 19230), (153, 19311), (161, 19365), (172, 19404), (181, 19446), (237, 19755), (310, 20070), (311, 20079), (318, 20118), (319, 20124), (321, 20142), (322, 20148), (334, 20217), (337, 20232), (365, 20394), (369, 20421), (391, 20562),

Gene: Hercules11\_29 Start: 20386, Stop: 22182, Start Num: 48

Candidate Starts for Hercules11\_29:

(Start: 48 @20386 has 538 MA's), (Start: 70 @20443 has 1 MA's), (74, 20458), (84, 20491), (86, 20512), (89, 20527), (105, 20614), (107, 20626), (108, 20629), (120, 20704), (123, 20719), (129, 20755), (161, 20962), (187, 21076), (195, 21115), (229, 21316), (234, 21340), (239, 21358), (258, 21439), (274, 21514), (277, 21532), (283, 21565), (285, 21571), (295, 21610), (309, 21664), (310, 21667), (314, 21688), (322, 21745), (351, 21913), (369, 22018), (371, 22024), (391, 22159),

Gene: Hermia\_30 Start: 22615, Stop: 24417, Start Num: 50

Candidate Starts for Hermia\_30:

(Start: 50 @22615 has 210 MA's), (Start: 59 @22636 has 4 MA's), (Start: 70 @22678 has 1 MA's), (83, 22723), (120, 22939), (127, 22984), (130, 22993), (134, 23032), (140, 23083), (141, 23086), (183, 23281), (195, 23350), (229, 23551), (230, 23554), (234, 23575), (257, 23671), (258, 23674), (260, 23680), (274, 23749), (277, 23767), (279, 23776), (285, 23806), (310, 23902), (315, 23935), (318, 23950), (322, 23980), (342, 24091), (351, 24148), (371, 24259), (395, 24412),

Gene: HermioneGrange\_27 Start: 21061, Stop: 22863, Start Num: 50

Candidate Starts for HermioneGrange\_27:

(Start: 50 @21061 has 210 MA's), (Start: 59 @21082 has 4 MA's), (Start: 70 @21124 has 1 MA's), (83, 21169), (120, 21385), (127, 21430), (130, 21439), (140, 21529), (141, 21532), (158, 21625), (183,

21727), (195, 21796), (226, 21985), (229, 21997), (230, 22000), (234, 22021), (257, 22117), (258, 22120), (260, 22126), (274, 22195), (277, 22213), (279, 22222), (285, 22252), (310, 22348), (315, 22381), (318, 22396), (342, 22537), (351, 22594), (371, 22705),

Gene: Hexamo\_31 Start: 19945, Stop: 21717, Start Num: 48

Candidate Starts for Hexamo\_31:

(30, 19879), (Start: 39 @19921 has 8 MA's), (Start: 48 @19945 has 538 MA's), (108, 20182), (119, 20254), (120, 20257), (123, 20272), (130, 20311), (131, 20317), (144, 20428), (146, 20434), (155, 20473), (161, 20515), (172, 20554), (181, 20596), (183, 20599), (211, 20755), (235, 20896), (239, 20911), (285, 21124), (314, 21223), (318, 21250), (327, 21301), (329, 21310), (334, 21349), (337, 21364), (351, 21448), (369, 21553), (371, 21559), (391, 21694),

Gene: Hexbug\_20 Start: 15776, Stop: 17464, Start Num: 47

Candidate Starts for Hexbug\_20:

(35, 15746), (Start: 41 @15773 has 2 MA's), (Start: 47 @15776 has 34 MA's), (89, 15917), (107, 16016), (115, 16067), (118, 16094), (139, 16244), (143, 16274), (151, 16301), (155, 16322), (157, 16331), (158, 16346), (167, 16376), (168, 16388), (171, 16394), (172, 16397), (174, 16412), (187, 16481), (201, 16562), (217, 16604), (219, 16613), (221, 16631), (228, 16676), (248, 16760), (256, 16796), (257, 16799), (258, 16802), (262, 16817), (266, 16835), (277, 16892), (283, 16925), (316, 17021), (318, 17033), (322, 17039), (324, 17048), (327, 17060), (341, 17132), (342, 17135), (343, 17138), (346, 17153), (362, 17261), (364, 17270), (371, 17303), (372, 17312), (391, 17441), (394, 17456),

Gene: Hiro\_23 Start: 16605, Stop: 18230, Start Num: 62

Candidate Starts for Hiro\_23:

(Start: 56 @16590 has 3 MA's), (Start: 62 @16605 has 32 MA's), (73, 16647), (81, 16674), (88, 16710), (111, 16851), (120, 16896), (138, 17025), (144, 17067), (150, 17085), (152, 17094), (Start: 156 @17118 has 1 MA's), (158, 17136), (167, 17166), (170, 17181), (171, 17184), (179, 17223), (183, 17232), (198, 17316), (215, 17370), (219, 17385), (225, 17433), (230, 17457), (257, 17571), (274, 17649), (280, 17688), (283, 17700), (286, 17709), (305, 17730), (318, 17808), (349, 17955), (367, 18054), (369, 18069), (394, 18222),

Gene: Holec\_29 Start: 21753, Stop: 23543, Start Num: 48

Candidate Starts for Holec\_29:

(Start: 46 @21750 has 8 MA's), (Start: 48 @21753 has 538 MA's), (107, 21987), (108, 21990), (119, 22062), (120, 22065), (123, 22080), (130, 22119), (131, 22125), (144, 22236), (161, 22323), (181, 22404), (183, 22407), (215, 22593), (225, 22656), (230, 22680), (232, 22686), (239, 22719), (258, 22800), (283, 22926), (294, 22968), (308, 23016), (310, 23028), (315, 23061), (318, 23076), (334, 23175), (335, 23178), (337, 23190), (351, 23274), (362, 23340), (369, 23379), (371, 23385), (377, 23430), (384, 23487), (385, 23490),

Gene: Holli\_27 Start: 19617, Stop: 21395, Start Num: 48

Candidate Starts for Holli\_27:

(Start: 39 @19593 has 8 MA's), (Start: 48 @19617 has 538 MA's), (Start: 70 @19674 has 1 MA's), (85, 19728), (86, 19743), (90, 19761), (105, 19845), (107, 19857), (108, 19860), (120, 19935), (123, 19950), (130, 19989), (144, 20106), (161, 20193), (181, 20274), (191, 20322), (195, 20346), (211, 20433), (219, 20478), (230, 20550), (234, 20571), (239, 20589), (258, 20670), (277, 20763), (279, 20772), (283, 20796), (285, 20802), (291, 20826), (310, 20880), (314, 20901), (321, 20952), (326, 20976), (335, 21030), (351, 21126), (369, 21231), (372, 21246), (388, 21354), (391, 21372),

Gene: Holliday\_20 Start: 16421, Stop: 18118, Start Num: 47

Candidate Starts for Holliday\_20:



(35, 16382), (Start: 47 @16421 has 34 MA's), (53, 16433), (66, 16472), (77, 16511), (84, 16532), (92, 16580), (95, 16589), (101, 16631), (107, 16667), (116, 16724), (123, 16772), (126, 16799), (148, 16940), (158, 16997), (161, 17015), (165, 17024), (167, 17030), (177, 17078), (184, 17108), (189, 17144), (191, 17150), (194, 17171), (195, 17174), (203, 17225), (216, 17252), (217, 17255), (221, 17282), (224, 17309), (241, 17381), (250, 17420), (265, 17474), (273, 17516), (290, 17591), (311, 17654), (316, 17681), (317, 17684), (322, 17699), (339, 17783), (341, 17792), (342, 17795), (344, 17801), (346, 17813), (347, 17816), (350, 17846), (351, 17852), (356, 17873), (357, 17876), (365, 17930), (371, 17960), (372, 17969), (379, 18020), (382, 18053), (385, 18065), (389, 18083),

Gene: Homines\_27 Start: 21386, Stop: 23188, Start Num: 50

Candidate Starts for Homines\_27:

(Start: 50 @21386 has 210 MA's), (Start: 59 @21407 has 4 MA's), (Start: 70 @21449 has 1 MA's), (83, 21494), (120, 21710), (127, 21755), (130, 21764), (134, 21803), (140, 21854), (141, 21857), (158, 21950), (183, 22052), (195, 22121), (229, 22322), (230, 22325), (234, 22346), (257, 22442), (258, 22445), (260, 22451), (274, 22520), (277, 22538), (279, 22547), (285, 22577), (310, 22673), (315, 22706), (318, 22721), (342, 22862), (351, 22919), (371, 23030), (395, 23183),

Gene: Hookmount\_28 Start: 20456, Stop: 22255, Start Num: 48

Candidate Starts for Hookmount\_28:

(Start: 48 @20456 has 538 MA's), (Start: 70 @20516 has 1 MA's), (86, 20585), (105, 20687), (107, 20699), (108, 20702), (120, 20777), (123, 20792), (130, 20831), (150, 20966), (161, 21035), (187, 21149), (211, 21275), (229, 21389), (234, 21413), (237, 21425), (239, 21431), (258, 21512), (274, 21587), (277, 21605), (279, 21614), (283, 21638), (285, 21644), (288, 21659), (300, 21692), (309, 21737), (310, 21740), (314, 21761), (335, 21890), (351, 21986), (369, 22091), (371, 22097), (391, 22232),

Gene: Hoot\_31 Start: 19955, Stop: 21727, Start Num: 48

Candidate Starts for Hoot\_31:

(30, 19889), (Start: 39 @19931 has 8 MA's), (Start: 48 @19955 has 538 MA's), (101, 20153), (108, 20192), (119, 20264), (120, 20267), (124, 20285), (130, 20321), (131, 20327), (144, 20438), (146, 20444), (155, 20483), (161, 20525), (172, 20564), (181, 20606), (183, 20609), (192, 20669), (235, 20906), (239, 20921), (258, 21002), (285, 21134), (318, 21260), (327, 21311), (329, 21320), (334, 21359), (335, 21362), (337, 21374), (351, 21458), (369, 21563), (371, 21569), (391, 21704),

Gene: Hope4ever\_27 Start: 21502, Stop: 23304, Start Num: 50

Candidate Starts for Hope4ever\_27:

(Start: 50 @21502 has 210 MA's), (Start: 59 @21523 has 4 MA's), (Start: 70 @21565 has 1 MA's), (83, 21610), (120, 21826), (127, 21871), (130, 21880), (134, 21919), (140, 21970), (141, 21973), (158, 22066), (183, 22168), (195, 22237), (226, 22426), (229, 22438), (230, 22441), (234, 22462), (257, 22558), (258, 22561), (260, 22567), (274, 22636), (277, 22654), (279, 22663), (285, 22693), (310, 22789), (315, 22822), (318, 22837), (342, 22978), (351, 23035), (371, 23146),

Gene: HortumSL17\_30 Start: 21746, Stop: 23539, Start Num: 46

Candidate Starts for HortumSL17\_30:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (295, 22967), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: Horus\_20 Start: 16434, Stop: 18131, Start Num: 47

Candidate Starts for Horus\_20:

(35, 16395), (Start: 47 @16434 has 34 MA's), (53, 16446), (55, 16449), (66, 16485), (77, 16524), (84, 16545), (91, 16587), (92, 16593), (93, 16596), (97, 16608), (101, 16644), (107, 16680), (116, 16737), (123, 16785), (126, 16812), (140, 16914), (148, 16953), (158, 17010), (161, 17028), (165, 17037), (167, 17043), (177, 17091), (184, 17121), (189, 17157), (191, 17163), (194, 17184), (195, 17187), (203, 17238), (216, 17265), (217, 17268), (221, 17295), (224, 17322), (241, 17394), (250, 17433), (265, 17487), (279, 17559), (290, 17604), (316, 17694), (322, 17712), (339, 17796), (341, 17805), (342, 17808), (344, 17814), (347, 17829), (350, 17859), (351, 17865), (356, 17886), (357, 17889), (365, 17943), (371, 17973), (372, 17982), (379, 18033), (382, 18066), (385, 18078), (389, 18096),

Gene: Houdini22\_27 Start: 19831, Stop: 21609, Start Num: 48

Candidate Starts for Houdini22\_27:

(Start: 39 @19807 has 8 MA's), (Start: 48 @19831 has 538 MA's), (Start: 70 @19888 has 1 MA's), (85, 19942), (86, 19957), (90, 19975), (105, 20059), (107, 20071), (108, 20074), (120, 20149), (123, 20164), (130, 20203), (144, 20320), (161, 20407), (181, 20488), (191, 20536), (195, 20560), (211, 20647), (219, 20692), (230, 20764), (234, 20785), (239, 20803), (258, 20884), (277, 20977), (279, 20986), (283, 21010), (285, 21016), (291, 21040), (310, 21094), (314, 21115), (321, 21166), (326, 21190), (335, 21244), (351, 21340), (369, 21445), (372, 21460), (388, 21568), (391, 21586),

Gene: HuhtaEnerson15\_24 Start: 19658, Stop: 21454, Start Num: 48

Candidate Starts for HuhtaEnerson15\_24:

(Start: 48 @19658 has 538 MA's), (85, 19763), (90, 19796), (108, 19895), (120, 19970), (123, 19985), (129, 20021), (137, 20093), (139, 20108), (146, 20147), (153, 20174), (157, 20195), (163, 20234), (192, 20372), (194, 20378), (226, 20570), (227, 20573), (229, 20582), (239, 20624), (243, 20642), (257, 20702), (258, 20705), (277, 20798), (279, 20807), (283, 20831), (309, 20939), (315, 20975), (351, 21185), (368, 21287), (371, 21296), (387, 21410), (391, 21431), (393, 21440),

Gene: Hutc2\_28 Start: 20752, Stop: 22551, Start Num: 48

Candidate Starts for Hutc2\_28:

(30, 20686), (Start: 39 @20728 has 8 MA's), (Start: 48 @20752 has 538 MA's), (67, 20794), (90, 20890), (94, 20905), (107, 20986), (108, 20989), (120, 21064), (123, 21079), (130, 21118), (131, 21124), (135, 21175), (144, 21235), (146, 21241), (161, 21322), (183, 21406), (204, 21532), (209, 21550), (214, 21577), (239, 21718), (254, 21784), (257, 21796), (258, 21799), (300, 21988), (307, 22015), (308, 22024), (311, 22045), (312, 22048), (315, 22069), (318, 22084), (321, 22108), (334, 22183), (337, 22198), (351, 22282), (369, 22387), (371, 22393), (378, 22447), (395, 22546),

Gene: Huxley\_27 Start: 19891, Stop: 21669, Start Num: 48

Candidate Starts for Huxley\_27:

(Start: 39 @19867 has 8 MA's), (Start: 48 @19891 has 538 MA's), (Start: 70 @19948 has 1 MA's), (85, 20002), (86, 20017), (90, 20035), (105, 20119), (107, 20131), (108, 20134), (120, 20209), (123, 20224), (130, 20263), (144, 20380), (161, 20467), (181, 20548), (191, 20596), (195, 20620), (211, 20707), (219, 20752), (230, 20824), (234, 20845), (239, 20863), (258, 20944), (277, 21037), (279, 21046), (283, 21070), (285, 21076), (291, 21100), (310, 21154), (314, 21175), (321, 21226), (326, 21250), (351, 21400), (369, 21505), (372, 21520), (388, 21628), (391, 21646),

Gene: ICleared\_27 Start: 19825, Stop: 21603, Start Num: 48

Candidate Starts for ICleared\_27:

(Start: 39 @19801 has 8 MA's), (Start: 48 @19825 has 538 MA's), (Start: 70 @19882 has 1 MA's), (85, 19936), (86, 19951), (90, 19969), (105, 20053), (107, 20065), (108, 20068), (120, 20143), (123, 20158), (130, 20197), (144, 20314), (161, 20401), (181, 20482), (191, 20530), (195, 20554), (211, 20641), (219, 20686), (230, 20758), (234, 20779), (239, 20797), (258, 20878), (277, 20971), (279, 20980), (283, 21004), (285, 21010), (291, 21034), (310, 21088), (314, 21109), (321, 21160), (326, 21184), (335, 21238), (351, 21334), (369, 21439), (372, 21454), (388, 21562), (391, 21580),

Gene: ILeeKay\_29 Start: 21266, Stop: 23068, Start Num: 50

Candidate Starts for ILeeKay\_29:

(Start: 50 @21266 has 210 MA's), (Start: 59 @21287 has 4 MA's), (Start: 70 @21329 has 1 MA's), (83, 21374), (120, 21590), (127, 21635), (130, 21644), (134, 21683), (140, 21734), (141, 21737), (183, 21932), (195, 22001), (229, 22202), (230, 22205), (234, 22226), (257, 22322), (258, 22325), (260, 22331), (274, 22400), (277, 22418), (279, 22427), (285, 22457), (310, 22553), (315, 22586), (318, 22601), (342, 22742), (351, 22799), (371, 22910),

Gene: Iceman\_28 Start: 20116, Stop: 21894, Start Num: 48

Candidate Starts for Iceman\_28:

(Start: 39 @20092 has 8 MA's), (Start: 48 @20116 has 538 MA's), (Start: 70 @20173 has 1 MA's), (85, 20227), (86, 20242), (90, 20260), (105, 20344), (107, 20356), (108, 20359), (120, 20434), (123, 20449), (130, 20488), (144, 20605), (161, 20692), (181, 20773), (191, 20821), (195, 20845), (211, 20932), (219, 20977), (230, 21049), (234, 21070), (239, 21088), (258, 21169), (277, 21262), (279, 21271), (283, 21295), (285, 21301), (291, 21325), (310, 21379), (314, 21400), (321, 21451), (326, 21475), (335, 21529), (351, 21625), (369, 21730), (372, 21745), (388, 21853), (391, 21871),

Gene: Ichabod\_28 Start: 21290, Stop: 23092, Start Num: 50

Candidate Starts for Ichabod\_28:

(Start: 50 @21290 has 210 MA's), (Start: 59 @21311 has 4 MA's), (Start: 70 @21353 has 1 MA's), (83, 21398), (120, 21614), (127, 21659), (130, 21668), (134, 21707), (140, 21758), (141, 21761), (183, 21956), (195, 22025), (229, 22226), (230, 22229), (234, 22250), (257, 22346), (258, 22349), (260, 22355), (274, 22424), (277, 22442), (279, 22451), (285, 22481), (310, 22577), (315, 22610), (318, 22625), (342, 22766), (351, 22823), (371, 22934),

Gene: Idleandcovert\_27 Start: 19904, Stop: 21700, Start Num: 48

Candidate Starts for Idleandcovert\_27:

(Start: 48 @19904 has 538 MA's), (Start: 70 @19961 has 1 MA's), (86, 20030), (105, 20132), (107, 20144), (108, 20147), (120, 20222), (123, 20237), (130, 20276), (150, 20411), (161, 20480), (187, 20594), (211, 20720), (229, 20834), (234, 20858), (239, 20876), (258, 20957), (274, 21032), (277, 21050), (279, 21059), (283, 21083), (285, 21089), (288, 21104), (300, 21137), (309, 21182), (310, 21185), (314, 21206), (315, 21218), (317, 21224), (326, 21281), (351, 21431), (357, 21455), (369, 21536), (371, 21542), (391, 21677),

Gene: IgnatiusPatJac\_26 Start: 21135, Stop: 22916, Start Num: 59

Candidate Starts for IgnatiusPatJac\_26:

(Start: 50 @21114 has 210 MA's), (Start: 59 @21135 has 4 MA's), (Start: 70 @21177 has 1 MA's), (83, 21222), (120, 21438), (127, 21483), (130, 21492), (140, 21582), (141, 21585), (158, 21678), (183, 21780), (195, 21849), (229, 22050), (230, 22053), (234, 22074), (257, 22170), (258, 22173), (260, 22179), (274, 22248), (277, 22266), (279, 22275), (285, 22305), (310, 22401), (315, 22434), (318, 22449), (342, 22590), (351, 22647), (371, 22758),

Gene: Indra\_31 Start: 19978, Stop: 21750, Start Num: 48

Candidate Starts for Indra\_31:

(30, 19912), (Start: 39 @19954 has 8 MA's), (Start: 48 @19978 has 538 MA's), (108, 20215), (119, 20287), (120, 20290), (123, 20305), (130, 20344), (131, 20350), (144, 20461), (146, 20467), (155, 20506), (161, 20548), (172, 20587), (181, 20629), (183, 20632), (211, 20788), (235, 20929), (239, 20944), (285, 21157), (314, 21256), (318, 21283), (327, 21334), (329, 21343), (334, 21382), (335, 21385), (369, 21586), (371, 21592), (391, 21727),

Gene: Insomnia\_28 Start: 20807, Stop: 22606, Start Num: 48

Candidate Starts for Insomnia\_28:

(30, 20741), (Start: 39 @20783 has 8 MA's), (Start: 48 @20807 has 538 MA's), (67, 20849), (90, 20945), (94, 20960), (107, 21041), (108, 21044), (120, 21119), (123, 21134), (130, 21173), (131, 21179), (135, 21230), (144, 21290), (146, 21296), (161, 21377), (183, 21461), (204, 21587), (209, 21605), (214, 21632), (239, 21773), (254, 21839), (257, 21851), (258, 21854), (300, 22043), (307, 22070), (308, 22079), (311, 22100), (312, 22103), (315, 22124), (318, 22139), (321, 22163), (334, 22238), (337, 22253), (351, 22337), (369, 22442), (371, 22448), (378, 22502), (395, 22601),

Gene: Inyanga\_26 Start: 20869, Stop: 22671, Start Num: 50

Candidate Starts for Inyanga\_26:

(Start: 50 @20869 has 210 MA's), (Start: 59 @20890 has 4 MA's), (Start: 70 @20932 has 1 MA's), (83, 20977), (120, 21193), (127, 21238), (130, 21247), (134, 21286), (140, 21337), (141, 21340), (183, 21535), (195, 21604), (229, 21805), (230, 21808), (234, 21829), (257, 21925), (258, 21928), (260, 21934), (274, 22003), (277, 22021), (279, 22030), (285, 22060), (310, 22156), (315, 22189), (318, 22204), (342, 22345), (351, 22402), (371, 22513), (395, 22666),

Gene: Iqorha\_26 Start: 20868, Stop: 22670, Start Num: 50

Candidate Starts for Iqorha\_26:

(Start: 50 @20868 has 210 MA's), (Start: 59 @20889 has 4 MA's), (Start: 70 @20931 has 1 MA's), (83, 20976), (120, 21192), (127, 21237), (130, 21246), (134, 21285), (140, 21336), (141, 21339), (183, 21534), (195, 21603), (229, 21804), (230, 21807), (234, 21828), (257, 21924), (258, 21927), (260, 21933), (274, 22002), (277, 22020), (279, 22029), (285, 22059), (310, 22155), (315, 22188), (318, 22203), (342, 22344), (351, 22401), (371, 22512), (395, 22665),

Gene: Iracema64\_28 Start: 20138, Stop: 21916, Start Num: 48

Candidate Starts for Iracema64\_28:

(Start: 39 @20114 has 8 MA's), (Start: 48 @20138 has 538 MA's), (Start: 70 @20195 has 1 MA's), (85, 20249), (86, 20264), (90, 20282), (105, 20366), (107, 20378), (108, 20381), (120, 20456), (123, 20471), (130, 20510), (144, 20627), (161, 20714), (181, 20795), (191, 20843), (195, 20867), (211, 20954), (219, 20999), (230, 21071), (234, 21092), (239, 21110), (277, 21284), (279, 21293), (283, 21317), (285, 21323), (291, 21347), (310, 21401), (314, 21422), (321, 21473), (326, 21497), (335, 21551), (351, 21647), (369, 21752), (372, 21767), (388, 21875), (391, 21893),

Gene: IronMan\_30 Start: 21747, Stop: 23519, Start Num: 48

Candidate Starts for IronMan\_30:

(Start: 48 @21747 has 538 MA's), (89, 21882), (107, 21981), (108, 21984), (119, 22056), (120, 22059), (127, 22104), (135, 22170), (139, 22197), (144, 22230), (161, 22317), (183, 22401), (211, 22557), (216, 22590), (239, 22713), (254, 22779), (258, 22794), (283, 22920), (285, 22926), (305, 22974), (315, 23037), (318, 23052), (319, 23058), (321, 23076), (334, 23151), (351, 23250), (369, 23355), (371, 23361), (374, 23379), (377, 23406),

Gene: Isca\_27 Start: 19841, Stop: 21640, Start Num: 48

Candidate Starts for Isca\_27:

(Start: 48 @19841 has 538 MA's), (Start: 70 @19901 has 1 MA's), (86, 19970), (105, 20072), (107, 20084), (108, 20087), (120, 20162), (123, 20177), (124, 20180), (130, 20216), (150, 20351), (161, 20420), (187, 20534), (211, 20660), (229, 20774), (230, 20777), (234, 20798), (239, 20816), (258, 20897), (274, 20972), (277, 20990), (279, 20999), (285, 21029), (288, 21044), (295, 21068), (300, 21077), (309, 21122), (310, 21125), (314, 21146), (315, 21158), (351, 21371), (357, 21395), (369, 21476), (371, 21482), (391, 21617),

Gene: Isiphiwo\_31 Start: 20047, Stop: 21819, Start Num: 48

Candidate Starts for Isiphiwo\_31:

(Start: 48 @20047 has 538 MA's), (101, 20245), (108, 20284), (119, 20356), (120, 20359), (124, 20377), (130, 20413), (131, 20419), (144, 20530), (146, 20536), (161, 20617), (172, 20656), (181,

20698), (183, 20701), (192, 20761), (235, 20998), (239, 21013), (258, 21094), (285, 21226), (291, 21250), (318, 21352), (327, 21403), (329, 21412), (334, 21451), (335, 21454), (337, 21466), (351, 21550), (369, 21655), (371, 21661), (391, 21796),

Gene: Iwokeuplikedis\_29 Start: 19935, Stop: 21707, Start Num: 48

Candidate Starts for Iwokeuplikedis\_29:

(Start: 39 @19911 has 8 MA's), (Start: 48 @19935 has 538 MA's), (84, 20034), (89, 20070), (94, 20088), (107, 20169), (108, 20172), (119, 20244), (120, 20247), (130, 20301), (131, 20307), (139, 20385), (144, 20418), (161, 20505), (181, 20586), (183, 20589), (211, 20745), (215, 20775), (230, 20862), (254, 20967), (258, 20982), (285, 21114), (305, 21162), (315, 21225), (318, 21240), (319, 21246), (320, 21255), (329, 21300), (334, 21339), (337, 21354), (344, 21387), (369, 21543), (371, 21549), (377, 21594),

Gene: JC27\_29 Start: 22002, Stop: 23804, Start Num: 50

Candidate Starts for JC27\_29:

(Start: 50 @22002 has 210 MA's), (Start: 59 @22023 has 4 MA's), (Start: 70 @22065 has 1 MA's), (83, 22110), (120, 22326), (127, 22371), (130, 22380), (134, 22419), (140, 22470), (141, 22473), (183, 22668), (195, 22737), (229, 22938), (230, 22941), (234, 22962), (257, 23058), (258, 23061), (260, 23067), (274, 23136), (277, 23154), (285, 23193), (310, 23289), (315, 23322), (318, 23337), (342, 23478), (351, 23535), (371, 23646),

Gene: JF2\_27 Start: 19592, Stop: 21391, Start Num: 48

Candidate Starts for JF2\_27:

(Start: 48 @19592 has 538 MA's), (Start: 70 @19652 has 1 MA's), (86, 19721), (105, 19823), (107, 19835), (108, 19838), (120, 19913), (123, 19928), (124, 19931), (130, 19967), (150, 20102), (161, 20171), (187, 20285), (211, 20411), (229, 20525), (230, 20528), (234, 20549), (239, 20567), (258, 20648), (274, 20723), (277, 20741), (279, 20750), (283, 20774), (285, 20780), (288, 20795), (295, 20819), (300, 20828), (309, 20873), (310, 20876), (314, 20897), (315, 20909), (351, 21122), (357, 21146), (369, 21227), (371, 21233), (391, 21368),

Gene: JF4\_27 Start: 19592, Stop: 21391, Start Num: 48

Candidate Starts for JF4\_27:

(Start: 48 @19592 has 538 MA's), (Start: 70 @19652 has 1 MA's), (86, 19721), (105, 19823), (107, 19835), (108, 19838), (120, 19913), (123, 19928), (124, 19931), (130, 19967), (150, 20102), (161, 20171), (187, 20285), (211, 20411), (229, 20525), (230, 20528), (234, 20549), (239, 20567), (258, 20648), (274, 20723), (277, 20741), (279, 20750), (283, 20774), (285, 20780), (288, 20795), (295, 20819), (300, 20828), (309, 20873), (310, 20876), (314, 20897), (315, 20909), (351, 21122), (357, 21146), (369, 21227), (371, 21233), (391, 21368),

Gene: JHC117\_29 Start: 20377, Stop: 22173, Start Num: 48

Candidate Starts for JHC117\_29:

(Start: 48 @20377 has 538 MA's), (Start: 70 @20434 has 1 MA's), (74, 20449), (84, 20482), (86, 20503), (89, 20518), (105, 20605), (107, 20617), (108, 20620), (120, 20695), (123, 20710), (129, 20746), (161, 20953), (187, 21067), (195, 21106), (205, 21166), (211, 21193), (229, 21307), (234, 21331), (239, 21349), (258, 21430), (274, 21505), (277, 21523), (283, 21556), (285, 21562), (295, 21601), (309, 21655), (310, 21658), (314, 21679), (322, 21736), (351, 21904), (369, 22009), (371, 22015), (391, 22150),

Gene: JKSyngboy\_32 Start: 30214, Stop: 31977, Start Num: 32

Candidate Starts for JKSyngboy\_32:

(Start: 32 @30214 has 74 MA's), (Start: 37 @30250 has 5 MA's), (81, 30379), (84, 30388), (87, 30412), (100, 30484), (103, 30493), (112, 30562), (120, 30613), (121, 30622), (127, 30658), (131, 30673), (133, 30691), (140, 30754), (150, 30799), (152, 30808), (177, 30928), (181, 30943), (182, 30952),

(185, 30967), (190, 30997), (244, 31237), (247, 31252), (257, 31294), (258, 31297), (264, 31324), (311, 31507), (342, 31648), (343, 31651), (350, 31699), (356, 31726), (360, 31753), (369, 31807), (375, 31834),

Gene: JSwag\_30 Start: 19079, Stop: 20866, Start Num: 48

Candidate Starts for JSwag\_30:

(30, 19013), (Start: 39 @19055 has 8 MA's), (Start: 48 @19079 has 538 MA's), (90, 19217), (100, 19274), (108, 19316), (115, 19352), (120, 19391), (132, 19460), (134, 19484), (141, 19538), (172, 19688), (183, 19733), (187, 19763), (194, 19799), (202, 19850), (210, 19886), (219, 19934), (227, 19994), (257, 20123), (274, 20201), (318, 20402), (319, 20408), (335, 20504), (363, 20669), (379, 20768),

Gene: Jaan\_31 Start: 22136, Stop: 23908, Start Num: 48

Candidate Starts for Jaan\_31:

(Start: 39 @22112 has 8 MA's), (Start: 48 @22136 has 538 MA's), (89, 22271), (94, 22289), (107, 22370), (108, 22373), (119, 22445), (120, 22448), (135, 22559), (139, 22586), (144, 22619), (155, 22664), (161, 22706), (183, 22790), (211, 22946), (216, 22979), (254, 23168), (258, 23183), (283, 23309), (285, 23315), (315, 23426), (318, 23441), (319, 23447), (329, 23501), (334, 23540), (337, 23555), (351, 23639), (369, 23744), (371, 23750), (374, 23768), (377, 23795),

Gene: Jabbawokkie\_21 Start: 14267, Stop: 15931, Start Num: 51

Candidate Starts for Jabbawokkie\_21:

(Start: 51 @14267 has 7 MA's), (76, 14348), (85, 14378), (88, 14399), (90, 14411), (103, 14477), (109, 14516), (110, 14528), (114, 14552), (122, 14609), (123, 14612), (125, 14636), (127, 14642), (128, 14645), (134, 14690), (135, 14708), (141, 14744), (162, 14855), (172, 14891), (177, 14918), (180, 14930), (181, 14933), (187, 14975), (190, 14987), (194, 15011), (214, 15065), (229, 15164), (253, 15257), (258, 15284), (261, 15296), (275, 15347), (277, 15362), (289, 15416), (306, 15443), (342, 15605), (343, 15608), (344, 15611), (362, 15728), (371, 15770), (381, 15854), (390, 15899), (393, 15917),

Gene: Jabberwocky\_33 Start: 31361, Stop: 33124, Start Num: 32

Candidate Starts for Jabberwocky\_33:

(29, 31343), (Start: 32 @31361 has 74 MA's), (Start: 37 @31397 has 5 MA's), (84, 31535), (100, 31631), (103, 31640), (112, 31709), (120, 31760), (127, 31805), (131, 31820), (140, 31901), (150, 31946), (152, 31955), (171, 32045), (177, 32075), (181, 32090), (185, 32114), (190, 32144), (218, 32249), (239, 32366), (244, 32384), (247, 32399), (254, 32429), (257, 32441), (258, 32444), (264, 32471), (342, 32795), (343, 32798), (350, 32846), (356, 32873), (360, 32900), (369, 32954), (375, 32981), (393, 33110),

Gene: Jabiru\_24 Start: 19026, Stop: 20825, Start Num: 48

Candidate Starts for Jabiru\_24:

(Start: 48 @19026 has 538 MA's), (108, 19263), (120, 19338), (123, 19353), (129, 19389), (137, 19461), (139, 19476), (144, 19509), (145, 19512), (146, 19515), (187, 19710), (192, 19740), (194, 19746), (211, 19836), (219, 19881), (229, 19950), (239, 19992), (243, 20010), (257, 20070), (258, 20073), (277, 20166), (309, 20307), (315, 20343), (351, 20556), (368, 20658), (371, 20667), (391, 20802),

Gene: Jabith\_28 Start: 20807, Stop: 22606, Start Num: 48

Candidate Starts for Jabith\_28:

(30, 20741), (Start: 39 @20783 has 8 MA's), (Start: 48 @20807 has 538 MA's), (67, 20849), (90, 20945), (94, 20960), (107, 21041), (108, 21044), (120, 21119), (123, 21134), (130, 21173), (131, 21179), (135, 21230), (144, 21290), (146, 21296), (161, 21377), (183, 21461), (204, 21587), (209, 21605), (214, 21632), (239, 21773), (254, 21839), (257, 21851), (258, 21854), (300, 22043), (307,

22070), (308, 22079), (311, 22100), (312, 22103), (315, 22124), (318, 22139), (321, 22163), (334, 22238), (337, 22253), (351, 22337), (369, 22442), (371, 22448), (378, 22502), (395, 22601),

Gene: JackSparrow\_28 Start: 21464, Stop: 23266, Start Num: 50

Candidate Starts for JackSparrow\_28:

(Start: 50 @21464 has 210 MA's), (Start: 59 @21485 has 4 MA's), (Start: 70 @21527 has 1 MA's), (83, 21572), (120, 21788), (127, 21833), (130, 21842), (134, 21881), (140, 21932), (141, 21935), (183, 22130), (195, 22199), (229, 22400), (230, 22403), (234, 22424), (257, 22520), (258, 22523), (260, 22529), (274, 22598), (277, 22616), (279, 22625), (285, 22655), (310, 22751), (315, 22784), (318, 22799), (342, 22940), (351, 22997), (371, 23108),

Gene: Jambalaya\_31 Start: 25640, Stop: 27406, Start Num: 32

Candidate Starts for Jambalaya\_31:

(26, 25598), (Start: 32 @25640 has 74 MA's), (Start: 37 @25676 has 5 MA's), (Start: 51 @25709 has 7 MA's), (102, 25919), (103, 25922), (107, 25952), (117, 26018), (120, 26042), (121, 26051), (126, 26084), (152, 26237), (158, 26276), (171, 26327), (173, 26339), (177, 26357), (180, 26369), (182, 26381), (185, 26396), (190, 26426), (191, 26429), (194, 26450), (216, 26522), (222, 26570), (247, 26681), (255, 26714), (264, 26753), (265, 26756), (279, 26828), (296, 26894), (304, 26906), (342, 27077), (345, 27089), (346, 27095), (350, 27128), (356, 27155), (360, 27182), (369, 27236), (385, 27353), (390, 27374), (395, 27401),

Gene: Jamzy\_21 Start: 15100, Stop: 16788, Start Num: 47

Candidate Starts for Jamzy\_21:

(1, 14440), (5, 14623), (35, 15070), (Start: 41 @15097 has 2 MA's), (Start: 47 @15100 has 34 MA's), (89, 15241), (107, 15340), (114, 15385), (139, 15568), (143, 15598), (154, 15640), (158, 15670), (167, 15700), (168, 15712), (170, 15715), (187, 15805), (199, 15871), (201, 15886), (215, 15922), (219, 15937), (221, 15955), (226, 15994), (228, 16000), (248, 16084), (256, 16120), (257, 16123), (258, 16126), (262, 16141), (266, 16159), (267, 16162), (277, 16216), (316, 16345), (318, 16357), (324, 16372), (327, 16384), (341, 16456), (342, 16459), (343, 16462), (359, 16558), (371, 16627), (372, 16636), (391, 16765), (393, 16774), (394, 16780),

Gene: Jasper\_28 Start: 20943, Stop: 22745, Start Num: 50

Candidate Starts for Jasper\_28:

(Start: 50 @20943 has 210 MA's), (Start: 59 @20964 has 4 MA's), (Start: 70 @21006 has 1 MA's), (83, 21051), (120, 21267), (127, 21312), (130, 21321), (134, 21360), (140, 21411), (141, 21414), (183, 21609), (195, 21678), (229, 21879), (230, 21882), (234, 21903), (257, 21999), (258, 22002), (260, 22008), (274, 22077), (277, 22095), (279, 22104), (285, 22134), (310, 22230), (315, 22263), (318, 22278), (342, 22419), (351, 22476), (371, 22587),

Gene: Jaykayelowell\_27 Start: 19823, Stop: 21601, Start Num: 48

Candidate Starts for Jaykayelowell\_27:

(Start: 39 @19799 has 8 MA's), (Start: 48 @19823 has 538 MA's), (Start: 70 @19880 has 1 MA's), (85, 19934), (86, 19949), (90, 19967), (105, 20051), (107, 20063), (108, 20066), (120, 20141), (123, 20156), (130, 20195), (144, 20312), (161, 20399), (181, 20480), (191, 20528), (195, 20552), (211, 20639), (219, 20684), (230, 20756), (234, 20777), (239, 20795), (258, 20876), (277, 20969), (279, 20978), (283, 21002), (285, 21008), (291, 21032), (310, 21086), (314, 21107), (321, 21158), (326, 21182), (335, 21236), (351, 21332), (369, 21437), (372, 21452), (388, 21560), (391, 21578),

Gene: Jeeves\_28 Start: 19427, Stop: 21226, Start Num: 48

Candidate Starts for Jeeves\_28:

(Start: 46 @19424 has 8 MA's), (Start: 48 @19427 has 538 MA's), (89, 19562), (103, 19631), (108, 19664), (111, 19694), (119, 19736), (120, 19739), (131, 19799), (144, 19910), (155, 19955), (157, 19964), (161, 19997), (179, 20072), (181, 20078), (183, 20081), (192, 20141), (212, 20243), (216,

20270), (225, 20330), (230, 20354), (239, 20393), (258, 20474), (303, 20672), (318, 20759), (319, 20765), (334, 20858), (337, 20873), (369, 21062), (371, 21068),

Gene: Jeffabunny\_31 Start: 19997, Stop: 21769, Start Num: 48

Candidate Starts for Jeffabunny\_31:

(30, 19931), (Start: 39 @19973 has 8 MA's), (Start: 48 @19997 has 538 MA's), (108, 20234), (119, 20306), (120, 20309), (123, 20324), (130, 20363), (131, 20369), (144, 20480), (146, 20486), (155, 20525), (161, 20567), (172, 20606), (181, 20648), (183, 20651), (211, 20807), (235, 20948), (239, 20963), (285, 21176), (314, 21275), (318, 21302), (327, 21353), (329, 21362), (334, 21401), (337, 21416), (351, 21500), (369, 21605), (371, 21611), (391, 21746),

Gene: JenCasNa\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for JenCasNa\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (331, 21779), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: JeppNRM\_30 Start: 20458, Stop: 22254, Start Num: 48

Candidate Starts for JeppNRM\_30:

(Start: 48 @20458 has 538 MA's), (Start: 70 @20515 has 1 MA's), (74, 20530), (86, 20584), (89, 20599), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (161, 21034), (195, 21187), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (295, 21682), (309, 21736), (310, 21739), (314, 21760), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Jerm\_30 Start: 20633, Stop: 22405, Start Num: 48

Candidate Starts for Jerm\_30:

(Start: 39 @20609 has 8 MA's), (Start: 48 @20633 has 538 MA's), (84, 20732), (98, 20816), (107, 20867), (108, 20870), (119, 20942), (120, 20945), (130, 20999), (134, 21038), (144, 21116), (161, 21203), (181, 21284), (183, 21287), (215, 21473), (230, 21560), (254, 21665), (258, 21680), (283, 21806), (285, 21812), (305, 21860), (318, 21938), (319, 21944), (329, 21998), (334, 22037), (337, 22052), (351, 22136), (371, 22247),

Gene: Jerm2\_28 Start: 21333, Stop: 23135, Start Num: 50

Candidate Starts for Jerm2\_28:

(Start: 50 @21333 has 210 MA's), (Start: 59 @21354 has 4 MA's), (Start: 70 @21396 has 1 MA's), (83, 21441), (120, 21657), (127, 21702), (130, 21711), (134, 21750), (140, 21801), (141, 21804), (183, 21999), (195, 22068), (229, 22269), (230, 22272), (234, 22293), (257, 22389), (258, 22392), (260, 22398), (274, 22467), (277, 22485), (279, 22494), (285, 22524), (310, 22620), (315, 22653), (318, 22668), (342, 22809), (351, 22866), (371, 22977),

Gene: Jester\_23 Start: 16278, Stop: 17918, Start Num: 56

Candidate Starts for Jester\_23:

(Start: 56 @16278 has 3 MA's), (Start: 62 @16293 has 32 MA's), (73, 16335), (81, 16362), (88, 16398), (111, 16539), (120, 16584), (138, 16713), (144, 16755), (150, 16773), (152, 16782), (Start: 156 @16806 has 1 MA's), (158, 16824), (167, 16854), (170, 16869), (171, 16872), (179, 16911), (183, 16920), (198, 17004), (215, 17058), (219, 17073), (225, 17121), (230, 17145), (257, 17259), (274, 17337), (280, 17376), (283, 17388), (286, 17397), (305, 17418), (318, 17496), (349, 17643), (367, 17742), (369, 17757), (394, 17910),



Gene: JetBlade\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for JetBlade\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: JewelBug\_31 Start: 19981, Stop: 21753, Start Num: 48

Candidate Starts for JewelBug\_31:

(30, 19915), (Start: 39 @19957 has 8 MA's), (Start: 48 @19981 has 538 MA's), (90, 20119), (101, 20179), (108, 20218), (119, 20290), (120, 20293), (124, 20311), (130, 20347), (131, 20353), (144, 20464), (146, 20470), (155, 20509), (161, 20551), (172, 20590), (181, 20632), (183, 20635), (192, 20695), (235, 20932), (239, 20947), (258, 21028), (276, 21115), (285, 21160), (318, 21286), (327, 21337), (329, 21346), (334, 21385), (335, 21388), (337, 21400), (351, 21484), (369, 21589), (371, 21595), (391, 21730),

Gene: Jiawan\_29 Start: 21785, Stop: 23575, Start Num: 48

Candidate Starts for Jiawan\_29:

(Start: 46 @21782 has 8 MA's), (Start: 48 @21785 has 538 MA's), (107, 22019), (108, 22022), (119, 22094), (120, 22097), (123, 22112), (130, 22151), (131, 22157), (144, 22268), (161, 22355), (181, 22436), (183, 22439), (215, 22625), (225, 22688), (230, 22712), (232, 22718), (239, 22751), (258, 22832), (283, 22958), (294, 23000), (310, 23060), (315, 23093), (318, 23108), (334, 23207), (335, 23210), (337, 23222), (351, 23306), (362, 23372), (369, 23411), (371, 23417), (377, 23462), (384, 23519), (385, 23522),

Gene: Jobu08\_29 Start: 20451, Stop: 22247, Start Num: 48

Candidate Starts for Jobu08\_29:

(Start: 48 @20451 has 538 MA's), (Start: 70 @20508 has 1 MA's), (74, 20523), (84, 20556), (86, 20577), (89, 20592), (105, 20679), (107, 20691), (108, 20694), (120, 20769), (123, 20784), (129, 20820), (161, 21027), (195, 21180), (211, 21267), (229, 21381), (234, 21405), (239, 21423), (258, 21504), (274, 21579), (277, 21597), (283, 21630), (285, 21636), (295, 21675), (309, 21729), (310, 21732), (314, 21753), (322, 21810), (351, 21978), (369, 22083), (371, 22089), (391, 22224),

Gene: JoongJeon\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for JoongJeon\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Jordennis\_31 Start: 19942, Stop: 21738, Start Num: 39

Candidate Starts for Jordennis\_31:

(30, 19900), (Start: 39 @19942 has 8 MA's), (Start: 48 @19966 has 538 MA's), (101, 20164), (108, 20203), (119, 20275), (120, 20278), (124, 20296), (130, 20332), (131, 20338), (144, 20449), (146, 20455), (161, 20536), (172, 20575), (181, 20617), (183, 20620), (192, 20680), (235, 20917), (239, 20932), (258, 21013), (276, 21100), (285, 21145), (318, 21271), (327, 21322), (329, 21331), (334, 21370), (335, 21373), (337, 21385), (351, 21469), (369, 21574), (371, 21580), (391, 21715),

Gene: Jorgensen\_27 Start: 20997, Stop: 22799, Start Num: 50

Candidate Starts for Jorgensen\_27:

(Start: 50 @20997 has 210 MA's), (Start: 59 @21018 has 4 MA's), (Start: 70 @21060 has 1 MA's), (83, 21105), (120, 21321), (127, 21366), (130, 21375), (134, 21414), (140, 21465), (141, 21468), (183, 21663), (195, 21732), (229, 21933), (230, 21936), (234, 21957), (257, 22053), (258, 22056), (260, 22062), (274, 22131), (277, 22149), (279, 22158), (285, 22188), (310, 22284), (315, 22317), (318, 22332), (342, 22473), (351, 22530), (371, 22641),

Gene: Joselito\_28 Start: 20755, Stop: 22554, Start Num: 48

Candidate Starts for Joselito\_28:

(30, 20689), (Start: 39 @20731 has 8 MA's), (Start: 48 @20755 has 538 MA's), (67, 20797), (90, 20893), (94, 20908), (107, 20989), (108, 20992), (120, 21067), (123, 21082), (130, 21121), (131, 21127), (135, 21178), (144, 21238), (146, 21244), (161, 21325), (183, 21409), (204, 21535), (209, 21553), (214, 21580), (239, 21721), (254, 21787), (257, 21799), (258, 21802), (300, 21991), (307, 22018), (308, 22027), (311, 22048), (312, 22051), (315, 22072), (318, 22087), (321, 22111), (334, 22186), (337, 22201), (351, 22285), (369, 22390), (371, 22396), (378, 22450), (395, 22549),

Gene: JoshKayV\_30 Start: 20603, Stop: 22375, Start Num: 48

Candidate Starts for JoshKayV\_30:

(Start: 39 @20579 has 8 MA's), (Start: 48 @20603 has 538 MA's), (84, 20702), (98, 20786), (107, 20837), (108, 20840), (119, 20912), (120, 20915), (130, 20969), (134, 21008), (144, 21086), (161, 21173), (181, 21254), (183, 21257), (230, 21530), (254, 21635), (258, 21650), (283, 21776), (285, 21782), (305, 21830), (307, 21839), (310, 21860), (315, 21893), (318, 21908), (319, 21914), (329, 21968), (334, 22007), (337, 22022), (351, 22106), (371, 22217),

Gene: Journey13\_26 Start: 19324, Stop: 21123, Start Num: 48

Candidate Starts for Journey13\_26:

(30, 19258), (Start: 39 @19300 has 8 MA's), (Start: 48 @19324 has 538 MA's), (84, 19423), (90, 19462), (107, 19558), (108, 19561), (119, 19633), (120, 19636), (123, 19651), (130, 19690), (131, 19696), (144, 19807), (146, 19813), (150, 19825), (161, 19894), (175, 19951), (181, 19975), (183, 19978), (204, 20104), (212, 20140), (239, 20290), (254, 20356), (258, 20371), (282, 20494), (300, 20560), (307, 20587), (310, 20608), (311, 20617), (315, 20641), (318, 20656), (321, 20680), (334, 20755), (337, 20770), (369, 20959), (371, 20965), (377, 21010),

Gene: Jovo\_24 Start: 19845, Stop: 21644, Start Num: 48

Candidate Starts for Jovo\_24:

(Start: 48 @19845 has 538 MA's), (90, 19983), (108, 20082), (120, 20157), (129, 20208), (137, 20280), (139, 20295), (144, 20328), (146, 20334), (165, 20427), (187, 20529), (192, 20559), (194, 20565), (211, 20655), (215, 20685), (226, 20757), (229, 20769), (230, 20772), (239, 20811), (243, 20829), (257, 20889), (258, 20892), (270, 20943), (277, 20985), (309, 21126), (317, 21168), (371, 21486), (391, 21621),

Gene: Jsquared\_27 Start: 19089, Stop: 20879, Start Num: 48

Candidate Starts for Jsquared\_27:

(30, 19023), (Start: 39 @19065 has 8 MA's), (Start: 48 @19089 has 538 MA's), (90, 19227), (94, 19242), (107, 19323), (108, 19326), (119, 19398), (120, 19401), (130, 19455), (131, 19461), (133, 19479), (139, 19539), (144, 19572), (146, 19578), (155, 19617), (161, 19659), (181, 19740), (183, 19743), (192, 19803), (211, 19899), (215, 19929), (229, 20013), (239, 20055), (252, 20106), (258, 20136), (283, 20262), (303, 20325), (315, 20397), (318, 20412), (321, 20436), (334, 20511), (337, 20526), (351, 20610), (369, 20715), (371, 20721), (374, 20739), (377, 20766), (378, 20775),

Gene: JuliaChild\_29 Start: 21585, Stop: 23387, Start Num: 50

Candidate Starts for JuliaChild\_29:

(Start: 50 @21585 has 210 MA's), (Start: 59 @21606 has 4 MA's), (Start: 70 @21648 has 1 MA's), (83, 21693), (120, 21909), (127, 21954), (130, 21963), (134, 22002), (140, 22053), (141, 22056), (183, 22251), (195, 22320), (229, 22521), (230, 22524), (234, 22545), (257, 22641), (258, 22644), (260, 22650), (274, 22719), (277, 22737), (279, 22746), (285, 22776), (310, 22872), (315, 22905), (318, 22920), (342, 23061), (351, 23118), (371, 23229),

Gene: KADY\_30 Start: 20463, Stop: 22259, Start Num: 48

Candidate Starts for KADY\_30:

(Start: 48 @20463 has 538 MA's), (Start: 70 @20520 has 1 MA's), (74, 20535), (84, 20568), (86, 20589), (89, 20604), (105, 20691), (107, 20703), (108, 20706), (120, 20781), (123, 20796), (129, 20832), (161, 21039), (187, 21153), (195, 21192), (211, 21279), (229, 21393), (234, 21417), (239, 21435), (258, 21516), (274, 21591), (277, 21609), (283, 21642), (285, 21648), (295, 21687), (309, 21741), (310, 21744), (314, 21765), (322, 21822), (351, 21990), (369, 22095), (371, 22101), (391, 22236),

Gene: KBG\_28 Start: 21996, Stop: 23798, Start Num: 50

Candidate Starts for KBG\_28:

(Start: 50 @21996 has 210 MA's), (Start: 59 @22017 has 4 MA's), (Start: 70 @22059 has 1 MA's), (83, 22104), (120, 22320), (127, 22365), (130, 22374), (140, 22464), (141, 22467), (183, 22662), (195, 22731), (226, 22920), (229, 22932), (230, 22935), (234, 22956), (257, 23052), (258, 23055), (260, 23061), (274, 23130), (277, 23148), (279, 23157), (285, 23187), (310, 23283), (315, 23316), (318, 23331), (342, 23472), (351, 23529), (371, 23640), (395, 23793),

Gene: KFPoly\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for KFPoly\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (384, 21549), (388, 21564), (391, 21582),

Gene: KSSJEB\_27 Start: 20890, Stop: 22692, Start Num: 50

Candidate Starts for KSSJEB\_27:

(Start: 50 @20890 has 210 MA's), (Start: 59 @20911 has 4 MA's), (Start: 70 @20953 has 1 MA's), (83, 20998), (120, 21214), (127, 21259), (130, 21268), (134, 21307), (140, 21358), (141, 21361), (183, 21556), (195, 21625), (229, 21826), (230, 21829), (234, 21850), (257, 21946), (258, 21949), (260, 21955), (274, 22024), (277, 22042), (279, 22051), (285, 22081), (310, 22177), (315, 22210), (318, 22225), (342, 22366), (351, 22423), (371, 22534),

Gene: Kachowdy\_27 Start: 19960, Stop: 21759, Start Num: 48

Candidate Starts for Kachowdy\_27:

(Start: 48 @19960 has 538 MA's), (Start: 70 @20020 has 1 MA's), (86, 20089), (105, 20191), (107, 20203), (108, 20206), (120, 20281), (123, 20296), (124, 20299), (130, 20335), (150, 20470), (161, 20539), (187, 20653), (211, 20779), (229, 20893), (234, 20917), (237, 20929), (239, 20935), (258, 21016), (274, 21091), (277, 21109), (279, 21118), (283, 21142), (285, 21148), (288, 21163), (303, 21205), (308, 21232), (309, 21241), (310, 21244), (314, 21265), (315, 21277), (351, 21490), (369, 21595), (371, 21601), (391, 21736),

Gene: Kalb97\_30 Start: 20459, Stop: 22255, Start Num: 48

Candidate Starts for Kalb97\_30:

(Start: 48 @20459 has 538 MA's), (Start: 70 @20516 has 1 MA's), (74, 20531), (86, 20585), (89, 20600), (105, 20687), (107, 20699), (108, 20702), (120, 20777), (123, 20792), (161, 21035), (195, 21188), (211, 21275), (225, 21368), (229, 21389), (234, 21413), (237, 21425), (239, 21431), (258, 21512), (274, 21587), (277, 21605), (279, 21614), (283, 21638), (285, 21644), (288, 21659), (295, 21683), (309, 21737), (310, 21740), (314, 21761), (369, 22091), (371, 22097), (391, 22232),

Gene: Kalnoky\_30 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Kalnoky\_30:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (351, 21987), (369, 22092), (371, 22098), (391, 22233),

Gene: Kalpine\_31 Start: 21962, Stop: 23758, Start Num: 39

Candidate Starts for Kalpine\_31:

(Start: 39 @21962 has 8 MA's), (Start: 48 @21986 has 538 MA's), (107, 22220), (108, 22223), (119, 22295), (120, 22298), (130, 22352), (131, 22358), (134, 22391), (144, 22469), (161, 22556), (181, 22637), (183, 22640), (187, 22670), (229, 22910), (230, 22913), (239, 22952), (254, 23018), (258, 23033), (285, 23165), (305, 23213), (310, 23243), (315, 23276), (318, 23291), (319, 23297), (329, 23351), (337, 23405), (351, 23489), (362, 23555), (365, 23567), (369, 23594), (371, 23600),

Gene: Kamaru\_20 Start: 16421, Stop: 18118, Start Num: 47

Candidate Starts for Kamaru\_20:

(35, 16382), (Start: 47 @16421 has 34 MA's), (53, 16433), (66, 16472), (77, 16511), (84, 16532), (92, 16580), (95, 16589), (101, 16631), (107, 16667), (116, 16724), (123, 16772), (126, 16799), (148, 16940), (158, 16997), (161, 17015), (165, 17024), (167, 17030), (177, 17078), (184, 17108), (189, 17144), (191, 17150), (194, 17171), (195, 17174), (203, 17225), (216, 17252), (217, 17255), (221, 17282), (224, 17309), (241, 17381), (250, 17420), (265, 17474), (273, 17516), (290, 17591), (311, 17654), (316, 17681), (317, 17684), (322, 17699), (339, 17783), (341, 17792), (342, 17795), (344, 17801), (346, 17813), (347, 17816), (350, 17846), (351, 17852), (356, 17873), (357, 17876), (365, 17930), (371, 17960), (372, 17969), (379, 18020), (382, 18053), (385, 18065), (389, 18083),

Gene: Kamashten\_34 Start: 30813, Stop: 32576, Start Num: 32

Candidate Starts for Kamashten\_34:

(29, 30795), (Start: 32 @30813 has 74 MA's), (Start: 37 @30849 has 5 MA's), (84, 30987), (100, 31083), (103, 31092), (112, 31161), (120, 31212), (127, 31257), (131, 31272), (140, 31353), (150, 31398), (152, 31407), (158, 31446), (171, 31497), (172, 31500), (177, 31527), (181, 31542), (185, 31566), (190, 31596), (218, 31701), (239, 31818), (244, 31836), (247, 31851), (254, 31881), (257, 31893), (258, 31896), (264, 31923), (342, 32247), (343, 32250), (350, 32298), (356, 32325), (360, 32352), (369, 32406), (375, 32433), (393, 32562),

Gene: Kampy\_27 Start: 19825, Stop: 21603, Start Num: 48

Candidate Starts for Kampy\_27:

(Start: 39 @19801 has 8 MA's), (Start: 48 @19825 has 538 MA's), (Start: 70 @19882 has 1 MA's), (85, 19936), (86, 19951), (90, 19969), (105, 20053), (107, 20065), (108, 20068), (120, 20143), (123, 20158), (130, 20197), (144, 20314), (161, 20401), (181, 20482), (191, 20530), (195, 20554), (211, 20641), (219, 20686), (230, 20758), (234, 20779), (239, 20797), (258, 20878), (277, 20971), (279, 20980), (283, 21004), (285, 21010), (291, 21034), (310, 21088), (314, 21109), (321, 21160), (326, 21184), (335, 21238), (351, 21334), (369, 21439), (372, 21454), (388, 21562), (391, 21580),

Gene: Kanely\_28 Start: 21700, Stop: 23502, Start Num: 50

Candidate Starts for Kanely\_28:

(Start: 50 @21700 has 210 MA's), (Start: 59 @21721 has 4 MA's), (Start: 70 @21763 has 1 MA's), (83, 21808), (120, 22024), (127, 22069), (130, 22078), (134, 22117), (140, 22168), (141, 22171), (183, 22366), (195, 22435), (229, 22636), (230, 22639), (234, 22660), (257, 22756), (258, 22759), (260, 22765), (274, 22834), (277, 22852), (279, 22861), (285, 22891), (310, 22987), (315, 23020), (318, 23035), (342, 23176), (351, 23233), (371, 23344),

Gene: Katalie136\_27 Start: 19826, Stop: 21625, Start Num: 48

Candidate Starts for Katalie136\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19886 has 1 MA's), (86, 19955), (101, 20033), (105, 20057), (107, 20069), (108, 20072), (115, 20108), (120, 20147), (130, 20201), (141, 20294), (144, 20318), (161, 20405), (187, 20519), (195, 20558), (211, 20645), (219, 20690), (229, 20759), (234, 20783), (237, 20795), (258, 20882), (274, 20957), (277, 20975), (279, 20984), (283, 21008), (285, 21014), (288, 21029), (300, 21062), (309, 21107), (310, 21110), (314, 21131), (351, 21356), (365, 21434), (369, 21461), (371, 21467), (391, 21602),

Gene: KatherineG\_30 Start: 19215, Stop: 21002, Start Num: 48

Candidate Starts for KatherineG\_30:

(30, 19149), (Start: 39 @19191 has 8 MA's), (Start: 48 @19215 has 538 MA's), (90, 19353), (100, 19410), (108, 19452), (115, 19488), (120, 19527), (132, 19596), (134, 19620), (141, 19674), (172, 19824), (183, 19869), (187, 19899), (194, 19935), (202, 19986), (210, 20022), (219, 20070), (227, 20130), (257, 20259), (274, 20337), (318, 20538), (319, 20544), (335, 20640), (363, 20805), (379, 20904),

Gene: Kazan\_31 Start: 19982, Stop: 21754, Start Num: 48

Candidate Starts for Kazan\_31:

(30, 19916), (Start: 39 @19958 has 8 MA's), (Start: 48 @19982 has 538 MA's), (101, 20180), (108, 20219), (119, 20291), (120, 20294), (124, 20312), (130, 20348), (131, 20354), (144, 20465), (146, 20471), (155, 20510), (161, 20552), (172, 20591), (181, 20633), (183, 20636), (192, 20696), (235, 20933), (239, 20948), (258, 21029), (285, 21161), (318, 21287), (327, 21338), (329, 21347), (334, 21386), (335, 21389), (337, 21401), (351, 21485), (369, 21590), (371, 21596), (391, 21731),

Gene: Keelan\_51 Start: 27923, Stop: 29611, Start Num: 42

Candidate Starts for Keelan\_51:

(Start: 42 @27923 has 6 MA's), (84, 28037), (115, 28223), (123, 28277), (144, 28433), (166, 28535), (177, 28583), (187, 28640), (226, 28817), (240, 28874), (242, 28883), (257, 28946), (277, 29042), (279, 29051), (302, 29108), (318, 29183), (324, 29198), (341, 29282), (356, 29363), (357, 29366), (359, 29381), (371, 29450), (390, 29579),

Gene: Keitabear\_35 Start: 32178, Stop: 33941, Start Num: 32

Candidate Starts for Keitabear\_35:

(29, 32160), (Start: 32 @32178 has 74 MA's), (Start: 37 @32214 has 5 MA's), (84, 32352), (100, 32448), (103, 32457), (112, 32526), (120, 32577), (127, 32622), (131, 32637), (140, 32718), (150, 32763), (152, 32772), (171, 32862), (177, 32892), (181, 32907), (185, 32931), (190, 32961), (218, 33066), (239, 33183), (244, 33201), (247, 33216), (257, 33258), (258, 33261), (264, 33288), (339, 33600), (342, 33612), (343, 33615), (350, 33663), (356, 33690), (360, 33717), (369, 33771), (385, 33888), (395, 33936),

Gene: Kenmech\_30 Start: 22406, Stop: 24208, Start Num: 50

Candidate Starts for Kenmech\_30:

(Start: 50 @22406 has 210 MA's), (Start: 59 @22427 has 4 MA's), (Start: 70 @22469 has 1 MA's), (83, 22514), (120, 22730), (127, 22775), (130, 22784), (134, 22823), (140, 22874), (141, 22877), (183, 23072), (195, 23141), (229, 23342), (230, 23345), (234, 23366), (257, 23462), (258, 23465), (260, 23471), (274, 23540), (277, 23558), (279, 23567), (285, 23597), (310, 23693), (315, 23726), (318,

23741), (342, 23882), (351, 23939), (371, 24050),

Gene: Kenna\_19 Start: 16428, Stop: 18125, Start Num: 47

Candidate Starts for Kenna\_19:

(35, 16389), (Start: 47 @16428 has 34 MA's), (53, 16440), (66, 16479), (77, 16518), (84, 16539), (92, 16587), (95, 16596), (101, 16638), (107, 16674), (116, 16731), (123, 16779), (126, 16806), (148, 16947), (158, 17004), (161, 17022), (165, 17031), (167, 17037), (184, 17115), (189, 17151), (191, 17157), (194, 17178), (195, 17181), (203, 17232), (216, 17259), (217, 17262), (221, 17289), (224, 17316), (241, 17388), (250, 17427), (265, 17481), (273, 17523), (290, 17598), (311, 17661), (316, 17688), (317, 17691), (322, 17706), (339, 17790), (341, 17799), (342, 17802), (344, 17808), (346, 17820), (347, 17823), (350, 17853), (351, 17859), (356, 17880), (357, 17883), (365, 17937), (371, 17967), (372, 17976), (379, 18027), (382, 18060), (385, 18072), (389, 18090),

Gene: Kerberos\_31 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for Kerberos\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (94, 20202), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: Kewpiedoll\_34 Start: 30220, Stop: 31983, Start Num: 32

Candidate Starts for Kewpiedoll\_34:

(29, 30202), (Start: 32 @30220 has 74 MA's), (Start: 37 @30256 has 5 MA's), (84, 30394), (100, 30490), (103, 30499), (112, 30568), (120, 30619), (127, 30664), (131, 30679), (140, 30760), (150, 30805), (152, 30814), (171, 30904), (177, 30934), (181, 30949), (185, 30973), (190, 31003), (218, 31108), (239, 31225), (244, 31243), (247, 31258), (254, 31288), (257, 31300), (258, 31303), (264, 31330), (342, 31654), (343, 31657), (350, 31705), (356, 31732), (360, 31759), (369, 31813), (375, 31840), (393, 31969),

Gene: Keziacharles14\_28 Start: 19842, Stop: 21632, Start Num: 48

Candidate Starts for Keziacharles14\_28:

(Start: 46 @19839 has 8 MA's), (Start: 48 @19842 has 538 MA's), (95, 19998), (108, 20079), (119, 20151), (120, 20154), (123, 20169), (130, 20208), (131, 20214), (135, 20265), (139, 20292), (140, 20298), (144, 20325), (146, 20331), (157, 20379), (161, 20412), (181, 20493), (183, 20496), (192, 20556), (215, 20682), (225, 20745), (252, 20859), (258, 20889), (263, 20907), (300, 21069), (310, 21117), (315, 21150), (318, 21165), (321, 21189), (334, 21264), (337, 21279), (351, 21363), (366, 21444), (369, 21468), (377, 21519), (384, 21576),

Gene: Killigrew\_25 Start: 20612, Stop: 22414, Start Num: 50

Candidate Starts for Killigrew\_25:

(Start: 50 @20612 has 210 MA's), (Start: 59 @20633 has 4 MA's), (Start: 70 @20675 has 1 MA's), (83, 20720), (120, 20936), (127, 20981), (130, 20990), (140, 21080), (141, 21083), (183, 21278), (195, 21347), (229, 21548), (230, 21551), (234, 21572), (257, 21668), (258, 21671), (260, 21677), (274, 21746), (277, 21764), (279, 21773), (285, 21803), (310, 21899), (315, 21932), (318, 21947), (342, 22088), (351, 22145), (371, 22256), (395, 22409),

Gene: KimmyK\_33 Start: 26575, Stop: 28341, Start Num: 32

Candidate Starts for KimmyK\_33:

(26, 26533), (Start: 32 @26575 has 74 MA's), (Start: 37 @26611 has 5 MA's), (Start: 51 @26644 has 7 MA's), (102, 26854), (103, 26857), (107, 26887), (117, 26953), (120, 26977), (121, 26986), (126, 27019), (152, 27172), (158, 27211), (171, 27262), (173, 27274), (177, 27292), (180, 27304), (182,

27316), (185, 27331), (190, 27361), (191, 27364), (194, 27385), (216, 27457), (222, 27505), (247, 27616), (255, 27649), (264, 27688), (265, 27691), (279, 27763), (296, 27829), (304, 27841), (342, 28012), (343, 28015), (350, 28063), (356, 28090), (360, 28117), (369, 28171), (385, 28288), (390, 28309), (395, 28336),

Gene: Kimona\_24 Start: 17863, Stop: 19656, Start Num: 48

Candidate Starts for Kimona\_24:

(Start: 48 @17863 has 538 MA's), (61, 17884), (86, 17986), (87, 17989), (90, 18004), (107, 18100), (108, 18103), (120, 18178), (123, 18193), (130, 18232), (140, 18322), (150, 18367), (161, 18436), (183, 18520), (187, 18550), (192, 18580), (194, 18586), (198, 18604), (211, 18676), (219, 18721), (229, 18790), (234, 18814), (237, 18826), (239, 18832), (258, 18913), (277, 19006), (279, 19015), (285, 19045), (288, 19060), (309, 19138), (310, 19141), (314, 19162), (340, 19324), (351, 19387), (368, 19489), (371, 19498), (382, 19591), (386, 19609), (395, 19651),

Gene: KingCyrus\_30 Start: 20600, Stop: 22372, Start Num: 48

Candidate Starts for KingCyrus\_30:

(Start: 39 @20576 has 8 MA's), (Start: 48 @20600 has 538 MA's), (84, 20699), (98, 20783), (107, 20834), (108, 20837), (119, 20909), (120, 20912), (130, 20966), (134, 21005), (139, 21050), (144, 21083), (161, 21170), (181, 21251), (183, 21254), (230, 21527), (254, 21632), (258, 21647), (283, 21773), (285, 21779), (305, 21827), (307, 21836), (310, 21857), (315, 21890), (318, 21905), (319, 21911), (329, 21965), (334, 22004), (337, 22019), (351, 22103), (371, 22214),

Gene: Kingmustik0402\_27 Start: 19819, Stop: 21597, Start Num: 48

Candidate Starts for Kingmustik0402\_27:

(Start: 39 @19795 has 8 MA's), (Start: 48 @19819 has 538 MA's), (Start: 70 @19876 has 1 MA's), (85, 19930), (86, 19945), (90, 19963), (105, 20047), (107, 20059), (108, 20062), (120, 20137), (123, 20152), (130, 20191), (144, 20308), (161, 20395), (181, 20476), (191, 20524), (195, 20548), (211, 20635), (219, 20680), (230, 20752), (234, 20773), (239, 20791), (258, 20872), (277, 20965), (279, 20974), (283, 20998), (285, 21004), (291, 21028), (310, 21082), (314, 21103), (321, 21154), (326, 21178), (335, 21232), (351, 21328), (369, 21433), (372, 21448), (388, 21556), (391, 21574),

Gene: Kinmap\_29 Start: 19779, Stop: 21569, Start Num: 48

Candidate Starts for Kinmap\_29:

(Start: 48 @19779 has 538 MA's), (107, 20013), (108, 20016), (119, 20088), (120, 20091), (130, 20145), (161, 20349), (181, 20430), (195, 20502), (211, 20589), (230, 20706), (237, 20739), (258, 20826), (308, 21042), (310, 21054), (318, 21102), (334, 21201), (351, 21300), (365, 21378), (371, 21411), (374, 21429), (378, 21465), (391, 21546),

Gene: Kipper29\_31 Start: 19976, Stop: 21748, Start Num: 48

Candidate Starts for Kipper29\_31:

(30, 19910), (Start: 39 @19952 has 8 MA's), (Start: 48 @19976 has 538 MA's), (101, 20174), (108, 20213), (119, 20285), (120, 20288), (124, 20306), (130, 20342), (131, 20348), (144, 20459), (146, 20465), (155, 20504), (161, 20546), (172, 20585), (181, 20627), (183, 20630), (192, 20690), (235, 20927), (239, 20942), (258, 21023), (285, 21155), (318, 21281), (327, 21332), (329, 21341), (334, 21380), (335, 21383), (337, 21395), (351, 21479), (369, 21584), (371, 21590), (391, 21725),

Gene: KittenMittens\_26 Start: 17889, Stop: 19667, Start Num: 48

Candidate Starts for KittenMittens\_26:

(Start: 39 @17865 has 8 MA's), (Start: 48 @17889 has 538 MA's), (Start: 70 @17946 has 1 MA's), (74, 17961), (86, 18015), (107, 18129), (108, 18132), (120, 18207), (125, 18246), (144, 18378), (161, 18465), (179, 18540), (187, 18579), (195, 18618), (211, 18705), (219, 18750), (229, 18819), (234, 18843), (237, 18855), (239, 18861), (277, 19035), (279, 19044), (283, 19068), (285, 19074), (288, 19089), (305, 19122), (314, 19173), (322, 19230), (323, 19236), (351, 19398), (369, 19503), (371,

19509), (372, 19518), (391, 19644),

Gene: Koan\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Koan\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Koduck\_28 Start: 19329, Stop: 21119, Start Num: 48

Candidate Starts for Koduck\_28:

(30, 19263), (Start: 39 @19305 has 8 MA's), (Start: 48 @19329 has 538 MA's), (71, 19383), (94, 19482), (101, 19527), (107, 19563), (108, 19566), (119, 19638), (120, 19641), (130, 19695), (131, 19701), (139, 19779), (144, 19812), (146, 19818), (155, 19857), (161, 19899), (181, 19980), (183, 19983), (215, 20169), (229, 20253), (239, 20295), (252, 20346), (258, 20376), (283, 20502), (311, 20613), (312, 20616), (315, 20637), (318, 20652), (321, 20676), (334, 20751), (337, 20766), (351, 20850), (369, 20955), (371, 20961), (374, 20979), (377, 21006), (378, 21015),

Gene: Koko\_31 Start: 20314, Stop: 22086, Start Num: 48

Candidate Starts for Koko\_31:

(30, 20248), (Start: 39 @20290 has 8 MA's), (Start: 48 @20314 has 538 MA's), (108, 20551), (119, 20623), (120, 20626), (123, 20641), (130, 20680), (131, 20686), (144, 20797), (146, 20803), (155, 20842), (161, 20884), (172, 20923), (181, 20965), (183, 20968), (211, 21124), (235, 21265), (239, 21280), (285, 21493), (314, 21592), (318, 21619), (327, 21670), (329, 21679), (334, 21718), (337, 21733), (351, 21817), (369, 21922), (371, 21928), (391, 22063),

Gene: Koreni\_26 Start: 19473, Stop: 21251, Start Num: 48

Candidate Starts for Koreni\_26:

(Start: 39 @19449 has 8 MA's), (Start: 48 @19473 has 538 MA's), (Start: 70 @19530 has 1 MA's), (85, 19584), (86, 19599), (90, 19617), (105, 19701), (107, 19713), (108, 19716), (120, 19791), (123, 19806), (130, 19845), (144, 19962), (161, 20049), (181, 20130), (191, 20178), (195, 20202), (211, 20289), (219, 20334), (230, 20406), (234, 20427), (239, 20445), (258, 20526), (277, 20619), (279, 20628), (283, 20652), (285, 20658), (291, 20682), (310, 20736), (314, 20757), (321, 20808), (326, 20832), (335, 20886), (351, 20982), (369, 21087), (372, 21102), (388, 21210), (391, 21228),

Gene: Kratak\_27 Start: 19822, Stop: 21600, Start Num: 48

Candidate Starts for Kratak\_27:

(Start: 39 @19798 has 8 MA's), (Start: 48 @19822 has 538 MA's), (Start: 70 @19879 has 1 MA's), (85, 19933), (86, 19948), (90, 19966), (105, 20050), (107, 20062), (108, 20065), (120, 20140), (123, 20155), (130, 20194), (144, 20311), (161, 20398), (181, 20479), (191, 20527), (195, 20551), (211, 20638), (219, 20683), (230, 20755), (234, 20776), (239, 20794), (258, 20875), (277, 20968), (279, 20977), (283, 21001), (285, 21007), (291, 21031), (310, 21085), (314, 21106), (321, 21157), (326, 21181), (351, 21331), (369, 21436), (372, 21451), (388, 21559), (391, 21577),

Gene: Kremtemulon\_27 Start: 19875, Stop: 21653, Start Num: 48

Candidate Starts for Kremtemulon\_27:

(Start: 39 @19851 has 8 MA's), (Start: 48 @19875 has 538 MA's), (Start: 70 @19932 has 1 MA's), (85, 19986), (86, 20001), (90, 20019), (105, 20103), (107, 20115), (108, 20118), (120, 20193), (123, 20208), (130, 20247), (144, 20364), (161, 20451), (181, 20532), (191, 20580), (195, 20604), (211, 20691), (219, 20736), (230, 20808), (234, 20829), (239, 20847), (258, 20928), (277, 21021), (279, 21030), (283, 21054), (285, 21060), (291, 21084), (310, 21138), (314, 21159), (321, 21210), (326,



21234), (335, 21288), (351, 21384), (369, 21489), (372, 21504), (388, 21612), (391, 21630),

Gene: Krishelle\_23 Start: 16620, Stop: 18245, Start Num: 62

Candidate Starts for Krishelle\_23:

(Start: 56 @16605 has 3 MA's), (Start: 62 @16620 has 32 MA's), (73, 16662), (81, 16689), (88, 16725), (111, 16866), (120, 16911), (138, 17040), (144, 17082), (150, 17100), (152, 17109), (Start: 156 @17133 has 1 MA's), (158, 17151), (167, 17181), (170, 17196), (171, 17199), (179, 17238), (183, 17247), (198, 17331), (215, 17385), (219, 17400), (225, 17448), (230, 17472), (257, 17586), (274, 17664), (280, 17703), (283, 17715), (286, 17724), (305, 17745), (318, 17823), (349, 17970), (367, 18069), (369, 18084), (394, 18237),

Gene: Kristoff\_28 Start: 19986, Stop: 21764, Start Num: 48

Candidate Starts for Kristoff\_28:

(Start: 48 @19986 has 538 MA's), (Start: 70 @20043 has 1 MA's), (74, 20058), (84, 20091), (86, 20112), (105, 20214), (107, 20226), (108, 20229), (120, 20304), (123, 20319), (130, 20358), (144, 20475), (150, 20493), (161, 20562), (179, 20637), (187, 20676), (195, 20715), (211, 20802), (219, 20847), (225, 20895), (229, 20916), (234, 20940), (237, 20952), (239, 20958), (258, 21039), (277, 21132), (279, 21141), (283, 21165), (285, 21171), (288, 21186), (305, 21219), (314, 21270), (317, 21288), (342, 21438), (351, 21495), (357, 21519), (358, 21525), (369, 21600), (371, 21606), (372, 21615), (379, 21666), (391, 21741),

Gene: Kroos\_35 Start: 30392, Stop: 32155, Start Num: 32

Candidate Starts for Kroos\_35:

(Start: 32 @30392 has 74 MA's), (Start: 37 @30428 has 5 MA's), (81, 30557), (84, 30566), (87, 30590), (100, 30662), (103, 30671), (112, 30740), (120, 30791), (127, 30836), (131, 30851), (133, 30869), (140, 30932), (150, 30977), (152, 30986), (177, 31106), (181, 31121), (182, 31130), (185, 31145), (190, 31175), (239, 31397), (244, 31415), (247, 31430), (257, 31472), (258, 31475), (264, 31502), (289, 31622), (317, 31715), (342, 31826), (343, 31829), (350, 31877), (356, 31904), (360, 31931), (369, 31985),

Gene: Kugel\_28 Start: 21273, Stop: 23075, Start Num: 50

Candidate Starts for Kugel\_28:

(Start: 50 @21273 has 210 MA's), (Start: 59 @21294 has 4 MA's), (Start: 70 @21336 has 1 MA's), (83, 21381), (120, 21597), (127, 21642), (130, 21651), (134, 21690), (140, 21741), (141, 21744), (183, 21939), (195, 22008), (229, 22209), (230, 22212), (234, 22233), (257, 22329), (258, 22332), (260, 22338), (274, 22407), (277, 22425), (279, 22434), (285, 22464), (310, 22560), (315, 22593), (318, 22608), (342, 22749), (351, 22806), (371, 22917),

Gene: Kwobi\_35 Start: 30378, Stop: 32141, Start Num: 32

Candidate Starts for Kwobi\_35:

(Start: 32 @30378 has 74 MA's), (Start: 37 @30414 has 5 MA's), (81, 30543), (84, 30552), (87, 30576), (100, 30648), (103, 30657), (112, 30726), (120, 30777), (127, 30822), (131, 30837), (133, 30855), (140, 30918), (150, 30963), (152, 30972), (177, 31092), (181, 31107), (182, 31116), (185, 31131), (190, 31161), (239, 31383), (244, 31401), (247, 31416), (257, 31458), (258, 31461), (264, 31488), (289, 31608), (317, 31701), (342, 31812), (343, 31815), (350, 31863), (356, 31890), (360, 31917), (369, 31971),

Gene: KyMonks1A\_29 Start: 21439, Stop: 23241, Start Num: 50

Candidate Starts for KyMonks1A\_29:

(Start: 50 @21439 has 210 MA's), (Start: 59 @21460 has 4 MA's), (Start: 70 @21502 has 1 MA's), (83, 21547), (120, 21763), (127, 21808), (130, 21817), (134, 21856), (140, 21907), (141, 21910), (183, 22105), (195, 22174), (229, 22375), (230, 22378), (234, 22399), (257, 22495), (258, 22498), (260, 22504), (274, 22573), (277, 22591), (279, 22600), (285, 22630), (310, 22726), (315, 22759), (318,

22774), (342, 22915), (351, 22972), (371, 23083),

Gene: Kyee\_27 Start: 19828, Stop: 21606, Start Num: 48

Candidate Starts for Kyee\_27:

(Start: 39 @19804 has 8 MA's), (Start: 48 @19828 has 538 MA's), (Start: 70 @19885 has 1 MA's), (85, 19939), (86, 19954), (90, 19972), (105, 20056), (107, 20068), (108, 20071), (120, 20146), (123, 20161), (130, 20200), (144, 20317), (161, 20404), (181, 20485), (191, 20533), (195, 20557), (211, 20644), (219, 20689), (230, 20761), (234, 20782), (239, 20800), (258, 20881), (277, 20974), (279, 20983), (283, 21007), (285, 21013), (291, 21037), (310, 21091), (314, 21112), (321, 21163), (326, 21187), (351, 21337), (369, 21442), (372, 21457), (388, 21565), (391, 21583),

Gene: Kykar\_25 Start: 20786, Stop: 22588, Start Num: 50

Candidate Starts for Kykar\_25:

(Start: 50 @20786 has 210 MA's), (Start: 59 @20807 has 4 MA's), (Start: 70 @20849 has 1 MA's), (83, 20894), (120, 21110), (127, 21155), (130, 21164), (134, 21203), (140, 21254), (141, 21257), (183, 21452), (195, 21521), (229, 21722), (230, 21725), (234, 21746), (257, 21842), (258, 21845), (260, 21851), (274, 21920), (277, 21938), (279, 21947), (285, 21977), (310, 22073), (315, 22106), (318, 22121), (342, 22262), (351, 22319), (371, 22430), (395, 22583),

Gene: L5\_28 Start: 19340, Stop: 21130, Start Num: 48

Candidate Starts for L5\_28:

(30, 19274), (Start: 39 @19316 has 8 MA's), (Start: 48 @19340 has 538 MA's), (71, 19394), (94, 19493), (101, 19538), (107, 19574), (108, 19577), (119, 19649), (120, 19652), (130, 19706), (131, 19712), (139, 19790), (144, 19823), (146, 19829), (155, 19868), (161, 19910), (181, 19991), (183, 19994), (215, 20180), (229, 20264), (239, 20306), (252, 20357), (258, 20387), (283, 20513), (311, 20624), (312, 20627), (315, 20648), (318, 20663), (321, 20687), (334, 20762), (337, 20777), (351, 20861), (369, 20966), (371, 20972), (374, 20990), (377, 21017), (378, 21026),

Gene: LBerry\_29 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for LBerry\_29:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: LHTSCC\_28 Start: 20138, Stop: 21919, Start Num: 48

Candidate Starts for LHTSCC\_28:

(Start: 39 @20114 has 8 MA's), (Start: 48 @20138 has 538 MA's), (Start: 52 @20144 has 3 MA's), (Start: 70 @20198 has 1 MA's), (74, 20213), (86, 20267), (90, 20285), (105, 20369), (107, 20381), (108, 20384), (120, 20459), (123, 20474), (130, 20513), (144, 20630), (161, 20717), (181, 20798), (191, 20846), (195, 20870), (211, 20957), (219, 21002), (230, 21074), (234, 21095), (239, 21113), (258, 21194), (274, 21269), (277, 21287), (279, 21296), (283, 21320), (285, 21326), (291, 21350), (308, 21392), (310, 21404), (314, 21425), (321, 21476), (326, 21500), (335, 21554), (351, 21650), (369, 21755), (372, 21770), (388, 21878), (391, 21896),

Gene: LadyBird\_28 Start: 20171, Stop: 21943, Start Num: 48

Candidate Starts for LadyBird\_28:

(Start: 39 @20147 has 8 MA's), (Start: 48 @20171 has 538 MA's), (84, 20270), (107, 20405), (108, 20408), (119, 20480), (120, 20483), (130, 20537), (131, 20543), (134, 20576), (144, 20654), (161, 20741), (181, 20822), (183, 20825), (230, 21098), (254, 21203), (258, 21218), (283, 21344), (285, 21350), (305, 21398), (315, 21461), (318, 21476), (319, 21482), (323, 21512), (329, 21536), (334,

21575), (337, 21590), (351, 21674),

Gene: Lambert1\_28 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for Lambert1\_28:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Lamina13\_27 Start: 20710, Stop: 22512, Start Num: 50

Candidate Starts for Lamina13\_27:

(Start: 50 @20710 has 210 MA's), (Start: 59 @20731 has 4 MA's), (Start: 70 @20773 has 1 MA's), (83, 20818), (120, 21034), (127, 21079), (130, 21088), (134, 21127), (140, 21178), (141, 21181), (158, 21274), (183, 21376), (195, 21445), (226, 21634), (229, 21646), (230, 21649), (234, 21670), (257, 21766), (258, 21769), (260, 21775), (274, 21844), (277, 21862), (279, 21871), (285, 21901), (310, 21997), (315, 22030), (318, 22045), (342, 22186), (351, 22243), (371, 22354),

Gene: Landor\_29 Start: 21788, Stop: 23560, Start Num: 48

Candidate Starts for Landor\_29:

(Start: 39 @21764 has 8 MA's), (Start: 48 @21788 has 538 MA's), (89, 21923), (94, 21941), (107, 22022), (108, 22025), (119, 22097), (120, 22100), (135, 22211), (139, 22238), (144, 22271), (155, 22316), (161, 22358), (183, 22442), (211, 22598), (216, 22631), (254, 22820), (258, 22835), (283, 22961), (285, 22967), (315, 23078), (318, 23093), (319, 23099), (329, 23153), (334, 23192), (337, 23207), (351, 23291), (369, 23396), (371, 23402), (374, 23420), (377, 23447),

Gene: LappelDuVide\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for LappelDuVide\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Larenn\_29 Start: 20468, Stop: 22240, Start Num: 48

Candidate Starts for Larenn\_29:

(Start: 39 @20444 has 8 MA's), (Start: 48 @20468 has 538 MA's), (89, 20603), (94, 20621), (107, 20702), (108, 20705), (111, 20735), (119, 20777), (120, 20780), (130, 20834), (131, 20840), (137, 20903), (139, 20918), (144, 20951), (153, 20984), (161, 21038), (181, 21119), (183, 21122), (187, 21152), (230, 21395), (254, 21500), (258, 21515), (285, 21647), (315, 21758), (318, 21773), (319, 21779), (329, 21833), (334, 21872), (337, 21887), (344, 21920), (371, 22082), (378, 22136),

Gene: LarryKay\_29 Start: 20465, Stop: 22261, Start Num: 48

Candidate Starts for LarryKay\_29:

(Start: 48 @20465 has 538 MA's), (Start: 70 @20522 has 1 MA's), (74, 20537), (84, 20570), (86, 20591), (89, 20606), (105, 20693), (107, 20705), (108, 20708), (120, 20783), (123, 20798), (129, 20834), (161, 21041), (187, 21155), (195, 21194), (211, 21281), (229, 21395), (234, 21419), (239, 21437), (258, 21518), (274, 21593), (277, 21611), (283, 21644), (285, 21650), (295, 21689), (309, 21743), (310, 21746), (314, 21767), (322, 21824), (351, 21992), (369, 22097), (371, 22103), (391, 22238),

Gene: LastResort\_30 Start: 19096, Stop: 20883, Start Num: 48

Candidate Starts for LastResort\_30:

(30, 19030), (Start: 39 @19072 has 8 MA's), (Start: 48 @19096 has 538 MA's), (90, 19234), (100, 19291), (108, 19333), (115, 19369), (120, 19408), (132, 19477), (134, 19501), (141, 19555), (172, 19705), (183, 19750), (187, 19780), (194, 19816), (202, 19867), (210, 19903), (219, 19951), (227, 20011), (257, 20140), (274, 20218), (318, 20419), (319, 20425), (335, 20521), (363, 20686), (379, 20785),

Gene: Lederberg\_17 Start: 16305, Stop: 18002, Start Num: 37

Candidate Starts for Lederberg\_17:

(Start: 37 @16305 has 5 MA's), (Start: 43 @16326 has 5 MA's), (73, 16410), (81, 16437), (83, 16443), (106, 16575), (116, 16626), (120, 16659), (121, 16668), (140, 16803), (146, 16836), (151, 16854), (159, 16908), (172, 16953), (185, 17010), (186, 17022), (193, 17061), (212, 17112), (214, 17121), (217, 17142), (226, 17208), (249, 17298), (272, 17406), (281, 17460), (283, 17466), (287, 17484), (319, 17580), (328, 17601), (336, 17646), (363, 17805), (367, 17820), (370, 17835), (372, 17847), (394, 17991),

Gene: Lemur\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Lemur\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Lennon\_35 Start: 31965, Stop: 33728, Start Num: 32

Candidate Starts for Lennon\_35:

(29, 31947), (Start: 32 @31965 has 74 MA's), (Start: 37 @32001 has 5 MA's), (84, 32139), (100, 32235), (103, 32244), (112, 32313), (120, 32364), (127, 32409), (131, 32424), (140, 32505), (150, 32550), (152, 32559), (171, 32649), (177, 32679), (181, 32694), (185, 32718), (190, 32748), (218, 32853), (239, 32970), (244, 32988), (247, 33003), (254, 33033), (257, 33045), (258, 33048), (264, 33075), (342, 33399), (343, 33402), (350, 33450), (356, 33477), (360, 33504), (369, 33558), (375, 33585), (395, 33723),

Gene: LeoAvram\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for LeoAvram\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (210, 20637), (211, 20640), (219, 20685), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Leogania\_30 Start: 22330, Stop: 24102, Start Num: 48

Candidate Starts for Leogania\_30:

(Start: 39 @22306 has 8 MA's), (Start: 48 @22330 has 538 MA's), (89, 22465), (94, 22483), (107, 22564), (108, 22567), (119, 22639), (120, 22642), (130, 22696), (144, 22813), (153, 22846), (161, 22900), (176, 22960), (181, 22981), (183, 22984), (215, 23170), (230, 23257), (239, 23296), (258, 23377), (283, 23503), (285, 23509), (291, 23533), (305, 23557), (315, 23620), (318, 23635), (319, 23641), (329, 23695), (334, 23734), (337, 23749), (366, 23914), (371, 23944),

Gene: Leroy\_20 Start: 16435, Stop: 18132, Start Num: 47

Candidate Starts for Leroy\_20:

(35, 16396), (Start: 47 @16435 has 34 MA's), (53, 16447), (55, 16450), (66, 16486), (77, 16525), (84, 16546), (91, 16588), (92, 16594), (93, 16597), (97, 16609), (101, 16645), (107, 16681), (116, 16738), (123, 16786), (126, 16813), (140, 16915), (148, 16954), (158, 17011), (161, 17029), (165, 17038), (167, 17044), (177, 17092), (184, 17122), (189, 17158), (191, 17164), (194, 17185), (195, 17188), (203, 17239), (216, 17266), (217, 17269), (221, 17296), (224, 17323), (241, 17395), (250, 17434), (265, 17488), (279, 17560), (290, 17605), (316, 17695), (322, 17713), (339, 17797), (341, 17806), (342, 17809), (344, 17815), (347, 17830), (350, 17860), (351, 17866), (356, 17887), (357, 17890), (365, 17944), (371, 17974), (372, 17983), (379, 18034), (382, 18067), (385, 18079), (389, 18097),

Gene: Lesedi\_26 Start: 20868, Stop: 22670, Start Num: 50

Candidate Starts for Lesedi\_26:

(Start: 50 @20868 has 210 MA's), (Start: 59 @20889 has 4 MA's), (Start: 70 @20931 has 1 MA's), (83, 20976), (120, 21192), (127, 21237), (130, 21246), (134, 21285), (140, 21336), (141, 21339), (183, 21534), (195, 21603), (229, 21804), (230, 21807), (234, 21828), (257, 21924), (258, 21927), (260, 21933), (274, 22002), (277, 22020), (279, 22029), (285, 22059), (310, 22155), (315, 22188), (318, 22203), (342, 22344), (351, 22401), (371, 22512),

Gene: Lev2\_24 Start: 19477, Stop: 21276, Start Num: 48

Candidate Starts for Lev2\_24:

(Start: 48 @19477 has 538 MA's), (85, 19582), (90, 19615), (108, 19714), (120, 19789), (123, 19804), (129, 19840), (137, 19912), (139, 19927), (144, 19960), (146, 19966), (192, 20191), (194, 20197), (211, 20287), (227, 20392), (229, 20401), (239, 20443), (243, 20461), (257, 20521), (258, 20524), (274, 20599), (277, 20617), (309, 20758), (315, 20794), (351, 21007), (368, 21109), (371, 21118), (387, 21232), (391, 21253), (393, 21262),

Gene: Levia\_26 Start: 21857, Stop: 23659, Start Num: 50

Candidate Starts for Levia\_26:

(Start: 50 @21857 has 210 MA's), (Start: 59 @21878 has 4 MA's), (Start: 70 @21920 has 1 MA's), (83, 21965), (120, 22181), (127, 22226), (130, 22235), (134, 22274), (140, 22325), (141, 22328), (183, 22523), (195, 22592), (229, 22793), (230, 22796), (234, 22817), (257, 22913), (258, 22916), (260, 22922), (274, 22991), (277, 23009), (279, 23018), (285, 23048), (310, 23144), (315, 23177), (318, 23192), (342, 23333), (351, 23390), (371, 23501),

Gene: Leviathan\_30 Start: 20689, Stop: 22461, Start Num: 48

Candidate Starts for Leviathan\_30:

(Start: 39 @20665 has 8 MA's), (Start: 48 @20689 has 538 MA's), (74, 20755), (84, 20788), (98, 20872), (107, 20923), (108, 20926), (119, 20998), (120, 21001), (130, 21055), (134, 21094), (144, 21172), (161, 21259), (181, 21340), (183, 21343), (215, 21529), (230, 21616), (254, 21721), (258, 21736), (283, 21862), (285, 21868), (305, 21916), (318, 21994), (319, 22000), (329, 22054), (334, 22093), (337, 22108), (351, 22192), (371, 22303),

Gene: Licorice\_29 Start: 22097, Stop: 23899, Start Num: 50

Candidate Starts for Licorice\_29:

(Start: 50 @22097 has 210 MA's), (Start: 59 @22118 has 4 MA's), (Start: 70 @22160 has 1 MA's), (83, 22205), (120, 22421), (127, 22466), (130, 22475), (134, 22514), (140, 22565), (141, 22568), (183, 22763), (195, 22832), (229, 23033), (230, 23036), (234, 23057), (257, 23153), (258, 23156), (260, 23162), (274, 23231), (277, 23249), (279, 23258), (285, 23288), (310, 23384), (315, 23417), (318, 23432), (342, 23573), (351, 23630), (371, 23741), (395, 23894),

Gene: LilBib\_28 Start: 22310, Stop: 24112, Start Num: 50

Candidate Starts for LilBib\_28:

(Start: 50 @22310 has 210 MA's), (Start: 59 @22331 has 4 MA's), (Start: 70 @22373 has 1 MA's), (83, 22418), (120, 22634), (127, 22679), (130, 22688), (134, 22727), (140, 22778), (141, 22781), (183, 22976), (195, 23045), (229, 23246), (230, 23249), (234, 23270), (257, 23366), (258, 23369), (260, 23375), (274, 23444), (277, 23462), (279, 23471), (285, 23501), (310, 23597), (315, 23630), (318, 23645), (322, 23675), (342, 23786), (351, 23843), (371, 23954),

Gene: LilHam\_32 Start: 28981, Stop: 30744, Start Num: 32

Candidate Starts for LilHam\_32:

(Start: 32 @28981 has 74 MA's), (Start: 37 @29017 has 5 MA's), (81, 29146), (84, 29155), (100, 29251), (103, 29260), (112, 29329), (120, 29380), (121, 29389), (127, 29425), (131, 29440), (133, 29458), (140, 29521), (150, 29566), (152, 29575), (175, 29686), (177, 29695), (181, 29710), (185, 29734), (190, 29764), (239, 29986), (244, 30004), (247, 30019), (257, 30061), (264, 30091), (289, 30211), (317, 30304), (342, 30415), (343, 30418), (350, 30466), (356, 30493), (360, 30520), (369, 30574),

Gene: LilSpotty\_18 Start: 14614, Stop: 16329, Start Num: 37

Candidate Starts for LilSpotty\_18:

(35, 14602), (Start: 37 @14614 has 5 MA's), (109, 14896), (116, 14944), (134, 15070), (145, 15151), (164, 15241), (167, 15250), (183, 15325), (187, 15355), (188, 15358), (190, 15367), (215, 15460), (220, 15490), (239, 15586), (240, 15589), (255, 15652), (259, 15667), (269, 15712), (277, 15757), (279, 15766), (306, 15838), (322, 15904), (342, 16000), (343, 16003), (351, 16057), (356, 16078), (357, 16081), (371, 16165), (376, 16189), (381, 16252), (390, 16297), (391, 16306),

Gene: LilTurb\_30 Start: 20692, Stop: 22464, Start Num: 48

Candidate Starts for LilTurb\_30:

(Start: 39 @20668 has 8 MA's), (Start: 48 @20692 has 538 MA's), (84, 20791), (98, 20875), (107, 20926), (108, 20929), (119, 21001), (120, 21004), (130, 21058), (134, 21097), (144, 21175), (161, 21262), (181, 21343), (183, 21346), (215, 21532), (230, 21619), (254, 21724), (258, 21739), (283, 21865), (285, 21871), (305, 21919), (318, 21997), (319, 22003), (329, 22057), (334, 22096), (337, 22111), (351, 22195), (371, 22306),

Gene: Lilbunny\_31 Start: 19971, Stop: 21743, Start Num: 48

Candidate Starts for Lilbunny\_31:

(30, 19905), (Start: 39 @19947 has 8 MA's), (Start: 48 @19971 has 538 MA's), (108, 20208), (119, 20280), (120, 20283), (123, 20298), (130, 20337), (131, 20343), (144, 20454), (146, 20460), (155, 20499), (161, 20541), (172, 20580), (181, 20622), (183, 20625), (211, 20781), (235, 20922), (239, 20937), (285, 21150), (314, 21249), (318, 21276), (327, 21327), (329, 21336), (334, 21375), (337, 21390), (351, 21474), (369, 21579), (371, 21585), (391, 21720),

Gene: Lilith\_29 Start: 20372, Stop: 22168, Start Num: 48

Candidate Starts for Lilith\_29:

(Start: 48 @20372 has 538 MA's), (Start: 70 @20429 has 1 MA's), (74, 20444), (84, 20477), (86, 20498), (89, 20513), (105, 20600), (107, 20612), (108, 20615), (120, 20690), (123, 20705), (129, 20741), (161, 20948), (187, 21062), (195, 21101), (211, 21188), (229, 21302), (234, 21326), (239, 21344), (258, 21425), (274, 21500), (277, 21518), (283, 21551), (285, 21557), (295, 21596), (309, 21650), (310, 21653), (314, 21674), (322, 21731), (351, 21899), (369, 22004), (371, 22010), (391, 22145),

Gene: Lilleskat\_28 Start: 21749, Stop: 23539, Start Num: 48

Candidate Starts for Lilleskat\_28:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258,

22796), (283, 22922), (294, 22964), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: Lillie\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Lillie\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: LionsBait\_29 Start: 21960, Stop: 23732, Start Num: 48

Candidate Starts for LionsBait\_29:

(Start: 39 @21936 has 8 MA's), (Start: 48 @21960 has 538 MA's), (84, 22059), (98, 22143), (107, 22194), (108, 22197), (119, 22269), (120, 22272), (130, 22326), (131, 22332), (134, 22365), (144, 22443), (161, 22530), (181, 22611), (183, 22614), (190, 22656), (215, 22800), (230, 22887), (239, 22926), (258, 23007), (283, 23133), (285, 23139), (305, 23187), (315, 23250), (318, 23265), (319, 23271), (323, 23301), (329, 23325), (334, 23364), (337, 23379), (351, 23463),

Gene: LitninMcQueen\_20 Start: 16422, Stop: 18119, Start Num: 47

Candidate Starts for LitninMcQueen\_20:

(35, 16383), (Start: 47 @16422 has 34 MA's), (53, 16434), (66, 16473), (77, 16512), (84, 16533), (92, 16581), (95, 16590), (101, 16632), (107, 16668), (116, 16725), (123, 16773), (126, 16800), (148, 16941), (158, 16998), (161, 17016), (165, 17025), (167, 17031), (184, 17109), (189, 17145), (191, 17151), (194, 17172), (195, 17175), (203, 17226), (216, 17253), (217, 17256), (221, 17283), (224, 17310), (241, 17382), (250, 17421), (265, 17475), (273, 17517), (290, 17592), (311, 17655), (316, 17682), (317, 17685), (322, 17700), (339, 17784), (341, 17793), (342, 17796), (344, 17802), (346, 17814), (347, 17817), (350, 17847), (351, 17853), (356, 17874), (357, 17877), (365, 17931), (371, 17961), (372, 17970), (379, 18021), (382, 18054), (385, 18066), (389, 18084),

Gene: LittleB\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for LittleB\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: LittleCherry\_24 Start: 19659, Stop: 21455, Start Num: 48

Candidate Starts for LittleCherry\_24:

(Start: 48 @19659 has 538 MA's), (85, 19764), (90, 19797), (108, 19896), (120, 19971), (123, 19986), (129, 20022), (137, 20094), (139, 20109), (146, 20148), (153, 20175), (157, 20196), (163, 20235), (187, 20343), (192, 20373), (194, 20379), (219, 20514), (226, 20571), (227, 20574), (229, 20583), (239, 20625), (243, 20643), (257, 20703), (258, 20706), (277, 20799), (279, 20808), (283, 20832), (309, 20940), (315, 20976), (351, 21186), (368, 21288), (371, 21297), (387, 21411), (391, 21432), (393, 21441),

Gene: LittleGuy\_27 Start: 19770, Stop: 21548, Start Num: 48

Candidate Starts for LittleGuy\_27:

(Start: 39 @19746 has 8 MA's), (Start: 48 @19770 has 538 MA's), (Start: 70 @19827 has 1 MA's), (85, 19881), (86, 19896), (90, 19914), (105, 19998), (107, 20010), (108, 20013), (120, 20088), (123,

20103), (130, 20142), (144, 20259), (161, 20346), (181, 20427), (191, 20475), (195, 20499), (211, 20586), (219, 20631), (230, 20703), (234, 20724), (239, 20742), (258, 20823), (277, 20916), (279, 20925), (283, 20949), (285, 20955), (291, 20979), (310, 21033), (314, 21054), (321, 21105), (326, 21129), (335, 21183), (351, 21279), (369, 21384), (372, 21399), (388, 21507), (391, 21525),

Gene: LochMonster\_27 Start: 19802, Stop: 21580, Start Num: 48

Candidate Starts for LochMonster\_27:

(Start: 39 @19778 has 8 MA's), (Start: 48 @19802 has 538 MA's), (Start: 70 @19859 has 1 MA's), (85, 19913), (86, 19928), (90, 19946), (105, 20030), (107, 20042), (108, 20045), (120, 20120), (123, 20135), (130, 20174), (144, 20291), (161, 20378), (181, 20459), (191, 20507), (195, 20531), (211, 20618), (219, 20663), (230, 20735), (234, 20756), (239, 20774), (277, 20948), (279, 20957), (283, 20981), (285, 20987), (291, 21011), (310, 21065), (314, 21086), (321, 21137), (326, 21161), (335, 21215), (351, 21311), (369, 21416), (372, 21431), (388, 21539), (391, 21557),

Gene: Lockley\_27 Start: 21053, Stop: 22855, Start Num: 50

Candidate Starts for Lockley\_27:

(Start: 50 @21053 has 210 MA's), (Start: 59 @21074 has 4 MA's), (Start: 70 @21116 has 1 MA's), (83, 21161), (120, 21377), (127, 21422), (130, 21431), (140, 21521), (141, 21524), (183, 21719), (195, 21788), (205, 21848), (226, 21977), (229, 21989), (230, 21992), (234, 22013), (257, 22109), (258, 22112), (260, 22118), (274, 22187), (277, 22205), (279, 22214), (285, 22244), (310, 22340), (315, 22373), (318, 22388), (342, 22529), (351, 22586), (371, 22697),

Gene: Loka\_31 Start: 21813, Stop: 23609, Start Num: 39

Candidate Starts for Loka\_31:

(Start: 39 @21813 has 8 MA's), (Start: 48 @21837 has 538 MA's), (98, 22020), (107, 22071), (108, 22074), (119, 22146), (120, 22149), (130, 22203), (134, 22242), (144, 22320), (161, 22407), (181, 22488), (183, 22491), (190, 22533), (215, 22677), (230, 22764), (239, 22803), (258, 22884), (285, 23016), (315, 23127), (318, 23142), (319, 23148), (329, 23202), (334, 23241), (337, 23256), (344, 23289), (351, 23340), (365, 23418), (369, 23445), (371, 23451), (378, 23505),

Gene: LoneWolf\_29 Start: 21342, Stop: 23132, Start Num: 48

Candidate Starts for LoneWolf\_29:

(Start: 48 @21342 has 538 MA's), (107, 21576), (108, 21579), (119, 21651), (120, 21654), (123, 21669), (130, 21708), (131, 21714), (134, 21747), (135, 21765), (144, 21825), (153, 21858), (161, 21912), (181, 21993), (183, 21996), (204, 22122), (215, 22182), (225, 22245), (230, 22269), (258, 22389), (283, 22515), (287, 22533), (294, 22557), (310, 22617), (315, 22650), (318, 22665), (334, 22764), (335, 22767), (337, 22779), (351, 22863), (362, 22929), (369, 22968), (371, 22974), (377, 23019), (384, 23076), (385, 23079),

Gene: Looper\_31 Start: 19093, Stop: 20880, Start Num: 48

Candidate Starts for Looper\_31:

(30, 19027), (Start: 39 @19069 has 8 MA's), (Start: 48 @19093 has 538 MA's), (90, 19231), (100, 19288), (108, 19330), (115, 19366), (120, 19405), (132, 19474), (134, 19498), (141, 19552), (172, 19702), (183, 19747), (187, 19777), (194, 19813), (202, 19864), (210, 19900), (219, 19948), (227, 20008), (257, 20137), (274, 20215), (318, 20416), (319, 20422), (335, 20518), (363, 20683), (379, 20782),

Gene: Lopton\_28 Start: 22455, Stop: 24257, Start Num: 50

Candidate Starts for Lopton\_28:

(Start: 50 @22455 has 210 MA's), (Start: 59 @22476 has 4 MA's), (Start: 70 @22518 has 1 MA's), (83, 22563), (120, 22779), (127, 22824), (130, 22833), (134, 22872), (140, 22923), (141, 22926), (183, 23121), (195, 23190), (229, 23391), (230, 23394), (234, 23415), (257, 23511), (258, 23514), (260, 23520), (274, 23589), (277, 23607), (279, 23616), (285, 23646), (310, 23742), (315, 23775), (318,



23790), (342, 23931), (351, 23988), (371, 24099),

Gene: Lorenzo\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Lorenzo\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Loser\_31 Start: 21942, Stop: 23714, Start Num: 48

Candidate Starts for Loser\_31:

(Start: 39 @21918 has 8 MA's), (Start: 48 @21942 has 538 MA's), (98, 22125), (107, 22176), (108, 22179), (119, 22251), (120, 22254), (130, 22308), (131, 22314), (134, 22347), (144, 22425), (146, 22431), (150, 22443), (161, 22512), (179, 22587), (181, 22593), (183, 22596), (190, 22638), (229, 22866), (230, 22869), (239, 22908), (254, 22974), (258, 22989), (285, 23121), (305, 23169), (314, 23220), (315, 23232), (318, 23247), (319, 23253), (329, 23307), (337, 23361), (351, 23445), (362, 23511), (369, 23550), (371, 23556),

Gene: Louie6\_29 Start: 20466, Stop: 22262, Start Num: 48

Candidate Starts for Louie6\_29:

(Start: 48 @20466 has 538 MA's), (Start: 70 @20523 has 1 MA's), (74, 20538), (84, 20571), (86, 20592), (89, 20607), (105, 20694), (107, 20706), (108, 20709), (120, 20784), (123, 20799), (129, 20835), (161, 21042), (187, 21156), (195, 21195), (211, 21282), (229, 21396), (234, 21420), (239, 21438), (258, 21519), (274, 21594), (277, 21612), (283, 21645), (285, 21651), (295, 21690), (309, 21744), (310, 21747), (314, 21768), (322, 21825), (351, 21993), (369, 22098), (371, 22104), (391, 22239),

Gene: Love\_38 Start: 31747, Stop: 33510, Start Num: 32

Candidate Starts for Love\_38:

(29, 31729), (Start: 32 @31747 has 74 MA's), (Start: 37 @31783 has 5 MA's), (84, 31921), (100, 32017), (103, 32026), (112, 32095), (120, 32146), (127, 32191), (131, 32206), (140, 32287), (150, 32332), (152, 32341), (171, 32431), (177, 32461), (181, 32476), (185, 32500), (190, 32530), (218, 32635), (239, 32752), (244, 32770), (247, 32785), (254, 32815), (257, 32827), (258, 32830), (264, 32857), (342, 33181), (343, 33184), (350, 33232), (356, 33259), (360, 33286), (369, 33340), (374, 33364), (375, 33367), (385, 33457), (395, 33505),

Gene: Lowa\_29 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for Lowa\_29:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: Luchador\_30 Start: 20622, Stop: 22421, Start Num: 48

Candidate Starts for Luchador\_30:

(Start: 46 @20619 has 8 MA's), (Start: 48 @20622 has 538 MA's), (89, 20757), (103, 20826), (108, 20859), (119, 20931), (120, 20934), (124, 20952), (131, 20994), (144, 21105), (155, 21150), (157, 21159), (161, 21192), (179, 21267), (181, 21273), (183, 21276), (192, 21336), (212, 21438), (225, 21525), (230, 21549), (239, 21588), (258, 21669), (303, 21867), (318, 21954), (319, 21960), (334,

22053), (369, 22257), (371, 22263),

Gene: Lucivia\_28 Start: 20804, Stop: 22603, Start Num: 48

Candidate Starts for Lucivia\_28:

(30, 20738), (Start: 39 @20780 has 8 MA's), (Start: 48 @20804 has 538 MA's), (67, 20846), (90, 20942), (94, 20957), (107, 21038), (108, 21041), (120, 21116), (123, 21131), (130, 21170), (131, 21176), (135, 21227), (144, 21287), (146, 21293), (161, 21374), (183, 21458), (204, 21584), (209, 21602), (214, 21629), (239, 21770), (254, 21836), (257, 21848), (258, 21851), (300, 22040), (307, 22067), (308, 22076), (311, 22097), (312, 22100), (315, 22121), (318, 22136), (321, 22160), (334, 22235), (337, 22250), (351, 22334), (369, 22439), (371, 22445), (378, 22499), (395, 22598),

Gene: Lucyedi\_29 Start: 20875, Stop: 22665, Start Num: 48

Candidate Starts for Lucyedi\_29:

(30, 20809), (Start: 39 @20851 has 8 MA's), (Start: 48 @20875 has 538 MA's), (94, 21028), (107, 21109), (108, 21112), (119, 21184), (120, 21187), (124, 21205), (125, 21226), (130, 21241), (131, 21247), (144, 21358), (153, 21391), (161, 21445), (181, 21526), (183, 21529), (215, 21715), (225, 21778), (230, 21802), (239, 21841), (258, 21922), (283, 22048), (303, 22111), (318, 22198), (334, 22297), (344, 22345), (351, 22396), (369, 22501), (371, 22507), (378, 22561),

Gene: LugYA\_31 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for LugYA\_31:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: LunarLander\_27 Start: 20985, Stop: 22787, Start Num: 50

Candidate Starts for LunarLander\_27:

(Start: 50 @20985 has 210 MA's), (Start: 59 @21006 has 4 MA's), (Start: 70 @21048 has 1 MA's), (83, 21093), (120, 21309), (127, 21354), (130, 21363), (134, 21402), (140, 21453), (141, 21456), (183, 21651), (195, 21720), (229, 21921), (230, 21924), (234, 21945), (257, 22041), (258, 22044), (260, 22050), (274, 22119), (277, 22137), (279, 22146), (285, 22176), (310, 22272), (315, 22305), (318, 22320), (342, 22461), (351, 22518), (371, 22629),

Gene: Lunsford\_28 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Lunsford\_28:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Lutum\_20 Start: 16428, Stop: 18125, Start Num: 47

Candidate Starts for Lutum\_20:

(35, 16389), (Start: 47 @16428 has 34 MA's), (53, 16440), (66, 16479), (77, 16518), (84, 16539), (92, 16587), (95, 16596), (101, 16638), (107, 16674), (116, 16731), (123, 16779), (126, 16806), (148, 16947), (158, 17004), (161, 17022), (165, 17031), (167, 17037), (184, 17115), (189, 17151), (191, 17157), (194, 17178), (195, 17181), (203, 17232), (216, 17259), (217, 17262), (221, 17289), (224, 17316), (241, 17388), (250, 17427), (265, 17481), (273, 17523), (290, 17598), (311, 17661), (316, 17688), (317, 17691), (322, 17706), (339, 17790), (341, 17799), (342, 17802), (344, 17808), (346,

17820), (347, 17823), (350, 17853), (351, 17859), (356, 17880), (357, 17883), (365, 17937), (371, 17967), (372, 17976), (379, 18027), (382, 18060), (385, 18072), (389, 18090),

Gene: MA5\_27 Start: 19523, Stop: 21322, Start Num: 48

Candidate Starts for MA5\_27:

(Start: 48 @19523 has 538 MA's), (Start: 70 @19583 has 1 MA's), (86, 19652), (90, 19670), (105, 19754), (107, 19766), (108, 19769), (120, 19844), (123, 19859), (124, 19862), (130, 19898), (150, 20033), (161, 20102), (187, 20216), (211, 20342), (229, 20456), (230, 20459), (234, 20480), (239, 20498), (258, 20579), (274, 20654), (277, 20672), (279, 20681), (283, 20705), (285, 20711), (288, 20726), (300, 20759), (309, 20804), (310, 20807), (314, 20828), (315, 20840), (351, 21053), (357, 21077), (369, 21158), (371, 21164), (391, 21299),

Gene: MK4\_27 Start: 19826, Stop: 21625, Start Num: 48

Candidate Starts for MK4\_27:

(Start: 48 @19826 has 538 MA's), (Start: 70 @19886 has 1 MA's), (86, 19955), (105, 20057), (107, 20069), (108, 20072), (120, 20147), (123, 20162), (124, 20165), (130, 20201), (150, 20336), (161, 20405), (187, 20519), (211, 20645), (229, 20759), (230, 20762), (234, 20783), (239, 20801), (258, 20882), (274, 20957), (277, 20975), (279, 20984), (283, 21008), (285, 21014), (288, 21029), (295, 21053), (309, 21107), (310, 21110), (314, 21131), (315, 21143), (351, 21356), (357, 21380), (369, 21461), (371, 21467), (391, 21602),

Gene: MPlant7149\_26 Start: 20687, Stop: 22489, Start Num: 50

Candidate Starts for MPlant7149\_26:

(Start: 50 @20687 has 210 MA's), (Start: 59 @20708 has 4 MA's), (Start: 70 @20750 has 1 MA's), (83, 20795), (120, 21011), (127, 21056), (130, 21065), (134, 21104), (140, 21155), (141, 21158), (183, 21353), (195, 21422), (229, 21623), (230, 21626), (234, 21647), (257, 21743), (258, 21746), (260, 21752), (274, 21821), (277, 21839), (279, 21848), (285, 21878), (310, 21974), (315, 22007), (318, 22022), (342, 22163), (351, 22220), (371, 22331),

Gene: MaCh\_28 Start: 20746, Stop: 22545, Start Num: 48

Candidate Starts for MaCh\_28:

(30, 20680), (Start: 39 @20722 has 8 MA's), (Start: 48 @20746 has 538 MA's), (67, 20788), (90, 20884), (94, 20899), (107, 20980), (108, 20983), (119, 21055), (120, 21058), (123, 21073), (130, 21112), (131, 21118), (144, 21229), (146, 21235), (161, 21316), (183, 21400), (204, 21526), (209, 21544), (214, 21571), (239, 21712), (254, 21778), (257, 21790), (258, 21793), (282, 21916), (300, 21982), (307, 22009), (311, 22039), (312, 22042), (315, 22063), (318, 22078), (321, 22102), (334, 22177), (337, 22192), (351, 22276), (369, 22381), (371, 22387), (378, 22441), (395, 22540),

Gene: MaVan\_20 Start: 16710, Stop: 18404, Start Num: 47

Candidate Starts for MaVan\_20:

(16, 16386), (Start: 47 @16710 has 34 MA's), (113, 16995), (114, 16998), (120, 17043), (123, 17058), (134, 17136), (139, 17181), (158, 17283), (167, 17316), (168, 17328), (170, 17331), (182, 17388), (187, 17421), (191, 17436), (201, 17502), (217, 17544), (219, 17553), (224, 17598), (238, 17661), (257, 17742), (262, 17760), (264, 17769), (266, 17778), (277, 17835), (279, 17844), (318, 17976), (327, 18003), (332, 18024), (341, 18075), (342, 18078), (359, 18174), (362, 18201), (364, 18210), (365, 18213), (371, 18243), (374, 18261), (380, 18306), (394, 18396),

Gene: Mabel\_28 Start: 20807, Stop: 22606, Start Num: 48

Candidate Starts for Mabel\_28:

(30, 20741), (Start: 39 @20783 has 8 MA's), (Start: 48 @20807 has 538 MA's), (67, 20849), (90, 20945), (94, 20960), (107, 21041), (108, 21044), (120, 21119), (123, 21134), (130, 21173), (131, 21179), (144, 21290), (146, 21296), (161, 21377), (183, 21461), (204, 21587), (209, 21605), (214, 21632), (239, 21773), (254, 21839), (257, 21851), (258, 21854), (282, 21977), (300, 22043), (307,

22070), (308, 22079), (311, 22100), (312, 22103), (315, 22124), (318, 22139), (321, 22163), (334, 22238), (337, 22253), (351, 22337), (369, 22442), (371, 22448), (378, 22502), (395, 22601),

Gene: MadMarie\_29 Start: 20381, Stop: 22177, Start Num: 48

Candidate Starts for MadMarie\_29:

(Start: 48 @20381 has 538 MA's), (Start: 70 @20438 has 1 MA's), (74, 20453), (86, 20507), (89, 20522), (105, 20609), (107, 20621), (108, 20624), (120, 20699), (123, 20714), (129, 20750), (161, 20957), (195, 21110), (211, 21197), (229, 21311), (234, 21335), (239, 21353), (258, 21434), (274, 21509), (277, 21527), (283, 21560), (285, 21566), (295, 21605), (309, 21659), (310, 21662), (314, 21683), (322, 21740), (351, 21908), (369, 22013), (371, 22019), (391, 22154),

Gene: MagicMan\_19 Start: 16962, Stop: 18692, Start Num: 43

Candidate Starts for MagicMan\_19:

(24, 16845), (35, 16929), (Start: 37 @16941 has 5 MA's), (Start: 43 @16962 has 5 MA's), (95, 17133), (105, 17199), (110, 17232), (113, 17253), (140, 17445), (155, 17517), (161, 17559), (171, 17595), (177, 17625), (182, 17649), (189, 17691), (194, 17718), (213, 17775), (214, 17781), (226, 17868), (312, 18228), (316, 18252), (322, 18270), (342, 18366), (372, 18540), (373, 18543), (376, 18555), (383, 18630), (389, 18657),

Gene: Magnar\_27 Start: 20858, Stop: 22639, Start Num: 59

Candidate Starts for Magnar\_27:

(Start: 50 @20837 has 210 MA's), (Start: 59 @20858 has 4 MA's), (Start: 70 @20900 has 1 MA's), (83, 20945), (120, 21161), (127, 21206), (130, 21215), (134, 21254), (140, 21305), (141, 21308), (183, 21503), (195, 21572), (229, 21773), (230, 21776), (234, 21797), (257, 21893), (258, 21896), (260, 21902), (274, 21971), (277, 21989), (279, 21998), (285, 22028), (310, 22124), (315, 22157), (318, 22172), (342, 22313), (351, 22370), (371, 22481), (395, 22634),

Gene: Magnito\_26 Start: 20589, Stop: 22391, Start Num: 50

Candidate Starts for Magnito\_26:

(Start: 50 @20589 has 210 MA's), (Start: 59 @20610 has 4 MA's), (Start: 70 @20652 has 1 MA's), (83, 20697), (120, 20913), (127, 20958), (130, 20967), (134, 21006), (140, 21057), (141, 21060), (183, 21255), (195, 21324), (229, 21525), (230, 21528), (234, 21549), (257, 21645), (258, 21648), (260, 21654), (277, 21741), (279, 21750), (285, 21780), (310, 21876), (315, 21909), (318, 21924), (342, 22065), (351, 22122), (371, 22233),

Gene: Mainiac\_29 Start: 20372, Stop: 22168, Start Num: 48

Candidate Starts for Mainiac\_29:

(Start: 48 @20372 has 538 MA's), (Start: 70 @20429 has 1 MA's), (74, 20444), (86, 20498), (89, 20513), (105, 20600), (107, 20612), (108, 20615), (120, 20690), (123, 20705), (129, 20741), (161, 20948), (195, 21101), (211, 21188), (229, 21302), (234, 21326), (239, 21344), (258, 21425), (274, 21500), (277, 21518), (283, 21551), (285, 21557), (295, 21596), (309, 21650), (310, 21653), (314, 21674), (322, 21731), (351, 21899), (369, 22004), (371, 22010), (391, 22145),

Gene: MajorMajor\_27 Start: 19074, Stop: 20864, Start Num: 48

Candidate Starts for MajorMajor\_27:

(30, 19008), (Start: 39 @19050 has 8 MA's), (Start: 48 @19074 has 538 MA's), (90, 19212), (94, 19227), (107, 19308), (108, 19311), (119, 19383), (120, 19386), (130, 19440), (131, 19446), (133, 19464), (139, 19524), (144, 19557), (146, 19563), (155, 19602), (161, 19644), (181, 19725), (183, 19728), (192, 19788), (215, 19914), (229, 19998), (239, 20040), (252, 20091), (258, 20121), (283, 20247), (303, 20310), (315, 20382), (318, 20397), (321, 20421), (334, 20496), (337, 20511), (351, 20595), (369, 20700), (371, 20706), (374, 20724), (377, 20751), (378, 20760),

Gene: Makemake\_27 Start: 22305, Stop: 24107, Start Num: 50

Candidate Starts for Makemake\_27:

(Start: 50 @22305 has 210 MA's), (Start: 59 @22326 has 4 MA's), (Start: 70 @22368 has 1 MA's), (83, 22413), (120, 22629), (127, 22674), (130, 22683), (134, 22722), (140, 22773), (141, 22776), (183, 22971), (195, 23040), (229, 23241), (230, 23244), (234, 23265), (257, 23361), (258, 23364), (260, 23370), (274, 23439), (277, 23457), (279, 23466), (285, 23496), (310, 23592), (315, 23625), (318, 23640), (342, 23781), (351, 23838), (371, 23949),

Gene: Malec\_29 Start: 20473, Stop: 22245, Start Num: 48

Candidate Starts for Malec\_29:

(Start: 39 @20449 has 8 MA's), (Start: 48 @20473 has 538 MA's), (89, 20608), (94, 20626), (107, 20707), (108, 20710), (111, 20740), (119, 20782), (120, 20785), (130, 20839), (131, 20845), (137, 20908), (139, 20923), (144, 20956), (153, 20989), (161, 21043), (181, 21124), (183, 21127), (187, 21157), (230, 21400), (254, 21505), (258, 21520), (285, 21652), (315, 21763), (318, 21778), (319, 21784), (329, 21838), (334, 21877), (337, 21892), (344, 21925), (371, 22087), (378, 22141),

Gene: Malinsilva\_31 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for Malinsilva\_31:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: Malisha\_21 Start: 18200, Stop: 19897, Start Num: 47

Candidate Starts for Malisha\_21:

(35, 18161), (Start: 47 @18200 has 34 MA's), (53, 18212), (55, 18215), (77, 18290), (84, 18311), (88, 18338), (91, 18353), (92, 18359), (93, 18362), (97, 18374), (101, 18410), (105, 18434), (107, 18446), (116, 18503), (118, 18524), (123, 18551), (126, 18578), (133, 18614), (148, 18719), (158, 18776), (161, 18794), (165, 18803), (167, 18809), (177, 18857), (184, 18887), (189, 18923), (191, 18929), (194, 18950), (195, 18953), (216, 19031), (217, 19034), (221, 19061), (224, 19088), (241, 19160), (250, 19199), (265, 19253), (279, 19325), (290, 19370), (311, 19433), (316, 19460), (317, 19463), (322, 19478), (339, 19562), (341, 19571), (342, 19574), (344, 19580), (347, 19595), (350, 19625), (351, 19631), (356, 19652), (357, 19655), (365, 19709), (371, 19739), (372, 19748), (379, 19799), (382, 19832), (385, 19844), (389, 19862),

Gene: Maminiaina\_29 Start: 21290, Stop: 23080, Start Num: 48

Candidate Starts for Maminiaina\_29:

(Start: 39 @21266 has 8 MA's), (Start: 48 @21290 has 538 MA's), (107, 21524), (108, 21527), (119, 21599), (120, 21602), (123, 21617), (130, 21656), (131, 21662), (139, 21740), (144, 21773), (161, 21860), (181, 21941), (183, 21944), (204, 22070), (225, 22193), (227, 22205), (230, 22217), (232, 22223), (239, 22256), (258, 22337), (283, 22463), (300, 22517), (301, 22523), (310, 22565), (311, 22574), (315, 22598), (318, 22613), (321, 22637), (329, 22673), (334, 22712), (337, 22727), (351, 22811), (369, 22916), (371, 22922), (377, 22967), (384, 23024),

Gene: Manatee\_28 Start: 20835, Stop: 22637, Start Num: 50

Candidate Starts for Manatee\_28:

(Start: 50 @20835 has 210 MA's), (Start: 59 @20856 has 4 MA's), (Start: 70 @20898 has 1 MA's), (83, 20943), (120, 21159), (127, 21204), (130, 21213), (134, 21252), (140, 21303), (141, 21306), (183, 21501), (195, 21570), (229, 21771), (230, 21774), (234, 21795), (257, 21891), (258, 21894), (260, 21900), (274, 21969), (277, 21987), (279, 21996), (285, 22026), (310, 22122), (315, 22155), (318, 22170), (342, 22311), (351, 22368), (371, 22479), (395, 22632),

Gene: Manu\_30 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Manu\_30:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (225, 21369), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (288, 21660), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (369, 22092), (371, 22098), (391, 22233),

Gene: MarQuardt\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for MarQuardt\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (84, 20485), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (187, 21070), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309, 21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: Marcell\_27 Start: 21325, Stop: 23127, Start Num: 50

Candidate Starts for Marcell\_27:

(Start: 50 @21325 has 210 MA's), (Start: 59 @21346 has 4 MA's), (Start: 70 @21388 has 1 MA's), (83, 21433), (120, 21649), (127, 21694), (130, 21703), (134, 21742), (140, 21793), (141, 21796), (183, 21991), (195, 22060), (229, 22261), (230, 22264), (234, 22285), (257, 22381), (258, 22384), (260, 22390), (274, 22459), (277, 22477), (279, 22486), (285, 22516), (310, 22612), (315, 22645), (318, 22660), (342, 22801), (351, 22858), (371, 22969), (395, 23122),

Gene: Marchesa\_27 Start: 19958, Stop: 21757, Start Num: 48

Candidate Starts for Marchesa\_27:

(Start: 48 @19958 has 538 MA's), (Start: 70 @20018 has 1 MA's), (86, 20087), (105, 20189), (107, 20201), (108, 20204), (120, 20279), (123, 20294), (124, 20297), (130, 20333), (150, 20468), (161, 20537), (187, 20651), (211, 20777), (229, 20891), (234, 20915), (237, 20927), (239, 20933), (258, 21014), (274, 21089), (277, 21107), (279, 21116), (283, 21140), (285, 21146), (288, 21161), (303, 21203), (308, 21230), (309, 21239), (310, 21242), (314, 21263), (315, 21275), (351, 21488), (369, 21593), (371, 21599), (391, 21734),

Gene: Marchy\_26 Start: 20630, Stop: 22432, Start Num: 50

Candidate Starts for Marchy\_26:

(Start: 50 @20630 has 210 MA's), (Start: 59 @20651 has 4 MA's), (Start: 70 @20693 has 1 MA's), (83, 20738), (120, 20954), (127, 20999), (130, 21008), (134, 21047), (140, 21098), (141, 21101), (183, 21296), (195, 21365), (229, 21566), (230, 21569), (234, 21590), (257, 21686), (258, 21689), (260, 21695), (274, 21764), (277, 21782), (279, 21791), (285, 21821), (310, 21917), (315, 21950), (318, 21965), (342, 22106), (351, 22163), (371, 22274),

Gene: Marco3\_27 Start: 21225, Stop: 23027, Start Num: 50

Candidate Starts for Marco3\_27:

(Start: 50 @21225 has 210 MA's), (Start: 59 @21246 has 4 MA's), (Start: 70 @21288 has 1 MA's), (83, 21333), (120, 21549), (127, 21594), (130, 21603), (134, 21642), (140, 21693), (141, 21696), (183, 21891), (195, 21960), (229, 22161), (230, 22164), (234, 22185), (257, 22281), (258, 22284), (260, 22290), (274, 22359), (277, 22377), (279, 22386), (285, 22416), (310, 22512), (315, 22545), (318, 22560), (342, 22701), (351, 22758), (371, 22869),

Gene: Margaret\_21 Start: 15469, Stop: 17157, Start Num: 47

Candidate Starts for Margaret\_21:

(35, 15439), (Start: 41 @15466 has 2 MA's), (Start: 47 @15469 has 34 MA's), (77, 15553), (102, 15676), (107, 15709), (114, 15754), (135, 15910), (139, 15937), (143, 15967), (158, 16039), (167, 16069), (168, 16081), (175, 16108), (187, 16174), (201, 16255), (217, 16297), (219, 16306), (221, 16324), (228, 16369), (248, 16453), (256, 16489), (257, 16492), (258, 16495), (260, 16501), (262, 16510), (266, 16528), (277, 16585), (316, 16714), (318, 16726), (324, 16741), (327, 16753), (341, 16825), (342, 16828), (343, 16831), (346, 16846), (359, 16927), (371, 16996), (372, 17005), (391, 17134), (394, 17149),

Gene: Marge\_28 Start: 21725, Stop: 23527, Start Num: 50

Candidate Starts for Marge\_28:

(Start: 50 @21725 has 210 MA's), (Start: 59 @21746 has 4 MA's), (Start: 70 @21788 has 1 MA's), (83, 21833), (120, 22049), (127, 22094), (130, 22103), (134, 22142), (140, 22193), (141, 22196), (158, 22289), (183, 22391), (195, 22460), (229, 22661), (230, 22664), (234, 22685), (257, 22781), (258, 22784), (260, 22790), (274, 22859), (277, 22877), (279, 22886), (285, 22916), (310, 23012), (315, 23045), (318, 23060), (342, 23201), (351, 23258), (371, 23369), (395, 23522),

Gene: Margo\_28 Start: 20481, Stop: 22280, Start Num: 48

Candidate Starts for Margo\_28:

(Start: 48 @20481 has 538 MA's), (Start: 70 @20541 has 1 MA's), (86, 20610), (105, 20712), (107, 20724), (108, 20727), (120, 20802), (123, 20817), (130, 20856), (150, 20991), (161, 21060), (187, 21174), (211, 21300), (229, 21414), (234, 21438), (237, 21450), (239, 21456), (258, 21537), (274, 21612), (277, 21630), (279, 21639), (283, 21663), (285, 21669), (288, 21684), (300, 21717), (309, 21762), (310, 21765), (314, 21786), (335, 21915), (351, 22011), (369, 22116), (371, 22122), (391, 22257),

Gene: Marie\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for Marie\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: Marius\_30 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Marius\_30:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (369, 22092), (371, 22098), (391, 22233),

Gene: Maroc7\_26 Start: 20829, Stop: 22631, Start Num: 50

Candidate Starts for Maroc7\_26:

(Start: 50 @20829 has 210 MA's), (Start: 59 @20850 has 4 MA's), (Start: 70 @20892 has 1 MA's), (83, 20937), (120, 21153), (127, 21198), (130, 21207), (134, 21246), (140, 21297), (141, 21300), (183, 21495), (195, 21564), (229, 21765), (230, 21768), (234, 21789), (257, 21885), (258, 21888), (260, 21894), (274, 21963), (277, 21981), (279, 21990), (285, 22020), (310, 22116), (315, 22149), (318, 22164), (342, 22305), (351, 22362), (371, 22473),

Gene: Marsha\_27 Start: 21951, Stop: 23753, Start Num: 50

Candidate Starts for Marsha\_27:

(Start: 50 @21951 has 210 MA's), (Start: 59 @21972 has 4 MA's), (Start: 70 @22014 has 1 MA's), (83, 22059), (120, 22275), (127, 22320), (130, 22329), (134, 22368), (140, 22419), (141, 22422), (158, 22515), (183, 22617), (195, 22686), (229, 22887), (230, 22890), (234, 22911), (257, 23007), (258, 23010), (260, 23016), (274, 23085), (277, 23103), (279, 23112), (285, 23142), (310, 23238), (315, 23271), (318, 23286), (342, 23427), (351, 23484), (371, 23595),

Gene: MaryBeth\_27 Start: 21259, Stop: 23061, Start Num: 50

Candidate Starts for MaryBeth\_27:

(Start: 50 @21259 has 210 MA's), (Start: 59 @21280 has 4 MA's), (Start: 70 @21322 has 1 MA's), (83, 21367), (120, 21583), (127, 21628), (130, 21637), (140, 21727), (141, 21730), (158, 21823), (183, 21925), (195, 21994), (226, 22183), (229, 22195), (230, 22198), (234, 22219), (257, 22315), (258, 22318), (260, 22324), (274, 22393), (277, 22411), (279, 22420), (285, 22450), (310, 22546), (315, 22579), (318, 22594), (342, 22735), (351, 22792), (371, 22903),

Gene: MarysWell\_23 Start: 19695, Stop: 21503, Start Num: 41

Candidate Starts for MarysWell\_23:

(Start: 41 @19695 has 2 MA's), (Start: 48 @19707 has 538 MA's), (85, 19812), (90, 19845), (108, 19944), (120, 20019), (123, 20034), (129, 20070), (137, 20142), (139, 20157), (146, 20196), (153, 20223), (163, 20283), (187, 20391), (192, 20421), (194, 20427), (219, 20562), (226, 20619), (227, 20622), (229, 20631), (239, 20673), (243, 20691), (257, 20751), (258, 20754), (277, 20847), (279, 20856), (283, 20880), (309, 20988), (315, 21024), (351, 21234), (368, 21336), (371, 21345), (387, 21459), (391, 21480), (393, 21489),

Gene: Maverick\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Maverick\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Maxo\_27 Start: 19825, Stop: 21603, Start Num: 48

Candidate Starts for Maxo\_27:

(Start: 39 @19801 has 8 MA's), (Start: 48 @19825 has 538 MA's), (Start: 70 @19882 has 1 MA's), (85, 19936), (86, 19951), (90, 19969), (105, 20053), (107, 20065), (108, 20068), (120, 20143), (123, 20158), (130, 20197), (144, 20314), (161, 20401), (181, 20482), (191, 20530), (195, 20554), (211, 20641), (219, 20686), (230, 20758), (234, 20779), (239, 20797), (258, 20878), (277, 20971), (279, 20980), (283, 21004), (285, 21010), (291, 21034), (310, 21088), (314, 21109), (321, 21160), (326, 21184), (335, 21238), (351, 21334), (369, 21439), (372, 21454), (388, 21562), (391, 21580),

Gene: Mayonnaise\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Mayonnaise\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (135, 20256), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Mazhar510\_27 Start: 19828, Stop: 21606, Start Num: 48

Candidate Starts for Mazhar510\_27:



(Start: 39 @19804 has 8 MA's), (Start: 48 @19828 has 538 MA's), (Start: 70 @19885 has 1 MA's), (85, 19939), (86, 19954), (90, 19972), (105, 20056), (107, 20068), (108, 20071), (120, 20146), (123, 20161), (130, 20200), (144, 20317), (161, 20404), (181, 20485), (191, 20533), (195, 20557), (211, 20644), (219, 20689), (230, 20761), (234, 20782), (239, 20800), (258, 20881), (277, 20974), (279, 20983), (283, 21007), (285, 21013), (291, 21037), (310, 21091), (314, 21112), (321, 21163), (326, 21187), (335, 21241), (351, 21337), (369, 21442), (372, 21457), (388, 21565), (391, 21583),

Gene: McFly\_31 Start: 19976, Stop: 21748, Start Num: 48

Candidate Starts for McFly\_31:

(30, 19910), (Start: 39 @19952 has 8 MA's), (Start: 48 @19976 has 538 MA's), (101, 20174), (108, 20213), (119, 20285), (120, 20288), (124, 20306), (130, 20342), (131, 20348), (144, 20459), (146, 20465), (155, 20504), (161, 20546), (172, 20585), (181, 20627), (183, 20630), (192, 20690), (235, 20927), (239, 20942), (258, 21023), (285, 21155), (318, 21281), (327, 21332), (329, 21341), (334, 21380), (335, 21383), (337, 21395), (351, 21479), (369, 21584), (371, 21590), (391, 21725),

Gene: McGuire\_28 Start: 21127, Stop: 22929, Start Num: 50

Candidate Starts for McGuire\_28:

(Start: 50 @21127 has 210 MA's), (Start: 59 @21148 has 4 MA's), (Start: 70 @21190 has 1 MA's), (83, 21235), (120, 21451), (127, 21496), (130, 21505), (140, 21595), (141, 21598), (158, 21691), (183, 21793), (195, 21862), (229, 22063), (230, 22066), (234, 22087), (257, 22183), (258, 22186), (260, 22192), (274, 22261), (277, 22279), (279, 22288), (285, 22318), (310, 22414), (315, 22447), (318, 22462), (342, 22603), (351, 22660), (371, 22771), (395, 22924),

Gene: McKinley\_37 Start: 31773, Stop: 33536, Start Num: 32

Candidate Starts for McKinley\_37:

(29, 31755), (Start: 32 @31773 has 74 MA's), (Start: 37 @31809 has 5 MA's), (84, 31947), (100, 32043), (103, 32052), (112, 32121), (120, 32172), (127, 32217), (131, 32232), (140, 32313), (150, 32358), (152, 32367), (171, 32457), (177, 32487), (181, 32502), (185, 32526), (190, 32556), (218, 32661), (239, 32778), (244, 32796), (247, 32811), (254, 32841), (257, 32853), (258, 32856), (264, 32883), (342, 33207), (343, 33210), (350, 33258), (356, 33285), (360, 33312), (369, 33366), (375, 33393), (395, 33531),

Gene: McSinger\_28 Start: 21519, Stop: 23321, Start Num: 50

Candidate Starts for McSinger\_28:

(Start: 50 @21519 has 210 MA's), (Start: 59 @21540 has 4 MA's), (Start: 70 @21582 has 1 MA's), (83, 21627), (120, 21843), (127, 21888), (130, 21897), (134, 21936), (140, 21987), (141, 21990), (183, 22185), (195, 22254), (229, 22455), (230, 22458), (234, 22479), (257, 22575), (258, 22578), (260, 22584), (274, 22653), (277, 22671), (279, 22680), (285, 22710), (310, 22806), (315, 22839), (318, 22854), (342, 22995), (351, 23052), (371, 23163), (395, 23316),

Gene: Medusa\_27 Start: 19828, Stop: 21606, Start Num: 48

Candidate Starts for Medusa\_27:

(Start: 39 @19804 has 8 MA's), (Start: 48 @19828 has 538 MA's), (Start: 70 @19885 has 1 MA's), (85, 19939), (86, 19954), (90, 19972), (105, 20056), (107, 20068), (108, 20071), (120, 20146), (123, 20161), (130, 20200), (144, 20317), (161, 20404), (181, 20485), (191, 20533), (195, 20557), (211, 20644), (219, 20689), (230, 20761), (234, 20782), (239, 20800), (258, 20881), (277, 20974), (279, 20983), (283, 21007), (285, 21013), (291, 21037), (310, 21091), (314, 21112), (321, 21163), (326, 21187), (335, 21241), (351, 21337), (369, 21442), (372, 21457), (388, 21565), (391, 21583),

Gene: MeeZee\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for MeeZee\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123,

20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Melvin\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Melvin\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: MetalQZJ\_27 Start: 21259, Stop: 23061, Start Num: 50

Candidate Starts for MetalQZJ\_27:

(Start: 50 @21259 has 210 MA's), (Start: 59 @21280 has 4 MA's), (Start: 70 @21322 has 1 MA's), (83, 21367), (120, 21583), (127, 21628), (130, 21637), (140, 21727), (141, 21730), (158, 21823), (183, 21925), (195, 21994), (226, 22183), (229, 22195), (230, 22198), (234, 22219), (257, 22315), (258, 22318), (260, 22324), (274, 22393), (277, 22411), (279, 22420), (285, 22450), (310, 22546), (315, 22579), (318, 22594), (342, 22735), (351, 22792), (371, 22903),

Gene: Methuselah\_28 Start: 20462, Stop: 22258, Start Num: 48

Candidate Starts for Methuselah\_28:

(Start: 48 @20462 has 538 MA's), (Start: 70 @20519 has 1 MA's), (74, 20534), (84, 20567), (86, 20588), (89, 20603), (105, 20690), (107, 20702), (108, 20705), (120, 20780), (123, 20795), (129, 20831), (161, 21038), (187, 21152), (195, 21191), (211, 21278), (229, 21392), (234, 21416), (239, 21434), (258, 21515), (274, 21590), (277, 21608), (283, 21641), (285, 21647), (295, 21686), (309, 21740), (310, 21743), (314, 21764), (322, 21821), (351, 21989), (369, 22094), (371, 22100), (391, 22235),

Gene: Micasa\_24 Start: 19633, Stop: 21429, Start Num: 48

Candidate Starts for Micasa\_24:

(Start: 48 @19633 has 538 MA's), (85, 19738), (90, 19771), (108, 19870), (120, 19945), (123, 19960), (129, 19996), (137, 20068), (139, 20083), (146, 20122), (192, 20347), (194, 20353), (219, 20488), (226, 20545), (227, 20548), (229, 20557), (239, 20599), (243, 20617), (257, 20677), (258, 20680), (277, 20773), (279, 20782), (283, 20806), (309, 20914), (315, 20950), (351, 21160), (368, 21262), (371, 21271), (391, 21406), (393, 21415),

Gene: Michley\_27 Start: 21004, Stop: 22806, Start Num: 50

Candidate Starts for Michley\_27:

(Start: 50 @21004 has 210 MA's), (Start: 59 @21025 has 4 MA's), (Start: 70 @21067 has 1 MA's), (83, 21112), (120, 21328), (127, 21373), (130, 21382), (134, 21421), (140, 21472), (141, 21475), (183, 21670), (195, 21739), (229, 21940), (230, 21943), (234, 21964), (257, 22060), (258, 22063), (260, 22069), (274, 22138), (277, 22156), (279, 22165), (285, 22195), (310, 22291), (315, 22324), (318, 22339), (342, 22480), (351, 22537), (371, 22648),

Gene: Microwolf\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for Microwolf\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (84, 20485), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (187, 21070), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309,

21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: MiculUcigas\_28 Start: 20213, Stop: 21985, Start Num: 48

Candidate Starts for MiculUcigas\_28:

(Start: 39 @20189 has 8 MA's), (Start: 48 @20213 has 538 MA's), (89, 20348), (107, 20447), (108, 20450), (119, 20522), (120, 20525), (130, 20579), (131, 20585), (137, 20648), (144, 20696), (153, 20729), (161, 20783), (181, 20864), (183, 20867), (187, 20897), (215, 21053), (230, 21140), (258, 21260), (282, 21383), (283, 21386), (285, 21392), (305, 21440), (315, 21503), (318, 21518), (319, 21524), (329, 21578), (334, 21617), (337, 21632), (344, 21665), (369, 21821), (371, 21827), (378, 21881),

Gene: MicyPS\_17 Start: 17411, Stop: 19057, Start Num: 60

Candidate Starts for MicyPS\_17:

(Start: 60 @17411 has 1 MA's), (108, 17636), (116, 17678), (146, 17888), (161, 17969), (169, 17999), (185, 18065), (193, 18116), (200, 18152), (258, 18395), (264, 18422), (273, 18467), (284, 18524), (317, 18620), (344, 18737), (385, 19001), (390, 19022), (395, 19049),

Gene: Midas2\_24 Start: 19707, Stop: 21503, Start Num: 48

Candidate Starts for Midas2\_24:

(Start: 41 @19695 has 2 MA's), (Start: 48 @19707 has 538 MA's), (85, 19812), (90, 19845), (108, 19944), (120, 20019), (123, 20034), (129, 20070), (137, 20142), (139, 20157), (146, 20196), (192, 20421), (194, 20427), (219, 20562), (226, 20619), (227, 20622), (229, 20631), (239, 20673), (243, 20691), (257, 20751), (258, 20754), (277, 20847), (279, 20856), (283, 20880), (309, 20988), (315, 21024), (351, 21234), (368, 21336), (371, 21345), (391, 21480), (393, 21489),

Gene: Miko\_31 Start: 21807, Stop: 23579, Start Num: 48

Candidate Starts for Miko\_31:

(Start: 39 @21783 has 8 MA's), (Start: 48 @21807 has 538 MA's), (98, 21990), (107, 22041), (108, 22044), (119, 22116), (120, 22119), (130, 22173), (144, 22290), (161, 22377), (176, 22437), (181, 22458), (183, 22461), (190, 22503), (215, 22647), (230, 22734), (239, 22773), (258, 22854), (285, 22986), (315, 23097), (318, 23112), (319, 23118), (329, 23172), (334, 23211), (337, 23226), (344, 23259), (351, 23310), (365, 23388), (369, 23415), (371, 23421), (378, 23475),

Gene: Milcery\_24 Start: 19663, Stop: 21459, Start Num: 48

Candidate Starts for Milcery\_24:

(Start: 48 @19663 has 538 MA's), (85, 19768), (90, 19801), (108, 19900), (120, 19975), (123, 19990), (129, 20026), (137, 20098), (139, 20113), (146, 20152), (153, 20179), (157, 20200), (163, 20239), (192, 20377), (194, 20383), (219, 20518), (226, 20575), (227, 20578), (229, 20587), (239, 20629), (243, 20647), (257, 20707), (258, 20710), (277, 20803), (279, 20812), (283, 20836), (309, 20944), (315, 20980), (351, 21190), (368, 21292), (371, 21301), (387, 21415), (391, 21436), (393, 21445),

Gene: Millski\_26 Start: 19830, Stop: 21608, Start Num: 48

Candidate Starts for Millski\_26:

(Start: 39 @19806 has 8 MA's), (Start: 48 @19830 has 538 MA's), (Start: 70 @19887 has 1 MA's), (85, 19941), (86, 19956), (90, 19974), (105, 20058), (107, 20070), (108, 20073), (120, 20148), (123, 20163), (130, 20202), (144, 20319), (161, 20406), (181, 20487), (191, 20535), (195, 20559), (211, 20646), (219, 20691), (230, 20763), (234, 20784), (239, 20802), (258, 20883), (277, 20976), (279, 20985), (283, 21009), (285, 21015), (291, 21039), (310, 21093), (314, 21114), (321, 21165), (326, 21189), (335, 21243), (351, 21339), (369, 21444), (372, 21459), (388, 21567), (391, 21585),

Gene: MinecraftSteve\_31 Start: 19215, Stop: 21002, Start Num: 48

Candidate Starts for MinecraftSteve\_31:

(30, 19149), (Start: 39 @19191 has 8 MA's), (Start: 48 @19215 has 538 MA's), (90, 19353), (100, 19410), (108, 19452), (115, 19488), (120, 19527), (132, 19596), (134, 19620), (141, 19674), (172, 19824), (183, 19869), (187, 19899), (194, 19935), (202, 19986), (210, 20022), (219, 20070), (227, 20130), (257, 20259), (274, 20337), (318, 20538), (319, 20544), (335, 20640), (363, 20805), (379, 20904),

Gene: Miramae\_27 Start: 19775, Stop: 21568, Start Num: 52

Candidate Starts for Miramae\_27:

(22, 19619), (27, 19664), (Start: 39 @19745 has 8 MA's), (Start: 48 @19769 has 538 MA's), (Start: 52 @19775 has 3 MA's), (Start: 70 @19829 has 1 MA's), (86, 19898), (101, 19976), (105, 20000), (107, 20012), (108, 20015), (120, 20090), (123, 20105), (130, 20144), (141, 20237), (144, 20261), (161, 20348), (187, 20462), (211, 20588), (219, 20633), (229, 20702), (234, 20726), (237, 20738), (258, 20825), (274, 20900), (277, 20918), (283, 20951), (285, 20957), (288, 20972), (309, 21050), (310, 21053), (314, 21074), (351, 21299), (369, 21404), (371, 21410), (391, 21545), (395, 21563),

Gene: Misomonster\_31 Start: 20462, Stop: 22258, Start Num: 48

Candidate Starts for Misomonster\_31:

(Start: 48 @20462 has 538 MA's), (Start: 70 @20519 has 1 MA's), (74, 20534), (84, 20567), (86, 20588), (89, 20603), (105, 20690), (107, 20702), (108, 20705), (120, 20780), (123, 20795), (129, 20831), (161, 21038), (187, 21152), (195, 21191), (211, 21278), (229, 21392), (234, 21416), (239, 21434), (258, 21515), (274, 21590), (277, 21608), (283, 21641), (285, 21647), (295, 21686), (309, 21740), (310, 21743), (314, 21764), (322, 21821), (351, 21989), (369, 22094), (371, 22100), (391, 22235),

Gene: MissWhite\_28 Start: 19278, Stop: 21071, Start Num: 48

Candidate Starts for MissWhite\_28:

(30, 19212), (Start: 39 @19254 has 8 MA's), (Start: 48 @19278 has 538 MA's), (84, 19377), (90, 19416), (107, 19512), (108, 19515), (119, 19587), (120, 19590), (123, 19605), (130, 19644), (131, 19650), (144, 19761), (146, 19767), (161, 19848), (175, 19905), (181, 19929), (183, 19932), (204, 20058), (212, 20094), (229, 20202), (239, 20244), (254, 20310), (258, 20325), (304, 20523), (310, 20556), (311, 20565), (315, 20589), (318, 20604), (321, 20628), (334, 20703), (337, 20718), (369, 20907), (371, 20913), (377, 20958),

Gene: Mkhuseli\_28 Start: 21152, Stop: 22954, Start Num: 50

Candidate Starts for Mkhuseli\_28:

(Start: 50 @21152 has 210 MA's), (Start: 59 @21173 has 4 MA's), (Start: 70 @21215 has 1 MA's), (83, 21260), (120, 21476), (127, 21521), (130, 21530), (134, 21569), (140, 21620), (141, 21623), (153, 21680), (183, 21818), (195, 21887), (229, 22088), (230, 22091), (234, 22112), (257, 22208), (258, 22211), (260, 22217), (274, 22286), (277, 22304), (279, 22313), (285, 22343), (310, 22439), (315, 22472), (318, 22487), (322, 22517), (342, 22628), (351, 22685), (371, 22796),

Gene: ModicumRichard\_19 Start: 16548, Stop: 18212, Start Num: 54

Candidate Starts for ModicumRichard\_19:

(Start: 46 @16533 has 8 MA's), (Start: 54 @16548 has 5 MA's), (Start: 56 @16554 has 3 MA's), (64, 16584), (67, 16593), (116, 16827), (120, 16860), (128, 16908), (137, 16983), (143, 17028), (161, 17118), (167, 17133), (178, 17187), (181, 17196), (187, 17229), (193, 17262), (195, 17268), (249, 17502), (252, 17514), (257, 17541), (264, 17574), (272, 17613), (274, 17622), (288, 17694), (306, 17709), (310, 17733), (318, 17781), (338, 17868), (344, 17889), (355, 17955), (365, 18021), (374, 18069), (385, 18159), (395, 18207),

Gene: Molly\_28 Start: 20868, Stop: 22670, Start Num: 50

Candidate Starts for Molly\_28:

(Start: 50 @20868 has 210 MA's), (Start: 59 @20889 has 4 MA's), (Start: 70 @20931 has 1 MA's), (83, 20976), (120, 21192), (127, 21237), (130, 21246), (134, 21285), (140, 21336), (141, 21339), (183, 21534), (195, 21603), (229, 21804), (230, 21807), (234, 21828), (257, 21924), (258, 21927), (260, 21933), (274, 22002), (277, 22020), (279, 22029), (285, 22059), (310, 22155), (315, 22188), (318, 22203), (342, 22344), (351, 22401), (371, 22512),

Gene: Monet\_29 Start: 22353, Stop: 24155, Start Num: 50

Candidate Starts for Monet\_29:

(Start: 50 @22353 has 210 MA's), (Start: 59 @22374 has 4 MA's), (Start: 70 @22416 has 1 MA's), (83, 22461), (120, 22677), (127, 22722), (130, 22731), (134, 22770), (140, 22821), (141, 22824), (158, 22917), (183, 23019), (195, 23088), (229, 23289), (230, 23292), (234, 23313), (257, 23409), (258, 23412), (260, 23418), (274, 23487), (277, 23505), (279, 23514), (285, 23544), (310, 23640), (315, 23673), (318, 23688), (342, 23829), (351, 23886), (371, 23997),

Gene: MoneyMay\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for MoneyMay\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: Moonflower\_19 Start: 17249, Stop: 18943, Start Num: 49

Candidate Starts for Moonflower\_19:

(35, 17207), (Start: 37 @17219 has 5 MA's), (Start: 49 @17249 has 5 MA's), (84, 17351), (92, 17402), (103, 17459), (110, 17510), (121, 17588), (123, 17594), (171, 17867), (184, 17927), (189, 17963), (197, 18005), (213, 18047), (221, 18101), (277, 18362), (296, 18437), (311, 18479), (322, 18524), (342, 18620), (343, 18623), (346, 18638), (373, 18797), (374, 18803), (385, 18890), (394, 18935),

Gene: MoontowerMania\_34 Start: 30587, Stop: 32350, Start Num: 32

Candidate Starts for MoontowerMania\_34:

(29, 30569), (Start: 32 @30587 has 74 MA's), (Start: 37 @30623 has 5 MA's), (84, 30761), (100, 30857), (103, 30866), (112, 30935), (120, 30986), (127, 31031), (131, 31046), (140, 31127), (150, 31172), (152, 31181), (171, 31271), (177, 31301), (181, 31316), (185, 31340), (190, 31370), (218, 31475), (239, 31592), (244, 31610), (247, 31625), (254, 31655), (257, 31667), (258, 31670), (264, 31697), (342, 32021), (343, 32024), (350, 32072), (356, 32099), (360, 32126), (369, 32180), (375, 32207), (393, 32336),

Gene: Moose\_26 Start: 21094, Stop: 22896, Start Num: 50

Candidate Starts for Moose\_26:

(Start: 50 @21094 has 210 MA's), (Start: 59 @21115 has 4 MA's), (Start: 70 @21157 has 1 MA's), (83, 21202), (120, 21418), (127, 21463), (130, 21472), (134, 21511), (140, 21562), (141, 21565), (183, 21760), (195, 21829), (229, 22030), (230, 22033), (234, 22054), (257, 22150), (258, 22153), (260, 22159), (274, 22228), (277, 22246), (279, 22255), (285, 22285), (310, 22381), (315, 22414), (318, 22429), (322, 22459), (342, 22570), (351, 22627), (371, 22738),

Gene: Morgana\_19 Start: 16541, Stop: 18205, Start Num: 54

Candidate Starts for Morgana\_19:

(23, 16391), (38, 16502), (Start: 46 @16526 has 8 MA's), (Start: 54 @16541 has 5 MA's), (Start: 56 @16547 has 3 MA's), (64, 16577), (67, 16586), (116, 16820), (120, 16853), (128, 16901), (137, 16976), (140, 16997), (143, 17021), (146, 17030), (153, 17057), (167, 17126), (178, 17180), (181, 17189), (187, 17222), (193, 17255), (195, 17261), (252, 17507), (257, 17534), (264, 17567), (272,

17606), (274, 17615), (288, 17687), (306, 17702), (310, 17726), (318, 17774), (338, 17861), (344, 17882), (355, 17948), (365, 18014), (374, 18062), (385, 18152),

Gene: Morpher26\_27 Start: 19826, Stop: 21625, Start Num: 48

Candidate Starts for Morpher26\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19886 has 1 MA's), (86, 19955), (101, 20033), (105, 20057), (107, 20069), (108, 20072), (115, 20108), (120, 20147), (130, 20201), (141, 20294), (144, 20318), (161, 20405), (187, 20519), (195, 20558), (211, 20645), (219, 20690), (229, 20759), (234, 20783), (237, 20795), (258, 20882), (274, 20957), (277, 20975), (279, 20984), (283, 21008), (285, 21014), (288, 21029), (300, 21062), (309, 21107), (310, 21110), (314, 21131), (351, 21356), (365, 21434), (369, 21461), (371, 21467), (391, 21602),

Gene: Morrow\_27 Start: 19830, Stop: 21608, Start Num: 48

Candidate Starts for Morrow\_27:

(Start: 39 @19806 has 8 MA's), (Start: 48 @19830 has 538 MA's), (Start: 70 @19887 has 1 MA's), (85, 19941), (86, 19956), (90, 19974), (105, 20058), (107, 20070), (108, 20073), (120, 20148), (123, 20163), (130, 20202), (144, 20319), (161, 20406), (181, 20487), (191, 20535), (195, 20559), (211, 20646), (219, 20691), (230, 20763), (234, 20784), (239, 20802), (258, 20883), (277, 20976), (279, 20985), (283, 21009), (285, 21015), (291, 21039), (310, 21093), (314, 21114), (321, 21165), (326, 21189), (335, 21243), (351, 21339), (369, 21444), (372, 21459), (388, 21567), (391, 21585),

Gene: MrGordo\_27 Start: 20817, Stop: 22619, Start Num: 50

Candidate Starts for MrGordo\_27:

(Start: 50 @20817 has 210 MA's), (Start: 59 @20838 has 4 MA's), (Start: 70 @20880 has 1 MA's), (83, 20925), (120, 21141), (127, 21186), (130, 21195), (134, 21234), (140, 21285), (141, 21288), (183, 21483), (195, 21552), (229, 21753), (230, 21756), (234, 21777), (257, 21873), (258, 21876), (260, 21882), (277, 21969), (285, 22008), (310, 22104), (315, 22137), (318, 22152), (342, 22293), (351, 22350), (371, 22461),

Gene: Mryolo\_26 Start: 20854, Stop: 22656, Start Num: 50

Candidate Starts for Mryolo\_26:

(Start: 50 @20854 has 210 MA's), (Start: 59 @20875 has 4 MA's), (Start: 70 @20917 has 1 MA's), (83, 20962), (120, 21178), (127, 21223), (130, 21232), (134, 21271), (140, 21322), (141, 21325), (183, 21520), (195, 21589), (229, 21790), (230, 21793), (234, 21814), (257, 21910), (258, 21913), (260, 21919), (274, 21988), (277, 22006), (279, 22015), (285, 22045), (310, 22141), (315, 22174), (318, 22189), (342, 22330), (351, 22387), (371, 22498),

Gene: MuchMore\_31 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for MuchMore\_31:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: Mulciber\_28 Start: 20749, Stop: 22548, Start Num: 48

Candidate Starts for Mulciber\_28:

(30, 20683), (Start: 39 @20725 has 8 MA's), (Start: 48 @20749 has 538 MA's), (67, 20791), (90, 20887), (94, 20902), (107, 20983), (108, 20986), (120, 21061), (123, 21076), (130, 21115), (131, 21121), (135, 21172), (144, 21232), (146, 21238), (161, 21319), (183, 21403), (204, 21529), (209, 21547), (214, 21574), (239, 21715), (254, 21781), (257, 21793), (258, 21796), (300, 21985), (307, 22012), (308, 22021), (311, 22042), (312, 22045), (315, 22066), (318, 22081), (321, 22105), (334,

22180), (337, 22195), (351, 22279), (369, 22384), (371, 22390), (378, 22444), (395, 22543),

Gene: Mule\_27 Start: 21163, Stop: 22965, Start Num: 50

Candidate Starts for Mule\_27:

(Start: 50 @21163 has 210 MA's), (Start: 59 @21184 has 4 MA's), (Start: 70 @21226 has 1 MA's), (83, 21271), (120, 21487), (127, 21532), (130, 21541), (134, 21580), (140, 21631), (141, 21634), (183, 21829), (195, 21898), (229, 22099), (230, 22102), (234, 22123), (257, 22219), (258, 22222), (260, 22228), (274, 22297), (277, 22315), (279, 22324), (285, 22354), (310, 22450), (315, 22483), (318, 22498), (342, 22639), (351, 22696), (371, 22807),

Gene: Munch\_28 Start: 20755, Stop: 22554, Start Num: 48

Candidate Starts for Munch\_28:

(30, 20689), (Start: 39 @20731 has 8 MA's), (Start: 48 @20755 has 538 MA's), (67, 20797), (90, 20893), (94, 20908), (107, 20989), (108, 20992), (120, 21067), (123, 21082), (130, 21121), (131, 21127), (135, 21178), (144, 21238), (146, 21244), (161, 21325), (183, 21409), (204, 21535), (209, 21553), (214, 21580), (239, 21721), (254, 21787), (257, 21799), (258, 21802), (300, 21991), (307, 22018), (308, 22027), (311, 22048), (312, 22051), (315, 22072), (318, 22087), (321, 22111), (334, 22186), (337, 22201), (351, 22285), (369, 22390), (371, 22396), (378, 22450), (395, 22549),

Gene: Mundrea\_27 Start: 19791, Stop: 21590, Start Num: 48

Candidate Starts for Mundrea\_27:

(Start: 39 @19767 has 8 MA's), (Start: 48 @19791 has 538 MA's), (Start: 52 @19797 has 3 MA's), (Start: 70 @19851 has 1 MA's), (86, 19920), (101, 19998), (105, 20022), (108, 20037), (120, 20112), (123, 20127), (130, 20166), (141, 20259), (144, 20283), (161, 20370), (187, 20484), (195, 20523), (211, 20610), (219, 20655), (229, 20724), (234, 20748), (237, 20760), (258, 20847), (274, 20922), (277, 20940), (279, 20949), (283, 20973), (285, 20979), (288, 20994), (300, 21027), (309, 21072), (310, 21075), (314, 21096), (351, 21321), (369, 21426), (371, 21432), (384, 21534), (391, 21567),

Gene: Museum\_29 Start: 21173, Stop: 22975, Start Num: 50

Candidate Starts for Museum\_29:

(Start: 50 @21173 has 210 MA's), (Start: 59 @21194 has 4 MA's), (Start: 70 @21236 has 1 MA's), (83, 21281), (120, 21497), (127, 21542), (130, 21551), (134, 21590), (140, 21641), (141, 21644), (158, 21737), (183, 21839), (195, 21908), (229, 22109), (230, 22112), (234, 22133), (257, 22229), (258, 22232), (260, 22238), (274, 22307), (277, 22325), (279, 22334), (285, 22364), (310, 22460), (315, 22493), (318, 22508), (342, 22649), (351, 22706), (371, 22817),

Gene: Mutzi\_33 Start: 26290, Stop: 28056, Start Num: 32

Candidate Starts for Mutzi\_33:

(26, 26248), (29, 26278), (Start: 32 @26290 has 74 MA's), (Start: 37 @26326 has 5 MA's), (Start: 51 @26359 has 7 MA's), (102, 26569), (103, 26572), (107, 26602), (117, 26668), (120, 26692), (121, 26701), (126, 26734), (142, 26839), (152, 26887), (155, 26905), (158, 26926), (171, 26977), (173, 26989), (177, 27007), (180, 27019), (182, 27031), (185, 27046), (190, 27076), (191, 27079), (194, 27100), (216, 27172), (222, 27220), (233, 27268), (234, 27280), (247, 27331), (255, 27364), (265, 27406), (279, 27478), (296, 27544), (304, 27556), (333, 27676), (342, 27727), (343, 27730), (350, 27778), (356, 27805), (357, 27808), (360, 27832), (369, 27886), (385, 28003), (390, 28024), (395, 28051),

Gene: MyraDee\_25 Start: 18055, Stop: 19854, Start Num: 50

Candidate Starts for MyraDee\_25:

(Start: 39 @18028 has 8 MA's), (Start: 50 @18055 has 210 MA's), (75, 18136), (85, 18172), (90, 18205), (107, 18301), (108, 18304), (115, 18340), (120, 18379), (123, 18394), (140, 18523), (144, 18550), (153, 18583), (161, 18637), (187, 18751), (191, 18766), (206, 18853), (207, 18856), (219, 18919), (229, 18988), (239, 19030), (258, 19111), (274, 19186), (277, 19204), (283, 19237), (285,

19243), (288, 19258), (295, 19282), (310, 19339), (311, 19348), (315, 19372), (318, 19387), (342, 19528), (369, 19690), (371, 19696), (372, 19705), (393, 19840),

Gene: Myxus\_30 Start: 21746, Stop: 23539, Start Num: 46

Candidate Starts for Myxus\_30:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (295, 22967), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: NEHalo\_27 Start: 20911, Stop: 22713, Start Num: 50

Candidate Starts for NEHalo\_27:

(Start: 50 @20911 has 210 MA's), (Start: 59 @20932 has 4 MA's), (Start: 70 @20974 has 1 MA's), (83, 21019), (120, 21235), (127, 21280), (130, 21289), (140, 21379), (141, 21382), (158, 21475), (183, 21577), (195, 21646), (229, 21847), (230, 21850), (234, 21871), (257, 21967), (258, 21970), (260, 21976), (274, 22045), (277, 22063), (279, 22072), (285, 22102), (310, 22198), (315, 22231), (318, 22246), (342, 22387), (351, 22444), (371, 22555),

Gene: NaSiaTalie\_28 Start: 20211, Stop: 21983, Start Num: 48

Candidate Starts for NaSiaTalie\_28:

(Start: 39 @20187 has 8 MA's), (Start: 48 @20211 has 538 MA's), (89, 20346), (94, 20364), (107, 20445), (108, 20448), (119, 20520), (120, 20523), (130, 20577), (131, 20583), (137, 20646), (144, 20694), (153, 20727), (161, 20781), (181, 20862), (183, 20865), (187, 20895), (215, 21051), (230, 21138), (258, 21258), (282, 21381), (283, 21384), (285, 21390), (305, 21438), (315, 21501), (318, 21516), (319, 21522), (329, 21576), (334, 21615), (337, 21630), (344, 21663), (350, 21708), (369, 21819), (371, 21825), (378, 21879),

Gene: Naca\_24 Start: 19512, Stop: 21311, Start Num: 48

Candidate Starts for Naca\_24:

(Start: 48 @19512 has 538 MA's), (108, 19749), (120, 19824), (123, 19839), (129, 19875), (137, 19947), (139, 19962), (144, 19995), (146, 20001), (187, 20196), (192, 20226), (194, 20232), (211, 20322), (219, 20367), (229, 20436), (239, 20478), (243, 20496), (257, 20556), (258, 20559), (277, 20652), (309, 20793), (315, 20829), (368, 21144), (371, 21153), (391, 21288),

Gene: Naiad\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Naiad\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Naira\_28 Start: 22770, Stop: 24572, Start Num: 50

Candidate Starts for Naira\_28:

(Start: 50 @22770 has 210 MA's), (Start: 59 @22791 has 4 MA's), (Start: 70 @22833 has 1 MA's), (83, 22878), (120, 23094), (127, 23139), (130, 23148), (134, 23187), (140, 23238), (141, 23241), (183, 23436), (195, 23505), (205, 23565), (229, 23706), (230, 23709), (234, 23730), (257, 23826), (258, 23829), (260, 23835), (274, 23904), (277, 23922), (279, 23931), (285, 23961), (310, 24057), (315, 24090), (318, 24105), (342, 24246), (351, 24303), (371, 24414),

Gene: Naji\_31 Start: 20049, Stop: 21839, Start Num: 48



Candidate Starts for Naji\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (297, 21273), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: Nancinator\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Nancinator\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Natosaleda\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Natosaleda\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: NearlyHeadless\_24 Start: 18670, Stop: 20460, Start Num: 48

Candidate Starts for NearlyHeadless\_24:

(Start: 39 @18646 has 8 MA's), (Start: 48 @18670 has 538 MA's), (82, 18763), (90, 18808), (108, 18907), (115, 18943), (120, 18982), (123, 18997), (129, 19033), (144, 19153), (146, 19159), (172, 19279), (198, 19408), (211, 19480), (229, 19594), (277, 19810), (283, 19843), (310, 19945), (315, 19978), (318, 19993), (322, 20023), (368, 20293), (371, 20302), (372, 20311), (389, 20425),

Gene: Nebs\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Nebs\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Nebulosus\_30 Start: 19093, Stop: 20880, Start Num: 48

Candidate Starts for Nebulosus\_30:

(30, 19027), (Start: 39 @19069 has 8 MA's), (Start: 48 @19093 has 538 MA's), (90, 19231), (100, 19288), (108, 19330), (115, 19366), (120, 19405), (132, 19474), (134, 19498), (141, 19552), (172, 19702), (183, 19747), (187, 19777), (194, 19813), (202, 19864), (210, 19900), (219, 19948), (227, 20008), (257, 20137), (274, 20215), (318, 20416), (319, 20422), (335, 20518), (363, 20683), (379, 20782),

Gene: Nedarya\_29 Start: 19739, Stop: 21496, Start Num: 48

Candidate Starts for Nedarya\_29:

(30, 19673), (Start: 39 @19715 has 8 MA's), (Start: 41 @19727 has 2 MA's), (Start: 48 @19739 has 538 MA's), (75, 19808), (100, 19934), (108, 19976), (115, 20012), (120, 20051), (123, 20066), (132, 20120), (134, 20144), (136, 20165), (150, 20240), (183, 20393), (187, 20423), (191, 20438), (194,

20459), (219, 20564), (227, 20624), (257, 20753), (317, 21023), (330, 21095), (351, 21227), (362, 21293), (363, 21299), (365, 21305), (369, 21332), (384, 21440),

Gene: Neeharika16\_31 Start: 19969, Stop: 21741, Start Num: 48

Candidate Starts for Neeharika16\_31:

(30, 19903), (Start: 39 @19945 has 8 MA's), (Start: 48 @19969 has 538 MA's), (101, 20167), (108, 20206), (119, 20278), (120, 20281), (124, 20299), (130, 20335), (131, 20341), (144, 20452), (146, 20458), (155, 20497), (161, 20539), (172, 20578), (181, 20620), (183, 20623), (192, 20683), (235, 20920), (239, 20935), (258, 21016), (285, 21148), (318, 21274), (327, 21325), (329, 21334), (334, 21373), (335, 21376), (337, 21388), (351, 21472), (369, 21577), (371, 21583), (391, 21718),

Gene: Nemo27\_27 Start: 19826, Stop: 21604, Start Num: 48

Candidate Starts for Nemo27\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19883 has 1 MA's), (85, 19937), (86, 19952), (90, 19970), (105, 20054), (107, 20066), (108, 20069), (120, 20144), (123, 20159), (130, 20198), (144, 20315), (161, 20402), (181, 20483), (191, 20531), (195, 20555), (211, 20642), (219, 20687), (230, 20759), (234, 20780), (239, 20798), (258, 20879), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (291, 21035), (310, 21089), (314, 21110), (321, 21161), (326, 21185), (335, 21239), (351, 21335), (369, 21440), (372, 21455), (388, 21563), (391, 21581),

Gene: Nerujay\_28 Start: 21579, Stop: 23381, Start Num: 50

Candidate Starts for Nerujay\_28:

(Start: 50 @21579 has 210 MA's), (Start: 59 @21600 has 4 MA's), (Start: 70 @21642 has 1 MA's), (83, 21687), (120, 21903), (127, 21948), (130, 21957), (134, 21996), (140, 22047), (141, 22050), (183, 22245), (195, 22314), (229, 22515), (230, 22518), (234, 22539), (257, 22635), (258, 22638), (260, 22644), (274, 22713), (277, 22731), (279, 22740), (285, 22770), (310, 22866), (315, 22899), (318, 22914), (342, 23055), (351, 23112), (371, 23223),

Gene: Newrala\_31 Start: 19969, Stop: 21741, Start Num: 48

Candidate Starts for Newrala\_31:

(30, 19903), (Start: 39 @19945 has 8 MA's), (Start: 48 @19969 has 538 MA's), (101, 20167), (108, 20206), (119, 20278), (120, 20281), (124, 20299), (130, 20335), (131, 20341), (144, 20452), (146, 20458), (155, 20497), (161, 20539), (172, 20578), (181, 20620), (183, 20623), (192, 20683), (235, 20920), (239, 20935), (258, 21016), (285, 21148), (318, 21274), (327, 21325), (329, 21334), (334, 21373), (335, 21376), (337, 21388), (351, 21472), (369, 21577), (371, 21583), (391, 21718),

Gene: Nhonho\_27 Start: 21330, Stop: 23132, Start Num: 50

Candidate Starts for Nhonho\_27:

(Start: 50 @21330 has 210 MA's), (Start: 59 @21351 has 4 MA's), (Start: 70 @21393 has 1 MA's), (83, 21438), (120, 21654), (127, 21699), (130, 21708), (134, 21747), (140, 21798), (141, 21801), (158, 21894), (183, 21996), (195, 22065), (229, 22266), (230, 22269), (234, 22290), (257, 22386), (258, 22389), (260, 22395), (274, 22464), (277, 22482), (279, 22491), (285, 22521), (310, 22617), (315, 22650), (318, 22665), (342, 22806), (351, 22863), (371, 22974), (395, 23127),

Gene: Nibbles\_20 Start: 16710, Stop: 18404, Start Num: 47

Candidate Starts for Nibbles\_20:

(16, 16386), (Start: 47 @16710 has 34 MA's), (113, 16995), (114, 16998), (120, 17043), (123, 17058), (134, 17136), (139, 17181), (158, 17283), (167, 17316), (168, 17328), (170, 17331), (182, 17388), (187, 17421), (191, 17436), (201, 17502), (217, 17544), (219, 17553), (224, 17598), (238, 17661), (257, 17742), (262, 17760), (264, 17769), (266, 17778), (277, 17835), (279, 17844), (318, 17976), (327, 18003), (332, 18024), (341, 18075), (342, 18078), (359, 18174), (362, 18201), (364, 18210), (365, 18213), (371, 18243), (374, 18261), (380, 18306), (394, 18396),

Gene: NicoleTera\_32 Start: 22012, Stop: 23784, Start Num: 48

Candidate Starts for NicoleTera\_32:

(Start: 39 @21988 has 8 MA's), (Start: 48 @22012 has 538 MA's), (98, 22195), (107, 22246), (108, 22249), (119, 22321), (120, 22324), (130, 22378), (131, 22384), (134, 22417), (144, 22495), (161, 22582), (181, 22663), (183, 22666), (230, 22939), (239, 22978), (257, 23056), (258, 23059), (285, 23191), (305, 23239), (310, 23269), (315, 23302), (318, 23317), (320, 23332), (323, 23353), (329, 23377), (334, 23416), (337, 23431), (344, 23464), (351, 23515), (369, 23620), (371, 23626), (378, 23680),

Gene: Niza\_29 Start: 22150, Stop: 23952, Start Num: 50

Candidate Starts for Niza\_29:

(Start: 50 @22150 has 210 MA's), (Start: 59 @22171 has 4 MA's), (Start: 70 @22213 has 1 MA's), (83, 22258), (120, 22474), (127, 22519), (130, 22528), (134, 22567), (140, 22618), (141, 22621), (183, 22816), (195, 22885), (205, 22945), (229, 23086), (230, 23089), (234, 23110), (257, 23206), (258, 23209), (260, 23215), (274, 23284), (277, 23302), (279, 23311), (285, 23341), (310, 23437), (315, 23470), (318, 23485), (342, 23626), (351, 23683), (371, 23794),

Gene: Nodigi\_20 Start: 15752, Stop: 17443, Start Num: 41

Candidate Starts for Nodigi\_20:

(5, 15278), (12, 15389), (35, 15725), (Start: 41 @15752 has 2 MA's), (Start: 47 @15755 has 34 MA's), (77, 15839), (89, 15896), (107, 15995), (115, 16046), (139, 16223), (143, 16253), (151, 16280), (155, 16301), (157, 16310), (158, 16325), (167, 16355), (168, 16367), (171, 16373), (172, 16376), (174, 16391), (187, 16460), (201, 16541), (217, 16583), (219, 16592), (221, 16610), (228, 16655), (248, 16739), (256, 16775), (257, 16778), (258, 16781), (262, 16796), (266, 16814), (277, 16871), (283, 16904), (316, 17000), (318, 17012), (322, 17018), (324, 17027), (327, 17039), (341, 17111), (342, 17114), (343, 17117), (346, 17132), (364, 17249), (371, 17282), (372, 17291), (391, 17420), (394, 17435),

Gene: Noella\_28 Start: 20456, Stop: 22255, Start Num: 48

Candidate Starts for Noella\_28:

(Start: 48 @20456 has 538 MA's), (Start: 70 @20516 has 1 MA's), (86, 20585), (105, 20687), (107, 20699), (108, 20702), (120, 20777), (123, 20792), (130, 20831), (150, 20966), (161, 21035), (187, 21149), (211, 21275), (229, 21389), (234, 21413), (237, 21425), (239, 21431), (258, 21512), (274, 21587), (277, 21605), (279, 21614), (283, 21638), (285, 21644), (288, 21659), (300, 21692), (309, 21737), (310, 21740), (314, 21761), (335, 21890), (351, 21986), (369, 22091), (371, 22097), (391, 22232),

Gene: Noelle\_27 Start: 19888, Stop: 21681, Start Num: 52

Candidate Starts for Noelle\_27:

(Start: 39 @19858 has 8 MA's), (Start: 48 @19882 has 538 MA's), (Start: 52 @19888 has 3 MA's), (Start: 70 @19942 has 1 MA's), (86, 20011), (89, 20026), (101, 20089), (105, 20113), (107, 20125), (108, 20128), (120, 20203), (123, 20218), (141, 20350), (144, 20374), (161, 20461), (187, 20575), (195, 20614), (211, 20701), (219, 20746), (229, 20815), (234, 20839), (239, 20857), (258, 20938), (274, 21013), (277, 21031), (283, 21064), (285, 21070), (288, 21085), (295, 21109), (309, 21163), (310, 21166), (314, 21187), (351, 21412), (369, 21517), (371, 21523), (391, 21658),

Gene: Norbert\_27 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for Norbert\_27:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391,

22231),

Gene: Nordenberg\_29 Start: 29943, Stop: 31706, Start Num: 32

Candidate Starts for Nordenberg\_29:

(29, 29925), (Start: 32 @29943 has 74 MA's), (Start: 37 @29979 has 5 MA's), (84, 30117), (100, 30213), (103, 30222), (112, 30291), (120, 30342), (127, 30387), (131, 30402), (140, 30483), (150, 30528), (152, 30537), (171, 30627), (177, 30657), (181, 30672), (185, 30696), (190, 30726), (218, 30831), (239, 30948), (244, 30966), (247, 30981), (254, 31011), (257, 31023), (258, 31026), (264, 31053), (342, 31377), (343, 31380), (350, 31428), (356, 31455), (360, 31482), (369, 31536), (374, 31560), (375, 31563), (385, 31653), (395, 31701),

Gene: NorthStar\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for NorthStar\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Norz\_29 Start: 21986, Stop: 23788, Start Num: 50

Candidate Starts for Norz\_29:

(Start: 50 @21986 has 210 MA's), (Start: 59 @22007 has 4 MA's), (Start: 70 @22049 has 1 MA's), (83, 22094), (120, 22310), (127, 22355), (130, 22364), (134, 22403), (140, 22454), (141, 22457), (183, 22652), (195, 22721), (229, 22922), (230, 22925), (234, 22946), (257, 23042), (258, 23045), (260, 23051), (274, 23120), (277, 23138), (279, 23147), (285, 23177), (310, 23273), (315, 23306), (318, 23321), (342, 23462), (351, 23519), (371, 23630),

Gene: NotAPhaseMom\_27 Start: 19831, Stop: 21609, Start Num: 48

Candidate Starts for NotAPhaseMom\_27:

(Start: 39 @19807 has 8 MA's), (Start: 48 @19831 has 538 MA's), (Start: 70 @19888 has 1 MA's), (85, 19942), (86, 19957), (90, 19975), (105, 20059), (107, 20071), (108, 20074), (120, 20149), (123, 20164), (130, 20203), (144, 20320), (161, 20407), (181, 20488), (191, 20536), (195, 20560), (211, 20647), (219, 20692), (230, 20764), (234, 20785), (239, 20803), (258, 20884), (277, 20977), (279, 20986), (283, 21010), (285, 21016), (291, 21040), (310, 21094), (314, 21115), (321, 21166), (326, 21190), (335, 21244), (351, 21340), (369, 21445), (372, 21460), (388, 21568), (391, 21586),

Gene: NothingSpecial\_30 Start: 22209, Stop: 23981, Start Num: 48

Candidate Starts for NothingSpecial\_30:

(30, 22143), (Start: 39 @22185 has 8 MA's), (Start: 48 @22209 has 538 MA's), (89, 22344), (94, 22362), (107, 22443), (108, 22446), (119, 22518), (120, 22521), (130, 22575), (131, 22581), (144, 22692), (157, 22746), (161, 22779), (181, 22860), (183, 22863), (208, 23004), (211, 23019), (214, 23034), (230, 23136), (258, 23256), (285, 23388), (291, 23412), (314, 23487), (315, 23499), (318, 23514), (319, 23520), (334, 23613), (337, 23628), (351, 23712), (369, 23817), (371, 23823), (378, 23877),

Gene: Nubi\_31 Start: 25863, Stop: 27629, Start Num: 32

Candidate Starts for Nubi\_31:

(26, 25821), (Start: 32 @25863 has 74 MA's), (Start: 37 @25899 has 5 MA's), (Start: 51 @25932 has 7 MA's), (102, 26142), (103, 26145), (107, 26175), (117, 26241), (120, 26265), (121, 26274), (126, 26307), (152, 26460), (158, 26499), (171, 26550), (173, 26562), (177, 26580), (180, 26592), (182, 26604), (185, 26619), (190, 26649), (191, 26652), (194, 26673), (216, 26745), (222, 26793), (247, 26904), (255, 26937), (264, 26976), (265, 26979), (279, 27051), (296, 27117), (304, 27129), (342,

27300), (343, 27303), (350, 27351), (356, 27378), (360, 27405), (361, 27411), (369, 27459), (385, 27576), (390, 27597), (395, 27624),

Gene: Nyxis\_27 Start: 19770, Stop: 21548, Start Num: 48

Candidate Starts for Nyxis\_27:

(Start: 39 @19746 has 8 MA's), (Start: 48 @19770 has 538 MA's), (Start: 70 @19827 has 1 MA's), (85, 19881), (86, 19896), (90, 19914), (105, 19998), (107, 20010), (108, 20013), (120, 20088), (123, 20103), (130, 20142), (144, 20259), (161, 20346), (181, 20427), (191, 20475), (195, 20499), (211, 20586), (219, 20631), (230, 20703), (234, 20724), (239, 20742), (258, 20823), (277, 20916), (279, 20925), (283, 20949), (285, 20955), (291, 20979), (310, 21033), (314, 21054), (321, 21105), (326, 21129), (351, 21279), (369, 21384), (372, 21399), (388, 21507), (391, 21525),

Gene: OKCentral2016\_27 Start: 19492, Stop: 21270, Start Num: 48

Candidate Starts for OKCentral2016\_27:

(Start: 39 @19468 has 8 MA's), (Start: 48 @19492 has 538 MA's), (Start: 70 @19549 has 1 MA's), (74, 19564), (86, 19618), (105, 19720), (107, 19732), (108, 19735), (120, 19810), (123, 19825), (130, 19864), (144, 19981), (150, 19999), (161, 20068), (179, 20143), (187, 20182), (195, 20221), (211, 20308), (215, 20338), (219, 20353), (225, 20401), (234, 20446), (237, 20458), (239, 20464), (257, 20542), (258, 20545), (277, 20638), (279, 20647), (283, 20671), (285, 20677), (288, 20692), (305, 20725), (314, 20776), (317, 20794), (322, 20833), (323, 20839), (342, 20944), (351, 21001), (357, 21025), (358, 21031), (369, 21106), (371, 21112), (372, 21121), (391, 21247),

Gene: OKaNui\_28 Start: 19880, Stop: 21658, Start Num: 48

Candidate Starts for OKaNui\_28:

(Start: 39 @19856 has 8 MA's), (Start: 48 @19880 has 538 MA's), (Start: 70 @19937 has 1 MA's), (85, 19991), (86, 20006), (90, 20024), (105, 20108), (107, 20120), (108, 20123), (120, 20198), (123, 20213), (130, 20252), (144, 20369), (161, 20456), (181, 20537), (191, 20585), (195, 20609), (211, 20696), (219, 20741), (230, 20813), (234, 20834), (239, 20852), (258, 20933), (277, 21026), (279, 21035), (283, 21059), (285, 21065), (291, 21089), (310, 21143), (314, 21164), (321, 21215), (326, 21239), (335, 21293), (351, 21389), (369, 21494), (372, 21509), (388, 21617), (391, 21635),

Gene: ObLaDi\_19 Start: 16527, Stop: 18191, Start Num: 54

Candidate Starts for ObLaDi\_19:

(Start: 46 @16512 has 8 MA's), (Start: 54 @16527 has 5 MA's), (Start: 56 @16533 has 3 MA's), (64, 16563), (67, 16572), (116, 16806), (120, 16839), (128, 16887), (137, 16962), (143, 17007), (161, 17097), (167, 17112), (178, 17166), (181, 17175), (187, 17208), (193, 17241), (195, 17247), (249, 17481), (252, 17493), (257, 17520), (264, 17553), (272, 17592), (274, 17601), (288, 17673), (306, 17688), (310, 17712), (318, 17760), (338, 17847), (344, 17868), (355, 17934), (365, 18000), (374, 18048), (385, 18138), (395, 18186),

Gene: Obama12\_28 Start: 20140, Stop: 21921, Start Num: 48

Candidate Starts for Obama12\_28:

(Start: 39 @20116 has 8 MA's), (Start: 48 @20140 has 538 MA's), (Start: 52 @20146 has 3 MA's), (Start: 70 @20200 has 1 MA's), (74, 20215), (86, 20269), (90, 20287), (105, 20371), (107, 20383), (108, 20386), (120, 20461), (123, 20476), (130, 20515), (144, 20632), (161, 20719), (181, 20800), (191, 20848), (195, 20872), (211, 20959), (219, 21004), (230, 21076), (234, 21097), (239, 21115), (258, 21196), (274, 21271), (277, 21289), (279, 21298), (283, 21322), (285, 21328), (291, 21352), (308, 21394), (310, 21406), (314, 21427), (321, 21478), (326, 21502), (335, 21556), (351, 21652), (369, 21757), (372, 21772), (388, 21880), (391, 21898),

Gene: Odin\_27 Start: 18961, Stop: 20751, Start Num: 48

Candidate Starts for Odin\_27:

(30, 18895), (Start: 39 @18937 has 8 MA's), (Start: 48 @18961 has 538 MA's), (94, 19114), (107, 19195), (108, 19198), (119, 19270), (120, 19273), (123, 19288), (130, 19327), (131, 19333), (144, 19444), (146, 19450), (153, 19477), (161, 19531), (181, 19612), (211, 19771), (215, 19801), (239, 19927), (252, 19978), (258, 20008), (283, 20134), (298, 20188), (307, 20215), (308, 20224), (310, 20236), (315, 20269), (318, 20284), (321, 20308), (334, 20383), (335, 20386), (337, 20398), (351, 20482), (369, 20587), (377, 20638), (378, 20647), (391, 20728),

Gene: Ohfah\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Ohfah\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Ohno789\_27 Start: 20972, Stop: 22774, Start Num: 50

Candidate Starts for Ohno789\_27:

(Start: 50 @20972 has 210 MA's), (Start: 59 @20993 has 4 MA's), (Start: 70 @21035 has 1 MA's), (83, 21080), (120, 21296), (127, 21341), (130, 21350), (134, 21389), (140, 21440), (141, 21443), (183, 21638), (195, 21707), (229, 21908), (230, 21911), (234, 21932), (257, 22028), (258, 22031), (260, 22037), (274, 22106), (277, 22124), (279, 22133), (285, 22163), (310, 22259), (315, 22292), (318, 22307), (342, 22448), (351, 22505), (371, 22616),

Gene: OlanP\_29 Start: 20640, Stop: 22436, Start Num: 48

Candidate Starts for OlanP\_29:

(Start: 48 @20640 has 538 MA's), (Start: 70 @20697 has 1 MA's), (74, 20712), (86, 20766), (89, 20781), (105, 20868), (107, 20880), (108, 20883), (120, 20958), (123, 20973), (161, 21216), (195, 21369), (211, 21456), (229, 21570), (234, 21594), (239, 21612), (258, 21693), (274, 21768), (277, 21786), (279, 21795), (283, 21819), (285, 21825), (288, 21840), (295, 21864), (309, 21918), (310, 21921), (314, 21942), (371, 22278), (391, 22413),

Gene: Ollie\_29 Start: 20249, Stop: 22045, Start Num: 48

Candidate Starts for Ollie\_29:

(Start: 48 @20249 has 538 MA's), (Start: 70 @20306 has 1 MA's), (74, 20321), (84, 20354), (86, 20375), (89, 20390), (105, 20477), (107, 20489), (108, 20492), (120, 20567), (123, 20582), (129, 20618), (161, 20825), (187, 20939), (195, 20978), (211, 21065), (229, 21179), (234, 21203), (239, 21221), (258, 21302), (274, 21377), (277, 21395), (283, 21428), (285, 21434), (295, 21473), (309, 21527), (310, 21530), (314, 21551), (322, 21608), (351, 21776), (369, 21881), (371, 21887), (391, 22022),

Gene: Onglai\_29 Start: 20083, Stop: 21873, Start Num: 48

Candidate Starts for Onglai\_29:

(Start: 46 @20080 has 8 MA's), (Start: 48 @20083 has 538 MA's), (107, 20317), (108, 20320), (119, 20392), (120, 20395), (123, 20410), (130, 20449), (131, 20455), (144, 20566), (161, 20653), (181, 20734), (183, 20737), (215, 20923), (225, 20986), (230, 21010), (232, 21016), (239, 21049), (258, 21130), (283, 21256), (294, 21298), (310, 21358), (315, 21391), (318, 21406), (334, 21505), (335, 21508), (337, 21520), (351, 21604), (362, 21670), (369, 21709), (371, 21715), (377, 21760), (384, 21817), (385, 21820),

Gene: Oofda\_31 Start: 19067, Stop: 20854, Start Num: 48

Candidate Starts for Oofda\_31:

(30, 19001), (Start: 39 @19043 has 8 MA's), (Start: 48 @19067 has 538 MA's), (90, 19205), (100, 19262), (108, 19304), (115, 19340), (120, 19379), (132, 19448), (134, 19472), (141, 19526), (172, 19676), (183, 19721), (187, 19751), (194, 19787), (202, 19838), (210, 19874), (219, 19922), (227, 19982), (257, 20111), (274, 20189), (318, 20390), (319, 20396), (335, 20492), (363, 20657), (379, 20756),

Gene: Oogway\_26 Start: 21094, Stop: 22896, Start Num: 50

Candidate Starts for Oogway\_26:

(Start: 50 @21094 has 210 MA's), (Start: 59 @21115 has 4 MA's), (Start: 70 @21157 has 1 MA's), (83, 21202), (120, 21418), (127, 21463), (130, 21472), (134, 21511), (140, 21562), (141, 21565), (183, 21760), (195, 21829), (229, 22030), (230, 22033), (234, 22054), (257, 22150), (258, 22153), (260, 22159), (274, 22228), (277, 22246), (279, 22255), (285, 22285), (310, 22381), (315, 22414), (318, 22429), (342, 22570), (351, 22627), (371, 22738), (395, 22891),

Gene: Opie\_19 Start: 16985, Stop: 18715, Start Num: 43

Candidate Starts for Opie\_19:

(24, 16868), (35, 16952), (Start: 37 @16964 has 5 MA's), (Start: 43 @16985 has 5 MA's), (110, 17255), (123, 17339), (140, 17468), (155, 17540), (161, 17582), (171, 17618), (177, 17648), (182, 17672), (189, 17714), (194, 17741), (213, 17798), (214, 17804), (226, 17891), (312, 18251), (316, 18275), (322, 18293), (342, 18389), (365, 18524), (372, 18563), (373, 18566), (383, 18653), (389, 18680),

Gene: Orange\_28 Start: 20755, Stop: 22554, Start Num: 48

Candidate Starts for Orange\_28:

(30, 20689), (Start: 39 @20731 has 8 MA's), (Start: 48 @20755 has 538 MA's), (67, 20797), (90, 20893), (94, 20908), (107, 20989), (108, 20992), (120, 21067), (123, 21082), (130, 21121), (131, 21127), (135, 21178), (144, 21238), (146, 21244), (161, 21325), (183, 21409), (204, 21535), (209, 21553), (214, 21580), (239, 21721), (254, 21787), (257, 21799), (258, 21802), (300, 21991), (307, 22018), (308, 22027), (311, 22048), (312, 22051), (315, 22072), (318, 22087), (321, 22111), (334, 22186), (337, 22201), (351, 22285), (369, 22390), (371, 22396), (378, 22450), (395, 22549),

Gene: Orla\_20 Start: 15759, Stop: 17447, Start Num: 47

Candidate Starts for Orla\_20:

(35, 15729), (Start: 41 @15756 has 2 MA's), (Start: 47 @15759 has 34 MA's), (89, 15900), (107, 15999), (115, 16050), (118, 16077), (139, 16227), (143, 16257), (151, 16284), (155, 16305), (157, 16314), (158, 16329), (167, 16359), (168, 16371), (171, 16377), (172, 16380), (174, 16395), (187, 16464), (191, 16479), (201, 16545), (217, 16587), (219, 16596), (221, 16614), (228, 16659), (248, 16743), (256, 16779), (257, 16782), (258, 16785), (262, 16800), (266, 16818), (277, 16875), (283, 16908), (316, 17004), (318, 17016), (322, 17022), (324, 17031), (327, 17043), (341, 17115), (342, 17118), (343, 17121), (346, 17136), (362, 17244), (364, 17253), (371, 17286), (372, 17295), (391, 17424), (394, 17439),

Gene: P28Green\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for P28Green\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309, 21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: PGHhamlin\_31 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for PGHhamlin\_31:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129,

20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: PP\_37 Start: 25826, Stop: 27616, Start Num: 48

Candidate Starts for PP\_37:

(4, 25235), (6, 25340), (7, 25346), (11, 25436), (14, 25478), (18, 25508), (22, 25676), (30, 25760), (Start: 39 @25802 has 8 MA's), (Start: 48 @25826 has 538 MA's), (Start: 59 @25835 has 4 MA's), (84, 25925), (89, 25961), (94, 25979), (107, 26060), (108, 26063), (120, 26138), (130, 26192), (146, 26315), (153, 26342), (161, 26396), (179, 26471), (181, 26477), (183, 26480), (204, 26606), (230, 26753), (239, 26792), (283, 26999), (288, 27020), (295, 27044), (308, 27089), (309, 27098), (310, 27101), (315, 27134), (318, 27149), (321, 27173), (323, 27185), (334, 27248), (335, 27251), (351, 27347), (356, 27368), (365, 27425), (369, 27452), (371, 27458), (374, 27476), (377, 27503), (378, 27512), (391, 27593),

Gene: PSonyx\_17 Start: 17526, Stop: 19172, Start Num: 60

Candidate Starts for PSonyx\_17:

(Start: 60 @17526 has 1 MA's), (108, 17751), (116, 17793), (146, 18003), (148, 18009), (169, 18114), (185, 18180), (193, 18231), (216, 18306), (258, 18510), (264, 18537), (273, 18582), (284, 18639), (344, 18852), (385, 19116), (390, 19137), (395, 19164),

Gene: PSullivan\_29 Start: 21585, Stop: 23387, Start Num: 50

Candidate Starts for PSullivan\_29:

(Start: 50 @21585 has 210 MA's), (Start: 59 @21606 has 4 MA's), (Start: 70 @21648 has 1 MA's), (83, 21693), (120, 21909), (127, 21954), (130, 21963), (134, 22002), (140, 22053), (141, 22056), (183, 22251), (195, 22320), (229, 22521), (230, 22524), (234, 22545), (257, 22641), (258, 22644), (260, 22650), (274, 22719), (277, 22737), (279, 22746), (285, 22776), (310, 22872), (315, 22905), (318, 22920), (342, 23061), (351, 23118), (371, 23229),

Gene: PacerPaul\_27 Start: 21373, Stop: 23175, Start Num: 50

Candidate Starts for PacerPaul\_27:

(Start: 50 @21373 has 210 MA's), (Start: 59 @21394 has 4 MA's), (Start: 70 @21436 has 1 MA's), (83, 21481), (120, 21697), (127, 21742), (130, 21751), (140, 21841), (141, 21844), (183, 22039), (195, 22108), (226, 22297), (229, 22309), (230, 22312), (234, 22333), (257, 22429), (258, 22432), (260, 22438), (274, 22507), (277, 22525), (279, 22534), (285, 22564), (310, 22660), (315, 22693), (318, 22708), (342, 22849), (351, 22906), (371, 23017), (395, 23170),

Gene: PackMan\_30 Start: 21746, Stop: 23539, Start Num: 46

Candidate Starts for PackMan\_30:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (295, 22967), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: PainterBoy\_29 Start: 20875, Stop: 22665, Start Num: 48

Candidate Starts for PainterBoy\_29:

(Start: 39 @20851 has 8 MA's), (Start: 48 @20875 has 538 MA's), (94, 21028), (107, 21109), (108, 21112), (119, 21184), (120, 21187), (124, 21205), (125, 21226), (130, 21241), (131, 21247), (135, 21298), (144, 21358), (153, 21391), (161, 21445), (181, 21526), (183, 21529), (215, 21715), (230, 21802), (239, 21841), (258, 21922), (283, 22048), (303, 22111), (309, 22147), (318, 22198), (334,



22297), (344, 22345), (351, 22396), (369, 22501), (371, 22507), (378, 22561),

Gene: Palestino\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Palestino\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Panamexus\_27 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for Panamexus\_27:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Papez\_29 Start: 22831, Stop: 24612, Start Num: 59

Candidate Starts for Papez\_29:

(Start: 50 @22810 has 210 MA's), (Start: 59 @22831 has 4 MA's), (Start: 70 @22873 has 1 MA's), (83, 22918), (120, 23134), (127, 23179), (130, 23188), (134, 23227), (140, 23278), (141, 23281), (183, 23476), (195, 23545), (229, 23746), (230, 23749), (234, 23770), (257, 23866), (258, 23869), (260, 23875), (274, 23944), (277, 23962), (279, 23971), (285, 24001), (310, 24097), (315, 24130), (318, 24145), (342, 24286), (351, 24343), (371, 24454),

Gene: Paphu\_26 Start: 20886, Stop: 22688, Start Num: 50

Candidate Starts for Paphu\_26:

(Start: 48 @20883 has 538 MA's), (Start: 50 @20886 has 210 MA's), (Start: 59 @20907 has 4 MA's), (Start: 70 @20949 has 1 MA's), (83, 20994), (120, 21210), (127, 21255), (130, 21264), (134, 21303), (140, 21354), (141, 21357), (183, 21552), (195, 21621), (229, 21822), (230, 21825), (234, 21846), (257, 21942), (258, 21945), (260, 21951), (274, 22020), (277, 22038), (279, 22047), (285, 22077), (310, 22173), (315, 22206), (318, 22221), (342, 22362), (351, 22419), (371, 22530), (395, 22683),

Gene: Paraselene\_26 Start: 21257, Stop: 23059, Start Num: 50

Candidate Starts for Paraselene\_26:

(Start: 50 @21257 has 210 MA's), (Start: 59 @21278 has 4 MA's), (Start: 70 @21320 has 1 MA's), (83, 21365), (120, 21581), (127, 21626), (130, 21635), (134, 21674), (140, 21725), (141, 21728), (183, 21923), (195, 21992), (229, 22193), (230, 22196), (234, 22217), (257, 22313), (258, 22316), (260, 22322), (274, 22391), (277, 22409), (279, 22418), (285, 22448), (310, 22544), (315, 22577), (318, 22592), (342, 22733), (351, 22790), (371, 22901),

Gene: Pari\_28 Start: 20846, Stop: 22648, Start Num: 50

Candidate Starts for Pari\_28:

(Start: 50 @20846 has 210 MA's), (Start: 59 @20867 has 4 MA's), (Start: 70 @20909 has 1 MA's), (83, 20954), (120, 21170), (127, 21215), (130, 21224), (140, 21314), (141, 21317), (158, 21410), (183, 21512), (195, 21581), (226, 21770), (229, 21782), (230, 21785), (234, 21806), (257, 21902), (258, 21905), (260, 21911), (274, 21980), (277, 21998), (279, 22007), (285, 22037), (310, 22133), (315, 22166), (318, 22181), (342, 22322), (351, 22379), (371, 22490), (395, 22643),

Gene: Paries\_37 Start: 31409, Stop: 33172, Start Num: 32

Candidate Starts for Paries\_37:

(29, 31391), (Start: 32 @31409 has 74 MA's), (Start: 37 @31445 has 5 MA's), (84, 31583), (100, 31679), (103, 31688), (112, 31757), (120, 31808), (127, 31853), (131, 31868), (140, 31949), (150, 31994), (152, 32003), (171, 32093), (177, 32123), (181, 32138), (185, 32162), (190, 32192), (218, 32297), (239, 32414), (244, 32432), (247, 32447), (254, 32477), (257, 32489), (258, 32492), (264, 32519), (341, 32840), (342, 32843), (343, 32846), (350, 32894), (356, 32921), (360, 32948), (369, 33002), (374, 33026), (375, 33029), (385, 33119), (395, 33167),

Gene: Parliament\_26 Start: 21181, Stop: 22983, Start Num: 50

Candidate Starts for Parliament\_26:

(Start: 50 @21181 has 210 MA's), (Start: 59 @21202 has 4 MA's), (Start: 70 @21244 has 1 MA's), (83, 21289), (120, 21505), (127, 21550), (130, 21559), (140, 21649), (141, 21652), (144, 21676), (158, 21745), (183, 21847), (195, 21916), (226, 22105), (229, 22117), (230, 22120), (234, 22141), (257, 22237), (258, 22240), (260, 22246), (274, 22315), (277, 22333), (279, 22342), (285, 22372), (310, 22468), (315, 22501), (318, 22516), (342, 22657), (351, 22714), (371, 22825),

Gene: Partridge\_23 Start: 16382, Stop: 18007, Start Num: 62

Candidate Starts for Partridge\_23:

(Start: 56 @16367 has 3 MA's), (Start: 62 @16382 has 32 MA's), (81, 16451), (88, 16487), (120, 16673), (138, 16802), (144, 16844), (150, 16862), (152, 16871), (Start: 156 @16895 has 1 MA's), (158, 16913), (167, 16943), (170, 16958), (171, 16961), (179, 17000), (183, 17009), (198, 17093), (225, 17210), (230, 17234), (257, 17348), (274, 17426), (280, 17465), (283, 17477), (286, 17486), (305, 17507), (318, 17585), (349, 17732), (367, 17831), (369, 17846), (394, 17999),

Gene: PascalRango\_26 Start: 20874, Stop: 22676, Start Num: 50

Candidate Starts for PascalRango\_26:

(Start: 50 @20874 has 210 MA's), (Start: 59 @20895 has 4 MA's), (Start: 70 @20937 has 1 MA's), (83, 20982), (120, 21198), (127, 21243), (130, 21252), (134, 21291), (140, 21342), (141, 21345), (158, 21438), (183, 21540), (195, 21609), (229, 21810), (230, 21813), (234, 21834), (257, 21930), (258, 21933), (260, 21939), (274, 22008), (277, 22026), (279, 22035), (285, 22065), (310, 22161), (315, 22194), (318, 22209), (342, 22350), (351, 22407), (371, 22518),

Gene: PattyP\_29 Start: 21382, Stop: 23184, Start Num: 50

Candidate Starts for PattyP\_29:

(Start: 50 @21382 has 210 MA's), (Start: 59 @21403 has 4 MA's), (Start: 70 @21445 has 1 MA's), (83, 21490), (120, 21706), (127, 21751), (130, 21760), (134, 21799), (140, 21850), (141, 21853), (183, 22048), (195, 22117), (229, 22318), (230, 22321), (234, 22342), (257, 22438), (258, 22441), (260, 22447), (274, 22516), (277, 22534), (279, 22543), (285, 22573), (310, 22669), (315, 22702), (318, 22717), (342, 22858), (351, 22915), (371, 23026),

Gene: Pawn\_29 Start: 20460, Stop: 22256, Start Num: 48

Candidate Starts for Pawn\_29:

(Start: 48 @20460 has 538 MA's), (Start: 70 @20517 has 1 MA's), (74, 20532), (86, 20586), (89, 20601), (105, 20688), (107, 20700), (108, 20703), (120, 20778), (123, 20793), (161, 21036), (195, 21189), (211, 21276), (225, 21369), (229, 21390), (234, 21414), (237, 21426), (239, 21432), (258, 21513), (274, 21588), (277, 21606), (279, 21615), (283, 21639), (285, 21645), (288, 21660), (295, 21684), (309, 21738), (310, 21741), (314, 21762), (369, 22092), (371, 22098), (391, 22233),

Gene: Payneful\_27 Start: 20630, Stop: 22432, Start Num: 50

Candidate Starts for Payneful\_27:

(Start: 50 @20630 has 210 MA's), (Start: 59 @20651 has 4 MA's), (Start: 70 @20693 has 1 MA's), (83, 20738), (120, 20954), (127, 20999), (130, 21008), (134, 21047), (140, 21098), (141, 21101), (183, 21296), (195, 21365), (229, 21566), (230, 21569), (234, 21590), (257, 21686), (258, 21689), (260,

21695), (274, 21764), (277, 21782), (279, 21791), (285, 21821), (310, 21917), (315, 21950), (318, 21965), (342, 22106), (351, 22163), (371, 22274),

Gene: PeaceMeal1\_26 Start: 17890, Stop: 19668, Start Num: 48

Candidate Starts for PeaceMeal1\_26:

(Start: 39 @17866 has 8 MA's), (Start: 48 @17890 has 538 MA's), (Start: 70 @17947 has 1 MA's), (74, 17962), (86, 18016), (107, 18130), (108, 18133), (120, 18208), (125, 18247), (144, 18379), (161, 18466), (179, 18541), (187, 18580), (195, 18619), (211, 18706), (219, 18751), (229, 18820), (234, 18844), (237, 18856), (239, 18862), (277, 19036), (279, 19045), (283, 19069), (285, 19075), (288, 19090), (305, 19123), (314, 19174), (322, 19231), (323, 19237), (351, 19399), (369, 19504), (371, 19510), (372, 19519), (391, 19645),

Gene: Peaches\_27 Start: 19826, Stop: 21604, Start Num: 48

Candidate Starts for Peaches\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19883 has 1 MA's), (85, 19937), (86, 19952), (90, 19970), (105, 20054), (107, 20066), (108, 20069), (120, 20144), (123, 20159), (130, 20198), (144, 20315), (161, 20402), (181, 20483), (191, 20531), (195, 20555), (211, 20642), (219, 20687), (230, 20759), (234, 20780), (239, 20798), (258, 20879), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (291, 21035), (310, 21089), (314, 21110), (321, 21161), (326, 21185), (335, 21239), (351, 21335), (369, 21440), (372, 21455), (388, 21563), (391, 21581),

Gene: Pelly\_28 Start: 21801, Stop: 23603, Start Num: 50

Candidate Starts for Pelly\_28:

(Start: 50 @21801 has 210 MA's), (Start: 59 @21822 has 4 MA's), (Start: 70 @21864 has 1 MA's), (83, 21909), (120, 22125), (127, 22170), (130, 22179), (134, 22218), (140, 22269), (141, 22272), (183, 22467), (195, 22536), (229, 22737), (230, 22740), (234, 22761), (257, 22857), (258, 22860), (260, 22866), (274, 22935), (277, 22953), (279, 22962), (285, 22992), (310, 23088), (315, 23121), (318, 23136), (322, 23166), (342, 23277), (351, 23334), (371, 23445),

Gene: Pembroke\_29 Start: 20380, Stop: 22176, Start Num: 48

Candidate Starts for Pembroke\_29:

(Start: 48 @20380 has 538 MA's), (Start: 70 @20437 has 1 MA's), (74, 20452), (84, 20485), (86, 20506), (89, 20521), (105, 20608), (107, 20620), (108, 20623), (120, 20698), (123, 20713), (129, 20749), (161, 20956), (187, 21070), (195, 21109), (211, 21196), (229, 21310), (234, 21334), (239, 21352), (258, 21433), (274, 21508), (277, 21526), (283, 21559), (285, 21565), (295, 21604), (309, 21658), (310, 21661), (314, 21682), (322, 21739), (351, 21907), (369, 22012), (371, 22018), (391, 22153),

Gene: Penny1\_29 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for Penny1\_29:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: Pepe\_28 Start: 21983, Stop: 23785, Start Num: 50

Candidate Starts for Pepe\_28:

(Start: 50 @21983 has 210 MA's), (Start: 59 @22004 has 4 MA's), (Start: 70 @22046 has 1 MA's), (83, 22091), (120, 22307), (127, 22352), (130, 22361), (134, 22400), (140, 22451), (141, 22454), (183, 22649), (195, 22718), (229, 22919), (230, 22922), (234, 22943), (257, 23039), (258, 23042), (260, 23048), (274, 23117), (277, 23135), (279, 23144), (285, 23174), (310, 23270), (315, 23303), (318,

23318), (342, 23459), (351, 23516), (371, 23627),

Gene: Periwinkle\_22 Start: 16893, Stop: 18590, Start Num: 47

Candidate Starts for Periwinkle\_22:

(35, 16854), (Start: 47 @16893 has 34 MA's), (53, 16905), (77, 16983), (84, 17004), (92, 17052), (95, 17061), (101, 17103), (107, 17139), (116, 17196), (118, 17217), (123, 17244), (126, 17271), (144, 17400), (158, 17469), (161, 17487), (165, 17496), (167, 17502), (177, 17550), (184, 17580), (189, 17616), (191, 17622), (194, 17643), (195, 17646), (203, 17697), (217, 17727), (221, 17754), (224, 17781), (241, 17853), (250, 17892), (265, 17946), (273, 17988), (290, 18063), (311, 18126), (316, 18153), (317, 18156), (322, 18171), (339, 18255), (341, 18264), (342, 18267), (344, 18273), (346, 18285), (347, 18288), (350, 18318), (351, 18324), (356, 18345), (357, 18348), (365, 18402), (371, 18432), (372, 18441), (379, 18492), (382, 18525), (385, 18537), (389, 18555),

Gene: Perplexer\_27 Start: 19823, Stop: 21622, Start Num: 48

Candidate Starts for Perplexer\_27:

(Start: 39 @19799 has 8 MA's), (Start: 48 @19823 has 538 MA's), (Start: 52 @19829 has 3 MA's), (Start: 70 @19883 has 1 MA's), (86, 19952), (101, 20030), (105, 20054), (108, 20069), (115, 20105), (120, 20144), (123, 20159), (141, 20291), (144, 20315), (161, 20402), (187, 20516), (195, 20555), (211, 20642), (219, 20687), (229, 20756), (234, 20780), (237, 20792), (258, 20879), (274, 20954), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (288, 21026), (300, 21059), (309, 21104), (310, 21107), (314, 21128), (351, 21353), (365, 21431), (369, 21458), (371, 21464), (391, 21599),

Gene: Perseus\_28 Start: 21723, Stop: 23525, Start Num: 50

Candidate Starts for Perseus\_28:

(Start: 50 @21723 has 210 MA's), (Start: 59 @21744 has 4 MA's), (Start: 70 @21786 has 1 MA's), (83, 21831), (120, 22047), (127, 22092), (130, 22101), (134, 22140), (140, 22191), (141, 22194), (155, 22263), (183, 22389), (195, 22458), (229, 22659), (230, 22662), (234, 22683), (257, 22779), (258, 22782), (260, 22788), (274, 22857), (277, 22875), (279, 22884), (285, 22914), (310, 23010), (315, 23043), (318, 23058), (342, 23199), (351, 23256), (371, 23367), (395, 23520),

Gene: PeterPeter\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for PeterPeter\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (135, 20256), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Petersenfast\_27 Start: 20752, Stop: 22551, Start Num: 48

Candidate Starts for Petersenfast\_27:

(30, 20686), (Start: 39 @20728 has 8 MA's), (Start: 48 @20752 has 538 MA's), (67, 20794), (90, 20890), (94, 20905), (107, 20986), (108, 20989), (120, 21064), (123, 21079), (130, 21118), (131, 21124), (135, 21175), (144, 21235), (146, 21241), (161, 21322), (183, 21406), (204, 21532), (209, 21550), (214, 21577), (239, 21718), (254, 21784), (257, 21796), (258, 21799), (300, 21988), (307, 22015), (308, 22024), (311, 22045), (312, 22048), (315, 22069), (318, 22084), (321, 22108), (334, 22183), (337, 22198), (351, 22282), (369, 22387), (371, 22393), (378, 22447), (395, 22546),

Gene: Peterson\_30 Start: 23011, Stop: 24813, Start Num: 50

Candidate Starts for Peterson\_30:

(Start: 50 @23011 has 210 MA's), (Start: 59 @23032 has 4 MA's), (Start: 70 @23074 has 1 MA's), (83, 23119), (120, 23335), (127, 23380), (130, 23389), (134, 23428), (140, 23479), (141, 23482), (144,

23506), (183, 23677), (195, 23746), (226, 23935), (229, 23947), (230, 23950), (234, 23971), (257, 24067), (258, 24070), (260, 24076), (274, 24145), (277, 24163), (279, 24172), (285, 24202), (310, 24298), (315, 24331), (318, 24346), (342, 24487), (351, 24544), (371, 24655), (395, 24808),

Gene: PetiteSangusue\_27 Start: 19826, Stop: 21625, Start Num: 48

Candidate Starts for PetiteSangusue\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 52 @19832 has 3 MA's), (Start: 70 @19886 has 1 MA's), (86, 19955), (105, 20057), (108, 20072), (115, 20108), (120, 20147), (123, 20162), (130, 20201), (141, 20294), (144, 20318), (161, 20405), (187, 20519), (195, 20558), (211, 20645), (219, 20690), (229, 20759), (234, 20783), (237, 20795), (258, 20882), (274, 20957), (277, 20975), (279, 20984), (283, 21008), (285, 21014), (288, 21029), (300, 21062), (309, 21107), (310, 21110), (314, 21131), (351, 21356), (365, 21434), (369, 21461), (371, 21467), (391, 21602),

Gene: Petp2012\_29 Start: 22053, Stop: 23855, Start Num: 50

Candidate Starts for Petp2012\_29:

(Start: 50 @22053 has 210 MA's), (Start: 59 @22074 has 4 MA's), (Start: 70 @22116 has 1 MA's), (83, 22161), (120, 22377), (127, 22422), (130, 22431), (134, 22470), (140, 22521), (141, 22524), (183, 22719), (195, 22788), (229, 22989), (230, 22992), (234, 23013), (257, 23109), (258, 23112), (260, 23118), (274, 23187), (277, 23205), (279, 23214), (285, 23244), (310, 23340), (315, 23373), (318, 23388), (342, 23529), (351, 23586), (371, 23697),

Gene: Petrucchio\_28 Start: 21511, Stop: 23313, Start Num: 50

Candidate Starts for Petrucchio\_28:

(Start: 50 @21511 has 210 MA's), (Start: 59 @21532 has 4 MA's), (Start: 70 @21574 has 1 MA's), (83, 21619), (120, 21835), (127, 21880), (130, 21889), (134, 21928), (140, 21979), (141, 21982), (183, 22177), (195, 22246), (229, 22447), (230, 22450), (234, 22471), (257, 22567), (258, 22570), (274, 22645), (277, 22663), (279, 22672), (285, 22702), (310, 22798), (315, 22831), (318, 22846), (322, 22876), (342, 22987), (351, 23044), (371, 23155),

Gene: PetterN\_25 Start: 18946, Stop: 20745, Start Num: 48

Candidate Starts for PetterN\_25:

(Start: 48 @18946 has 538 MA's), (108, 19183), (120, 19258), (123, 19273), (129, 19309), (137, 19381), (139, 19396), (144, 19429), (146, 19435), (187, 19630), (192, 19660), (194, 19666), (211, 19756), (219, 19801), (229, 19870), (239, 19912), (243, 19930), (257, 19990), (258, 19993), (277, 20086), (309, 20227), (315, 20263), (317, 20269), (368, 20578), (371, 20587), (391, 20722),

Gene: Ph8s\_29 Start: 18919, Stop: 20709, Start Num: 48

Candidate Starts for Ph8s\_29:

(30, 18853), (Start: 39 @18895 has 8 MA's), (Start: 48 @18919 has 538 MA's), (68, 18964), (72, 18979), (94, 19072), (107, 19153), (108, 19156), (119, 19228), (120, 19231), (123, 19246), (130, 19285), (131, 19291), (144, 19402), (146, 19408), (153, 19435), (161, 19489), (181, 19570), (211, 19729), (215, 19759), (232, 19852), (239, 19885), (252, 19936), (258, 19966), (283, 20092), (307, 20173), (308, 20182), (315, 20227), (318, 20242), (321, 20266), (334, 20341), (335, 20344), (337, 20356), (351, 20440), (369, 20545), (378, 20605), (391, 20686),

Gene: Phabuloso\_20 Start: 16422, Stop: 18119, Start Num: 47

Candidate Starts for Phabuloso\_20:

(35, 16383), (Start: 47 @16422 has 34 MA's), (53, 16434), (66, 16473), (77, 16512), (84, 16533), (92, 16581), (95, 16590), (101, 16632), (107, 16668), (116, 16725), (123, 16773), (126, 16800), (148, 16941), (158, 16998), (161, 17016), (165, 17025), (167, 17031), (184, 17109), (189, 17145), (191, 17151), (194, 17172), (195, 17175), (203, 17226), (216, 17253), (217, 17256), (221, 17283), (224, 17310), (241, 17382), (250, 17421), (265, 17475), (273, 17517), (290, 17592), (311, 17655), (316, 17682), (317, 17685), (322, 17700), (339, 17784), (341, 17793), (342, 17796), (344, 17802), (346,

17814), (347, 17817), (350, 17847), (351, 17853), (356, 17874), (357, 17877), (365, 17931), (371, 17961), (372, 17970), (379, 18021), (382, 18054), (385, 18066), (389, 18084),

Gene: Phacado\_27 Start: 19826, Stop: 21604, Start Num: 48

Candidate Starts for Phacado\_27:

(Start: 39 @19802 has 8 MA's), (Start: 48 @19826 has 538 MA's), (Start: 70 @19883 has 1 MA's), (85, 19937), (86, 19952), (90, 19970), (105, 20054), (107, 20066), (108, 20069), (120, 20144), (123, 20159), (130, 20198), (144, 20315), (161, 20402), (181, 20483), (191, 20531), (195, 20555), (211, 20642), (219, 20687), (230, 20759), (234, 20780), (239, 20798), (258, 20879), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (291, 21035), (310, 21089), (314, 21110), (321, 21161), (326, 21185), (335, 21239), (351, 21335), (369, 21440), (372, 21455), (388, 21563), (391, 21581),

Gene: Phaded\_31 Start: 22135, Stop: 23907, Start Num: 48

Candidate Starts for Phaded\_31:

(Start: 39 @22111 has 8 MA's), (Start: 48 @22135 has 538 MA's), (89, 22270), (94, 22288), (107, 22369), (108, 22372), (119, 22444), (120, 22447), (135, 22558), (139, 22585), (144, 22618), (155, 22663), (161, 22705), (183, 22789), (211, 22945), (216, 22978), (254, 23167), (258, 23182), (283, 23308), (285, 23314), (315, 23425), (318, 23440), (319, 23446), (321, 23464), (329, 23500), (334, 23539), (337, 23554), (351, 23638), (369, 23743), (371, 23749), (374, 23767), (377, 23794),

Gene: Phaeder\_30 Start: 21746, Stop: 23539, Start Num: 46

Candidate Starts for Phaeder\_30:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (295, 22967), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: PhailMary\_22 Start: 16671, Stop: 18296, Start Num: 62

Candidate Starts for PhailMary\_22:

(Start: 56 @16656 has 3 MA's), (Start: 62 @16671 has 32 MA's), (81, 16740), (88, 16776), (120, 16962), (138, 17091), (144, 17133), (150, 17151), (152, 17160), (Start: 156 @17184 has 1 MA's), (158, 17202), (167, 17232), (170, 17247), (171, 17250), (179, 17289), (183, 17298), (198, 17382), (215, 17436), (219, 17451), (225, 17499), (230, 17523), (257, 17637), (274, 17715), (280, 17754), (283, 17766), (286, 17775), (305, 17796), (318, 17874), (349, 18021), (367, 18120), (369, 18135), (394, 18288),

Gene: Phantastic\_27 Start: 19872, Stop: 21668, Start Num: 48

Candidate Starts for Phantastic\_27:

(Start: 48 @19872 has 538 MA's), (Start: 70 @19929 has 1 MA's), (86, 19998), (105, 20100), (107, 20112), (108, 20115), (120, 20190), (130, 20244), (150, 20379), (161, 20448), (187, 20562), (211, 20688), (229, 20802), (234, 20826), (239, 20844), (258, 20925), (274, 21000), (277, 21018), (279, 21027), (285, 21057), (288, 21072), (295, 21096), (300, 21105), (309, 21150), (310, 21153), (314, 21174), (315, 21186), (351, 21399), (357, 21423), (369, 21504), (371, 21510), (391, 21645),

Gene: Pharaoh\_28 Start: 21256, Stop: 23046, Start Num: 48

Candidate Starts for Pharaoh\_28:

(Start: 39 @21232 has 8 MA's), (Start: 48 @21256 has 538 MA's), (94, 21409), (95, 21412), (107, 21490), (108, 21493), (111, 21523), (119, 21565), (120, 21568), (123, 21583), (130, 21622), (131, 21628), (135, 21679), (144, 21739), (153, 21772), (161, 21826), (181, 21907), (183, 21910), (209, 22054), (215, 22096), (239, 22222), (258, 22303), (283, 22429), (294, 22471), (310, 22531), (315, 22564), (318, 22579), (319, 22585), (329, 22639), (334, 22678), (337, 22693), (351, 22777), (371,

22888), (377, 22933), (391, 23023),

Gene: Phelipe\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Phelipe\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: PherrisBueller\_28 Start: 20966, Stop: 22768, Start Num: 50

Candidate Starts for PherrisBueller\_28:

(Start: 50 @20966 has 210 MA's), (Start: 59 @20987 has 4 MA's), (Start: 70 @21029 has 1 MA's), (83, 21074), (120, 21290), (127, 21335), (130, 21344), (134, 21383), (140, 21434), (141, 21437), (183, 21632), (195, 21701), (229, 21902), (230, 21905), (234, 21926), (257, 22022), (258, 22025), (260, 22031), (274, 22100), (277, 22118), (279, 22127), (285, 22157), (310, 22253), (315, 22286), (318, 22301), (342, 22442), (351, 22499), (371, 22610), (395, 22763),

Gene: Phighter1804\_27 Start: 19805, Stop: 21583, Start Num: 48

Candidate Starts for Phighter1804\_27:

(Start: 39 @19781 has 8 MA's), (Start: 48 @19805 has 538 MA's), (Start: 70 @19862 has 1 MA's), (85, 19916), (86, 19931), (90, 19949), (105, 20033), (107, 20045), (108, 20048), (120, 20123), (123, 20138), (130, 20177), (144, 20294), (161, 20381), (181, 20462), (191, 20510), (195, 20534), (211, 20621), (219, 20666), (230, 20738), (234, 20759), (239, 20777), (277, 20951), (279, 20960), (283, 20984), (285, 20990), (291, 21014), (310, 21068), (314, 21089), (321, 21140), (326, 21164), (335, 21218), (351, 21314), (369, 21419), (372, 21434), (388, 21542), (391, 21560),

Gene: Phillis\_24 Start: 18628, Stop: 20418, Start Num: 48

Candidate Starts for Phillis\_24:

(Start: 39 @18604 has 8 MA's), (Start: 48 @18628 has 538 MA's), (82, 18721), (90, 18766), (108, 18865), (115, 18901), (120, 18940), (123, 18955), (129, 18991), (144, 19111), (146, 19117), (172, 19237), (198, 19366), (211, 19438), (229, 19552), (277, 19768), (282, 19798), (283, 19801), (310, 19903), (315, 19936), (318, 19951), (322, 19981), (368, 20251), (371, 20260), (372, 20269), (389, 20383),

Gene: PhineBark\_27 Start: 21857, Stop: 23659, Start Num: 50

Candidate Starts for PhineBark\_27:

(Start: 50 @21857 has 210 MA's), (Start: 59 @21878 has 4 MA's), (Start: 70 @21920 has 1 MA's), (83, 21965), (120, 22181), (127, 22226), (130, 22235), (134, 22274), (140, 22325), (141, 22328), (183, 22523), (195, 22592), (229, 22793), (230, 22796), (234, 22817), (257, 22913), (258, 22916), (260, 22922), (274, 22991), (277, 23009), (279, 23018), (285, 23048), (310, 23144), (315, 23177), (318, 23192), (342, 23333), (351, 23390), (371, 23501),

Gene: PhishRPhriends\_28 Start: 19644, Stop: 21440, Start Num: 48

Candidate Starts for PhishRPhriends\_28:

(Start: 48 @19644 has 538 MA's), (Start: 70 @19701 has 1 MA's), (74, 19716), (86, 19770), (89, 19785), (105, 19872), (107, 19884), (108, 19887), (120, 19962), (123, 19977), (161, 20220), (195, 20373), (211, 20460), (225, 20553), (229, 20574), (234, 20598), (237, 20610), (239, 20616), (258, 20697), (274, 20772), (277, 20790), (279, 20799), (283, 20823), (285, 20829), (288, 20844), (295, 20868), (309, 20922), (310, 20925), (314, 20946), (369, 21276), (371, 21282), (391, 21417),

Gene: Phistory\_21 Start: 17200, Stop: 18897, Start Num: 47

Candidate Starts for Phistory\_21:

(35, 17161), (Start: 47 @17200 has 34 MA's), (53, 17212), (55, 17215), (66, 17251), (77, 17290), (84, 17311), (91, 17353), (92, 17359), (93, 17362), (97, 17374), (101, 17410), (107, 17446), (116, 17503), (123, 17551), (126, 17578), (140, 17680), (148, 17719), (158, 17776), (161, 17794), (165, 17803), (167, 17809), (177, 17857), (184, 17887), (189, 17923), (191, 17929), (194, 17950), (195, 17953), (203, 18004), (216, 18031), (217, 18034), (221, 18061), (224, 18088), (241, 18160), (250, 18199), (265, 18253), (279, 18325), (290, 18370), (316, 18460), (322, 18478), (339, 18562), (341, 18571), (342, 18574), (344, 18580), (347, 18595), (350, 18625), (351, 18631), (356, 18652), (357, 18655), (365, 18709), (371, 18739), (372, 18748), (379, 18799), (382, 18832), (385, 18844), (389, 18862),

Gene: Phlei\_23 Start: 21753, Stop: 23534, Start Num: 48

Candidate Starts for Phlei\_23:

(Start: 48 @21753 has 538 MA's), (84, 21852), (85, 21858), (90, 21891), (101, 21951), (107, 21987), (108, 21990), (120, 22065), (150, 22254), (161, 22323), (181, 22404), (183, 22407), (192, 22467), (198, 22491), (215, 22587), (230, 22674), (239, 22713), (257, 22788), (304, 22986), (309, 23016), (310, 23019), (318, 23067), (331, 23139), (334, 23166), (351, 23265), (362, 23331), (365, 23343), (369, 23370), (371, 23376), (385, 23481),

Gene: Phlippers\_26 Start: 22182, Stop: 23984, Start Num: 50

Candidate Starts for Phlippers\_26:

(Start: 50 @22182 has 210 MA's), (Start: 59 @22203 has 4 MA's), (Start: 70 @22245 has 1 MA's), (83, 22290), (120, 22506), (127, 22551), (130, 22560), (140, 22650), (141, 22653), (158, 22746), (183, 22848), (195, 22917), (226, 23106), (229, 23118), (230, 23121), (234, 23142), (257, 23238), (258, 23241), (260, 23247), (274, 23316), (277, 23334), (279, 23343), (285, 23373), (310, 23469), (315, 23502), (318, 23517), (322, 23547), (342, 23658), (351, 23715), (371, 23826),

Gene: Phlop\_31 Start: 25945, Stop: 27711, Start Num: 32

Candidate Starts for Phlop\_31:

(26, 25903), (Start: 32 @25945 has 74 MA's), (Start: 37 @25981 has 5 MA's), (Start: 51 @26014 has 7 MA's), (102, 26224), (103, 26227), (107, 26257), (117, 26323), (120, 26347), (121, 26356), (126, 26389), (152, 26542), (158, 26581), (171, 26632), (173, 26644), (177, 26662), (180, 26674), (182, 26686), (185, 26701), (190, 26731), (191, 26734), (194, 26755), (216, 26827), (222, 26875), (247, 26986), (255, 27019), (264, 27058), (265, 27061), (279, 27133), (296, 27199), (304, 27211), (342, 27382), (343, 27385), (350, 27433), (356, 27460), (360, 27487), (369, 27541), (385, 27658), (390, 27679), (395, 27706),

Gene: Phlorence\_24 Start: 19764, Stop: 21563, Start Num: 48

Candidate Starts for Phlorence\_24:

(Start: 48 @19764 has 538 MA's), (85, 19869), (90, 19902), (108, 20001), (120, 20076), (123, 20091), (129, 20127), (137, 20199), (139, 20214), (144, 20247), (146, 20253), (192, 20478), (194, 20484), (211, 20574), (227, 20679), (229, 20688), (239, 20730), (243, 20748), (257, 20808), (258, 20811), (274, 20886), (277, 20904), (309, 21045), (315, 21081), (351, 21294), (368, 21396), (371, 21405), (387, 21519), (391, 21540), (393, 21549),

Gene: Phoebe\_29 Start: 20377, Stop: 22173, Start Num: 48

Candidate Starts for Phoebe\_29:

(Start: 48 @20377 has 538 MA's), (Start: 70 @20434 has 1 MA's), (74, 20449), (84, 20482), (86, 20503), (89, 20518), (105, 20605), (107, 20617), (108, 20620), (120, 20695), (123, 20710), (129, 20746), (161, 20953), (187, 21067), (195, 21106), (211, 21193), (229, 21307), (234, 21331), (239, 21349), (258, 21430), (274, 21505), (277, 21523), (283, 21556), (285, 21562), (295, 21601), (309, 21655), (310, 21658), (314, 21679), (322, 21736), (351, 21904), (369, 22009), (371, 22015), (391, 22150),



Gene: Phonnegut\_30 Start: 21782, Stop: 23572, Start Num: 48

Candidate Starts for Phonnegut\_30:

(Start: 46 @21779 has 8 MA's), (Start: 48 @21782 has 538 MA's), (107, 22016), (108, 22019), (119, 22091), (120, 22094), (123, 22109), (130, 22148), (131, 22154), (144, 22265), (161, 22352), (181, 22433), (183, 22436), (215, 22622), (225, 22685), (230, 22709), (232, 22715), (239, 22748), (258, 22829), (283, 22955), (294, 22997), (310, 23057), (315, 23090), (318, 23105), (334, 23204), (335, 23207), (337, 23219), (351, 23303), (362, 23369), (369, 23408), (371, 23414), (377, 23459), (384, 23516), (385, 23519),

Gene: Phontbonne\_27 Start: 19771, Stop: 21549, Start Num: 48

Candidate Starts for Phontbonne\_27:

(Start: 39 @19747 has 8 MA's), (Start: 48 @19771 has 538 MA's), (Start: 70 @19828 has 1 MA's), (85, 19882), (86, 19897), (90, 19915), (105, 19999), (107, 20011), (108, 20014), (120, 20089), (123, 20104), (130, 20143), (144, 20260), (161, 20347), (181, 20428), (191, 20476), (195, 20500), (211, 20587), (219, 20632), (230, 20704), (234, 20725), (239, 20743), (258, 20824), (277, 20917), (279, 20926), (283, 20950), (285, 20956), (291, 20980), (310, 21034), (314, 21055), (321, 21106), (326, 21130), (351, 21280), (369, 21385), (372, 21400), (388, 21508), (391, 21526),

Gene: Phoxy\_29 Start: 20463, Stop: 22259, Start Num: 48

Candidate Starts for Phoxy\_29:

(Start: 48 @20463 has 538 MA's), (Start: 70 @20520 has 1 MA's), (74, 20535), (84, 20568), (86, 20589), (89, 20604), (105, 20691), (107, 20703), (108, 20706), (120, 20781), (123, 20796), (129, 20832), (161, 21039), (187, 21153), (195, 21192), (211, 21279), (229, 21393), (234, 21417), (239, 21435), (258, 21516), (274, 21591), (277, 21609), (283, 21642), (285, 21648), (295, 21687), (309, 21741), (310, 21744), (314, 21765), (322, 21822), (351, 21990), (369, 22095), (371, 22101), (391, 22236),

Gene: Phrankenstein\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Phrankenstein\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Phranny\_30 Start: 20452, Stop: 22248, Start Num: 48

Candidate Starts for Phranny\_30:

(Start: 48 @20452 has 538 MA's), (Start: 70 @20509 has 1 MA's), (74, 20524), (86, 20578), (89, 20593), (105, 20680), (107, 20692), (108, 20695), (120, 20770), (123, 20785), (161, 21028), (195, 21181), (211, 21268), (225, 21361), (229, 21382), (234, 21406), (237, 21418), (239, 21424), (258, 21505), (274, 21580), (277, 21598), (279, 21607), (283, 21631), (285, 21637), (295, 21676), (309, 21730), (310, 21733), (314, 21754), (351, 21979), (369, 22084), (371, 22090), (391, 22225),

Gene: PhrostyMug\_27 Start: 21160, Stop: 22962, Start Num: 50

Candidate Starts for PhrostyMug\_27:

(Start: 50 @21160 has 210 MA's), (Start: 59 @21181 has 4 MA's), (Start: 70 @21223 has 1 MA's), (83, 21268), (120, 21484), (127, 21529), (130, 21538), (134, 21577), (140, 21628), (141, 21631), (183, 21826), (195, 21895), (229, 22096), (230, 22099), (234, 22120), (257, 22216), (258, 22219), (260, 22225), (274, 22294), (277, 22312), (279, 22321), (285, 22351), (310, 22447), (315, 22480), (318, 22495), (342, 22636), (351, 22693), (371, 22804),

Gene: PickleBack\_24 Start: 19478, Stop: 21277, Start Num: 48

Candidate Starts for PickleBack\_24:

(Start: 48 @19478 has 538 MA's), (85, 19583), (90, 19616), (108, 19715), (120, 19790), (123, 19805), (129, 19841), (137, 19913), (139, 19928), (144, 19961), (146, 19967), (165, 20060), (187, 20162), (192, 20192), (194, 20198), (211, 20288), (215, 20318), (226, 20390), (229, 20402), (230, 20405), (239, 20444), (243, 20462), (257, 20522), (258, 20525), (270, 20576), (277, 20618), (309, 20759), (317, 20801), (371, 21119), (391, 21254),

Gene: PinkCoffee\_33 Start: 26584, Stop: 28350, Start Num: 32

Candidate Starts for PinkCoffee\_33:

(26, 26542), (Start: 32 @26584 has 74 MA's), (Start: 37 @26620 has 5 MA's), (Start: 51 @26653 has 7 MA's), (102, 26863), (103, 26866), (107, 26896), (117, 26962), (120, 26986), (121, 26995), (126, 27028), (152, 27181), (158, 27220), (171, 27271), (173, 27283), (177, 27301), (180, 27313), (182, 27325), (185, 27340), (190, 27370), (191, 27373), (194, 27394), (216, 27466), (222, 27514), (247, 27625), (255, 27658), (265, 27700), (279, 27772), (296, 27838), (304, 27850), (342, 28021), (343, 28024), (350, 28072), (356, 28099), (360, 28126), (369, 28180), (385, 28297), (390, 28318), (395, 28345),

Gene: PinkPlastic\_26 Start: 20900, Stop: 22702, Start Num: 50

Candidate Starts for PinkPlastic\_26:

(Start: 50 @20900 has 210 MA's), (Start: 59 @20921 has 4 MA's), (Start: 70 @20963 has 1 MA's), (83, 21008), (120, 21224), (127, 21269), (130, 21278), (140, 21368), (141, 21371), (158, 21464), (183, 21566), (195, 21635), (229, 21836), (230, 21839), (234, 21860), (257, 21956), (258, 21959), (260, 21965), (274, 22034), (277, 22052), (279, 22061), (285, 22091), (310, 22187), (315, 22220), (318, 22235), (342, 22376), (351, 22433), (371, 22544),

Gene: Pinto\_30 Start: 21713, Stop: 23515, Start Num: 50

Candidate Starts for Pinto\_30:

(Start: 50 @21713 has 210 MA's), (Start: 59 @21734 has 4 MA's), (Start: 70 @21776 has 1 MA's), (83, 21821), (120, 22037), (127, 22082), (130, 22091), (140, 22181), (141, 22184), (183, 22379), (195, 22448), (229, 22649), (230, 22652), (234, 22673), (257, 22769), (258, 22772), (260, 22778), (274, 22847), (277, 22865), (279, 22874), (285, 22904), (310, 23000), (315, 23033), (318, 23048), (342, 23189), (351, 23246), (371, 23357),

Gene: Pioneer\_30 Start: 21782, Stop: 23572, Start Num: 48

Candidate Starts for Pioneer\_30:

(Start: 46 @21779 has 8 MA's), (Start: 48 @21782 has 538 MA's), (107, 22016), (108, 22019), (119, 22091), (120, 22094), (123, 22109), (130, 22148), (131, 22154), (144, 22265), (161, 22352), (181, 22433), (183, 22436), (215, 22622), (225, 22685), (230, 22709), (232, 22715), (239, 22748), (258, 22829), (283, 22955), (294, 22997), (310, 23057), (315, 23090), (318, 23105), (334, 23204), (335, 23207), (337, 23219), (351, 23303), (362, 23369), (369, 23408), (371, 23414), (377, 23459), (384, 23516), (385, 23519),

Gene: Pipcraft\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Pipcraft\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Pippin\_29 Start: 21464, Stop: 23266, Start Num: 50

Candidate Starts for Pippin\_29:

(Start: 50 @21464 has 210 MA's), (Start: 59 @21485 has 4 MA's), (Start: 70 @21527 has 1 MA's), (83, 21572), (120, 21788), (127, 21833), (130, 21842), (134, 21881), (140, 21932), (141, 21935), (183, 22130), (195, 22199), (229, 22400), (230, 22403), (234, 22424), (257, 22520), (258, 22523), (260, 22529), (274, 22598), (277, 22616), (279, 22625), (285, 22655), (310, 22751), (315, 22784), (318, 22799), (342, 22940), (351, 22997), (371, 23108),

Gene: Piro94\_29 Start: 20672, Stop: 22444, Start Num: 48

Candidate Starts for Piro94\_29:

(Start: 39 @20648 has 8 MA's), (Start: 48 @20672 has 538 MA's), (89, 20807), (94, 20825), (107, 20906), (108, 20909), (119, 20981), (120, 20984), (130, 21038), (131, 21044), (137, 21107), (144, 21155), (153, 21188), (161, 21242), (181, 21323), (183, 21326), (187, 21356), (215, 21512), (230, 21599), (258, 21719), (282, 21842), (283, 21845), (285, 21851), (305, 21899), (315, 21962), (318, 21977), (319, 21983), (329, 22037), (334, 22076), (337, 22091), (344, 22124), (350, 22169), (369, 22280), (371, 22286), (378, 22340),

Gene: Pistachio\_28 Start: 19451, Stop: 21247, Start Num: 48

Candidate Starts for Pistachio\_28:

(Start: 48 @19451 has 538 MA's), (Start: 70 @19508 has 1 MA's), (86, 19577), (105, 19679), (107, 19691), (108, 19694), (120, 19769), (123, 19784), (130, 19823), (150, 19958), (161, 20027), (187, 20141), (211, 20267), (229, 20381), (234, 20405), (239, 20423), (258, 20504), (274, 20579), (277, 20597), (279, 20606), (283, 20630), (285, 20636), (288, 20651), (300, 20684), (309, 20729), (310, 20732), (314, 20753), (315, 20765), (317, 20771), (326, 20828), (351, 20978), (357, 21002), (369, 21083), (371, 21089), (391, 21224),

Gene: Pita2\_29 Start: 21585, Stop: 23387, Start Num: 50

Candidate Starts for Pita2\_29:

(Start: 50 @21585 has 210 MA's), (Start: 59 @21606 has 4 MA's), (Start: 70 @21648 has 1 MA's), (83, 21693), (120, 21909), (127, 21954), (130, 21963), (134, 22002), (140, 22053), (141, 22056), (183, 22251), (195, 22320), (229, 22521), (230, 22524), (234, 22545), (257, 22641), (258, 22644), (260, 22650), (274, 22719), (277, 22737), (279, 22746), (285, 22776), (310, 22872), (315, 22905), (318, 22920), (342, 23061), (351, 23118), (371, 23229),

Gene: Pmask\_31 Start: 19970, Stop: 21742, Start Num: 48

Candidate Starts for Pmask\_31:

(30, 19904), (Start: 39 @19946 has 8 MA's), (Start: 48 @19970 has 538 MA's), (101, 20168), (108, 20207), (119, 20279), (120, 20282), (124, 20300), (130, 20336), (131, 20342), (144, 20453), (146, 20459), (155, 20498), (161, 20540), (172, 20579), (181, 20621), (183, 20624), (192, 20684), (235, 20921), (239, 20936), (258, 21017), (285, 21149), (318, 21275), (327, 21326), (329, 21335), (334, 21374), (335, 21377), (337, 21389), (351, 21473), (369, 21578), (371, 21584), (391, 21719),

Gene: Pocahontas\_28 Start: 20452, Stop: 22251, Start Num: 48

Candidate Starts for Pocahontas\_28:

(Start: 48 @20452 has 538 MA's), (Start: 70 @20512 has 1 MA's), (86, 20581), (105, 20683), (107, 20695), (108, 20698), (120, 20773), (123, 20788), (130, 20827), (150, 20962), (161, 21031), (187, 21145), (211, 21271), (229, 21385), (234, 21409), (237, 21421), (239, 21427), (258, 21508), (274, 21583), (277, 21601), (279, 21610), (283, 21634), (285, 21640), (288, 21655), (300, 21688), (309, 21733), (310, 21736), (314, 21757), (335, 21886), (351, 21982), (369, 22087), (371, 22093), (391, 22228),

Gene: Polymorphads\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Polymorphads\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123,

20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Polyphemus\_30 Start: 19968, Stop: 21740, Start Num: 48

Candidate Starts for Polyphemus\_30:

(30, 19902), (Start: 39 @19944 has 8 MA's), (Start: 48 @19968 has 538 MA's), (101, 20166), (108, 20205), (119, 20277), (120, 20280), (124, 20298), (130, 20334), (131, 20340), (144, 20451), (146, 20457), (155, 20496), (161, 20538), (172, 20577), (181, 20619), (183, 20622), (192, 20682), (235, 20919), (239, 20934), (258, 21015), (285, 21147), (318, 21273), (327, 21324), (329, 21333), (334, 21372), (335, 21375), (337, 21387), (351, 21471), (369, 21576), (371, 21582), (391, 21717),

Gene: Pomar16\_31 Start: 20090, Stop: 21880, Start Num: 48

Candidate Starts for Pomar16\_31:

(30, 20024), (Start: 39 @20066 has 8 MA's), (Start: 48 @20090 has 538 MA's), (94, 20243), (107, 20324), (108, 20327), (119, 20399), (120, 20402), (123, 20417), (130, 20456), (131, 20462), (144, 20573), (150, 20591), (161, 20660), (181, 20741), (183, 20744), (211, 20900), (215, 20930), (258, 21137), (283, 21263), (310, 21365), (315, 21398), (318, 21413), (321, 21437), (334, 21512), (335, 21515), (337, 21527), (351, 21611), (365, 21689), (369, 21716), (371, 21722), (377, 21767), (378, 21776), (391, 21857),

Gene: Poompha\_26 Start: 17888, Stop: 19666, Start Num: 48

Candidate Starts for Poompha\_26:

(Start: 39 @17864 has 8 MA's), (Start: 48 @17888 has 538 MA's), (Start: 70 @17945 has 1 MA's), (74, 17960), (86, 18014), (107, 18128), (108, 18131), (120, 18206), (125, 18245), (144, 18377), (161, 18464), (179, 18539), (187, 18578), (195, 18617), (211, 18704), (219, 18749), (229, 18818), (234, 18842), (237, 18854), (239, 18860), (252, 18911), (277, 19034), (279, 19043), (283, 19067), (285, 19073), (288, 19088), (305, 19121), (314, 19172), (322, 19229), (323, 19235), (351, 19397), (369, 19502), (371, 19508), (372, 19517), (391, 19643),

Gene: Popcicle\_28 Start: 20452, Stop: 22251, Start Num: 48

Candidate Starts for Popcicle\_28:

(Start: 48 @20452 has 538 MA's), (Start: 70 @20512 has 1 MA's), (86, 20581), (105, 20683), (107, 20695), (108, 20698), (120, 20773), (123, 20788), (130, 20827), (150, 20962), (161, 21031), (187, 21145), (211, 21271), (229, 21385), (234, 21409), (237, 21421), (239, 21427), (258, 21508), (274, 21583), (277, 21601), (279, 21610), (283, 21634), (285, 21640), (288, 21655), (300, 21688), (309, 21733), (310, 21736), (314, 21757), (335, 21886), (351, 21982), (369, 22087), (371, 22093), (391, 22228),

Gene: Portcullis\_31 Start: 25894, Stop: 27660, Start Num: 32

Candidate Starts for Portcullis\_31:

(26, 25852), (Start: 32 @25894 has 74 MA's), (Start: 37 @25930 has 5 MA's), (Start: 51 @25963 has 7 MA's), (102, 26173), (103, 26176), (107, 26206), (117, 26272), (120, 26296), (121, 26305), (126, 26338), (152, 26491), (158, 26530), (171, 26581), (173, 26593), (177, 26611), (180, 26623), (182, 26635), (185, 26650), (190, 26680), (191, 26683), (194, 26704), (216, 26776), (222, 26824), (247, 26935), (255, 26968), (264, 27007), (265, 27010), (279, 27082), (296, 27148), (304, 27160), (342, 27331), (343, 27334), (350, 27382), (356, 27409), (360, 27436), (361, 27442), (369, 27490), (385, 27607), (390, 27628), (395, 27655),

Gene: PotatoSplit\_30 Start: 20379, Stop: 22175, Start Num: 48

Candidate Starts for PotatoSplit\_30:

(Start: 48 @20379 has 538 MA's), (Start: 70 @20436 has 1 MA's), (74, 20451), (84, 20484), (86, 20505), (89, 20520), (105, 20607), (107, 20619), (108, 20622), (120, 20697), (123, 20712), (129, 20748), (161, 20955), (187, 21069), (195, 21108), (211, 21195), (229, 21309), (234, 21333), (239, 21351), (258, 21432), (274, 21507), (277, 21525), (283, 21558), (285, 21564), (295, 21603), (309, 21657), (310, 21660), (314, 21681), (322, 21738), (351, 21906), (369, 22011), (371, 22017), (391, 22152),

Gene: Poushou\_19 Start: 17425, Stop: 19089, Start Num: 50

Candidate Starts for Poushou\_19:

(Start: 50 @17425 has 210 MA's), (63, 17458), (116, 17716), (127, 17794), (143, 17917), (146, 17926), (147, 17929), (150, 17938), (152, 17947), (183, 18088), (185, 18100), (194, 18154), (224, 18289), (233, 18322), (236, 18340), (239, 18352), (243, 18367), (257, 18427), (263, 18448), (264, 18457), (277, 18523), (283, 18556), (305, 18586), (306, 18592), (307, 18595), (318, 18664), (341, 18763), (344, 18772), (370, 18928), (372, 18940),

Gene: Power\_28 Start: 20118, Stop: 21890, Start Num: 48

Candidate Starts for Power\_28:

(30, 20052), (Start: 39 @20094 has 8 MA's), (Start: 48 @20118 has 538 MA's), (84, 20217), (98, 20301), (107, 20352), (108, 20355), (119, 20427), (120, 20430), (130, 20484), (134, 20523), (139, 20568), (144, 20601), (161, 20688), (181, 20769), (183, 20772), (230, 21045), (258, 21165), (283, 21291), (305, 21345), (315, 21408), (318, 21423), (319, 21429), (329, 21483), (334, 21522), (337, 21537), (351, 21621), (371, 21732), (391, 21867),

Gene: Priamo\_31 Start: 20019, Stop: 21791, Start Num: 48

Candidate Starts for Priamo\_31:

(30, 19953), (Start: 39 @19995 has 8 MA's), (Start: 48 @20019 has 538 MA's), (90, 20157), (101, 20217), (107, 20253), (108, 20256), (119, 20328), (120, 20331), (130, 20385), (131, 20391), (135, 20442), (144, 20502), (146, 20508), (155, 20547), (161, 20589), (172, 20628), (181, 20670), (183, 20673), (192, 20733), (235, 20970), (239, 20985), (258, 21066), (276, 21153), (285, 21198), (318, 21324), (329, 21384), (334, 21423), (335, 21426), (337, 21438), (351, 21522), (369, 21627), (371, 21633), (391, 21768),

Gene: Prinash11\_25 Start: 19626, Stop: 21422, Start Num: 48

Candidate Starts for Prinash11\_25:

(Start: 48 @19626 has 538 MA's), (85, 19731), (90, 19764), (108, 19863), (120, 19938), (123, 19953), (129, 19989), (137, 20061), (139, 20076), (146, 20115), (153, 20142), (157, 20163), (163, 20202), (192, 20340), (194, 20346), (219, 20481), (226, 20538), (227, 20541), (229, 20550), (239, 20592), (243, 20610), (257, 20670), (258, 20673), (277, 20766), (279, 20775), (283, 20799), (309, 20907), (315, 20943), (351, 21153), (368, 21255), (371, 21264), (387, 21378), (391, 21399), (393, 21408),

Gene: Priya\_30 Start: 21780, Stop: 23570, Start Num: 48

Candidate Starts for Priya\_30:

(Start: 46 @21777 has 8 MA's), (Start: 48 @21780 has 538 MA's), (107, 22014), (108, 22017), (119, 22089), (120, 22092), (123, 22107), (130, 22146), (131, 22152), (144, 22263), (161, 22350), (181, 22431), (183, 22434), (192, 22494), (215, 22620), (225, 22683), (230, 22707), (232, 22713), (239, 22746), (258, 22827), (283, 22953), (294, 22995), (295, 22998), (310, 23055), (315, 23088), (318, 23103), (334, 23202), (335, 23205), (337, 23217), (351, 23301), (362, 23367), (369, 23406), (371, 23412), (377, 23457), (384, 23514), (385, 23517),

Gene: ProMouse\_26 Start: 21605, Stop: 23407, Start Num: 50

Candidate Starts for ProMouse\_26:

(Start: 50 @21605 has 210 MA's), (Start: 59 @21626 has 4 MA's), (Start: 70 @21668 has 1 MA's), (83, 21713), (120, 21929), (127, 21974), (140, 22073), (141, 22076), (158, 22169), (183, 22271), (195,

22340), (226, 22529), (229, 22541), (230, 22544), (234, 22565), (257, 22661), (258, 22664), (260, 22670), (274, 22739), (277, 22757), (279, 22766), (285, 22796), (310, 22892), (315, 22925), (318, 22940), (342, 23081), (351, 23138), (371, 23249), (395, 23402),

Gene: Pukovnik\_30 Start: 21690, Stop: 23462, Start Num: 48

Candidate Starts for Pukovnik\_30:

(Start: 39 @21666 has 8 MA's), (Start: 48 @21690 has 538 MA's), (89, 21825), (94, 21843), (107, 21924), (108, 21927), (119, 21999), (120, 22002), (131, 22062), (144, 22173), (161, 22260), (181, 22341), (183, 22344), (204, 22470), (211, 22500), (254, 22722), (258, 22737), (283, 22863), (285, 22869), (305, 22917), (315, 22980), (318, 22995), (319, 23001), (321, 23019), (329, 23055), (334, 23094), (337, 23109), (351, 23193), (365, 23271), (369, 23298), (371, 23304), (377, 23349),

Gene: PullumCavea\_31 Start: 25945, Stop: 27711, Start Num: 32

Candidate Starts for PullumCavea\_31:

(26, 25903), (Start: 32 @25945 has 74 MA's), (Start: 37 @25981 has 5 MA's), (Start: 51 @26014 has 7 MA's), (102, 26224), (103, 26227), (107, 26257), (117, 26323), (120, 26347), (121, 26356), (126, 26389), (152, 26542), (158, 26581), (171, 26632), (173, 26644), (177, 26662), (180, 26674), (182, 26686), (185, 26701), (190, 26731), (191, 26734), (194, 26755), (216, 26827), (222, 26875), (247, 26986), (255, 27019), (264, 27058), (265, 27061), (279, 27133), (296, 27199), (304, 27211), (342, 27382), (343, 27385), (350, 27433), (356, 27460), (360, 27487), (369, 27541), (385, 27658), (390, 27679), (395, 27706),

Gene: Pumbaa\_27 Start: 19802, Stop: 21580, Start Num: 48

Candidate Starts for Pumbaa\_27:

(Start: 39 @19778 has 8 MA's), (Start: 48 @19802 has 538 MA's), (65, 19844), (Start: 70 @19859 has 1 MA's), (85, 19913), (86, 19928), (90, 19946), (105, 20030), (107, 20042), (108, 20045), (120, 20120), (123, 20135), (130, 20174), (144, 20291), (161, 20378), (181, 20459), (191, 20507), (195, 20531), (211, 20618), (219, 20663), (230, 20735), (234, 20756), (239, 20774), (258, 20855), (277, 20948), (279, 20957), (283, 20981), (285, 20987), (291, 21011), (310, 21065), (314, 21086), (321, 21137), (326, 21161), (335, 21215), (351, 21311), (369, 21416), (372, 21431), (388, 21539), (391, 21557),

Gene: Puppy\_28 Start: 19523, Stop: 21319, Start Num: 48

Candidate Starts for Puppy\_28:

(Start: 48 @19523 has 538 MA's), (Start: 70 @19580 has 1 MA's), (86, 19649), (105, 19751), (107, 19763), (108, 19766), (120, 19841), (123, 19856), (130, 19895), (150, 20030), (161, 20099), (187, 20213), (211, 20339), (234, 20477), (239, 20495), (258, 20576), (274, 20651), (277, 20669), (279, 20678), (283, 20702), (285, 20708), (288, 20723), (300, 20756), (309, 20801), (310, 20804), (314, 20825), (315, 20837), (326, 20900), (351, 21050), (369, 21155), (371, 21161), (391, 21296),

Gene: PurpleHaze\_29 Start: 20459, Stop: 22255, Start Num: 48

Candidate Starts for PurpleHaze\_29:

(Start: 48 @20459 has 538 MA's), (Start: 70 @20516 has 1 MA's), (74, 20531), (86, 20585), (89, 20600), (105, 20687), (107, 20699), (108, 20702), (120, 20777), (123, 20792), (161, 21035), (195, 21188), (211, 21275), (225, 21368), (229, 21389), (234, 21413), (237, 21425), (239, 21431), (258, 21512), (274, 21587), (277, 21605), (279, 21614), (283, 21638), (285, 21644), (288, 21659), (295, 21683), (309, 21737), (310, 21740), (314, 21761), (369, 22091), (371, 22097), (391, 22232),

Gene: QTRlifeCrisis\_27 Start: 21720, Stop: 23522, Start Num: 50

Candidate Starts for QTRlifeCrisis\_27:

(Start: 50 @21720 has 210 MA's), (Start: 59 @21741 has 4 MA's), (Start: 70 @21783 has 1 MA's), (83, 21828), (120, 22044), (127, 22089), (130, 22098), (134, 22137), (140, 22188), (141, 22191), (183, 22386), (195, 22455), (229, 22656), (230, 22659), (234, 22680), (257, 22776), (258, 22779), (260, 22785), (274, 22854), (277, 22872), (279, 22881), (285, 22911), (310, 23007), (315, 23040), (318,

23055), (342, 23196), (351, 23253), (371, 23364),

Gene: Qobbit\_30 Start: 21776, Stop: 23569, Start Num: 46

Candidate Starts for Qobbit\_30:

(Start: 46 @21776 has 8 MA's), (Start: 48 @21779 has 538 MA's), (107, 22013), (108, 22016), (119, 22088), (120, 22091), (123, 22106), (130, 22145), (131, 22151), (144, 22262), (161, 22349), (181, 22430), (183, 22433), (215, 22619), (225, 22682), (230, 22706), (232, 22712), (239, 22745), (258, 22826), (283, 22952), (294, 22994), (310, 23054), (315, 23087), (318, 23102), (334, 23201), (335, 23204), (337, 23216), (351, 23300), (362, 23366), (369, 23405), (371, 23411), (377, 23456), (384, 23513), (385, 23516),

Gene: QueenB2\_28 Start: 20236, Stop: 22008, Start Num: 48

Candidate Starts for QueenB2\_28:

(30, 20170), (Start: 39 @20212 has 8 MA's), (Start: 48 @20236 has 538 MA's), (107, 20470), (108, 20473), (119, 20545), (120, 20548), (130, 20602), (134, 20641), (139, 20686), (144, 20719), (161, 20806), (181, 20887), (183, 20890), (230, 21163), (258, 21283), (283, 21409), (305, 21463), (307, 21472), (310, 21493), (315, 21526), (318, 21541), (319, 21547), (329, 21601), (334, 21640), (337, 21655), (351, 21739), (371, 21850),

Gene: QueenBeesly\_28 Start: 20118, Stop: 21890, Start Num: 48

Candidate Starts for QueenBeesly\_28:

(30, 20052), (Start: 39 @20094 has 8 MA's), (Start: 48 @20118 has 538 MA's), (84, 20217), (98, 20301), (107, 20352), (108, 20355), (119, 20427), (120, 20430), (130, 20484), (134, 20523), (139, 20568), (144, 20601), (161, 20688), (181, 20769), (183, 20772), (230, 21045), (258, 21165), (283, 21291), (305, 21345), (315, 21408), (318, 21423), (319, 21429), (329, 21483), (334, 21522), (337, 21537), (339, 21552), (351, 21621), (371, 21732), (391, 21867),

Gene: QuinnKiro\_27 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for QuinnKiro\_27:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Quokka\_26 Start: 19074, Stop: 20864, Start Num: 48

Candidate Starts for Quokka\_26:

(30, 19008), (Start: 39 @19050 has 8 MA's), (Start: 48 @19074 has 538 MA's), (90, 19212), (94, 19227), (107, 19308), (108, 19311), (119, 19383), (120, 19386), (130, 19440), (131, 19446), (133, 19464), (139, 19524), (144, 19557), (146, 19563), (155, 19602), (161, 19644), (181, 19725), (183, 19728), (192, 19788), (215, 19914), (229, 19998), (239, 20040), (252, 20091), (258, 20121), (283, 20247), (303, 20310), (315, 20382), (318, 20397), (321, 20421), (334, 20496), (337, 20511), (351, 20595), (369, 20700), (371, 20706), (374, 20724), (377, 20751), (378, 20760),

Gene: REQ3\_50 Start: 32274, Stop: 33917, Start Num: 54

Candidate Starts for REQ3\_50:

(Start: 46 @32259 has 8 MA's), (Start: 54 @32274 has 5 MA's), (58, 32283), (100, 32466), (103, 32475), (111, 32538), (116, 32550), (120, 32583), (127, 32625), (129, 32631), (135, 32691), (139, 32718), (140, 32724), (150, 32769), (157, 32805), (160, 32835), (167, 32853), (178, 32904), (185, 32928), (192, 32976), (216, 33054), (245, 33195), (251, 33222), (255, 33243), (257, 33252), (277, 33348), (278, 33354), (285, 33387), (304, 33408), (331, 33522), (344, 33597), (387, 33873), (390, 33885), (393, 33903), (394, 33909),

Gene: RER2\_16 Start: 13221, Stop: 14846, Start Num: 62

Candidate Starts for RER2\_16:

(Start: 56 @13206 has 3 MA's), (Start: 62 @13221 has 32 MA's), (81, 13290), (88, 13326), (101, 13398), (120, 13512), (138, 13641), (144, 13683), (150, 13701), (152, 13710), (Start: 156 @13734 has 1 MA's), (158, 13752), (165, 13776), (167, 13782), (170, 13797), (171, 13800), (183, 13848), (225, 14049), (230, 14073), (257, 14187), (274, 14265), (280, 14304), (283, 14316), (305, 14346), (318, 14424), (349, 14571), (367, 14670), (369, 14685), (394, 14838),

Gene: RGL3\_16 Start: 13452, Stop: 15005, Start Num: 81

Candidate Starts for RGL3\_16:

(44, 13356), (Start: 56 @13368 has 3 MA's), (Start: 62 @13383 has 32 MA's), (81, 13452), (88, 13488), (96, 13521), (101, 13560), (111, 13629), (120, 13674), (123, 13689), (138, 13803), (139, 13812), (153, 13878), (Start: 156 @13896 has 1 MA's), (158, 13914), (167, 13944), (170, 13959), (171, 13962), (179, 14001), (183, 14010), (187, 14040), (219, 14160), (230, 14232), (239, 14271), (252, 14319), (257, 14346), (280, 14463), (283, 14475), (305, 14505), (318, 14583), (349, 14730), (361, 14796), (367, 14829), (369, 14844), (394, 14997),

Gene: Rachaly\_31 Start: 21834, Stop: 23606, Start Num: 48

Candidate Starts for Rachaly\_31:

(Start: 39 @21810 has 8 MA's), (Start: 48 @21834 has 538 MA's), (98, 22017), (107, 22068), (108, 22071), (119, 22143), (120, 22146), (130, 22200), (134, 22239), (144, 22317), (161, 22404), (181, 22485), (183, 22488), (190, 22530), (215, 22674), (225, 22737), (230, 22761), (239, 22800), (258, 22881), (285, 23013), (315, 23124), (318, 23139), (319, 23145), (323, 23175), (329, 23199), (334, 23238), (337, 23253), (344, 23286), (351, 23337), (365, 23415), (369, 23442), (371, 23448), (378, 23502),

Gene: Rahalelujah\_27 Start: 19606, Stop: 21396, Start Num: 48

Candidate Starts for Rahalelujah\_27:

(30, 19540), (40, 19591), (Start: 48 @19606 has 538 MA's), (83, 19702), (84, 19705), (102, 19807), (107, 19840), (108, 19843), (119, 19915), (120, 19918), (130, 19972), (131, 19978), (140, 20062), (144, 20089), (146, 20095), (148, 20101), (161, 20176), (181, 20257), (183, 20260), (192, 20320), (215, 20446), (225, 20509), (230, 20533), (237, 20566), (239, 20572), (258, 20653), (295, 20824), (310, 20881), (315, 20914), (318, 20929), (321, 20953), (329, 20989), (334, 21028), (337, 21043), (351, 21127), (362, 21193), (369, 21232), (371, 21238), (377, 21283),

Gene: Raid\_28 Start: 21169, Stop: 22971, Start Num: 50

Candidate Starts for Raid\_28:

(Start: 50 @21169 has 210 MA's), (Start: 59 @21190 has 4 MA's), (Start: 70 @21232 has 1 MA's), (83, 21277), (120, 21493), (127, 21538), (130, 21547), (134, 21586), (140, 21637), (141, 21640), (183, 21835), (195, 21904), (229, 22105), (230, 22108), (234, 22129), (257, 22225), (258, 22228), (260, 22234), (274, 22303), (277, 22321), (279, 22330), (285, 22360), (310, 22456), (315, 22489), (318, 22504), (342, 22645), (351, 22702), (371, 22813),

Gene: Rajelicia\_27 Start: 20881, Stop: 22683, Start Num: 50

Candidate Starts for Rajelicia\_27:

(Start: 50 @20881 has 210 MA's), (Start: 59 @20902 has 4 MA's), (Start: 70 @20944 has 1 MA's), (83, 20989), (120, 21205), (127, 21250), (130, 21259), (140, 21349), (141, 21352), (158, 21445), (183, 21547), (195, 21616), (226, 21805), (229, 21817), (230, 21820), (234, 21841), (257, 21937), (258, 21940), (260, 21946), (274, 22015), (277, 22033), (279, 22042), (285, 22072), (310, 22168), (315, 22201), (318, 22216), (342, 22357), (351, 22414), (371, 22525),

Gene: RanchParmCat\_21 Start: 15469, Stop: 17157, Start Num: 47



Candidate Starts for RanchParmCat\_21:

(16, 15154), (35, 15439), (Start: 41 @15466 has 2 MA's), (Start: 47 @15469 has 34 MA's), (77, 15553), (102, 15676), (107, 15709), (114, 15754), (135, 15910), (139, 15937), (143, 15967), (158, 16039), (167, 16069), (168, 16081), (175, 16108), (187, 16174), (201, 16255), (217, 16297), (219, 16306), (221, 16324), (228, 16369), (248, 16453), (256, 16489), (257, 16492), (258, 16495), (260, 16501), (262, 16510), (266, 16528), (277, 16585), (316, 16714), (318, 16726), (324, 16741), (327, 16753), (341, 16825), (342, 16828), (343, 16831), (346, 16846), (359, 16927), (371, 16996), (372, 17005), (391, 17134), (394, 17149),

Gene: Rasputin\_23 Start: 16317, Stop: 17942, Start Num: 62

Candidate Starts for Rasputin\_23:

(Start: 56 @16302 has 3 MA's), (Start: 62 @16317 has 32 MA's), (81, 16386), (88, 16422), (120, 16608), (138, 16737), (144, 16779), (152, 16806), (Start: 156 @16830 has 1 MA's), (158, 16848), (167, 16878), (170, 16893), (183, 16944), (198, 17028), (225, 17145), (230, 17169), (257, 17283), (268, 17331), (274, 17361), (280, 17400), (283, 17412), (305, 17442), (318, 17520), (349, 17667), (354, 17691), (360, 17727), (367, 17766), (394, 17934),

Gene: RayTheFireFly\_19 Start: 17529, Stop: 19223, Start Num: 49

Candidate Starts for RayTheFireFly\_19:

(Start: 37 @17499 has 5 MA's), (Start: 49 @17529 has 5 MA's), (84, 17631), (92, 17682), (103, 17739), (110, 17790), (121, 17868), (123, 17874), (143, 18024), (171, 18147), (184, 18207), (189, 18243), (197, 18285), (213, 18327), (216, 18351), (221, 18381), (277, 18642), (296, 18717), (311, 18759), (322, 18804), (342, 18900), (343, 18903), (346, 18918), (373, 19077), (374, 19083), (385, 19170), (394, 19215),

Gene: ReMo\_30 Start: 19093, Stop: 20880, Start Num: 48

Candidate Starts for ReMo\_30:

(30, 19027), (Start: 39 @19069 has 8 MA's), (Start: 48 @19093 has 538 MA's), (90, 19231), (100, 19288), (108, 19330), (115, 19366), (120, 19405), (132, 19474), (134, 19498), (141, 19552), (172, 19702), (183, 19747), (187, 19777), (194, 19813), (202, 19864), (210, 19900), (219, 19948), (227, 20008), (257, 20137), (274, 20215), (318, 20416), (319, 20422), (335, 20518), (363, 20683), (379, 20782),

Gene: Reba\_30 Start: 20125, Stop: 21921, Start Num: 48

Candidate Starts for Reba\_30:

(Start: 48 @20125 has 538 MA's), (Start: 70 @20182 has 1 MA's), (74, 20197), (86, 20251), (89, 20266), (105, 20353), (107, 20365), (108, 20368), (120, 20443), (123, 20458), (161, 20701), (195, 20854), (211, 20941), (225, 21034), (229, 21055), (234, 21079), (237, 21091), (239, 21097), (258, 21178), (274, 21253), (277, 21271), (279, 21280), (283, 21304), (285, 21310), (295, 21349), (309, 21403), (310, 21406), (314, 21427), (351, 21652), (369, 21757), (371, 21763), (391, 21898),

Gene: Rebeuca\_28 Start: 19987, Stop: 21765, Start Num: 48

Candidate Starts for Rebeuca\_28:

(Start: 48 @19987 has 538 MA's), (Start: 70 @20044 has 1 MA's), (74, 20059), (84, 20092), (86, 20113), (105, 20215), (107, 20227), (108, 20230), (120, 20305), (123, 20320), (130, 20359), (144, 20476), (148, 20488), (150, 20494), (161, 20563), (174, 20617), (179, 20638), (187, 20677), (195, 20716), (211, 20803), (219, 20848), (225, 20896), (229, 20917), (234, 20941), (237, 20953), (239, 20959), (258, 21040), (277, 21133), (279, 21142), (283, 21166), (285, 21172), (288, 21187), (305, 21220), (314, 21271), (317, 21289), (342, 21439), (351, 21496), (357, 21520), (358, 21526), (369, 21601), (371, 21607), (372, 21616), (379, 21667), (391, 21742),

Gene: RedRock\_31 Start: 22100, Stop: 23872, Start Num: 48

Candidate Starts for RedRock\_31:

(Start: 39 @22076 has 8 MA's), (Start: 48 @22100 has 538 MA's), (98, 22283), (108, 22337), (119, 22409), (120, 22412), (130, 22466), (131, 22472), (134, 22505), (144, 22583), (146, 22589), (150, 22601), (161, 22670), (179, 22745), (181, 22751), (183, 22754), (190, 22796), (216, 22943), (229, 23024), (230, 23027), (239, 23066), (254, 23132), (258, 23147), (285, 23279), (305, 23327), (314, 23378), (315, 23390), (318, 23405), (319, 23411), (329, 23465), (337, 23519), (351, 23603), (362, 23669), (369, 23708), (371, 23714),

Gene: Refuge\_31 Start: 23112, Stop: 24884, Start Num: 48

Candidate Starts for Refuge\_31:

(30, 23046), (Start: 39 @23088 has 8 MA's), (40, 23097), (Start: 48 @23112 has 538 MA's), (94, 23265), (107, 23346), (108, 23349), (119, 23421), (120, 23424), (130, 23478), (131, 23484), (144, 23595), (161, 23682), (181, 23763), (183, 23766), (239, 24078), (258, 24159), (262, 24174), (311, 24378), (315, 24402), (318, 24417), (319, 24423), (321, 24441), (322, 24447), (334, 24516), (337, 24531), (344, 24564), (351, 24615), (391, 24861),

Gene: Relief\_27 Start: 19825, Stop: 21603, Start Num: 48

Candidate Starts for Relief\_27:

(Start: 39 @19801 has 8 MA's), (Start: 48 @19825 has 538 MA's), (Start: 70 @19882 has 1 MA's), (85, 19936), (86, 19951), (90, 19969), (105, 20053), (107, 20065), (108, 20068), (120, 20143), (123, 20158), (130, 20197), (144, 20314), (161, 20401), (181, 20482), (191, 20530), (195, 20554), (211, 20641), (219, 20686), (230, 20758), (234, 20779), (239, 20797), (258, 20878), (277, 20971), (279, 20980), (283, 21004), (285, 21010), (291, 21034), (310, 21088), (314, 21109), (321, 21160), (326, 21184), (335, 21238), (351, 21334), (369, 21439), (372, 21454), (388, 21562), (391, 21580),

Gene: Remus\_30 Start: 19057, Stop: 20844, Start Num: 48

Candidate Starts for Remus\_30:

(30, 18991), (Start: 39 @19033 has 8 MA's), (Start: 48 @19057 has 538 MA's), (90, 19195), (100, 19252), (108, 19294), (115, 19330), (120, 19369), (132, 19438), (134, 19462), (141, 19516), (172, 19666), (183, 19711), (187, 19741), (194, 19777), (202, 19828), (210, 19864), (219, 19912), (227, 19972), (257, 20101), (274, 20179), (318, 20380), (319, 20386), (335, 20482), (363, 20647), (379, 20746),

Gene: ResDef\_28 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for ResDef\_28:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Retro23\_28 Start: 20266, Stop: 22038, Start Num: 48

Candidate Starts for Retro23\_28:

(Start: 39 @20242 has 8 MA's), (Start: 48 @20266 has 538 MA's), (107, 20500), (108, 20503), (119, 20575), (120, 20578), (130, 20632), (134, 20671), (139, 20716), (144, 20749), (161, 20836), (181, 20917), (183, 20920), (230, 21193), (258, 21313), (283, 21439), (305, 21493), (315, 21556), (318, 21571), (319, 21577), (329, 21631), (334, 21670), (337, 21685), (351, 21769), (371, 21880), (391, 22015),

Gene: RexFury\_23 Start: 16380, Stop: 18005, Start Num: 62

Candidate Starts for RexFury\_23:

(Start: 56 @16365 has 3 MA's), (Start: 62 @16380 has 32 MA's), (81, 16449), (88, 16485), (101, 16557), (120, 16671), (138, 16800), (144, 16842), (150, 16860), (152, 16869), (Start: 156 @16893 has

1 MA's), (158, 16911), (165, 16935), (167, 16941), (170, 16956), (171, 16959), (183, 17007), (225, 17208), (230, 17232), (257, 17346), (274, 17424), (280, 17463), (283, 17475), (305, 17505), (318, 17583), (349, 17730), (367, 17829), (369, 17844), (394, 17997),

Gene: Rhodalysa\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Rhodalysa\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: RhynO\_28 Start: 19944, Stop: 21722, Start Num: 48

Candidate Starts for RhynO\_28:

(Start: 48 @19944 has 538 MA's), (Start: 70 @20001 has 1 MA's), (74, 20016), (84, 20049), (86, 20070), (105, 20172), (107, 20184), (108, 20187), (120, 20262), (123, 20277), (130, 20316), (144, 20433), (150, 20451), (161, 20520), (174, 20574), (179, 20595), (187, 20634), (195, 20673), (211, 20760), (219, 20805), (225, 20853), (229, 20874), (234, 20898), (237, 20910), (239, 20916), (258, 20997), (277, 21090), (279, 21099), (283, 21123), (285, 21129), (288, 21144), (305, 21177), (314, 21228), (317, 21246), (323, 21291), (342, 21396), (351, 21453), (357, 21477), (358, 21483), (369, 21558), (371, 21564), (372, 21573), (379, 21624), (391, 21699),

Gene: Rhynn\_27 Start: 21169, Stop: 22971, Start Num: 50

Candidate Starts for Rhynn\_27:

(Start: 50 @21169 has 210 MA's), (Start: 59 @21190 has 4 MA's), (Start: 70 @21232 has 1 MA's), (83, 21277), (120, 21493), (127, 21538), (130, 21547), (134, 21586), (140, 21637), (141, 21640), (183, 21835), (195, 21904), (229, 22105), (230, 22108), (234, 22129), (257, 22225), (258, 22228), (260, 22234), (274, 22303), (277, 22321), (279, 22330), (285, 22360), (310, 22456), (315, 22489), (318, 22504), (342, 22645), (351, 22702), (371, 22813),

Gene: Ribeye\_35 Start: 30796, Stop: 32559, Start Num: 32

Candidate Starts for Ribeye\_35:

(Start: 32 @30796 has 74 MA's), (Start: 37 @30832 has 5 MA's), (81, 30961), (84, 30970), (100, 31066), (103, 31075), (112, 31144), (120, 31195), (127, 31240), (131, 31255), (133, 31273), (140, 31336), (150, 31381), (152, 31390), (177, 31510), (181, 31525), (185, 31549), (190, 31579), (239, 31801), (244, 31819), (247, 31834), (257, 31876), (264, 31906), (289, 32026), (317, 32119), (342, 32230), (343, 32233), (350, 32281), (356, 32308), (360, 32335), (369, 32389),

Gene: RidgeCB\_27 Start: 20944, Stop: 22746, Start Num: 50

Candidate Starts for RidgeCB\_27:

(Start: 50 @20944 has 210 MA's), (Start: 59 @20965 has 4 MA's), (Start: 70 @21007 has 1 MA's), (83, 21052), (120, 21268), (127, 21313), (130, 21322), (134, 21361), (140, 21412), (141, 21415), (183, 21610), (195, 21679), (229, 21880), (230, 21883), (234, 21904), (257, 22000), (258, 22003), (260, 22009), (274, 22078), (277, 22096), (279, 22105), (285, 22135), (310, 22231), (315, 22264), (318, 22279), (342, 22420), (351, 22477), (371, 22588), (395, 22741),

Gene: Rifter\_31 Start: 19962, Stop: 21734, Start Num: 48

Candidate Starts for Rifter\_31:

(30, 19896), (Start: 39 @19938 has 8 MA's), (Start: 48 @19962 has 538 MA's), (108, 20199), (119, 20271), (120, 20274), (123, 20289), (130, 20328), (131, 20334), (144, 20445), (146, 20451), (155, 20490), (161, 20532), (172, 20571), (181, 20613), (183, 20616), (211, 20772), (235, 20913), (239, 20928), (285, 21141), (314, 21240), (318, 21267), (327, 21318), (329, 21327), (334, 21366), (337, 21381), (369, 21570), (371, 21576), (391, 21711),

Gene: Ringer\_27 Start: 21821, Stop: 23623, Start Num: 50

Candidate Starts for Ringer\_27:

(Start: 50 @21821 has 210 MA's), (Start: 59 @21842 has 4 MA's), (Start: 70 @21884 has 1 MA's), (83, 21929), (120, 22145), (127, 22190), (130, 22199), (134, 22238), (140, 22289), (141, 22292), (183, 22487), (195, 22556), (229, 22757), (230, 22760), (234, 22781), (257, 22877), (258, 22880), (260, 22886), (274, 22955), (277, 22973), (279, 22982), (285, 23012), (310, 23108), (315, 23141), (318, 23156), (342, 23297), (351, 23354), (371, 23465), (395, 23618),

Gene: RiverRaider\_35 Start: 29083, Stop: 30846, Start Num: 32

Candidate Starts for RiverRaider\_35:

(29, 29065), (Start: 32 @29083 has 74 MA's), (Start: 37 @29119 has 5 MA's), (81, 29248), (84, 29257), (100, 29353), (103, 29362), (112, 29431), (114, 29437), (120, 29482), (121, 29491), (127, 29527), (140, 29623), (150, 29668), (152, 29677), (177, 29797), (181, 29812), (182, 29821), (185, 29836), (190, 29866), (224, 30022), (244, 30106), (247, 30121), (254, 30151), (255, 30154), (258, 30166), (312, 30379), (317, 30406), (342, 30517), (343, 30520), (356, 30595), (360, 30622), (369, 30676), (391, 30823),

Gene: Roary\_24 Start: 18619, Stop: 20409, Start Num: 48

Candidate Starts for Roary\_24:

(Start: 39 @18595 has 8 MA's), (Start: 48 @18619 has 538 MA's), (82, 18712), (90, 18757), (108, 18856), (115, 18892), (120, 18931), (123, 18946), (129, 18982), (144, 19102), (146, 19108), (172, 19228), (198, 19357), (211, 19429), (229, 19543), (277, 19759), (283, 19792), (310, 19894), (315, 19927), (318, 19942), (322, 19972), (368, 20242), (371, 20251), (372, 20260), (389, 20374),

Gene: Rockstar\_27 Start: 19834, Stop: 21633, Start Num: 48

Candidate Starts for Rockstar\_27:

(Start: 48 @19834 has 538 MA's), (Start: 70 @19894 has 1 MA's), (86, 19963), (105, 20065), (107, 20077), (108, 20080), (120, 20155), (123, 20170), (124, 20173), (130, 20209), (150, 20344), (161, 20413), (187, 20527), (211, 20653), (229, 20767), (230, 20770), (234, 20791), (239, 20809), (258, 20890), (274, 20965), (277, 20983), (279, 20992), (285, 21022), (288, 21037), (295, 21061), (300, 21070), (309, 21115), (310, 21118), (314, 21139), (315, 21151), (351, 21364), (357, 21388), (369, 21469), (371, 21475), (391, 21610),

Gene: Rofo\_35 Start: 30807, Stop: 32570, Start Num: 32

Candidate Starts for Rofo\_35:

(29, 30789), (Start: 32 @30807 has 74 MA's), (Start: 37 @30843 has 5 MA's), (84, 30981), (100, 31077), (103, 31086), (112, 31155), (120, 31206), (127, 31251), (131, 31266), (140, 31347), (150, 31392), (152, 31401), (171, 31491), (177, 31521), (181, 31536), (185, 31560), (190, 31590), (218, 31695), (239, 31812), (244, 31830), (247, 31845), (254, 31875), (257, 31887), (258, 31890), (264, 31917), (342, 32241), (343, 32244), (350, 32292), (356, 32319), (360, 32346), (369, 32400), (374, 32424), (375, 32427), (385, 32517), (395, 32565),

Gene: RogerDodger\_34 Start: 26723, Stop: 28489, Start Num: 32

Candidate Starts for RogerDodger\_34:

(26, 26681), (Start: 32 @26723 has 74 MA's), (Start: 37 @26759 has 5 MA's), (Start: 51 @26792 has 7 MA's), (92, 26948), (102, 27002), (103, 27005), (107, 27035), (117, 27101), (120, 27125), (126, 27167), (152, 27320), (158, 27359), (171, 27410), (173, 27422), (177, 27440), (180, 27452), (182, 27464), (185, 27479), (190, 27509), (191, 27512), (194, 27533), (216, 27605), (222, 27653), (247, 27764), (255, 27797), (264, 27836), (265, 27839), (279, 27911), (296, 27977), (304, 27989), (342, 28160), (343, 28163), (350, 28211), (356, 28238), (360, 28265), (369, 28319), (385, 28436), (390, 28457), (395, 28484),

Gene: Rohr\_28 Start: 21366, Stop: 23168, Start Num: 50

Candidate Starts for Rohr\_28:

(Start: 50 @21366 has 210 MA's), (Start: 59 @21387 has 4 MA's), (Start: 70 @21429 has 1 MA's), (83, 21474), (120, 21690), (127, 21735), (130, 21744), (134, 21783), (140, 21834), (141, 21837), (183, 22032), (195, 22101), (229, 22302), (230, 22305), (234, 22326), (257, 22422), (258, 22425), (260, 22431), (274, 22500), (277, 22518), (279, 22527), (285, 22557), (310, 22653), (315, 22686), (318, 22701), (342, 22842), (351, 22899), (371, 23010),

Gene: Roksolana\_31 Start: 19990, Stop: 21762, Start Num: 48

Candidate Starts for Roksolana\_31:

(30, 19924), (Start: 39 @19966 has 8 MA's), (Start: 48 @19990 has 538 MA's), (108, 20227), (119, 20299), (120, 20302), (123, 20317), (130, 20356), (131, 20362), (144, 20473), (146, 20479), (155, 20518), (161, 20560), (172, 20599), (181, 20641), (183, 20644), (211, 20800), (235, 20941), (239, 20956), (285, 21169), (314, 21268), (318, 21295), (327, 21346), (329, 21355), (334, 21394), (337, 21409), (351, 21493), (369, 21598), (371, 21604), (391, 21739),

Gene: Romney\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Romney\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Ronaldo\_56 Start: 28894, Stop: 30579, Start Num: 42

Candidate Starts for Ronaldo\_56:

(19, 28702), (20, 28711), (21, 28717), (28, 28819), (33, 28849), (Start: 42 @28894 has 6 MA's), (88, 29035), (115, 29194), (123, 29248), (144, 29404), (166, 29503), (177, 29551), (187, 29608), (191, 29623), (215, 29713), (242, 29851), (257, 29914), (277, 30010), (287, 30061), (289, 30064), (302, 30076), (318, 30151), (324, 30166), (341, 30250), (356, 30331), (376, 30442), (390, 30547), (393, 30565),

Gene: Roosevelt\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Roosevelt\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Rosa24\_26 Start: 19799, Stop: 21580, Start Num: 48

Candidate Starts for Rosa24\_26:

(Start: 39 @19775 has 8 MA's), (Start: 48 @19799 has 538 MA's), (Start: 52 @19805 has 3 MA's), (Start: 70 @19859 has 1 MA's), (74, 19874), (86, 19928), (90, 19946), (105, 20030), (107, 20042), (108, 20045), (120, 20120), (123, 20135), (130, 20174), (144, 20291), (161, 20378), (181, 20459), (191, 20507), (195, 20531), (211, 20618), (219, 20663), (230, 20735), (234, 20756), (239, 20774), (258, 20855), (277, 20948), (279, 20957), (283, 20981), (285, 20987), (291, 21011), (310, 21065), (314, 21086), (321, 21137), (326, 21161), (351, 21311), (369, 21416), (372, 21431), (388, 21539), (391, 21557),

Gene: Rosalind\_30 Start: 19215, Stop: 21002, Start Num: 48

Candidate Starts for Rosalind\_30:

(30, 19149), (Start: 39 @19191 has 8 MA's), (Start: 48 @19215 has 538 MA's), (90, 19353), (100, 19410), (108, 19452), (115, 19488), (120, 19527), (132, 19596), (134, 19620), (141, 19674), (172, 19824), (183, 19869), (187, 19899), (194, 19935), (202, 19986), (210, 20022), (219, 20070), (227, 20130), (257, 20259), (274, 20337), (318, 20538), (319, 20544), (335, 20640), (363, 20805), (379, 20904),

Gene: Rowdy\_31 Start: 19855, Stop: 21633, Start Num: 48

Candidate Starts for Rowdy\_31:

(Start: 48 @19855 has 538 MA's), (Start: 70 @19912 has 1 MA's), (74, 19927), (84, 19960), (86, 19981), (105, 20083), (107, 20095), (108, 20098), (120, 20173), (123, 20188), (130, 20227), (144, 20344), (150, 20362), (161, 20431), (174, 20485), (179, 20506), (187, 20545), (195, 20584), (211, 20671), (219, 20716), (225, 20764), (229, 20785), (234, 20809), (237, 20821), (239, 20827), (258, 20908), (277, 21001), (279, 21010), (283, 21034), (285, 21040), (288, 21055), (305, 21088), (314, 21139), (317, 21157), (323, 21202), (351, 21364), (357, 21388), (358, 21394), (369, 21469), (371, 21475), (372, 21484), (379, 21535), (391, 21610),

Gene: Rubeus\_28 Start: 21204, Stop: 23006, Start Num: 50

Candidate Starts for Rubeus\_28:

(Start: 50 @21204 has 210 MA's), (Start: 59 @21225 has 4 MA's), (Start: 70 @21267 has 1 MA's), (83, 21312), (120, 21528), (127, 21573), (130, 21582), (140, 21672), (141, 21675), (183, 21870), (195, 21939), (229, 22140), (230, 22143), (234, 22164), (257, 22260), (258, 22263), (260, 22269), (274, 22338), (277, 22356), (279, 22365), (285, 22395), (310, 22491), (315, 22524), (318, 22539), (342, 22680), (351, 22737), (371, 22848), (395, 23001),

Gene: Rufus\_28 Start: 21506, Stop: 23308, Start Num: 50

Candidate Starts for Rufus\_28:

(Start: 50 @21506 has 210 MA's), (Start: 59 @21527 has 4 MA's), (Start: 70 @21569 has 1 MA's), (83, 21614), (120, 21830), (127, 21875), (130, 21884), (140, 21974), (141, 21977), (158, 22070), (183, 22172), (195, 22241), (226, 22430), (229, 22442), (230, 22445), (234, 22466), (257, 22562), (258, 22565), (260, 22571), (274, 22640), (277, 22658), (279, 22667), (285, 22697), (310, 22793), (315, 22826), (318, 22841), (342, 22982), (351, 23039), (371, 23150),

Gene: Ruin\_27 Start: 19823, Stop: 21601, Start Num: 48

Candidate Starts for Ruin\_27:

(Start: 39 @19799 has 8 MA's), (Start: 48 @19823 has 538 MA's), (Start: 70 @19880 has 1 MA's), (85, 19934), (86, 19949), (90, 19967), (105, 20051), (107, 20063), (108, 20066), (120, 20141), (123, 20156), (130, 20195), (144, 20312), (161, 20399), (181, 20480), (191, 20528), (195, 20552), (211, 20639), (219, 20684), (230, 20756), (234, 20777), (239, 20795), (258, 20876), (277, 20969), (279, 20978), (283, 21002), (285, 21008), (291, 21032), (310, 21086), (314, 21107), (321, 21158), (326, 21182), (335, 21236), (351, 21332), (369, 21437), (372, 21452), (388, 21560), (391, 21578),

Gene: Rummer\_29 Start: 20463, Stop: 22259, Start Num: 48

Candidate Starts for Rummer\_29:

(Start: 48 @20463 has 538 MA's), (Start: 70 @20520 has 1 MA's), (74, 20535), (84, 20568), (86, 20589), (89, 20604), (105, 20691), (107, 20703), (108, 20706), (120, 20781), (123, 20796), (129, 20832), (161, 21039), (187, 21153), (195, 21192), (211, 21279), (229, 21393), (234, 21417), (239, 21435), (258, 21516), (274, 21591), (277, 21609), (283, 21642), (285, 21648), (295, 21687), (309, 21741), (310, 21744), (314, 21765), (322, 21822), (351, 21990), (369, 22095), (371, 22101), (391, 22236),

Gene: Ruotula\_26 Start: 21710, Stop: 23512, Start Num: 50

Candidate Starts for Ruotula\_26:

(Start: 50 @21710 has 210 MA's), (Start: 59 @21731 has 4 MA's), (Start: 70 @21773 has 1 MA's), (83, 21818), (120, 22034), (127, 22079), (130, 22088), (134, 22127), (140, 22178), (141, 22181), (183, 22376), (195, 22445), (229, 22646), (230, 22649), (234, 22670), (257, 22766), (258, 22769), (260, 22775), (274, 22844), (277, 22862), (279, 22871), (285, 22901), (310, 22997), (315, 23030), (318, 23045), (342, 23186), (351, 23243), (371, 23354),

Gene: Rutherferd\_29 Start: 21775, Stop: 23577, Start Num: 50

Candidate Starts for Rutherferd\_29:

(Start: 50 @21775 has 210 MA's), (Start: 59 @21796 has 4 MA's), (Start: 70 @21838 has 1 MA's), (83, 21883), (120, 22099), (127, 22144), (130, 22153), (140, 22243), (141, 22246), (158, 22339), (183, 22441), (195, 22510), (229, 22711), (230, 22714), (234, 22735), (257, 22831), (258, 22834), (260, 22840), (277, 22927), (279, 22936), (285, 22966), (310, 23062), (315, 23095), (318, 23110), (342, 23251), (351, 23308), (371, 23419),

Gene: RyeScarlet\_31 Start: 21753, Stop: 23543, Start Num: 48

Candidate Starts for RyeScarlet\_31:

(Start: 46 @21750 has 8 MA's), (Start: 48 @21753 has 538 MA's), (107, 21987), (108, 21990), (119, 22062), (120, 22065), (123, 22080), (130, 22119), (131, 22125), (144, 22236), (161, 22323), (181, 22404), (183, 22407), (215, 22593), (225, 22656), (230, 22680), (232, 22686), (239, 22719), (258, 22800), (283, 22926), (294, 22968), (310, 23028), (315, 23061), (318, 23076), (334, 23175), (335, 23178), (337, 23190), (351, 23274), (362, 23340), (369, 23379), (371, 23385), (377, 23430), (384, 23487), (385, 23490),

Gene: STLscum\_28 Start: 21913, Stop: 23715, Start Num: 50

Candidate Starts for STLscum\_28:

(Start: 50 @21913 has 210 MA's), (Start: 59 @21934 has 4 MA's), (Start: 70 @21976 has 1 MA's), (83, 22021), (120, 22237), (127, 22282), (130, 22291), (140, 22381), (141, 22384), (158, 22477), (183, 22579), (195, 22648), (226, 22837), (229, 22849), (230, 22852), (234, 22873), (257, 22969), (258, 22972), (260, 22978), (274, 23047), (277, 23065), (279, 23074), (285, 23104), (310, 23200), (315, 23233), (318, 23248), (342, 23389), (351, 23446), (371, 23557),

Gene: Sabertooth\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Sabertooth\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Sabia\_29 Start: 20372, Stop: 22168, Start Num: 48

Candidate Starts for Sabia\_29:

(Start: 48 @20372 has 538 MA's), (Start: 70 @20429 has 1 MA's), (74, 20444), (86, 20498), (89, 20513), (105, 20600), (107, 20612), (108, 20615), (120, 20690), (123, 20705), (129, 20741), (161, 20948), (195, 21101), (211, 21188), (229, 21302), (234, 21326), (239, 21344), (258, 21425), (274, 21500), (277, 21518), (283, 21551), (285, 21557), (295, 21596), (309, 21650), (310, 21653), (314, 21674), (322, 21731), (351, 21899), (369, 22004), (371, 22010), (391, 22145),

Gene: Sabinator\_29 Start: 20377, Stop: 22173, Start Num: 48

Candidate Starts for Sabinator\_29:

(Start: 48 @20377 has 538 MA's), (Start: 70 @20434 has 1 MA's), (74, 20449), (84, 20482), (86, 20503), (89, 20518), (105, 20605), (107, 20617), (108, 20620), (120, 20695), (123, 20710), (129, 20746), (161, 20953), (187, 21067), (195, 21106), (211, 21193), (229, 21307), (234, 21331), (239,

21349), (258, 21430), (274, 21505), (277, 21523), (283, 21556), (285, 21562), (295, 21601), (309, 21655), (310, 21658), (314, 21679), (322, 21736), (351, 21904), (369, 22009), (371, 22015), (391, 22150),

Gene: Sachima\_28 Start: 21749, Stop: 23539, Start Num: 48

Candidate Starts for Sachima\_28:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: Sagefire\_28 Start: 21946, Stop: 23748, Start Num: 50

Candidate Starts for Sagefire\_28:

(Start: 50 @21946 has 210 MA's), (Start: 59 @21967 has 4 MA's), (Start: 70 @22009 has 1 MA's), (83, 22054), (120, 22270), (127, 22315), (130, 22324), (134, 22363), (140, 22414), (141, 22417), (183, 22612), (195, 22681), (229, 22882), (230, 22885), (234, 22906), (257, 23002), (258, 23005), (260, 23011), (274, 23080), (277, 23098), (279, 23107), (285, 23137), (310, 23233), (315, 23266), (318, 23281), (342, 23422), (351, 23479), (371, 23590),

Gene: Saintus\_24 Start: 18634, Stop: 20424, Start Num: 48

Candidate Starts for Saintus\_24:

(Start: 39 @18610 has 8 MA's), (Start: 48 @18634 has 538 MA's), (82, 18727), (90, 18772), (108, 18871), (115, 18907), (120, 18946), (123, 18961), (129, 18997), (144, 19117), (146, 19123), (172, 19243), (198, 19372), (211, 19444), (229, 19558), (277, 19774), (283, 19807), (310, 19909), (315, 19942), (318, 19957), (322, 19987), (368, 20257), (371, 20266), (372, 20275), (389, 20389),

Gene: Salvador\_31 Start: 25859, Stop: 27625, Start Num: 32

Candidate Starts for Salvador\_31:

(26, 25817), (Start: 32 @25859 has 74 MA's), (Start: 37 @25895 has 5 MA's), (Start: 51 @25928 has 7 MA's), (92, 26084), (102, 26138), (103, 26141), (107, 26171), (117, 26237), (120, 26261), (121, 26270), (126, 26303), (152, 26456), (158, 26495), (171, 26546), (173, 26558), (177, 26576), (180, 26588), (182, 26600), (185, 26615), (190, 26645), (191, 26648), (194, 26669), (216, 26741), (222, 26789), (247, 26900), (255, 26933), (264, 26972), (265, 26975), (279, 27047), (296, 27113), (304, 27125), (342, 27296), (343, 27299), (350, 27347), (356, 27374), (360, 27401), (369, 27455), (385, 27572), (390, 27593), (395, 27620),

Gene: Salz\_28 Start: 20746, Stop: 22545, Start Num: 48

Candidate Starts for Salz\_28:

(30, 20680), (Start: 39 @20722 has 8 MA's), (Start: 48 @20746 has 538 MA's), (67, 20788), (90, 20884), (94, 20899), (107, 20980), (108, 20983), (120, 21058), (123, 21073), (130, 21112), (131, 21118), (135, 21169), (144, 21229), (146, 21235), (161, 21316), (183, 21400), (204, 21526), (209, 21544), (214, 21571), (239, 21712), (254, 21778), (257, 21790), (258, 21793), (300, 21982), (307, 22009), (308, 22018), (311, 22039), (312, 22042), (315, 22063), (318, 22078), (321, 22102), (334, 22177), (337, 22192), (351, 22276), (369, 22381), (371, 22387), (378, 22441), (395, 22540),

Gene: SamW\_17 Start: 16284, Stop: 17981, Start Num: 37

Candidate Starts for SamW\_17:

(Start: 37 @16284 has 5 MA's), (Start: 43 @16305 has 5 MA's), (73, 16389), (81, 16416), (83, 16422), (106, 16554), (116, 16605), (120, 16638), (121, 16647), (140, 16782), (146, 16815), (151, 16833), (159, 16887), (172, 16932), (185, 16989), (186, 17001), (193, 17040), (212, 17091), (214, 17100), (217, 17121), (226, 17187), (249, 17277), (272, 17385), (281, 17439), (283, 17445), (287, 17463),



(319, 17559), (328, 17580), (336, 17625), (363, 17784), (367, 17799), (370, 17814), (372, 17826), (394, 17970),

Gene: Sandaddy\_26 Start: 21059, Stop: 22861, Start Num: 50

Candidate Starts for Sandaddy\_26:

(Start: 50 @21059 has 210 MA's), (Start: 59 @21080 has 4 MA's), (Start: 70 @21122 has 1 MA's), (120, 21383), (127, 21428), (130, 21437), (134, 21476), (140, 21527), (141, 21530), (183, 21725), (195, 21794), (229, 21995), (230, 21998), (234, 22019), (257, 22115), (258, 22118), (260, 22124), (274, 22193), (277, 22211), (279, 22220), (285, 22250), (310, 22346), (315, 22379), (318, 22394), (342, 22535), (351, 22592), (371, 22703),

Gene: Sanjuju\_33 Start: 30976, Stop: 32739, Start Num: 32

Candidate Starts for Sanjuju\_33:

(29, 30958), (Start: 32 @30976 has 74 MA's), (Start: 37 @31012 has 5 MA's), (84, 31150), (100, 31246), (103, 31255), (112, 31324), (120, 31375), (127, 31420), (131, 31435), (140, 31516), (150, 31561), (152, 31570), (171, 31660), (177, 31690), (181, 31705), (185, 31729), (190, 31759), (218, 31864), (239, 31981), (244, 31999), (247, 32014), (254, 32044), (257, 32056), (258, 32059), (264, 32086), (342, 32410), (343, 32413), (350, 32461), (356, 32488), (360, 32515), (369, 32569), (375, 32596), (393, 32725),

Gene: Sanya\_26 Start: 21743, Stop: 23545, Start Num: 50

Candidate Starts for Sanya\_26:

(Start: 50 @21743 has 210 MA's), (Start: 59 @21764 has 4 MA's), (Start: 70 @21806 has 1 MA's), (83, 21851), (120, 22067), (127, 22112), (130, 22121), (140, 22211), (141, 22214), (158, 22307), (183, 22409), (195, 22478), (229, 22679), (230, 22682), (234, 22703), (257, 22799), (258, 22802), (260, 22808), (274, 22877), (277, 22895), (279, 22904), (285, 22934), (310, 23030), (315, 23063), (318, 23078), (342, 23219), (351, 23276), (371, 23387),

Gene: SarFire\_27 Start: 21221, Stop: 23023, Start Num: 50

Candidate Starts for SarFire\_27:

(Start: 50 @21221 has 210 MA's), (Start: 59 @21242 has 4 MA's), (Start: 70 @21284 has 1 MA's), (83, 21329), (120, 21545), (127, 21590), (130, 21599), (140, 21689), (141, 21692), (158, 21785), (183, 21887), (195, 21956), (226, 22145), (229, 22157), (230, 22160), (234, 22181), (257, 22277), (258, 22280), (260, 22286), (274, 22355), (277, 22373), (279, 22382), (285, 22412), (310, 22508), (315, 22541), (318, 22556), (342, 22697), (351, 22754), (371, 22865), (395, 23018),

Gene: Saronaya\_34 Start: 29639, Stop: 31402, Start Num: 32

Candidate Starts for Saronaya\_34:

(Start: 32 @29639 has 74 MA's), (Start: 37 @29675 has 5 MA's), (81, 29804), (84, 29813), (100, 29909), (103, 29918), (112, 29987), (120, 30038), (121, 30047), (127, 30083), (131, 30098), (133, 30116), (140, 30179), (150, 30224), (152, 30233), (175, 30344), (177, 30353), (181, 30368), (185, 30392), (190, 30422), (239, 30644), (244, 30662), (247, 30677), (257, 30719), (264, 30749), (289, 30869), (317, 30962), (342, 31073), (343, 31076), (350, 31124), (356, 31151), (360, 31178), (369, 31232),

Gene: SaturnRing\_27 Start: 19904, Stop: 21700, Start Num: 48

Candidate Starts for SaturnRing\_27:

(Start: 48 @19904 has 538 MA's), (Start: 70 @19961 has 1 MA's), (86, 20030), (105, 20132), (107, 20144), (108, 20147), (120, 20222), (123, 20237), (130, 20276), (150, 20411), (161, 20480), (187, 20594), (211, 20720), (229, 20834), (234, 20858), (239, 20876), (258, 20957), (274, 21032), (277, 21050), (279, 21059), (283, 21083), (285, 21089), (288, 21104), (300, 21137), (309, 21182), (310, 21185), (314, 21206), (315, 21218), (317, 21224), (326, 21281), (351, 21431), (357, 21455), (369, 21536), (371, 21542), (391, 21677),

Gene: Savbucketdawg\_31 Start: 25640, Stop: 27406, Start Num: 32

Candidate Starts for Savbucketdawg\_31:

(26, 25598), (Start: 32 @25640 has 74 MA's), (Start: 37 @25676 has 5 MA's), (Start: 51 @25709 has 7 MA's), (102, 25919), (103, 25922), (107, 25952), (117, 26018), (120, 26042), (121, 26051), (126, 26084), (152, 26237), (158, 26276), (171, 26327), (173, 26339), (177, 26357), (180, 26369), (182, 26381), (185, 26396), (190, 26426), (191, 26429), (194, 26450), (216, 26522), (222, 26570), (247, 26681), (255, 26714), (264, 26753), (265, 26756), (279, 26828), (296, 26894), (304, 26906), (342, 27077), (345, 27089), (346, 27095), (350, 27128), (356, 27155), (360, 27182), (369, 27236), (385, 27353), (390, 27374), (395, 27401),

Gene: Scamp\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Scamp\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Scherzo\_30 Start: 21782, Stop: 23572, Start Num: 48

Candidate Starts for Scherzo\_30:

(Start: 46 @21779 has 8 MA's), (Start: 48 @21782 has 538 MA's), (107, 22016), (108, 22019), (119, 22091), (120, 22094), (123, 22109), (130, 22148), (131, 22154), (144, 22265), (161, 22352), (181, 22433), (183, 22436), (215, 22622), (225, 22685), (230, 22709), (232, 22715), (239, 22748), (258, 22829), (283, 22955), (294, 22997), (310, 23057), (315, 23090), (318, 23105), (334, 23204), (335, 23207), (337, 23219), (351, 23303), (362, 23369), (369, 23408), (371, 23414), (377, 23459), (384, 23516), (385, 23519),

Gene: Schnabeltier\_19 Start: 16963, Stop: 18693, Start Num: 43

Candidate Starts for Schnabeltier\_19:

(24, 16846), (35, 16930), (Start: 37 @16942 has 5 MA's), (Start: 43 @16963 has 5 MA's), (95, 17134), (105, 17200), (110, 17233), (113, 17254), (140, 17446), (155, 17518), (161, 17560), (171, 17596), (177, 17626), (182, 17650), (189, 17692), (194, 17719), (213, 17776), (214, 17782), (226, 17869), (312, 18229), (316, 18253), (322, 18271), (342, 18367), (372, 18541), (373, 18544), (376, 18556), (383, 18631), (389, 18658),

Gene: SchottB\_33 Start: 30654, Stop: 32417, Start Num: 32

Candidate Starts for SchottB\_33:

(Start: 32 @30654 has 74 MA's), (Start: 37 @30690 has 5 MA's), (81, 30819), (84, 30828), (100, 30924), (103, 30933), (112, 31002), (120, 31053), (121, 31062), (127, 31098), (131, 31113), (133, 31131), (140, 31194), (150, 31239), (152, 31248), (175, 31359), (177, 31368), (181, 31383), (185, 31407), (190, 31437), (239, 31659), (244, 31677), (247, 31692), (257, 31734), (258, 31737), (264, 31764), (289, 31884), (342, 32088), (343, 32091), (350, 32139), (356, 32166), (360, 32193), (369, 32247),

Gene: Scorpia\_25 Start: 18949, Stop: 20748, Start Num: 48

Candidate Starts for Scorpia\_25:

(Start: 48 @18949 has 538 MA's), (108, 19186), (120, 19261), (123, 19276), (129, 19312), (137, 19384), (139, 19399), (144, 19432), (146, 19438), (187, 19633), (192, 19663), (194, 19669), (211, 19759), (219, 19804), (229, 19873), (239, 19915), (243, 19933), (257, 19993), (258, 19996), (277, 20089), (309, 20230), (315, 20266), (368, 20581), (371, 20590), (391, 20725),

Gene: Scout\_27 Start: 19207, Stop: 21006, Start Num: 48

Candidate Starts for Scout\_27:

(Start: 48 @19207 has 538 MA's), (Start: 70 @19267 has 1 MA's), (86, 19336), (105, 19438), (107, 19450), (108, 19453), (120, 19528), (123, 19543), (124, 19546), (130, 19582), (150, 19717), (161, 19786), (187, 19900), (211, 20026), (229, 20140), (234, 20164), (237, 20176), (239, 20182), (258, 20263), (274, 20338), (277, 20356), (279, 20365), (283, 20389), (285, 20395), (288, 20410), (303, 20452), (308, 20479), (309, 20488), (310, 20491), (314, 20512), (315, 20524), (351, 20737), (369, 20842), (371, 20848), (391, 20983),

Gene: Scowl\_28 Start: 21803, Stop: 23605, Start Num: 50

Candidate Starts for Scowl\_28:

(Start: 50 @21803 has 210 MA's), (Start: 59 @21824 has 4 MA's), (Start: 70 @21866 has 1 MA's), (83, 21911), (120, 22127), (127, 22172), (130, 22181), (134, 22220), (140, 22271), (141, 22274), (158, 22367), (183, 22469), (195, 22538), (229, 22739), (230, 22742), (234, 22763), (257, 22859), (258, 22862), (260, 22868), (274, 22937), (277, 22955), (279, 22964), (285, 22994), (310, 23090), (315, 23123), (318, 23138), (342, 23279), (351, 23336), (371, 23447),

Gene: Seabiscuit\_29 Start: 21127, Stop: 22929, Start Num: 50

Candidate Starts for Seabiscuit\_29:

(Start: 50 @21127 has 210 MA's), (Start: 59 @21148 has 4 MA's), (Start: 70 @21190 has 1 MA's), (83, 21235), (120, 21451), (127, 21496), (130, 21505), (134, 21544), (140, 21595), (141, 21598), (183, 21793), (195, 21862), (229, 22063), (230, 22066), (234, 22087), (257, 22183), (258, 22186), (260, 22192), (274, 22261), (277, 22279), (279, 22288), (285, 22318), (310, 22414), (315, 22447), (318, 22462), (342, 22603), (351, 22660), (371, 22771),

Gene: Seanderson\_28 Start: 21601, Stop: 23403, Start Num: 50

Candidate Starts for Seanderson\_28:

(Start: 50 @21601 has 210 MA's), (Start: 59 @21622 has 4 MA's), (Start: 70 @21664 has 1 MA's), (83, 21709), (120, 21925), (127, 21970), (130, 21979), (134, 22018), (140, 22069), (141, 22072), (183, 22267), (195, 22336), (229, 22537), (230, 22540), (234, 22561), (257, 22657), (258, 22660), (260, 22666), (274, 22735), (277, 22753), (279, 22762), (285, 22792), (310, 22888), (315, 22921), (318, 22936), (322, 22966), (342, 23077), (351, 23134), (371, 23245),

Gene: Sedona\_35 Start: 31913, Stop: 33676, Start Num: 32

Candidate Starts for Sedona\_35:

(29, 31895), (Start: 32 @31913 has 74 MA's), (Start: 37 @31949 has 5 MA's), (84, 32087), (100, 32183), (103, 32192), (112, 32261), (120, 32312), (127, 32357), (131, 32372), (140, 32453), (150, 32498), (152, 32507), (171, 32597), (177, 32627), (181, 32642), (185, 32666), (190, 32696), (218, 32801), (239, 32918), (244, 32936), (247, 32951), (254, 32981), (257, 32993), (258, 32996), (264, 33023), (341, 33344), (342, 33347), (343, 33350), (350, 33398), (356, 33425), (360, 33452), (369, 33506), (374, 33530), (375, 33533), (385, 33623), (395, 33671),

Gene: SemperFi\_30 Start: 20535, Stop: 22307, Start Num: 48

Candidate Starts for SemperFi\_30:

(30, 20469), (Start: 39 @20511 has 8 MA's), (Start: 48 @20535 has 538 MA's), (84, 20634), (98, 20718), (107, 20769), (108, 20772), (119, 20844), (120, 20847), (130, 20901), (134, 20940), (139, 20985), (144, 21018), (161, 21105), (181, 21186), (183, 21189), (230, 21462), (283, 21708), (305, 21762), (315, 21825), (318, 21840), (319, 21846), (329, 21900), (334, 21939), (337, 21954), (351, 22038), (366, 22119), (371, 22149), (391, 22284),

Gene: SenorClean\_26 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for SenorClean\_26:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Serenity\_27 Start: 19141, Stop: 20931, Start Num: 48

Candidate Starts for Serenity\_27:

(Start: 39 @19117 has 8 MA's), (Start: 48 @19141 has 538 MA's), (94, 19294), (107, 19375), (108, 19378), (119, 19450), (120, 19453), (130, 19507), (131, 19513), (133, 19531), (139, 19591), (144, 19624), (146, 19630), (155, 19669), (161, 19711), (181, 19792), (183, 19795), (192, 19855), (215, 19981), (229, 20065), (239, 20107), (252, 20158), (258, 20188), (283, 20314), (303, 20377), (315, 20449), (318, 20464), (321, 20488), (334, 20563), (337, 20578), (351, 20662), (369, 20767), (371, 20773), (374, 20791), (377, 20818), (378, 20827),

Gene: Severus\_26 Start: 17888, Stop: 19666, Start Num: 48

Candidate Starts for Severus\_26:

(Start: 39 @17864 has 8 MA's), (Start: 48 @17888 has 538 MA's), (Start: 70 @17945 has 1 MA's), (74, 17960), (86, 18014), (107, 18128), (108, 18131), (120, 18206), (125, 18245), (144, 18377), (161, 18464), (179, 18539), (187, 18578), (195, 18617), (211, 18704), (219, 18749), (229, 18818), (234, 18842), (237, 18854), (239, 18860), (277, 19034), (279, 19043), (283, 19067), (285, 19073), (288, 19088), (305, 19121), (314, 19172), (322, 19229), (323, 19235), (351, 19397), (369, 19502), (371, 19508), (372, 19517), (391, 19643),

Gene: Shaka\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Shaka\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (135, 20256), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Sham4\_28 Start: 20752, Stop: 22551, Start Num: 48

Candidate Starts for Sham4\_28:

(30, 20686), (Start: 39 @20728 has 8 MA's), (Start: 48 @20752 has 538 MA's), (67, 20794), (90, 20890), (94, 20905), (107, 20986), (108, 20989), (120, 21064), (123, 21079), (130, 21118), (131, 21124), (135, 21175), (144, 21235), (146, 21241), (161, 21322), (183, 21406), (204, 21532), (209, 21550), (214, 21577), (239, 21718), (254, 21784), (257, 21796), (258, 21799), (300, 21988), (307, 22015), (308, 22024), (311, 22045), (312, 22048), (315, 22069), (318, 22084), (321, 22108), (334, 22183), (337, 22198), (351, 22282), (369, 22387), (371, 22393), (378, 22447), (395, 22546),

Gene: Shapes\_31 Start: 19855, Stop: 21633, Start Num: 48

Candidate Starts for Shapes\_31:

(Start: 48 @19855 has 538 MA's), (Start: 70 @19912 has 1 MA's), (74, 19927), (84, 19960), (86, 19981), (105, 20083), (107, 20095), (108, 20098), (120, 20173), (123, 20188), (130, 20227), (144, 20344), (150, 20362), (161, 20431), (174, 20485), (179, 20506), (187, 20545), (195, 20584), (211, 20671), (219, 20716), (225, 20764), (229, 20785), (234, 20809), (237, 20821), (239, 20827), (258, 20908), (277, 21001), (279, 21010), (283, 21034), (285, 21040), (288, 21055), (305, 21088), (314, 21139), (317, 21157), (323, 21202), (351, 21364), (357, 21388), (358, 21394), (369, 21469), (371, 21475), (372, 21484), (379, 21535), (391, 21610),

Gene: ShawBrad\_20 Start: 16436, Stop: 18133, Start Num: 47

Candidate Starts for ShawBrad\_20:

(35, 16397), (Start: 47 @16436 has 34 MA's), (53, 16448), (77, 16526), (84, 16547), (92, 16595), (95, 16604), (101, 16646), (107, 16682), (116, 16739), (123, 16787), (126, 16814), (158, 17012), (161, 17030), (165, 17039), (167, 17045), (177, 17093), (184, 17123), (189, 17159), (194, 17186), (195, 17189), (203, 17240), (217, 17270), (221, 17297), (224, 17324), (241, 17396), (250, 17435), (265, 17489), (273, 17531), (290, 17606), (311, 17669), (316, 17696), (317, 17699), (322, 17714), (339, 17798), (341, 17807), (342, 17810), (344, 17816), (346, 17828), (347, 17831), (350, 17861), (351, 17867), (356, 17888), (357, 17891), (365, 17945), (371, 17975), (372, 17984), (379, 18035), (382, 18068), (385, 18080), (389, 18098),

Gene: ShayRa\_31 Start: 19215, Stop: 21002, Start Num: 48

Candidate Starts for ShayRa\_31:

(30, 19149), (Start: 39 @19191 has 8 MA's), (Start: 48 @19215 has 538 MA's), (90, 19353), (100, 19410), (108, 19452), (115, 19488), (120, 19527), (132, 19596), (134, 19620), (141, 19674), (172, 19824), (183, 19869), (187, 19899), (194, 19935), (202, 19986), (210, 20022), (219, 20070), (227, 20130), (257, 20259), (274, 20337), (318, 20538), (319, 20544), (335, 20640), (363, 20805), (379, 20904),

Gene: SheaKeira\_28 Start: 19728, Stop: 21518, Start Num: 48

Candidate Starts for SheaKeira\_28:

(30, 19662), (Start: 39 @19704 has 8 MA's), (Start: 48 @19728 has 538 MA's), (107, 19962), (108, 19965), (119, 20037), (120, 20040), (123, 20055), (124, 20058), (130, 20094), (131, 20100), (140, 20184), (144, 20211), (146, 20217), (161, 20298), (179, 20373), (181, 20379), (183, 20382), (192, 20442), (195, 20451), (225, 20631), (239, 20694), (252, 20745), (258, 20775), (263, 20793), (283, 20901), (310, 21003), (311, 21012), (318, 21051), (321, 21075), (334, 21150), (337, 21165), (351, 21249), (369, 21354), (371, 21360), (384, 21462),

Gene: Sheen\_29 Start: 22979, Stop: 24781, Start Num: 48

Candidate Starts for Sheen\_29:

(Start: 41 @22967 has 2 MA's), (Start: 48 @22979 has 538 MA's), (Start: 70 @23027 has 1 MA's), (75, 23045), (107, 23210), (108, 23213), (120, 23288), (123, 23303), (130, 23342), (146, 23465), (148, 23471), (155, 23504), (161, 23546), (192, 23690), (216, 23816), (229, 23897), (239, 23939), (250, 23987), (257, 24035), (258, 24038), (274, 24113), (277, 24131), (279, 24140), (283, 24164), (285, 24170), (309, 24263), (310, 24266), (315, 24299), (318, 24314), (342, 24455), (366, 24593), (369, 24617), (371, 24623), (385, 24728),

Gene: SheldonCooper\_28 Start: 20139, Stop: 21920, Start Num: 48

Candidate Starts for SheldonCooper\_28:

(Start: 39 @20115 has 8 MA's), (Start: 48 @20139 has 538 MA's), (Start: 52 @20145 has 3 MA's), (Start: 70 @20199 has 1 MA's), (74, 20214), (86, 20268), (90, 20286), (105, 20370), (107, 20382), (108, 20385), (120, 20460), (123, 20475), (130, 20514), (144, 20631), (161, 20718), (181, 20799), (191, 20847), (195, 20871), (211, 20958), (219, 21003), (230, 21075), (234, 21096), (239, 21114), (258, 21195), (274, 21270), (277, 21288), (279, 21297), (283, 21321), (285, 21327), (291, 21351), (308, 21393), (310, 21405), (314, 21426), (321, 21477), (326, 21501), (335, 21555), (351, 21651), (369, 21756), (372, 21771), (388, 21879), (391, 21897),

Gene: Shinji\_31 Start: 25793, Stop: 27601, Start Num: 26

Candidate Starts for Shinji\_31:

(26, 25793), (Start: 32 @25835 has 74 MA's), (Start: 37 @25871 has 5 MA's), (Start: 51 @25904 has 7 MA's), (102, 26114), (103, 26117), (107, 26147), (117, 26213), (120, 26237), (121, 26246), (126, 26279), (152, 26432), (158, 26471), (171, 26522), (173, 26534), (177, 26552), (180, 26564), (182, 26576), (185, 26591), (190, 26621), (191, 26624), (194, 26645), (216, 26717), (222, 26765), (247,

26876), (255, 26909), (264, 26948), (265, 26951), (279, 27023), (296, 27089), (304, 27101), (342, 27272), (343, 27275), (350, 27323), (356, 27350), (360, 27377), (361, 27383), (369, 27431), (385, 27548), (390, 27569), (395, 27596),

Gene: Shivanishola\_36 Start: 30875, Stop: 32638, Start Num: 32

Candidate Starts for Shivanishola\_36:

(29, 30857), (Start: 32 @30875 has 74 MA's), (Start: 37 @30911 has 5 MA's), (84, 31049), (100, 31145), (103, 31154), (112, 31223), (120, 31274), (127, 31319), (131, 31334), (140, 31415), (150, 31460), (152, 31469), (171, 31559), (177, 31589), (181, 31604), (185, 31628), (190, 31658), (218, 31763), (239, 31880), (244, 31898), (247, 31913), (254, 31943), (257, 31955), (258, 31958), (264, 31985), (342, 32309), (343, 32312), (350, 32360), (356, 32387), (360, 32414), (369, 32468), (375, 32495), (393, 32624),

Gene: ShortQueendom\_26 Start: 21062, Stop: 22843, Start Num: 59

Candidate Starts for ShortQueendom\_26:

(Start: 50 @21041 has 210 MA's), (Start: 59 @21062 has 4 MA's), (Start: 70 @21104 has 1 MA's), (83, 21149), (120, 21365), (127, 21410), (130, 21419), (134, 21458), (140, 21509), (141, 21512), (183, 21707), (195, 21776), (229, 21977), (230, 21980), (234, 22001), (257, 22097), (258, 22100), (260, 22106), (274, 22175), (277, 22193), (279, 22202), (285, 22232), (310, 22328), (315, 22361), (318, 22376), (342, 22517), (351, 22574), (371, 22685),

Gene: Shuman\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Shuman\_23:

(Start: 56 @16334 has 3 MA's), (Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (167, 16910), (170, 16925), (171, 16928), (179, 16967), (183, 16976), (198, 17060), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (286, 17453), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Shygu2\_27 Start: 19817, Stop: 21616, Start Num: 48

Candidate Starts for Shygu2\_27:

(Start: 39 @19793 has 8 MA's), (Start: 48 @19817 has 538 MA's), (Start: 52 @19823 has 3 MA's), (Start: 70 @19877 has 1 MA's), (86, 19946), (101, 20024), (105, 20048), (107, 20060), (108, 20063), (115, 20099), (120, 20138), (123, 20153), (130, 20192), (141, 20285), (144, 20309), (161, 20396), (195, 20549), (211, 20636), (219, 20681), (229, 20750), (234, 20774), (237, 20786), (258, 20873), (274, 20948), (277, 20966), (279, 20975), (283, 20999), (285, 21005), (288, 21020), (300, 21053), (309, 21098), (310, 21101), (314, 21122), (351, 21347), (365, 21425), (369, 21452), (371, 21458), (391, 21593),

Gene: Sibs6\_29 Start: 21686, Stop: 23488, Start Num: 50

Candidate Starts for Sibs6\_29:

(Start: 50 @21686 has 210 MA's), (Start: 59 @21707 has 4 MA's), (Start: 70 @21749 has 1 MA's), (83, 21794), (120, 22010), (127, 22055), (130, 22064), (134, 22103), (140, 22154), (141, 22157), (183, 22352), (195, 22421), (229, 22622), (230, 22625), (234, 22646), (257, 22742), (258, 22745), (260, 22751), (274, 22820), (277, 22838), (279, 22847), (285, 22877), (310, 22973), (315, 23006), (318, 23021), (342, 23162), (351, 23219), (371, 23330),

Gene: SilverChicken\_19 Start: 13744, Stop: 15408, Start Num: 51

Candidate Starts for SilverChicken\_19:

(Start: 51 @13744 has 7 MA's), (76, 13825), (85, 13855), (88, 13876), (90, 13888), (103, 13954), (109, 13993), (110, 14005), (114, 14029), (122, 14086), (123, 14089), (125, 14113), (127, 14119), (128, 14122), (134, 14167), (135, 14185), (141, 14221), (162, 14332), (172, 14368), (177, 14395), (180, 14407), (181, 14410), (187, 14452), (190, 14464), (194, 14488), (214, 14542), (229, 14641), (253,

14734), (258, 14761), (261, 14773), (275, 14824), (277, 14839), (289, 14893), (306, 14920), (342, 15082), (343, 15085), (344, 15088), (362, 15205), (371, 15247), (381, 15331), (390, 15376), (393, 15394),

Gene: Sitar\_35 Start: 31965, Stop: 33728, Start Num: 32

Candidate Starts for Sitar\_35:

(29, 31947), (Start: 32 @31965 has 74 MA's), (Start: 37 @32001 has 5 MA's), (84, 32139), (100, 32235), (103, 32244), (112, 32313), (120, 32364), (127, 32409), (131, 32424), (140, 32505), (150, 32550), (152, 32559), (171, 32649), (177, 32679), (181, 32694), (185, 32718), (190, 32748), (218, 32853), (239, 32970), (244, 32988), (247, 33003), (254, 33033), (257, 33045), (258, 33048), (264, 33075), (342, 33399), (343, 33402), (350, 33450), (356, 33477), (360, 33504), (369, 33558), (375, 33585), (395, 33723),

Gene: SkiPole\_29 Start: 21425, Stop: 23227, Start Num: 50

Candidate Starts for SkiPole\_29:

(Start: 50 @21425 has 210 MA's), (Start: 59 @21446 has 4 MA's), (Start: 70 @21488 has 1 MA's), (83, 21533), (120, 21749), (127, 21794), (130, 21803), (140, 21893), (141, 21896), (158, 21989), (183, 22091), (195, 22160), (226, 22349), (229, 22361), (230, 22364), (234, 22385), (257, 22481), (258, 22484), (260, 22490), (274, 22559), (277, 22577), (279, 22586), (285, 22616), (310, 22712), (315, 22745), (318, 22760), (342, 22901), (351, 22958), (371, 23069), (395, 23222),

Gene: Skipitt\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for Skipitt\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Sknot\_29 Start: 20214, Stop: 21986, Start Num: 48

Candidate Starts for Sknot\_29:

(Start: 39 @20190 has 8 MA's), (Start: 48 @20214 has 538 MA's), (89, 20349), (94, 20367), (107, 20448), (108, 20451), (119, 20523), (120, 20526), (123, 20541), (130, 20580), (131, 20586), (137, 20649), (144, 20697), (153, 20730), (161, 20784), (181, 20865), (183, 20868), (187, 20898), (215, 21054), (230, 21141), (258, 21261), (282, 21384), (283, 21387), (285, 21393), (305, 21441), (315, 21504), (318, 21519), (319, 21525), (329, 21579), (334, 21618), (337, 21633), (344, 21666), (369, 21822), (371, 21828), (378, 21882),

Gene: Slagathor\_28 Start: 21029, Stop: 22831, Start Num: 50

Candidate Starts for Slagathor\_28:

(Start: 50 @21029 has 210 MA's), (Start: 59 @21050 has 4 MA's), (Start: 70 @21092 has 1 MA's), (83, 21137), (120, 21353), (127, 21398), (130, 21407), (134, 21446), (140, 21497), (141, 21500), (183, 21695), (195, 21764), (205, 21824), (208, 21836), (229, 21965), (230, 21968), (234, 21989), (257, 22085), (258, 22088), (260, 22094), (274, 22163), (277, 22181), (279, 22190), (285, 22220), (310, 22316), (315, 22349), (318, 22364), (342, 22505), (351, 22562), (371, 22673),

Gene: Smairt\_28 Start: 21861, Stop: 23663, Start Num: 50

Candidate Starts for Smairt\_28:

(Start: 50 @21861 has 210 MA's), (Start: 59 @21882 has 4 MA's), (Start: 70 @21924 has 1 MA's), (83, 21969), (120, 22185), (127, 22230), (130, 22239), (140, 22329), (141, 22332), (183, 22527), (195, 22596), (226, 22785), (229, 22797), (230, 22800), (234, 22821), (257, 22917), (258, 22920), (260, 22926), (274, 22995), (277, 23013), (279, 23022), (285, 23052), (310, 23148), (315, 23181), (318,

23196), (342, 23337), (351, 23394), (371, 23505), (395, 23658),

Gene: Smeadley\_24 Start: 18652, Stop: 20442, Start Num: 48

Candidate Starts for Smeadley\_24:

(Start: 39 @18628 has 8 MA's), (Start: 48 @18652 has 538 MA's), (82, 18745), (90, 18790), (108, 18889), (115, 18925), (120, 18964), (123, 18979), (129, 19015), (144, 19135), (146, 19141), (172, 19261), (198, 19390), (211, 19462), (229, 19576), (277, 19792), (283, 19825), (310, 19927), (315, 19960), (318, 19975), (322, 20005), (368, 20275), (371, 20284), (372, 20293), (389, 20407),

Gene: Smeagan\_30 Start: 20692, Stop: 22464, Start Num: 48

Candidate Starts for Smeagan\_30:

(30, 20626), (Start: 39 @20668 has 8 MA's), (Start: 48 @20692 has 538 MA's), (84, 20791), (98, 20875), (105, 20914), (107, 20926), (108, 20929), (119, 21001), (120, 21004), (130, 21058), (134, 21097), (144, 21175), (161, 21262), (181, 21343), (183, 21346), (215, 21532), (230, 21619), (254, 21724), (258, 21739), (283, 21865), (285, 21871), (305, 21919), (318, 21997), (319, 22003), (329, 22057), (334, 22096), (337, 22111), (351, 22195), (366, 22276), (371, 22306),

Gene: Smeagol\_29 Start: 22440, Stop: 24242, Start Num: 50

Candidate Starts for Smeagol\_29:

(Start: 50 @22440 has 210 MA's), (Start: 59 @22461 has 4 MA's), (Start: 70 @22503 has 1 MA's), (83, 22548), (120, 22764), (127, 22809), (130, 22818), (134, 22857), (141, 22911), (183, 23106), (195, 23175), (229, 23376), (230, 23379), (234, 23400), (257, 23496), (258, 23499), (260, 23505), (274, 23574), (277, 23592), (279, 23601), (285, 23631), (310, 23727), (315, 23760), (318, 23775), (342, 23916), (351, 23973), (371, 24084), (395, 24237),

Gene: SmellyB\_31 Start: 19976, Stop: 21748, Start Num: 48

Candidate Starts for SmellyB\_31:

(30, 19910), (Start: 39 @19952 has 8 MA's), (Start: 48 @19976 has 538 MA's), (90, 20114), (101, 20174), (108, 20213), (119, 20285), (120, 20288), (124, 20306), (130, 20342), (131, 20348), (144, 20459), (146, 20465), (161, 20546), (172, 20585), (181, 20627), (183, 20630), (192, 20690), (235, 20927), (239, 20942), (258, 21023), (285, 21155), (318, 21281), (327, 21332), (329, 21341), (334, 21380), (335, 21383), (337, 21395), (351, 21479), (369, 21584), (371, 21590), (391, 21725),

Gene: SmokingBunny\_31 Start: 25850, Stop: 27616, Start Num: 32

Candidate Starts for SmokingBunny\_31:

(26, 25808), (Start: 32 @25850 has 74 MA's), (Start: 37 @25886 has 5 MA's), (Start: 51 @25919 has 7 MA's), (102, 26129), (103, 26132), (107, 26162), (117, 26228), (120, 26252), (121, 26261), (126, 26294), (152, 26447), (158, 26486), (171, 26537), (173, 26549), (177, 26567), (180, 26579), (182, 26591), (185, 26606), (190, 26636), (191, 26639), (194, 26660), (216, 26732), (222, 26780), (247, 26891), (255, 26924), (264, 26963), (265, 26966), (279, 27038), (296, 27104), (304, 27116), (342, 27287), (343, 27290), (350, 27338), (356, 27365), (360, 27392), (361, 27398), (369, 27446), (385, 27563), (390, 27584), (395, 27611),

Gene: SnapTap\_28 Start: 20118, Stop: 21890, Start Num: 48

Candidate Starts for SnapTap\_28:

(30, 20052), (Start: 39 @20094 has 8 MA's), (Start: 48 @20118 has 538 MA's), (98, 20301), (107, 20352), (108, 20355), (119, 20427), (120, 20430), (130, 20484), (134, 20523), (139, 20568), (144, 20601), (161, 20688), (181, 20769), (183, 20772), (230, 21045), (258, 21165), (305, 21345), (315, 21408), (318, 21423), (319, 21429), (329, 21483), (334, 21522), (337, 21537), (351, 21621), (371, 21732), (391, 21867),

Gene: Snape\_28 Start: 20752, Stop: 22551, Start Num: 48

Candidate Starts for Snape\_28:



(30, 20686), (Start: 39 @20728 has 8 MA's), (Start: 48 @20752 has 538 MA's), (67, 20794), (90, 20890), (94, 20905), (107, 20986), (108, 20989), (120, 21064), (123, 21079), (130, 21118), (131, 21124), (135, 21175), (144, 21235), (146, 21241), (161, 21322), (183, 21406), (204, 21532), (209, 21550), (214, 21577), (239, 21718), (254, 21784), (257, 21796), (258, 21799), (300, 21988), (307, 22015), (308, 22024), (311, 22045), (312, 22048), (315, 22069), (318, 22084), (321, 22108), (334, 22183), (337, 22198), (351, 22282), (369, 22387), (371, 22393), (378, 22447), (395, 22546),

Gene: Snazzy\_26 Start: 21047, Stop: 22849, Start Num: 50

Candidate Starts for Snazzy\_26:

(Start: 50 @21047 has 210 MA's), (Start: 59 @21068 has 4 MA's), (Start: 70 @21110 has 1 MA's), (83, 21155), (120, 21371), (127, 21416), (130, 21425), (134, 21464), (140, 21515), (141, 21518), (183, 21713), (195, 21782), (229, 21983), (230, 21986), (234, 22007), (257, 22103), (258, 22106), (260, 22112), (274, 22181), (277, 22199), (279, 22208), (285, 22238), (310, 22334), (315, 22367), (318, 22382), (342, 22523), (351, 22580), (371, 22691), (395, 22844),

Gene: Snickers\_29 Start: 20353, Stop: 22149, Start Num: 48

Candidate Starts for Snickers\_29:

(Start: 48 @20353 has 538 MA's), (Start: 70 @20410 has 1 MA's), (74, 20425), (86, 20479), (89, 20494), (105, 20581), (107, 20593), (108, 20596), (120, 20671), (123, 20686), (129, 20722), (161, 20929), (195, 21082), (211, 21169), (229, 21283), (234, 21307), (239, 21325), (258, 21406), (274, 21481), (277, 21499), (283, 21532), (285, 21538), (295, 21577), (309, 21631), (310, 21634), (314, 21655), (322, 21712), (351, 21880), (369, 21985), (371, 21991), (391, 22126), (395, 22144),

Gene: SoYo\_29 Start: 20290, Stop: 22086, Start Num: 48

Candidate Starts for SoYo\_29:

(Start: 48 @20290 has 538 MA's), (Start: 70 @20347 has 1 MA's), (74, 20362), (84, 20395), (86, 20416), (89, 20431), (105, 20518), (107, 20530), (108, 20533), (120, 20608), (123, 20623), (129, 20659), (161, 20866), (187, 20980), (195, 21019), (211, 21106), (229, 21220), (234, 21244), (239, 21262), (258, 21343), (274, 21418), (277, 21436), (283, 21469), (285, 21475), (295, 21514), (309, 21568), (310, 21571), (314, 21592), (322, 21649), (351, 21817), (369, 21922), (371, 21928), (391, 22063),

Gene: SoilDragon\_29 Start: 20067, Stop: 21863, Start Num: 48

Candidate Starts for SoilDragon\_29:

(Start: 48 @20067 has 538 MA's), (Start: 70 @20124 has 1 MA's), (74, 20139), (84, 20172), (86, 20193), (89, 20208), (105, 20295), (107, 20307), (108, 20310), (120, 20385), (123, 20400), (129, 20436), (161, 20643), (195, 20796), (211, 20883), (229, 20997), (234, 21021), (239, 21039), (258, 21120), (274, 21195), (277, 21213), (283, 21246), (285, 21252), (295, 21291), (309, 21345), (310, 21348), (314, 21369), (322, 21426), (351, 21594), (369, 21699), (371, 21705), (391, 21840),

Gene: Solon\_27 Start: 21712, Stop: 23514, Start Num: 50

Candidate Starts for Solon\_27:

(Start: 50 @21712 has 210 MA's), (Start: 59 @21733 has 4 MA's), (Start: 70 @21775 has 1 MA's), (83, 21820), (120, 22036), (127, 22081), (130, 22090), (134, 22129), (140, 22180), (141, 22183), (158, 22276), (183, 22378), (195, 22447), (229, 22648), (230, 22651), (234, 22672), (257, 22768), (258, 22771), (260, 22777), (274, 22846), (277, 22864), (279, 22873), (285, 22903), (310, 22999), (315, 23032), (318, 23047), (342, 23188), (351, 23245), (371, 23356),

Gene: SororFago\_28 Start: 19411, Stop: 21210, Start Num: 48

Candidate Starts for SororFago\_28:

(Start: 46 @19408 has 8 MA's), (Start: 48 @19411 has 538 MA's), (89, 19546), (103, 19615), (108, 19648), (111, 19678), (119, 19720), (120, 19723), (131, 19783), (144, 19894), (155, 19939), (161, 19981), (179, 20056), (181, 20062), (183, 20065), (192, 20125), (212, 20227), (225, 20314), (230,

20338), (258, 20458), (303, 20656), (318, 20743), (319, 20749), (334, 20842), (369, 21046), (371, 21052),

Gene: Sorpresa\_27 Start: 21059, Stop: 22861, Start Num: 50

Candidate Starts for Sorpresa\_27:

(Start: 50 @21059 has 210 MA's), (Start: 59 @21080 has 4 MA's), (Start: 70 @21122 has 1 MA's), (120, 21383), (127, 21428), (130, 21437), (134, 21476), (140, 21527), (141, 21530), (183, 21725), (195, 21794), (229, 21995), (230, 21998), (234, 22019), (257, 22115), (258, 22118), (260, 22124), (274, 22193), (277, 22211), (279, 22220), (285, 22250), (310, 22346), (315, 22379), (318, 22394), (342, 22535), (351, 22592), (371, 22703),

Gene: Soshari\_31 Start: 20462, Stop: 22258, Start Num: 48

Candidate Starts for Soshari\_31:

(Start: 48 @20462 has 538 MA's), (Start: 70 @20519 has 1 MA's), (74, 20534), (84, 20567), (86, 20588), (89, 20603), (105, 20690), (107, 20702), (108, 20705), (120, 20780), (123, 20795), (129, 20831), (161, 21038), (187, 21152), (195, 21191), (211, 21278), (229, 21392), (234, 21416), (239, 21434), (258, 21515), (274, 21590), (277, 21608), (283, 21641), (285, 21647), (295, 21686), (309, 21740), (310, 21743), (314, 21764), (322, 21821), (351, 21989), (369, 22094), (371, 22100), (391, 22235),

Gene: Soul22\_19 Start: 13742, Stop: 15406, Start Num: 51

Candidate Starts for Soul22\_19:

(Start: 51 @13742 has 7 MA's), (76, 13823), (85, 13853), (88, 13874), (90, 13886), (103, 13952), (109, 13991), (110, 14003), (114, 14027), (122, 14084), (123, 14087), (125, 14111), (127, 14117), (128, 14120), (134, 14165), (135, 14183), (141, 14219), (162, 14330), (172, 14366), (177, 14393), (180, 14405), (181, 14408), (187, 14450), (190, 14462), (194, 14486), (214, 14540), (229, 14639), (253, 14732), (258, 14759), (261, 14771), (273, 14816), (277, 14837), (279, 14846), (306, 14918), (342, 15080), (343, 15083), (344, 15086), (362, 15203), (371, 15245), (381, 15329), (390, 15374), (393, 15392),

Gene: Soups\_30 Start: 19215, Stop: 21002, Start Num: 48

Candidate Starts for Soups\_30:

(30, 19149), (Start: 39 @19191 has 8 MA's), (Start: 48 @19215 has 538 MA's), (90, 19353), (100, 19410), (108, 19452), (115, 19488), (120, 19527), (132, 19596), (134, 19620), (141, 19674), (172, 19824), (183, 19869), (187, 19899), (194, 19935), (202, 19986), (210, 20022), (219, 20070), (227, 20130), (257, 20259), (274, 20337), (318, 20538), (319, 20544), (335, 20640), (363, 20805), (379, 20904),

Gene: Sparxx\_27 Start: 19825, Stop: 21603, Start Num: 48

Candidate Starts for Sparxx\_27:

(Start: 39 @19801 has 8 MA's), (Start: 48 @19825 has 538 MA's), (Start: 70 @19882 has 1 MA's), (85, 19936), (86, 19951), (90, 19969), (105, 20053), (107, 20065), (108, 20068), (120, 20143), (123, 20158), (130, 20197), (144, 20314), (161, 20401), (181, 20482), (191, 20530), (195, 20554), (211, 20641), (219, 20686), (230, 20758), (234, 20779), (239, 20797), (258, 20878), (277, 20971), (279, 20980), (283, 21004), (285, 21010), (291, 21034), (310, 21088), (314, 21109), (321, 21160), (326, 21184), (335, 21238), (351, 21334), (369, 21439), (372, 21454), (388, 21562), (391, 21580),

Gene: Spike509\_29 Start: 20463, Stop: 22259, Start Num: 48

Candidate Starts for Spike509\_29:

(Start: 48 @20463 has 538 MA's), (Start: 70 @20520 has 1 MA's), (74, 20535), (84, 20568), (86, 20589), (89, 20604), (105, 20691), (107, 20703), (108, 20706), (120, 20781), (123, 20796), (129, 20832), (161, 21039), (187, 21153), (195, 21192), (211, 21279), (229, 21393), (234, 21417), (239, 21435), (258, 21516), (274, 21591), (277, 21609), (283, 21642), (285, 21648), (295, 21687), (309,

21741), (310, 21744), (314, 21765), (322, 21822), (351, 21990), (369, 22095), (371, 22101), (391, 22236),

Gene: SpikeBT\_29 Start: 22017, Stop: 23819, Start Num: 50

Candidate Starts for SpikeBT\_29:

(Start: 50 @22017 has 210 MA's), (Start: 59 @22038 has 4 MA's), (Start: 70 @22080 has 1 MA's), (83, 22125), (120, 22341), (127, 22386), (130, 22395), (140, 22485), (141, 22488), (183, 22683), (195, 22752), (229, 22953), (230, 22956), (234, 22977), (257, 23073), (258, 23076), (260, 23082), (274, 23151), (277, 23169), (279, 23178), (285, 23208), (310, 23304), (315, 23337), (318, 23352), (342, 23493), (351, 23550), (371, 23661),

Gene: Spino\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Spino\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Spooky\_20 Start: 16409, Stop: 18106, Start Num: 47

Candidate Starts for Spooky\_20:

(35, 16370), (Start: 47 @16409 has 34 MA's), (53, 16421), (55, 16424), (Start: 70 @16472 has 1 MA's), (77, 16499), (84, 16520), (88, 16547), (91, 16562), (92, 16568), (93, 16571), (97, 16583), (101, 16619), (107, 16655), (116, 16712), (118, 16733), (123, 16760), (126, 16787), (158, 16985), (161, 17003), (165, 17012), (167, 17018), (177, 17066), (184, 17096), (189, 17132), (191, 17138), (194, 17159), (195, 17162), (216, 17240), (217, 17243), (221, 17270), (224, 17297), (241, 17369), (250, 17408), (265, 17462), (279, 17534), (290, 17579), (311, 17642), (316, 17669), (317, 17672), (322, 17687), (339, 17771), (341, 17780), (342, 17783), (344, 17789), (347, 17804), (350, 17834), (351, 17840), (356, 17861), (357, 17864), (365, 17918), (371, 17948), (372, 17957), (379, 18008), (382, 18041), (385, 18053), (389, 18071),

Gene: Spouty\_30 Start: 21779, Stop: 23569, Start Num: 48

Candidate Starts for Spouty\_30:

(Start: 46 @21776 has 8 MA's), (Start: 48 @21779 has 538 MA's), (107, 22013), (108, 22016), (119, 22088), (120, 22091), (123, 22106), (130, 22145), (131, 22151), (144, 22262), (161, 22349), (181, 22430), (183, 22433), (192, 22493), (215, 22619), (225, 22682), (230, 22706), (232, 22712), (239, 22745), (258, 22826), (283, 22952), (294, 22994), (295, 22997), (310, 23054), (315, 23087), (318, 23102), (334, 23201), (335, 23204), (337, 23216), (351, 23300), (362, 23366), (369, 23405), (371, 23411), (377, 23456), (384, 23513), (385, 23516),

Gene: Squee\_28 Start: 21966, Stop: 23768, Start Num: 50

Candidate Starts for Squee\_28:

(Start: 50 @21966 has 210 MA's), (Start: 59 @21987 has 4 MA's), (Start: 70 @22029 has 1 MA's), (83, 22074), (120, 22290), (127, 22335), (130, 22344), (134, 22383), (140, 22434), (141, 22437), (183, 22632), (195, 22701), (205, 22761), (229, 22902), (230, 22905), (234, 22926), (257, 23022), (258, 23025), (260, 23031), (274, 23100), (277, 23118), (279, 23127), (285, 23157), (310, 23253), (315, 23286), (318, 23301), (342, 23442), (351, 23499), (371, 23610),

Gene: Squiddly\_22 Start: 17821, Stop: 19518, Start Num: 47

Candidate Starts for Squiddly\_22:

(35, 17782), (Start: 47 @17821 has 34 MA's), (53, 17833), (55, 17836), (77, 17911), (84, 17932), (88, 17959), (91, 17974), (92, 17980), (93, 17983), (97, 17995), (101, 18031), (105, 18055), (107, 18067),

(116, 18124), (118, 18145), (123, 18172), (126, 18199), (133, 18235), (148, 18340), (158, 18397), (161, 18415), (165, 18424), (167, 18430), (177, 18478), (184, 18508), (189, 18544), (191, 18550), (194, 18571), (195, 18574), (216, 18652), (217, 18655), (221, 18682), (224, 18709), (241, 18781), (250, 18820), (265, 18874), (272, 18910), (279, 18946), (290, 18991), (311, 19054), (312, 19057), (316, 19081), (317, 19084), (322, 19099), (339, 19183), (341, 19192), (342, 19195), (344, 19201), (347, 19216), (350, 19246), (351, 19252), (356, 19273), (357, 19276), (365, 19330), (371, 19360), (372, 19369), (379, 19420), (382, 19453), (385, 19465), (389, 19483),

Gene: StCroix\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for StCroix\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Stagni\_29 Start: 20381, Stop: 22177, Start Num: 48

Candidate Starts for Stagni\_29:

(Start: 48 @20381 has 538 MA's), (Start: 70 @20438 has 1 MA's), (74, 20453), (86, 20507), (89, 20522), (105, 20609), (107, 20621), (108, 20624), (120, 20699), (123, 20714), (129, 20750), (161, 20957), (195, 21110), (211, 21197), (229, 21311), (234, 21335), (239, 21353), (258, 21434), (274, 21509), (277, 21527), (283, 21560), (285, 21566), (295, 21605), (309, 21659), (310, 21662), (314, 21683), (322, 21740), (351, 21908), (369, 22013), (371, 22019), (391, 22154),

Gene: StarStuff\_31 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for StarStuff\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (94, 20202), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: Stasia\_28 Start: 20265, Stop: 22046, Start Num: 48

Candidate Starts for Stasia\_28:

(Start: 39 @20241 has 8 MA's), (Start: 48 @20265 has 538 MA's), (Start: 70 @20325 has 1 MA's), (86, 20394), (89, 20409), (105, 20496), (107, 20508), (108, 20511), (111, 20541), (120, 20586), (123, 20601), (130, 20640), (144, 20757), (161, 20844), (181, 20925), (187, 20958), (191, 20973), (195, 20997), (211, 21084), (216, 21117), (230, 21201), (234, 21222), (239, 21240), (258, 21321), (277, 21414), (279, 21423), (283, 21447), (285, 21453), (288, 21468), (305, 21501), (310, 21531), (314, 21552), (321, 21603), (335, 21681), (339, 21708), (351, 21777), (357, 21801), (369, 21882), (372, 21897), (386, 21999), (391, 22023),

Gene: Steamy\_29 Start: 21239, Stop: 23029, Start Num: 48

Candidate Starts for Steamy\_29:

(30, 21173), (Start: 39 @21215 has 8 MA's), (Start: 48 @21239 has 538 MA's), (107, 21473), (108, 21476), (111, 21506), (119, 21548), (120, 21551), (124, 21569), (130, 21605), (131, 21611), (144, 21722), (153, 21755), (161, 21809), (181, 21890), (183, 21893), (202, 22010), (215, 22079), (237, 22199), (239, 22205), (258, 22286), (279, 22388), (283, 22412), (294, 22454), (310, 22514), (315, 22547), (318, 22562), (319, 22568), (322, 22592), (329, 22622), (334, 22661), (335, 22664), (337, 22676), (351, 22760), (377, 22916), (391, 23006),

Gene: StepMih\_29 Start: 20429, Stop: 22168, Start Num: 70

Candidate Starts for StepMih\_29:

(Start: 48 @20372 has 538 MA's), (Start: 70 @20429 has 1 MA's), (74, 20444), (86, 20498), (89, 20513), (105, 20600), (107, 20612), (108, 20615), (120, 20690), (123, 20705), (129, 20741), (161, 20948), (195, 21101), (211, 21188), (229, 21302), (234, 21326), (239, 21344), (258, 21425), (274, 21500), (277, 21518), (283, 21551), (285, 21557), (295, 21596), (309, 21650), (310, 21653), (314, 21674), (322, 21731), (351, 21899), (369, 22004), (371, 22010), (391, 22145),

Gene: Stephig9\_24 Start: 18633, Stop: 20423, Start Num: 48

Candidate Starts for Stephig9\_24:

(Start: 39 @18609 has 8 MA's), (Start: 48 @18633 has 538 MA's), (82, 18726), (90, 18771), (108, 18870), (115, 18906), (120, 18945), (123, 18960), (129, 18996), (144, 19116), (146, 19122), (172, 19242), (198, 19371), (211, 19443), (229, 19557), (277, 19773), (283, 19806), (310, 19908), (315, 19941), (318, 19956), (322, 19986), (368, 20256), (371, 20265), (372, 20274), (389, 20388),

Gene: StewieG\_26 Start: 20923, Stop: 22704, Start Num: 59

Candidate Starts for StewieG\_26:

(Start: 50 @20902 has 210 MA's), (Start: 59 @20923 has 4 MA's), (Start: 70 @20965 has 1 MA's), (83, 21010), (120, 21226), (127, 21271), (130, 21280), (134, 21319), (140, 21370), (141, 21373), (183, 21568), (195, 21637), (229, 21838), (230, 21841), (234, 21862), (257, 21958), (258, 21961), (260, 21967), (274, 22036), (277, 22054), (279, 22063), (285, 22093), (310, 22189), (315, 22222), (318, 22237), (342, 22378), (351, 22435), (371, 22546),

Gene: Stink\_28 Start: 20106, Stop: 21905, Start Num: 48

Candidate Starts for Stink\_28:

(Start: 39 @20082 has 8 MA's), (Start: 48 @20106 has 538 MA's), (Start: 52 @20112 has 3 MA's), (Start: 70 @20166 has 1 MA's), (86, 20235), (101, 20313), (105, 20337), (107, 20349), (108, 20352), (120, 20427), (123, 20442), (130, 20481), (141, 20574), (144, 20598), (161, 20685), (187, 20799), (211, 20925), (219, 20970), (229, 21039), (234, 21063), (237, 21075), (258, 21162), (274, 21237), (277, 21255), (283, 21288), (285, 21294), (288, 21309), (309, 21387), (310, 21390), (314, 21411), (351, 21636), (365, 21714), (366, 21717), (369, 21741), (371, 21747), (391, 21882), (395, 21900),

Gene: StorminNorm\_34 Start: 29521, Stop: 31284, Start Num: 32

Candidate Starts for StorminNorm\_34:

(Start: 32 @29521 has 74 MA's), (Start: 37 @29557 has 5 MA's), (81, 29686), (84, 29695), (100, 29791), (103, 29800), (112, 29869), (120, 29920), (127, 29965), (131, 29980), (133, 29998), (140, 30061), (150, 30106), (152, 30115), (175, 30226), (177, 30235), (181, 30250), (185, 30274), (190, 30304), (239, 30526), (244, 30544), (247, 30559), (257, 30601), (258, 30604), (264, 30631), (289, 30751), (311, 30814), (342, 30955), (343, 30958), (350, 31006), (356, 31033), (360, 31060), (369, 31114), (375, 31141),

Gene: StrongArm\_26 Start: 22101, Stop: 23903, Start Num: 50

Candidate Starts for StrongArm\_26:

(Start: 50 @22101 has 210 MA's), (Start: 59 @22122 has 4 MA's), (Start: 70 @22164 has 1 MA's), (83, 22209), (120, 22425), (127, 22470), (130, 22479), (134, 22518), (140, 22569), (141, 22572), (183, 22767), (195, 22836), (229, 23037), (230, 23040), (234, 23061), (257, 23157), (258, 23160), (260, 23166), (274, 23235), (277, 23253), (279, 23262), (285, 23292), (310, 23388), (315, 23421), (318, 23436), (322, 23466), (342, 23577), (351, 23634), (371, 23745),

Gene: Strosahl\_30 Start: 19057, Stop: 20844, Start Num: 48

Candidate Starts for Strosahl\_30:

(30, 18991), (Start: 39 @19033 has 8 MA's), (Start: 48 @19057 has 538 MA's), (90, 19195), (100, 19252), (108, 19294), (115, 19330), (120, 19369), (132, 19438), (134, 19462), (141, 19516), (172, 19666), (183, 19711), (187, 19741), (194, 19777), (202, 19828), (210, 19864), (219, 19912), (227,

19972), (257, 20101), (274, 20179), (318, 20380), (319, 20386), (335, 20482), (363, 20647), (379, 20746),

Gene: Stultus\_33 Start: 29892, Stop: 31655, Start Num: 32

Candidate Starts for Stultus\_33:

(29, 29874), (Start: 32 @29892 has 74 MA's), (Start: 37 @29928 has 5 MA's), (84, 30066), (100, 30162), (103, 30171), (112, 30240), (120, 30291), (127, 30336), (131, 30351), (140, 30432), (150, 30477), (152, 30486), (171, 30576), (177, 30606), (181, 30621), (185, 30645), (190, 30675), (239, 30897), (244, 30915), (247, 30930), (254, 30960), (257, 30972), (258, 30975), (264, 31002), (342, 31326), (343, 31329), (350, 31377), (356, 31404), (360, 31431), (369, 31485), (375, 31512), (393, 31641),

Gene: Sumter\_26 Start: 20650, Stop: 22452, Start Num: 50

Candidate Starts for Sumter\_26:

(Start: 50 @20650 has 210 MA's), (Start: 59 @20671 has 4 MA's), (Start: 70 @20713 has 1 MA's), (83, 20758), (120, 20974), (127, 21019), (130, 21028), (140, 21118), (141, 21121), (183, 21316), (195, 21385), (229, 21586), (230, 21589), (234, 21610), (257, 21706), (258, 21709), (260, 21715), (274, 21784), (277, 21802), (279, 21811), (285, 21841), (310, 21937), (315, 21970), (318, 21985), (342, 22126), (351, 22183), (371, 22294),

Gene: Sunhee\_27 Start: 19447, Stop: 21246, Start Num: 48

Candidate Starts for Sunhee\_27:

(Start: 46 @19444 has 8 MA's), (Start: 48 @19447 has 538 MA's), (94, 19600), (103, 19651), (108, 19684), (119, 19756), (120, 19759), (130, 19813), (131, 19819), (144, 19930), (146, 19936), (155, 19975), (157, 19984), (161, 20017), (179, 20092), (181, 20098), (183, 20101), (192, 20161), (212, 20263), (216, 20290), (225, 20350), (230, 20374), (239, 20413), (254, 20479), (258, 20494), (303, 20692), (308, 20719), (315, 20764), (318, 20779), (319, 20785), (334, 20878), (337, 20893), (369, 21082), (371, 21088), (372, 21097), (377, 21133), (392, 21229),

Gene: Sunshine924\_26 Start: 20656, Stop: 22458, Start Num: 50

Candidate Starts for Sunshine924\_26:

(Start: 50 @20656 has 210 MA's), (Start: 59 @20677 has 4 MA's), (Start: 70 @20719 has 1 MA's), (83, 20764), (120, 20980), (127, 21025), (130, 21034), (134, 21073), (140, 21124), (141, 21127), (183, 21322), (195, 21391), (229, 21592), (230, 21595), (234, 21616), (257, 21712), (258, 21715), (260, 21721), (274, 21790), (277, 21808), (279, 21817), (285, 21847), (310, 21943), (315, 21976), (318, 21991), (342, 22132), (351, 22189), (371, 22300), (395, 22453),

Gene: SuperAwesome\_31 Start: 19969, Stop: 21741, Start Num: 48

Candidate Starts for SuperAwesome\_31:

(30, 19903), (Start: 39 @19945 has 8 MA's), (Start: 48 @19969 has 538 MA's), (101, 20167), (108, 20206), (119, 20278), (120, 20281), (124, 20299), (130, 20335), (131, 20341), (144, 20452), (146, 20458), (155, 20497), (161, 20539), (172, 20578), (181, 20620), (183, 20623), (192, 20683), (235, 20920), (239, 20935), (258, 21016), (285, 21148), (318, 21274), (327, 21325), (329, 21334), (334, 21373), (335, 21376), (337, 21388), (351, 21472), (369, 21577), (371, 21583), (391, 21718),

Gene: SuperCallie99\_31 Start: 19968, Stop: 21740, Start Num: 48

Candidate Starts for SuperCallie99\_31:

(30, 19902), (Start: 39 @19944 has 8 MA's), (Start: 48 @19968 has 538 MA's), (101, 20166), (108, 20205), (119, 20277), (120, 20280), (124, 20298), (130, 20334), (131, 20340), (144, 20451), (146, 20457), (155, 20496), (161, 20538), (172, 20577), (181, 20619), (183, 20622), (192, 20682), (235, 20919), (239, 20934), (258, 21015), (285, 21147), (318, 21273), (327, 21324), (329, 21333), (334, 21372), (335, 21375), (337, 21387), (351, 21471), (369, 21576), (371, 21582), (391, 21717),

Gene: Superchunk\_27 Start: 18835, Stop: 20625, Start Num: 48

Candidate Starts for Superchunk\_27:

(30, 18769), (Start: 39 @18811 has 8 MA's), (Start: 48 @18835 has 538 MA's), (Start: 59 @18844 has 4 MA's), (94, 18988), (107, 19069), (108, 19072), (119, 19144), (120, 19147), (123, 19162), (130, 19201), (131, 19207), (144, 19318), (146, 19324), (153, 19351), (161, 19405), (181, 19486), (183, 19489), (211, 19645), (215, 19675), (229, 19759), (239, 19801), (252, 19852), (258, 19882), (283, 20008), (298, 20062), (307, 20089), (308, 20098), (310, 20110), (315, 20143), (318, 20158), (321, 20182), (334, 20257), (335, 20260), (337, 20272), (351, 20356), (369, 20461), (377, 20512), (378, 20521), (391, 20602),

Gene: Survivors\_20 Start: 16559, Stop: 18253, Start Num: 47

Candidate Starts for Survivors\_20:

(16, 16235), (Start: 47 @16559 has 34 MA's), (113, 16844), (114, 16847), (120, 16892), (123, 16907), (134, 16985), (139, 17030), (158, 17132), (162, 17153), (167, 17165), (168, 17177), (170, 17180), (182, 17237), (187, 17270), (191, 17285), (201, 17351), (217, 17393), (219, 17402), (224, 17447), (238, 17510), (257, 17591), (262, 17609), (264, 17618), (266, 17627), (277, 17684), (279, 17693), (318, 17825), (327, 17852), (332, 17873), (341, 17924), (342, 17927), (359, 18023), (362, 18050), (364, 18059), (365, 18062), (371, 18092), (374, 18110), (380, 18155), (394, 18245),

Gene: Swann\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for Swann\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: SweetiePie\_28 Start: 20118, Stop: 21890, Start Num: 48

Candidate Starts for SweetiePie\_28:

(30, 20052), (Start: 39 @20094 has 8 MA's), (Start: 48 @20118 has 538 MA's), (84, 20217), (98, 20301), (107, 20352), (108, 20355), (119, 20427), (120, 20430), (130, 20484), (134, 20523), (139, 20568), (144, 20601), (161, 20688), (181, 20769), (183, 20772), (230, 21045), (258, 21165), (283, 21291), (305, 21345), (315, 21408), (318, 21423), (319, 21429), (329, 21483), (334, 21522), (337, 21537), (351, 21621), (371, 21732), (391, 21867),

Gene: SwirlSquare\_30 Start: 18974, Stop: 20788, Start Num: 39

Candidate Starts for SwirlSquare\_30:

(30, 18932), (Start: 39 @18974 has 8 MA's), (Start: 48 @18998 has 538 MA's), (107, 19232), (108, 19235), (119, 19307), (120, 19310), (123, 19325), (146, 19487), (150, 19499), (161, 19568), (176, 19628), (181, 19649), (183, 19652), (211, 19808), (215, 19838), (229, 19922), (252, 20015), (258, 20045), (283, 20171), (310, 20273), (315, 20306), (318, 20321), (334, 20420), (335, 20423), (337, 20435), (351, 20519), (369, 20624), (378, 20684), (391, 20765),

Gene: Swirley\_24 Start: 19634, Stop: 21430, Start Num: 48

Candidate Starts for Swirley\_24:

(Start: 48 @19634 has 538 MA's), (85, 19739), (90, 19772), (108, 19871), (120, 19946), (123, 19961), (129, 19997), (137, 20069), (139, 20084), (146, 20123), (187, 20318), (192, 20348), (194, 20354), (219, 20489), (226, 20546), (227, 20549), (229, 20558), (239, 20600), (243, 20618), (257, 20678), (258, 20681), (277, 20774), (279, 20783), (283, 20807), (309, 20915), (315, 20951), (351, 21161), (368, 21263), (371, 21272), (387, 21386), (391, 21407), (393, 21416),

Gene: SwissCheese\_28 Start: 21594, Stop: 23396, Start Num: 50

Candidate Starts for SwissCheese\_28:

(Start: 50 @21594 has 210 MA's), (Start: 59 @21615 has 4 MA's), (Start: 70 @21657 has 1 MA's), (83, 21702), (120, 21918), (127, 21963), (130, 21972), (134, 22011), (140, 22062), (141, 22065), (183, 22260), (195, 22329), (229, 22530), (230, 22533), (234, 22554), (257, 22650), (258, 22653), (260, 22659), (274, 22728), (277, 22746), (279, 22755), (285, 22785), (310, 22881), (315, 22914), (318, 22929), (322, 22959), (342, 23070), (351, 23127), (371, 23238),

Gene: Switzer\_28 Start: 21233, Stop: 23035, Start Num: 50

Candidate Starts for Switzer\_28:

(Start: 50 @21233 has 210 MA's), (Start: 59 @21254 has 4 MA's), (Start: 70 @21296 has 1 MA's), (83, 21341), (120, 21557), (127, 21602), (130, 21611), (134, 21650), (140, 21701), (141, 21704), (183, 21899), (195, 21968), (229, 22169), (230, 22172), (234, 22193), (257, 22289), (258, 22292), (260, 22298), (274, 22367), (277, 22385), (279, 22394), (285, 22424), (310, 22520), (315, 22553), (318, 22568), (342, 22709), (351, 22766), (371, 22877), (395, 23030),

Gene: Switzerland\_30 Start: 19208, Stop: 20995, Start Num: 48

Candidate Starts for Switzerland\_30:

(30, 19142), (Start: 39 @19184 has 8 MA's), (Start: 48 @19208 has 538 MA's), (90, 19346), (100, 19403), (108, 19445), (115, 19481), (120, 19520), (132, 19589), (134, 19613), (141, 19667), (172, 19817), (183, 19862), (187, 19892), (194, 19928), (202, 19979), (210, 20015), (219, 20063), (227, 20123), (257, 20252), (274, 20330), (318, 20531), (319, 20537), (335, 20633), (363, 20798), (379, 20897),

Gene: Swole\_29 Start: 21585, Stop: 23387, Start Num: 50

Candidate Starts for Swole\_29:

(Start: 50 @21585 has 210 MA's), (Start: 59 @21606 has 4 MA's), (Start: 70 @21648 has 1 MA's), (83, 21693), (120, 21909), (127, 21954), (130, 21963), (134, 22002), (140, 22053), (141, 22056), (183, 22251), (195, 22320), (229, 22521), (230, 22524), (234, 22545), (257, 22641), (258, 22644), (260, 22650), (274, 22719), (277, 22737), (279, 22746), (285, 22776), (310, 22872), (315, 22905), (318, 22920), (342, 23061), (351, 23118), (371, 23229),

Gene: SydNat\_24 Start: 19916, Stop: 21715, Start Num: 48

Candidate Starts for SydNat\_24:

(Start: 48 @19916 has 538 MA's), (90, 20054), (108, 20153), (120, 20228), (129, 20279), (137, 20351), (139, 20366), (144, 20399), (146, 20405), (165, 20498), (187, 20600), (192, 20630), (194, 20636), (211, 20726), (215, 20756), (229, 20840), (230, 20843), (239, 20882), (243, 20900), (257, 20960), (258, 20963), (277, 21056), (309, 21197), (317, 21239), (371, 21557), (391, 21692), (393, 21701),

Gene: TNguyen7\_27 Start: 19874, Stop: 21670, Start Num: 48

Candidate Starts for TNguyen7\_27:

(Start: 48 @19874 has 538 MA's), (Start: 70 @19931 has 1 MA's), (86, 20000), (105, 20102), (107, 20114), (108, 20117), (120, 20192), (123, 20207), (130, 20246), (150, 20381), (161, 20450), (187, 20564), (211, 20690), (229, 20804), (234, 20828), (239, 20846), (258, 20927), (274, 21002), (277, 21020), (279, 21029), (283, 21053), (285, 21059), (288, 21074), (300, 21107), (309, 21152), (310, 21155), (314, 21176), (315, 21188), (326, 21251), (351, 21401), (369, 21506), (371, 21512), (391, 21647),

Gene: TWAMP\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for TWAMP\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),



Gene: Takoda\_23 Start: 16309, Stop: 17934, Start Num: 62

Candidate Starts for Takoda\_23:

(Start: 56 @16294 has 3 MA's), (Start: 62 @16309 has 32 MA's), (81, 16378), (88, 16414), (111, 16555), (120, 16600), (138, 16729), (144, 16771), (150, 16789), (152, 16798), (Start: 156 @16822 has 1 MA's), (158, 16840), (167, 16870), (170, 16885), (171, 16888), (179, 16927), (183, 16936), (225, 17137), (257, 17275), (274, 17353), (280, 17392), (283, 17404), (305, 17434), (318, 17512), (349, 17659), (367, 17758), (369, 17773), (394, 17926),

Gene: Tangent\_35 Start: 30329, Stop: 32092, Start Num: 32

Candidate Starts for Tangent\_35:

(29, 30311), (Start: 32 @30329 has 74 MA's), (Start: 37 @30365 has 5 MA's), (84, 30503), (100, 30599), (103, 30608), (112, 30677), (120, 30728), (127, 30773), (131, 30788), (140, 30869), (150, 30914), (152, 30923), (158, 30962), (171, 31013), (177, 31043), (181, 31058), (185, 31082), (190, 31112), (218, 31217), (239, 31334), (244, 31352), (247, 31367), (254, 31397), (257, 31409), (258, 31412), (264, 31439), (342, 31763), (343, 31766), (350, 31814), (356, 31841), (360, 31868), (369, 31922), (374, 31946), (375, 31949), (385, 32039), (395, 32087),

Gene: Tangerine\_34 Start: 29524, Stop: 31287, Start Num: 32

Candidate Starts for Tangerine\_34:

(Start: 32 @29524 has 74 MA's), (Start: 37 @29560 has 5 MA's), (81, 29689), (84, 29698), (100, 29794), (103, 29803), (112, 29872), (120, 29923), (121, 29932), (127, 29968), (131, 29983), (133, 30001), (140, 30064), (150, 30109), (152, 30118), (175, 30229), (177, 30238), (181, 30253), (185, 30277), (190, 30307), (239, 30529), (244, 30547), (247, 30562), (257, 30604), (264, 30634), (289, 30754), (317, 30847), (342, 30958), (343, 30961), (350, 31009), (356, 31036), (360, 31063), (369, 31117),

Gene: Taquarus\_27 Start: 19830, Stop: 21608, Start Num: 48

Candidate Starts for Taquarus\_27:

(Start: 39 @19806 has 8 MA's), (Start: 48 @19830 has 538 MA's), (Start: 70 @19887 has 1 MA's), (85, 19941), (86, 19956), (90, 19974), (105, 20058), (107, 20070), (108, 20073), (120, 20148), (123, 20163), (130, 20202), (144, 20319), (161, 20406), (181, 20487), (191, 20535), (195, 20559), (211, 20646), (219, 20691), (230, 20763), (234, 20784), (239, 20802), (258, 20883), (277, 20976), (279, 20985), (283, 21009), (285, 21015), (291, 21039), (310, 21093), (314, 21114), (321, 21165), (326, 21189), (335, 21243), (351, 21339), (369, 21444), (372, 21459), (388, 21567), (391, 21585),

Gene: Target\_30 Start: 22616, Stop: 24418, Start Num: 50

Candidate Starts for Target\_30:

(Start: 50 @22616 has 210 MA's), (Start: 59 @22637 has 4 MA's), (Start: 70 @22679 has 1 MA's), (83, 22724), (120, 22940), (127, 22985), (130, 22994), (134, 23033), (140, 23084), (141, 23087), (183, 23282), (195, 23351), (229, 23552), (230, 23555), (234, 23576), (257, 23672), (258, 23675), (260, 23681), (274, 23750), (277, 23768), (279, 23777), (285, 23807), (310, 23903), (315, 23936), (318, 23951), (342, 24092), (351, 24149), (371, 24260),

Gene: TaronosaurusRx\_19 Start: 16979, Stop: 18709, Start Num: 43

Candidate Starts for TaronosaurusRx\_19:

(17, 16667), (24, 16862), (35, 16946), (Start: 37 @16958 has 5 MA's), (Start: 43 @16979 has 5 MA's), (105, 17216), (110, 17249), (140, 17462), (155, 17534), (161, 17576), (172, 17615), (177, 17642), (182, 17666), (189, 17708), (194, 17735), (195, 17738), (213, 17792), (214, 17798), (226, 17885), (292, 18176), (293, 18179), (312, 18245), (316, 18269), (322, 18287), (342, 18383), (346, 18401), (365, 18518), (372, 18557), (373, 18560), (376, 18572), (383, 18647), (389, 18674),

Gene: TarsusIV\_28 Start: 20208, Stop: 21980, Start Num: 48

Candidate Starts for TarsusIV\_28:

(30, 20142), (Start: 39 @20184 has 8 MA's), (Start: 48 @20208 has 538 MA's), (89, 20343), (94, 20361), (107, 20442), (108, 20445), (119, 20517), (120, 20520), (130, 20574), (144, 20691), (161, 20778), (181, 20859), (183, 20862), (215, 21048), (230, 21135), (239, 21174), (258, 21255), (283, 21381), (285, 21387), (318, 21513), (319, 21519), (334, 21612), (337, 21627), (351, 21711), (371, 21822), (378, 21876),

Gene: Tarynearal\_23 Start: 19656, Stop: 21452, Start Num: 48

Candidate Starts for Tarynearal\_23:

(Start: 48 @19656 has 538 MA's), (85, 19761), (90, 19794), (108, 19893), (120, 19968), (123, 19983), (129, 20019), (137, 20091), (139, 20106), (146, 20145), (153, 20172), (157, 20193), (163, 20232), (192, 20370), (194, 20376), (219, 20511), (226, 20568), (227, 20571), (229, 20580), (239, 20622), (243, 20640), (257, 20700), (258, 20703), (277, 20796), (279, 20805), (283, 20829), (309, 20937), (315, 20973), (351, 21183), (368, 21285), (371, 21294), (387, 21408), (391, 21429), (393, 21438),

Gene: Tasp14\_28 Start: 21346, Stop: 23148, Start Num: 50

Candidate Starts for Tasp14\_28:

(Start: 50 @21346 has 210 MA's), (Start: 59 @21367 has 4 MA's), (Start: 70 @21409 has 1 MA's), (83, 21454), (120, 21670), (127, 21715), (130, 21724), (134, 21763), (140, 21814), (141, 21817), (158, 21910), (183, 22012), (195, 22081), (226, 22270), (229, 22282), (230, 22285), (234, 22306), (257, 22402), (258, 22405), (260, 22411), (274, 22480), (277, 22498), (279, 22507), (285, 22537), (310, 22633), (315, 22666), (318, 22681), (342, 22822), (351, 22879), (371, 22990),

Gene: Taurus\_29 Start: 20378, Stop: 22174, Start Num: 48

Candidate Starts for Taurus\_29:

(Start: 48 @20378 has 538 MA's), (Start: 70 @20435 has 1 MA's), (74, 20450), (84, 20483), (86, 20504), (89, 20519), (105, 20606), (107, 20618), (108, 20621), (120, 20696), (123, 20711), (129, 20747), (161, 20954), (187, 21068), (195, 21107), (211, 21194), (229, 21308), (234, 21332), (239, 21350), (258, 21431), (274, 21506), (277, 21524), (283, 21557), (285, 21563), (295, 21602), (309, 21656), (310, 21659), (314, 21680), (322, 21737), (351, 21905), (369, 22010), (371, 22016), (391, 22151),

Gene: Temprado\_32 Start: 19977, Stop: 21749, Start Num: 48

Candidate Starts for Temprado\_32:

(30, 19911), (Start: 39 @19953 has 8 MA's), (Start: 48 @19977 has 538 MA's), (108, 20214), (119, 20286), (120, 20289), (123, 20304), (130, 20343), (131, 20349), (144, 20460), (146, 20466), (155, 20505), (161, 20547), (172, 20586), (181, 20628), (183, 20631), (211, 20787), (235, 20928), (239, 20943), (285, 21156), (314, 21255), (318, 21282), (327, 21333), (329, 21342), (334, 21381), (335, 21384), (369, 21585), (371, 21591), (391, 21726),

Gene: Teodoridan\_25 Start: 20467, Stop: 22269, Start Num: 50

Candidate Starts for Teodoridan\_25:

(Start: 50 @20467 has 210 MA's), (Start: 59 @20488 has 4 MA's), (Start: 70 @20530 has 1 MA's), (83, 20575), (120, 20791), (127, 20836), (130, 20845), (134, 20884), (140, 20935), (141, 20938), (183, 21133), (195, 21202), (229, 21403), (230, 21406), (234, 21427), (257, 21523), (258, 21526), (260, 21532), (274, 21601), (277, 21619), (279, 21628), (285, 21658), (310, 21754), (315, 21787), (318, 21802), (342, 21943), (351, 22000), (371, 22111),

Gene: Terrific\_32 Start: 20644, Stop: 22440, Start Num: 39

Candidate Starts for Terrific\_32:

(Start: 39 @20644 has 8 MA's), (Start: 48 @20668 has 538 MA's), (89, 20803), (107, 20902), (108, 20905), (119, 20977), (120, 20980), (130, 21034), (131, 21040), (137, 21103), (144, 21151), (153, 21184), (161, 21238), (181, 21319), (183, 21322), (187, 21352), (215, 21508), (230, 21595), (258,

21715), (282, 21838), (283, 21841), (285, 21847), (305, 21895), (315, 21958), (318, 21973), (319, 21979), (329, 22033), (334, 22072), (337, 22087), (344, 22120), (350, 22165), (369, 22276), (371, 22282), (378, 22336),

Gene: Texage\_27 Start: 20456, Stop: 22255, Start Num: 48

Candidate Starts for Texage\_27:

(Start: 48 @20456 has 538 MA's), (Start: 70 @20516 has 1 MA's), (86, 20585), (105, 20687), (107, 20699), (108, 20702), (120, 20777), (123, 20792), (130, 20831), (150, 20966), (161, 21035), (187, 21149), (211, 21275), (229, 21389), (234, 21413), (237, 21425), (239, 21431), (258, 21512), (274, 21587), (277, 21605), (279, 21614), (283, 21638), (285, 21644), (288, 21659), (300, 21692), (309, 21737), (310, 21740), (314, 21761), (335, 21890), (351, 21986), (369, 22091), (371, 22097), (391, 22232),

Gene: Thanksgivukkah\_27 Start: 19831, Stop: 21609, Start Num: 48

Candidate Starts for Thanksgivukkah\_27:

(Start: 39 @19807 has 8 MA's), (Start: 48 @19831 has 538 MA's), (Start: 70 @19888 has 1 MA's), (85, 19942), (86, 19957), (90, 19975), (105, 20059), (107, 20071), (108, 20074), (120, 20149), (123, 20164), (130, 20203), (144, 20320), (161, 20407), (181, 20488), (191, 20536), (195, 20560), (211, 20647), (219, 20692), (230, 20764), (234, 20785), (239, 20803), (258, 20884), (277, 20977), (279, 20986), (283, 21010), (285, 21016), (291, 21040), (310, 21094), (314, 21115), (321, 21166), (326, 21190), (351, 21340), (369, 21445), (372, 21460), (388, 21568), (391, 21586),

Gene: Theia\_22 Start: 19674, Stop: 21470, Start Num: 48

Candidate Starts for Theia\_22:

(Start: 41 @19662 has 2 MA's), (Start: 48 @19674 has 538 MA's), (85, 19779), (90, 19812), (108, 19911), (120, 19986), (123, 20001), (129, 20037), (137, 20109), (139, 20124), (146, 20163), (187, 20358), (192, 20388), (194, 20394), (219, 20529), (226, 20586), (227, 20589), (229, 20598), (239, 20640), (243, 20658), (257, 20718), (258, 20721), (277, 20814), (279, 20823), (283, 20847), (309, 20955), (315, 20991), (351, 21201), (368, 21303), (371, 21312), (387, 21426), (391, 21447), (393, 21456),

Gene: TheloniousMonk\_29 Start: 22760, Stop: 24562, Start Num: 50

Candidate Starts for TheloniousMonk\_29:

(Start: 50 @22760 has 210 MA's), (Start: 59 @22781 has 4 MA's), (Start: 70 @22823 has 1 MA's), (83, 22868), (120, 23084), (127, 23129), (130, 23138), (134, 23177), (140, 23228), (141, 23231), (183, 23426), (195, 23495), (229, 23696), (230, 23699), (234, 23720), (257, 23816), (258, 23819), (260, 23825), (274, 23894), (277, 23912), (279, 23921), (285, 23951), (310, 24047), (315, 24080), (318, 24095), (342, 24236), (351, 24293), (371, 24404),

Gene: Thing3\_34 Start: 30813, Stop: 32576, Start Num: 32

Candidate Starts for Thing3\_34:

(29, 30795), (Start: 32 @30813 has 74 MA's), (Start: 37 @30849 has 5 MA's), (84, 30987), (100, 31083), (103, 31092), (112, 31161), (120, 31212), (127, 31257), (131, 31272), (140, 31353), (150, 31398), (152, 31407), (158, 31446), (171, 31497), (172, 31500), (177, 31527), (181, 31542), (185, 31566), (190, 31596), (218, 31701), (239, 31818), (244, 31836), (247, 31851), (254, 31881), (257, 31893), (258, 31896), (264, 31923), (342, 32247), (343, 32250), (350, 32298), (356, 32325), (360, 32352), (369, 32406), (375, 32433), (393, 32562),

Gene: Thor\_27 Start: 21221, Stop: 23023, Start Num: 50

Candidate Starts for Thor\_27:

(Start: 50 @21221 has 210 MA's), (Start: 59 @21242 has 4 MA's), (Start: 70 @21284 has 1 MA's), (83, 21329), (120, 21545), (127, 21590), (130, 21599), (140, 21689), (141, 21692), (158, 21785), (183, 21887), (195, 21956), (226, 22145), (229, 22157), (230, 22160), (234, 22181), (257, 22277), (258,

22280), (260, 22286), (274, 22355), (277, 22373), (279, 22382), (285, 22412), (310, 22508), (315, 22541), (318, 22556), (342, 22697), (351, 22754), (371, 22865), (395, 23018),

Gene: Tiffany\_29 Start: 20273, Stop: 22069, Start Num: 48

Candidate Starts for Tiffany\_29:

(Start: 48 @20273 has 538 MA's), (Start: 70 @20330 has 1 MA's), (74, 20345), (84, 20378), (86, 20399), (89, 20414), (105, 20501), (107, 20513), (108, 20516), (120, 20591), (123, 20606), (129, 20642), (161, 20849), (187, 20963), (195, 21002), (211, 21089), (229, 21203), (234, 21227), (239, 21245), (258, 21326), (274, 21401), (277, 21419), (283, 21452), (285, 21458), (295, 21497), (309, 21551), (310, 21554), (314, 21575), (322, 21632), (351, 21800), (369, 21905), (371, 21911), (391, 22046),

Gene: Tiger\_24 Start: 19558, Stop: 21354, Start Num: 48

Candidate Starts for Tiger\_24:

(Start: 48 @19558 has 538 MA's), (85, 19663), (90, 19696), (108, 19795), (120, 19870), (123, 19885), (129, 19921), (137, 19993), (139, 20008), (144, 20041), (146, 20047), (187, 20242), (192, 20272), (194, 20278), (219, 20413), (226, 20470), (227, 20473), (229, 20482), (239, 20524), (243, 20542), (257, 20602), (258, 20605), (277, 20698), (279, 20707), (283, 20731), (309, 20839), (315, 20875), (351, 21085), (368, 21187), (371, 21196), (387, 21310), (391, 21331), (393, 21340),

Gene: TillyBobJoe\_31 Start: 25649, Stop: 27415, Start Num: 32

Candidate Starts for TillyBobJoe\_31:

(26, 25607), (Start: 32 @25649 has 74 MA's), (Start: 37 @25685 has 5 MA's), (Start: 51 @25718 has 7 MA's), (102, 25928), (103, 25931), (107, 25961), (117, 26027), (120, 26051), (121, 26060), (126, 26093), (152, 26246), (158, 26285), (171, 26336), (173, 26348), (177, 26366), (180, 26378), (182, 26390), (185, 26405), (190, 26435), (191, 26438), (194, 26459), (216, 26531), (222, 26579), (247, 26690), (255, 26723), (265, 26765), (279, 26837), (296, 26903), (304, 26915), (342, 27086), (343, 27089), (350, 27137), (356, 27164), (360, 27191), (361, 27197), (369, 27245), (385, 27362), (390, 27383),

Gene: Timothy\_28 Start: 20749, Stop: 22548, Start Num: 48

Candidate Starts for Timothy\_28:

(30, 20683), (Start: 39 @20725 has 8 MA's), (Start: 48 @20749 has 538 MA's), (67, 20791), (90, 20887), (94, 20902), (107, 20983), (108, 20986), (120, 21061), (123, 21076), (130, 21115), (131, 21121), (144, 21232), (146, 21238), (161, 21319), (183, 21403), (204, 21529), (209, 21547), (214, 21574), (239, 21715), (254, 21781), (257, 21793), (258, 21796), (300, 21985), (307, 22012), (308, 22021), (311, 22042), (312, 22045), (315, 22066), (318, 22081), (321, 22105), (334, 22180), (337, 22195), (351, 22279), (369, 22384), (371, 22390), (378, 22444), (395, 22543),

Gene: Timshel\_28 Start: 22851, Stop: 24653, Start Num: 48

Candidate Starts for Timshel\_28:

(30, 22785), (Start: 39 @22827 has 8 MA's), (Start: 41 @22839 has 2 MA's), (Start: 48 @22851 has 538 MA's), (75, 22917), (107, 23082), (108, 23085), (120, 23160), (123, 23175), (146, 23337), (148, 23343), (161, 23418), (192, 23562), (216, 23688), (219, 23700), (229, 23769), (239, 23811), (257, 23907), (258, 23910), (262, 23925), (274, 23985), (277, 24003), (279, 24012), (283, 24036), (285, 24042), (309, 24135), (310, 24138), (315, 24171), (318, 24186), (323, 24222), (325, 24228), (339, 24315), (341, 24324), (366, 24465), (371, 24495), (372, 24504), (385, 24600), (394, 24645),

Gene: TinaFeyge\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for TinaFeyge\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211,

20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: TinyPebbles\_29 Start: 20465, Stop: 22261, Start Num: 48

Candidate Starts for TinyPebbles\_29:

(Start: 48 @20465 has 538 MA's), (Start: 70 @20522 has 1 MA's), (74, 20537), (84, 20570), (86, 20591), (89, 20606), (105, 20693), (107, 20705), (108, 20708), (120, 20783), (123, 20798), (129, 20834), (161, 21041), (187, 21155), (195, 21194), (211, 21281), (229, 21395), (234, 21419), (239, 21437), (258, 21518), (274, 21593), (277, 21611), (283, 21644), (285, 21650), (295, 21689), (309, 21743), (310, 21746), (314, 21767), (322, 21824), (351, 21992), (369, 22097), (371, 22103), (391, 22238),

Gene: TinyTimmy\_28 Start: 20792, Stop: 22591, Start Num: 48

Candidate Starts for TinyTimmy\_28:

(30, 20726), (Start: 39 @20768 has 8 MA's), (Start: 48 @20792 has 538 MA's), (67, 20834), (90, 20930), (94, 20945), (107, 21026), (108, 21029), (120, 21104), (123, 21119), (130, 21158), (131, 21164), (135, 21215), (144, 21275), (146, 21281), (161, 21362), (183, 21446), (204, 21572), (209, 21590), (214, 21617), (239, 21758), (254, 21824), (257, 21836), (258, 21839), (282, 21962), (300, 22028), (307, 22055), (311, 22085), (312, 22088), (315, 22109), (318, 22124), (321, 22148), (334, 22223), (337, 22238), (351, 22322), (369, 22427), (371, 22433), (378, 22487), (395, 22586),

Gene: Tinybot\_26 Start: 19804, Stop: 21585, Start Num: 48

Candidate Starts for Tinybot\_26:

(Start: 39 @19780 has 8 MA's), (Start: 48 @19804 has 538 MA's), (Start: 52 @19810 has 3 MA's), (Start: 70 @19864 has 1 MA's), (74, 19879), (86, 19933), (90, 19951), (105, 20035), (107, 20047), (108, 20050), (120, 20125), (123, 20140), (130, 20179), (144, 20296), (161, 20383), (181, 20464), (191, 20512), (195, 20536), (211, 20623), (219, 20668), (230, 20740), (234, 20761), (239, 20779), (258, 20860), (277, 20953), (279, 20962), (283, 20986), (285, 20992), (291, 21016), (310, 21070), (314, 21091), (321, 21142), (326, 21166), (351, 21316), (369, 21421), (372, 21436), (388, 21544), (391, 21562),

Gene: TipsytheTRex\_27 Start: 19306, Stop: 21096, Start Num: 48

Candidate Starts for TipsytheTRex\_27:

(30, 19240), (Start: 39 @19282 has 8 MA's), (Start: 48 @19306 has 538 MA's), (94, 19459), (107, 19540), (108, 19543), (119, 19615), (120, 19618), (123, 19633), (130, 19672), (131, 19678), (139, 19756), (144, 19789), (146, 19795), (155, 19834), (161, 19876), (179, 19951), (181, 19957), (183, 19960), (192, 20020), (215, 20146), (229, 20230), (239, 20272), (252, 20323), (258, 20353), (283, 20479), (303, 20542), (315, 20614), (318, 20629), (321, 20653), (334, 20728), (337, 20743), (351, 20827), (369, 20932), (371, 20938), (377, 20983), (378, 20992),

Gene: TiroTheta9\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for TiroTheta9\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279, 20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Toaka\_27 Start: 19911, Stop: 21698, Start Num: 48

Candidate Starts for Toaka\_27:

(30, 19845), (Start: 39 @19887 has 8 MA's), (Start: 48 @19911 has 538 MA's), (107, 20145), (108, 20148), (119, 20220), (120, 20223), (130, 20277), (131, 20283), (144, 20394), (146, 20400), (161, 20481), (181, 20562), (183, 20565), (192, 20625), (195, 20634), (225, 20814), (230, 20838), (239, 20877), (252, 20928), (258, 20958), (295, 21129), (310, 21186), (311, 21195), (318, 21234), (321, 21258), (334, 21333), (344, 21378), (351, 21429), (362, 21495), (369, 21534), (371, 21540), (377, 21585), (384, 21642),

Gene: Todacoro\_28 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for Todacoro\_28:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Togo\_31 Start: 25850, Stop: 27616, Start Num: 32

Candidate Starts for Togo\_31:

(26, 25808), (Start: 32 @25850 has 74 MA's), (Start: 37 @25886 has 5 MA's), (Start: 51 @25919 has 7 MA's), (102, 26129), (103, 26132), (107, 26162), (117, 26228), (120, 26252), (121, 26261), (126, 26294), (152, 26447), (158, 26486), (171, 26537), (173, 26549), (177, 26567), (180, 26579), (182, 26591), (185, 26606), (190, 26636), (191, 26639), (194, 26660), (216, 26732), (222, 26780), (247, 26891), (255, 26924), (264, 26963), (265, 26966), (279, 27038), (296, 27104), (304, 27116), (342, 27287), (343, 27290), (350, 27338), (356, 27365), (360, 27392), (361, 27398), (369, 27446), (385, 27563), (390, 27584), (395, 27611),

Gene: Tomathan\_31 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for Tomathan\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: ToneTone\_29 Start: 19903, Stop: 21675, Start Num: 48

Candidate Starts for ToneTone\_29:

(30, 19837), (Start: 39 @19879 has 8 MA's), (Start: 48 @19903 has 538 MA's), (108, 20140), (119, 20212), (120, 20215), (123, 20230), (130, 20269), (131, 20275), (144, 20386), (146, 20392), (155, 20431), (161, 20473), (172, 20512), (181, 20554), (183, 20557), (211, 20713), (235, 20854), (239, 20869), (285, 21082), (314, 21181), (318, 21208), (327, 21259), (329, 21268), (334, 21307), (337, 21322), (351, 21406), (369, 21511), (371, 21517), (391, 21652),

Gene: Topanga\_27 Start: 19924, Stop: 21702, Start Num: 48

Candidate Starts for Topanga\_27:

(Start: 48 @19924 has 538 MA's), (Start: 70 @19981 has 1 MA's), (74, 19996), (84, 20029), (86, 20050), (105, 20152), (107, 20164), (108, 20167), (120, 20242), (123, 20257), (130, 20296), (144, 20413), (150, 20431), (161, 20500), (179, 20575), (187, 20614), (195, 20653), (211, 20740), (219, 20785), (229, 20854), (234, 20878), (237, 20890), (239, 20896), (258, 20977), (277, 21070), (279, 21079), (283, 21103), (285, 21109), (288, 21124), (305, 21157), (314, 21208), (317, 21226), (339, 21364), (342, 21376), (351, 21433), (357, 21457), (358, 21463), (369, 21538), (371, 21544), (372, 21553), (379, 21604), (391, 21679),

Gene: Topgun\_27 Start: 20974, Stop: 22776, Start Num: 50

Candidate Starts for Topgun\_27:

(Start: 50 @20974 has 210 MA's), (Start: 59 @20995 has 4 MA's), (Start: 70 @21037 has 1 MA's), (83, 21082), (120, 21298), (127, 21343), (130, 21352), (140, 21442), (141, 21445), (183, 21640), (195, 21709), (226, 21898), (229, 21910), (230, 21913), (234, 21934), (257, 22030), (258, 22033), (260, 22039), (274, 22108), (277, 22126), (279, 22135), (285, 22165), (310, 22261), (315, 22294), (318, 22309), (322, 22339), (342, 22450), (351, 22507), (371, 22618),

Gene: Toro\_30 Start: 22924, Stop: 24726, Start Num: 48

Candidate Starts for Toro\_30:

(Start: 41 @22912 has 2 MA's), (Start: 48 @22924 has 538 MA's), (Start: 70 @22972 has 1 MA's), (75, 22990), (107, 23155), (108, 23158), (120, 23233), (123, 23248), (130, 23287), (146, 23410), (148, 23416), (155, 23449), (161, 23491), (192, 23635), (216, 23761), (229, 23842), (239, 23884), (250, 23932), (257, 23980), (258, 23983), (274, 24058), (277, 24076), (279, 24085), (283, 24109), (285, 24115), (309, 24208), (310, 24211), (315, 24244), (318, 24259), (342, 24400), (366, 24538), (369, 24562), (371, 24568), (385, 24673),

Gene: Tote\_29 Start: 21585, Stop: 23387, Start Num: 50

Candidate Starts for Tote\_29:

(Start: 50 @21585 has 210 MA's), (Start: 59 @21606 has 4 MA's), (Start: 70 @21648 has 1 MA's), (83, 21693), (120, 21909), (127, 21954), (130, 21963), (134, 22002), (140, 22053), (141, 22056), (183, 22251), (195, 22320), (229, 22521), (230, 22524), (234, 22545), (257, 22641), (258, 22644), (260, 22650), (274, 22719), (277, 22737), (279, 22746), (285, 22776), (310, 22872), (315, 22905), (318, 22920), (342, 23061), (351, 23118), (371, 23229),

Gene: TouchMeNot\_19 Start: 17425, Stop: 19089, Start Num: 50

Candidate Starts for TouchMeNot\_19:

(Start: 50 @17425 has 210 MA's), (63, 17458), (116, 17716), (127, 17794), (143, 17917), (146, 17926), (147, 17929), (150, 17938), (152, 17947), (183, 18088), (185, 18100), (194, 18154), (224, 18289), (233, 18322), (236, 18340), (239, 18352), (243, 18367), (257, 18427), (263, 18448), (264, 18457), (277, 18523), (283, 18556), (305, 18586), (306, 18592), (307, 18595), (318, 18664), (341, 18763), (344, 18772), (370, 18928), (372, 18940),

Gene: Traft412\_29 Start: 22064, Stop: 23866, Start Num: 50

Candidate Starts for Traft412\_29:

(Start: 50 @22064 has 210 MA's), (Start: 59 @22085 has 4 MA's), (Start: 70 @22127 has 1 MA's), (83, 22172), (120, 22388), (127, 22433), (130, 22442), (134, 22481), (140, 22532), (141, 22535), (183, 22730), (195, 22799), (229, 23000), (230, 23003), (234, 23024), (257, 23120), (258, 23123), (260, 23129), (274, 23198), (277, 23216), (279, 23225), (285, 23255), (310, 23351), (315, 23384), (318, 23399), (342, 23540), (351, 23597), (371, 23708), (395, 23861),

Gene: Travvers\_31 Start: 20049, Stop: 21839, Start Num: 48

Candidate Starts for Travvers\_31:

(30, 19983), (Start: 39 @20025 has 8 MA's), (Start: 48 @20049 has 538 MA's), (107, 20283), (108, 20286), (119, 20358), (120, 20361), (123, 20376), (130, 20415), (131, 20421), (144, 20532), (150, 20550), (161, 20619), (181, 20700), (183, 20703), (211, 20859), (215, 20889), (258, 21096), (283, 21222), (310, 21324), (315, 21357), (318, 21372), (321, 21396), (334, 21471), (335, 21474), (337, 21486), (351, 21570), (365, 21648), (369, 21675), (371, 21681), (377, 21726), (378, 21735), (391, 21816),

Gene: Treddle\_29 Start: 22354, Stop: 24156, Start Num: 50

Candidate Starts for Treddle\_29:

(Start: 50 @22354 has 210 MA's), (Start: 59 @22375 has 4 MA's), (Start: 70 @22417 has 1 MA's), (83, 22462), (120, 22678), (127, 22723), (130, 22732), (134, 22771), (140, 22822), (141, 22825), (158, 22918), (183, 23020), (195, 23089), (229, 23290), (230, 23293), (234, 23314), (257, 23410), (258, 23413), (260, 23419), (274, 23488), (277, 23506), (279, 23515), (285, 23545), (310, 23641), (315, 23674), (318, 23689), (342, 23830), (351, 23887), (371, 23998),

Gene: Trike\_25 Start: 17896, Stop: 19674, Start Num: 48

Candidate Starts for Trike\_25:

(Start: 39 @17872 has 8 MA's), (Start: 48 @17896 has 538 MA's), (Start: 70 @17953 has 1 MA's), (74, 17968), (86, 18022), (107, 18136), (108, 18139), (120, 18214), (125, 18253), (144, 18385), (161, 18472), (179, 18547), (187, 18586), (195, 18625), (211, 18712), (219, 18757), (229, 18826), (234, 18850), (237, 18862), (239, 18868), (277, 19042), (279, 19051), (283, 19075), (285, 19081), (288, 19096), (305, 19129), (314, 19180), (322, 19237), (323, 19243), (351, 19405), (369, 19510), (371, 19516), (372, 19525), (391, 19651),

Gene: Tripl3t\_28 Start: 21973, Stop: 23775, Start Num: 50

Candidate Starts for Tripl3t\_28:

(Start: 50 @21973 has 210 MA's), (Start: 59 @21994 has 4 MA's), (Start: 70 @22036 has 1 MA's), (83, 22081), (120, 22297), (127, 22342), (130, 22351), (134, 22390), (140, 22441), (141, 22444), (183, 22639), (195, 22708), (229, 22909), (230, 22912), (234, 22933), (257, 23029), (258, 23032), (260, 23038), (274, 23107), (277, 23125), (279, 23134), (285, 23164), (310, 23260), (315, 23293), (318, 23308), (342, 23449), (351, 23506), (371, 23617),

Gene: Tristan\_29 Start: 21808, Stop: 23580, Start Num: 48

Candidate Starts for Tristan\_29:

(Start: 39 @21784 has 8 MA's), (Start: 48 @21808 has 538 MA's), (89, 21943), (94, 21961), (107, 22042), (108, 22045), (119, 22117), (120, 22120), (135, 22231), (139, 22258), (144, 22291), (155, 22336), (161, 22378), (183, 22462), (211, 22618), (216, 22651), (254, 22840), (258, 22855), (283, 22981), (285, 22987), (305, 23035), (315, 23098), (318, 23113), (319, 23119), (329, 23173), (334, 23212), (337, 23227), (351, 23311), (369, 23416), (371, 23422), (374, 23440), (377, 23467),

Gene: Trixie\_31 Start: 21855, Stop: 23627, Start Num: 48

Candidate Starts for Trixie\_31:

(30, 21789), (Start: 39 @21831 has 8 MA's), (Start: 48 @21855 has 538 MA's), (98, 22038), (107, 22089), (108, 22092), (119, 22164), (120, 22167), (130, 22221), (131, 22227), (134, 22260), (139, 22305), (144, 22338), (161, 22425), (181, 22506), (183, 22509), (187, 22539), (215, 22695), (229, 22779), (230, 22782), (239, 22821), (254, 22887), (258, 22902), (285, 23034), (305, 23082), (310, 23112), (318, 23160), (319, 23166), (329, 23220), (337, 23274), (351, 23358), (362, 23424), (365, 23436), (369, 23463), (371, 23469),

Gene: Trooper\_28 Start: 20008, Stop: 21780, Start Num: 48

Candidate Starts for Trooper\_28:

(30, 19942), (Start: 39 @19984 has 8 MA's), (Start: 48 @20008 has 538 MA's), (94, 20161), (107, 20242), (108, 20245), (119, 20317), (120, 20320), (130, 20374), (144, 20491), (161, 20578), (181, 20659), (183, 20662), (215, 20848), (230, 20935), (239, 20974), (258, 21055), (283, 21181), (285, 21187), (318, 21313), (319, 21319), (334, 21412), (337, 21427), (351, 21511), (371, 21622), (378, 21676),

Gene: Trouble\_28 Start: 21920, Stop: 23722, Start Num: 50

Candidate Starts for Trouble\_28:

(Start: 50 @21920 has 210 MA's), (Start: 59 @21941 has 4 MA's), (Start: 70 @21983 has 1 MA's), (83, 22028), (120, 22244), (127, 22289), (130, 22298), (134, 22337), (140, 22388), (141, 22391), (183, 22586), (195, 22655), (229, 22856), (230, 22859), (234, 22880), (257, 22976), (258, 22979), (260,



22985), (277, 23072), (279, 23081), (285, 23111), (310, 23207), (315, 23240), (318, 23255), (342, 23396), (351, 23453), (371, 23564),

Gene: Troy\_17 Start: 16284, Stop: 17981, Start Num: 37

Candidate Starts for Troy\_17:

(Start: 37 @16284 has 5 MA's), (Start: 43 @16305 has 5 MA's), (73, 16389), (81, 16416), (83, 16422), (106, 16554), (116, 16605), (120, 16638), (121, 16647), (140, 16782), (146, 16815), (151, 16833), (159, 16887), (172, 16932), (185, 16989), (186, 17001), (193, 17040), (212, 17091), (214, 17100), (217, 17121), (226, 17187), (249, 17277), (272, 17385), (281, 17439), (283, 17445), (287, 17463), (319, 17559), (328, 17580), (336, 17625), (363, 17784), (367, 17799), (370, 17814), (372, 17826), (394, 17970),

Gene: TroyPia\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for TroyPia\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (153, 20349), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Tubs\_30 Start: 21749, Stop: 23539, Start Num: 48

Candidate Starts for Tubs\_30:

(Start: 46 @21746 has 8 MA's), (Start: 48 @21749 has 538 MA's), (107, 21983), (108, 21986), (119, 22058), (120, 22061), (123, 22076), (130, 22115), (131, 22121), (144, 22232), (161, 22319), (181, 22400), (183, 22403), (215, 22589), (225, 22652), (230, 22676), (232, 22682), (239, 22715), (258, 22796), (283, 22922), (294, 22964), (295, 22967), (310, 23024), (315, 23057), (318, 23072), (334, 23171), (335, 23174), (337, 23186), (351, 23270), (362, 23336), (369, 23375), (371, 23381), (377, 23426), (384, 23483), (385, 23486),

Gene: Tucker\_31 Start: 19989, Stop: 21761, Start Num: 48

Candidate Starts for Tucker\_31:

(30, 19923), (Start: 39 @19965 has 8 MA's), (Start: 48 @19989 has 538 MA's), (108, 20226), (119, 20298), (120, 20301), (123, 20316), (130, 20355), (131, 20361), (144, 20472), (146, 20478), (155, 20517), (161, 20559), (172, 20598), (181, 20640), (183, 20643), (211, 20799), (235, 20940), (239, 20955), (285, 21168), (314, 21267), (318, 21294), (327, 21345), (329, 21354), (334, 21393), (337, 21408), (351, 21492), (369, 21597), (371, 21603), (391, 21738),

Gene: Turbido\_30 Start: 20695, Stop: 22467, Start Num: 48

Candidate Starts for Turbido\_30:

(Start: 39 @20671 has 8 MA's), (Start: 48 @20695 has 538 MA's), (84, 20794), (98, 20878), (107, 20929), (108, 20932), (119, 21004), (120, 21007), (130, 21061), (134, 21100), (144, 21178), (161, 21265), (181, 21346), (183, 21349), (215, 21535), (230, 21622), (254, 21727), (258, 21742), (283, 21868), (285, 21874), (305, 21922), (318, 22000), (319, 22006), (329, 22060), (334, 22099), (337, 22114), (351, 22198), (371, 22309),

Gene: Turj99\_26 Start: 20860, Stop: 22662, Start Num: 50

Candidate Starts for Turj99\_26:

(Start: 50 @20860 has 210 MA's), (Start: 59 @20881 has 4 MA's), (Start: 70 @20923 has 1 MA's), (83, 20968), (120, 21184), (127, 21229), (130, 21238), (134, 21277), (140, 21328), (141, 21331), (183, 21526), (195, 21595), (229, 21796), (230, 21799), (234, 21820), (257, 21916), (258, 21919), (260, 21925), (277, 22012), (279, 22021), (285, 22051), (310, 22147), (315, 22180), (318, 22195), (342,

22336), (351, 22393), (371, 22504),

Gene: Twigg\_24 Start: 19629, Stop: 21425, Start Num: 48

Candidate Starts for Twigg\_24:

(Start: 48 @19629 has 538 MA's), (85, 19734), (90, 19767), (108, 19866), (120, 19941), (123, 19956), (129, 19992), (137, 20064), (139, 20079), (146, 20118), (153, 20145), (163, 20205), (192, 20343), (194, 20349), (219, 20484), (226, 20541), (227, 20544), (229, 20553), (239, 20595), (243, 20613), (257, 20673), (258, 20676), (277, 20769), (279, 20778), (283, 20802), (309, 20910), (315, 20946), (351, 21156), (368, 21258), (371, 21267), (387, 21381), (391, 21402), (393, 21411),

Gene: Twister\_27 Start: 19820, Stop: 21598, Start Num: 48

Candidate Starts for Twister\_27:

(Start: 48 @19820 has 538 MA's), (Start: 70 @19877 has 1 MA's), (74, 19892), (84, 19925), (86, 19946), (105, 20048), (107, 20060), (108, 20063), (120, 20138), (123, 20153), (130, 20192), (144, 20309), (150, 20327), (161, 20396), (179, 20471), (187, 20510), (195, 20549), (211, 20636), (219, 20681), (229, 20750), (234, 20774), (237, 20786), (239, 20792), (258, 20873), (277, 20966), (279, 20975), (283, 20999), (285, 21005), (288, 21020), (305, 21053), (314, 21104), (317, 21122), (322, 21161), (339, 21260), (351, 21329), (357, 21353), (358, 21359), (369, 21434), (371, 21440), (372, 21449), (379, 21500), (391, 21575),

Gene: Twister6\_33 Start: 26286, Stop: 28052, Start Num: 32

Candidate Starts for Twister6\_33:

(26, 26244), (Start: 32 @26286 has 74 MA's), (Start: 37 @26322 has 5 MA's), (Start: 51 @26355 has 7 MA's), (102, 26565), (103, 26568), (107, 26598), (117, 26664), (120, 26688), (121, 26697), (126, 26730), (152, 26883), (158, 26922), (171, 26973), (173, 26985), (177, 27003), (180, 27015), (182, 27027), (185, 27042), (190, 27072), (191, 27075), (194, 27096), (216, 27168), (222, 27216), (247, 27327), (255, 27360), (264, 27399), (265, 27402), (279, 27474), (296, 27540), (304, 27552), (342, 27723), (345, 27735), (346, 27741), (350, 27774), (356, 27801), (360, 27828), (369, 27882), (385, 27999), (390, 28020), (395, 28047),

Gene: TwoPeat\_28 Start: 21384, Stop: 23186, Start Num: 50

Candidate Starts for TwoPeat\_28:

(Start: 50 @21384 has 210 MA's), (Start: 59 @21405 has 4 MA's), (Start: 70 @21447 has 1 MA's), (83, 21492), (120, 21708), (127, 21753), (130, 21762), (134, 21801), (140, 21852), (141, 21855), (183, 22050), (195, 22119), (229, 22320), (230, 22323), (234, 22344), (257, 22440), (258, 22443), (260, 22449), (274, 22518), (277, 22536), (279, 22545), (285, 22575), (310, 22671), (315, 22704), (318, 22719), (342, 22860), (351, 22917), (371, 23028),

Gene: Tycho\_34 Start: 29613, Stop: 31376, Start Num: 32

Candidate Starts for Tycho\_34:

(Start: 32 @29613 has 74 MA's), (Start: 37 @29649 has 5 MA's), (81, 29778), (84, 29787), (87, 29811), (100, 29883), (103, 29892), (112, 29961), (120, 30012), (127, 30057), (131, 30072), (133, 30090), (140, 30153), (150, 30198), (152, 30207), (177, 30327), (181, 30342), (182, 30351), (185, 30366), (190, 30396), (239, 30618), (244, 30636), (247, 30651), (257, 30693), (258, 30696), (264, 30723), (289, 30843), (317, 30936), (342, 31047), (343, 31050), (350, 31098), (356, 31125), (360, 31152), (369, 31206), (375, 31233),

Gene: TygerBlood\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for TygerBlood\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279,

20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: U2\_27 Start: 21239, Stop: 23041, Start Num: 50

Candidate Starts for U2\_27:

(Start: 50 @21239 has 210 MA's), (Start: 59 @21260 has 4 MA's), (Start: 70 @21302 has 1 MA's), (83, 21347), (120, 21563), (127, 21608), (130, 21617), (140, 21707), (141, 21710), (158, 21803), (183, 21905), (195, 21974), (229, 22175), (230, 22178), (234, 22199), (257, 22295), (258, 22298), (260, 22304), (274, 22373), (277, 22391), (279, 22400), (285, 22430), (310, 22526), (315, 22559), (318, 22574), (342, 22715), (351, 22772), (371, 22883),

Gene: Ugenie5\_27 Start: 21782, Stop: 23572, Start Num: 48

Candidate Starts for Ugenie5\_27:

(Start: 46 @21779 has 8 MA's), (Start: 48 @21782 has 538 MA's), (107, 22016), (108, 22019), (119, 22091), (120, 22094), (123, 22109), (130, 22148), (131, 22154), (144, 22265), (161, 22352), (181, 22433), (183, 22436), (215, 22622), (225, 22685), (230, 22709), (232, 22715), (239, 22748), (258, 22829), (283, 22955), (294, 22997), (310, 23057), (315, 23090), (318, 23105), (334, 23204), (335, 23207), (337, 23219), (351, 23303), (362, 23369), (369, 23408), (371, 23414), (377, 23459), (384, 23516), (385, 23519),

Gene: UhSalsa\_23 Start: 16349, Stop: 17974, Start Num: 62

Candidate Starts for UhSalsa\_23:

(Start: 62 @16349 has 32 MA's), (81, 16418), (88, 16454), (101, 16526), (120, 16640), (138, 16769), (144, 16811), (150, 16829), (152, 16838), (Start: 156 @16862 has 1 MA's), (158, 16880), (165, 16904), (167, 16910), (170, 16925), (171, 16928), (183, 16976), (225, 17177), (230, 17201), (257, 17315), (274, 17393), (280, 17432), (283, 17444), (305, 17474), (318, 17552), (349, 17699), (367, 17798), (369, 17813), (394, 17966),

Gene: Ulysses\_26 Start: 19548, Stop: 21326, Start Num: 48

Candidate Starts for Ulysses\_26:

(Start: 39 @19524 has 8 MA's), (Start: 48 @19548 has 538 MA's), (Start: 70 @19605 has 1 MA's), (85, 19659), (86, 19674), (90, 19692), (105, 19776), (107, 19788), (108, 19791), (120, 19866), (123, 19881), (130, 19920), (144, 20037), (161, 20124), (181, 20205), (191, 20253), (195, 20277), (211, 20364), (219, 20409), (230, 20481), (234, 20502), (239, 20520), (258, 20601), (277, 20694), (279, 20703), (283, 20727), (285, 20733), (291, 20757), (310, 20811), (314, 20832), (321, 20883), (326, 20907), (335, 20961), (351, 21057), (369, 21162), (372, 21177), (388, 21285), (391, 21303),

Gene: UnionJack\_24 Start: 18683, Stop: 20482, Start Num: 48

Candidate Starts for UnionJack\_24:

(Start: 48 @18683 has 538 MA's), (85, 18788), (108, 18920), (115, 18956), (120, 18995), (123, 19010), (129, 19046), (137, 19118), (139, 19133), (144, 19166), (146, 19172), (187, 19367), (192, 19397), (194, 19403), (202, 19454), (219, 19538), (229, 19607), (239, 19649), (243, 19667), (257, 19727), (258, 19730), (274, 19805), (277, 19823), (309, 19964), (315, 20000), (368, 20315), (371, 20324),

Gene: Updawg\_30 Start: 20656, Stop: 22428, Start Num: 48

Candidate Starts for Updawg\_30:

(Start: 39 @20632 has 8 MA's), (Start: 48 @20656 has 538 MA's), (89, 20791), (107, 20890), (108, 20893), (119, 20965), (120, 20968), (130, 21022), (131, 21028), (137, 21091), (144, 21139), (153, 21172), (161, 21226), (181, 21307), (183, 21310), (187, 21340), (215, 21496), (230, 21583), (258, 21703), (282, 21826), (283, 21829), (285, 21835), (305, 21883), (315, 21946), (318, 21961), (319, 21967), (329, 22021), (334, 22060), (337, 22075), (344, 22108), (350, 22153), (369, 22264), (371, 22270), (378, 22324),

Gene: VA6\_28 Start: 20204, Stop: 21994, Start Num: 48

Candidate Starts for VA6\_28:

(30, 20138), (Start: 39 @20180 has 8 MA's), (Start: 48 @20204 has 538 MA's), (107, 20438), (108, 20441), (119, 20513), (120, 20516), (123, 20531), (130, 20570), (131, 20576), (144, 20687), (150, 20705), (153, 20720), (161, 20774), (181, 20855), (183, 20858), (211, 21014), (215, 21044), (232, 21137), (258, 21251), (283, 21377), (315, 21512), (318, 21527), (321, 21551), (334, 21626), (335, 21629), (337, 21641), (351, 21725), (365, 21803), (369, 21830), (371, 21836), (377, 21881), (378, 21890), (391, 21971),

Gene: VC3\_31 Start: 20192, Stop: 21982, Start Num: 48

Candidate Starts for VC3\_31:

(30, 20126), (Start: 39 @20168 has 8 MA's), (Start: 48 @20192 has 538 MA's), (107, 20426), (108, 20429), (119, 20501), (120, 20504), (123, 20519), (130, 20558), (131, 20564), (144, 20675), (150, 20693), (153, 20708), (161, 20762), (181, 20843), (183, 20846), (211, 21002), (215, 21032), (232, 21125), (258, 21239), (283, 21365), (315, 21500), (318, 21515), (321, 21539), (334, 21614), (335, 21617), (337, 21629), (351, 21713), (365, 21791), (369, 21818), (371, 21824), (377, 21869), (378, 21878), (391, 21959),

Gene: Valary\_34 Start: 26795, Stop: 28561, Start Num: 32

Candidate Starts for Valary\_34:

(26, 26753), (Start: 32 @26795 has 74 MA's), (Start: 37 @26831 has 5 MA's), (Start: 51 @26864 has 7 MA's), (102, 27074), (103, 27077), (107, 27107), (117, 27173), (120, 27197), (121, 27206), (126, 27239), (152, 27392), (158, 27431), (171, 27482), (173, 27494), (177, 27512), (180, 27524), (182, 27536), (185, 27551), (190, 27581), (191, 27584), (194, 27605), (216, 27677), (239, 27803), (247, 27836), (255, 27869), (264, 27908), (265, 27911), (279, 27983), (296, 28049), (304, 28061), (342, 28232), (345, 28244), (346, 28250), (350, 28283), (356, 28310), (360, 28337), (369, 28391), (385, 28508), (390, 28529), (395, 28556),

Gene: VanDeWege\_34 Start: 26622, Stop: 28388, Start Num: 32

Candidate Starts for VanDeWege\_34:

(26, 26580), (Start: 32 @26622 has 74 MA's), (Start: 37 @26658 has 5 MA's), (Start: 51 @26691 has 7 MA's), (102, 26901), (103, 26904), (107, 26934), (120, 27024), (121, 27033), (126, 27066), (142, 27171), (152, 27219), (158, 27258), (171, 27309), (177, 27339), (180, 27351), (182, 27363), (185, 27378), (190, 27408), (191, 27411), (194, 27432), (216, 27504), (222, 27552), (247, 27663), (255, 27696), (265, 27738), (279, 27810), (296, 27876), (342, 28059), (343, 28062), (350, 28110), (356, 28137), (360, 28164), (369, 28218), (385, 28335), (390, 28356), (395, 28383),

Gene: VanLee\_20 Start: 16446, Stop: 18107, Start Num: 54

Candidate Starts for VanLee\_20:

(Start: 46 @16431 has 8 MA's), (Start: 54 @16446 has 5 MA's), (64, 16482), (79, 16533), (111, 16716), (120, 16761), (139, 16896), (167, 17031), (171, 17049), (192, 17157), (193, 17160), (218, 17244), (226, 17304), (252, 17409), (258, 17439), (273, 17514), (274, 17517), (306, 17604), (310, 17628), (316, 17664), (334, 17736), (342, 17778), (345, 17790), (352, 17844), (360, 17886), (369, 17940), (380, 18009), (387, 18063), (389, 18072), (395, 18102),

Gene: Vanisoa\_27 Start: 19606, Stop: 21396, Start Num: 48

Candidate Starts for Vanisoa\_27:

(30, 19540), (40, 19591), (Start: 48 @19606 has 538 MA's), (84, 19705), (107, 19840), (108, 19843), (119, 19915), (120, 19918), (123, 19933), (130, 19972), (131, 19978), (140, 20062), (144, 20089), (146, 20095), (161, 20176), (181, 20257), (183, 20260), (192, 20320), (195, 20329), (212, 20422), (230, 20533), (239, 20572), (252, 20623), (258, 20653), (295, 20824), (310, 20881), (315, 20914), (318, 20929), (321, 20953), (329, 20989), (334, 21028), (337, 21043), (351, 21127), (369, 21232), (371, 21238), (377, 21283),

Gene: Veracruz\_27 Start: 20455, Stop: 22254, Start Num: 48

Candidate Starts for Veracruz\_27:

(Start: 48 @20455 has 538 MA's), (Start: 70 @20515 has 1 MA's), (86, 20584), (105, 20686), (107, 20698), (108, 20701), (120, 20776), (123, 20791), (130, 20830), (150, 20965), (161, 21034), (187, 21148), (211, 21274), (229, 21388), (234, 21412), (237, 21424), (239, 21430), (258, 21511), (274, 21586), (277, 21604), (279, 21613), (283, 21637), (285, 21643), (288, 21658), (300, 21691), (309, 21736), (310, 21739), (314, 21760), (335, 21889), (351, 21985), (369, 22090), (371, 22096), (391, 22231),

Gene: Violet\_26 Start: 21646, Stop: 23448, Start Num: 50

Candidate Starts for Violet\_26:

(Start: 50 @21646 has 210 MA's), (Start: 59 @21667 has 4 MA's), (Start: 70 @21709 has 1 MA's), (83, 21754), (120, 21970), (127, 22015), (130, 22024), (134, 22063), (140, 22114), (141, 22117), (183, 22312), (195, 22381), (229, 22582), (230, 22585), (234, 22606), (257, 22702), (258, 22705), (260, 22711), (274, 22780), (277, 22798), (279, 22807), (285, 22837), (310, 22933), (315, 22966), (318, 22981), (342, 23122), (351, 23179), (371, 23290), (395, 23443),

Gene: Vivi2\_37 Start: 31487, Stop: 33250, Start Num: 32

Candidate Starts for Vivi2\_37:

(29, 31469), (Start: 32 @31487 has 74 MA's), (Start: 37 @31523 has 5 MA's), (84, 31661), (100, 31757), (103, 31766), (112, 31835), (120, 31886), (127, 31931), (131, 31946), (140, 32027), (150, 32072), (152, 32081), (171, 32171), (177, 32201), (181, 32216), (185, 32240), (190, 32270), (218, 32375), (239, 32492), (244, 32510), (247, 32525), (254, 32555), (257, 32567), (258, 32570), (264, 32597), (341, 32918), (342, 32921), (343, 32924), (350, 32972), (356, 32999), (360, 33026), (369, 33080), (374, 33104), (375, 33107), (385, 33197), (395, 33245),

Gene: Vix\_29 Start: 20461, Stop: 22257, Start Num: 48

Candidate Starts for Vix\_29:

(Start: 48 @20461 has 538 MA's), (Start: 70 @20518 has 1 MA's), (74, 20533), (84, 20566), (86, 20587), (89, 20602), (105, 20689), (107, 20701), (108, 20704), (120, 20779), (123, 20794), (129, 20830), (161, 21037), (187, 21151), (195, 21190), (211, 21277), (229, 21391), (234, 21415), (239, 21433), (258, 21514), (274, 21589), (277, 21607), (283, 21640), (285, 21646), (295, 21685), (309, 21739), (310, 21742), (314, 21763), (322, 21820), (351, 21988), (369, 22093), (371, 22099), (391, 22234),

Gene: VohminGhazi\_31 Start: 19976, Stop: 21748, Start Num: 48

Candidate Starts for VohminGhazi\_31:

(30, 19910), (Start: 39 @19952 has 8 MA's), (Start: 48 @19976 has 538 MA's), (101, 20174), (108, 20213), (119, 20285), (120, 20288), (124, 20306), (130, 20342), (131, 20348), (144, 20459), (146, 20465), (155, 20504), (161, 20546), (172, 20585), (181, 20627), (183, 20630), (192, 20690), (235, 20927), (239, 20942), (258, 21023), (285, 21155), (318, 21281), (327, 21332), (329, 21341), (334, 21380), (335, 21383), (337, 21395), (351, 21479), (369, 21584), (371, 21590), (391, 21725),

Gene: Volt\_55 Start: 28894, Stop: 30579, Start Num: 42

Candidate Starts for Volt\_55:

(19, 28702), (20, 28711), (21, 28717), (28, 28819), (33, 28849), (Start: 42 @28894 has 6 MA's), (88, 29035), (115, 29194), (123, 29248), (144, 29404), (166, 29503), (177, 29551), (187, 29608), (191, 29623), (215, 29713), (242, 29851), (257, 29914), (277, 30010), (287, 30061), (289, 30064), (302, 30076), (318, 30151), (324, 30166), (341, 30250), (356, 30331), (376, 30442), (390, 30547), (393, 30565),

Gene: Waits\_30 Start: 19063, Stop: 20850, Start Num: 48

Candidate Starts for Waits\_30:

(30, 18997), (Start: 39 @19039 has 8 MA's), (Start: 48 @19063 has 538 MA's), (90, 19201), (100, 19258), (108, 19300), (115, 19336), (120, 19375), (132, 19444), (134, 19468), (141, 19522), (172, 19672), (183, 19717), (187, 19747), (194, 19783), (202, 19834), (210, 19870), (219, 19918), (227, 19978), (257, 20107), (274, 20185), (318, 20386), (319, 20392), (335, 20488), (363, 20653), (379, 20752),

Gene: WalterMcMickey\_27 Start: 19820, Stop: 21598, Start Num: 48

Candidate Starts for WalterMcMickey\_27:

(Start: 48 @19820 has 538 MA's), (Start: 70 @19877 has 1 MA's), (74, 19892), (84, 19925), (86, 19946), (105, 20048), (107, 20060), (108, 20063), (120, 20138), (123, 20153), (130, 20192), (144, 20309), (150, 20327), (161, 20396), (179, 20471), (187, 20510), (195, 20549), (211, 20636), (219, 20681), (229, 20750), (234, 20774), (237, 20786), (239, 20792), (258, 20873), (277, 20966), (279, 20975), (283, 20999), (285, 21005), (288, 21020), (305, 21053), (314, 21104), (317, 21122), (322, 21161), (339, 21260), (351, 21329), (357, 21353), (358, 21359), (369, 21434), (371, 21440), (372, 21449), (379, 21500), (391, 21575),

Gene: Wander\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Wander\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Warrior24\_31 Start: 19067, Stop: 20854, Start Num: 48

Candidate Starts for Warrior24\_31:

(30, 19001), (Start: 39 @19043 has 8 MA's), (Start: 48 @19067 has 538 MA's), (90, 19205), (100, 19262), (108, 19304), (115, 19340), (120, 19379), (132, 19448), (134, 19472), (141, 19526), (172, 19676), (183, 19721), (187, 19751), (194, 19787), (202, 19838), (210, 19874), (219, 19922), (227, 19982), (257, 20111), (274, 20189), (318, 20390), (319, 20396), (335, 20492), (363, 20657), (379, 20756),

Gene: Watermelon\_29 Start: 21982, Stop: 23784, Start Num: 50

Candidate Starts for Watermelon\_29:

(Start: 50 @21982 has 210 MA's), (Start: 59 @22003 has 4 MA's), (Start: 70 @22045 has 1 MA's), (83, 22090), (120, 22306), (127, 22351), (130, 22360), (134, 22399), (140, 22450), (141, 22453), (183, 22648), (195, 22717), (229, 22918), (230, 22921), (234, 22942), (257, 23038), (258, 23041), (260, 23047), (274, 23116), (277, 23134), (279, 23143), (285, 23173), (310, 23269), (315, 23302), (318, 23317), (342, 23458), (351, 23515), (371, 23626), (395, 23779),

Gene: Watson\_29 Start: 20371, Stop: 22167, Start Num: 48

Candidate Starts for Watson\_29:

(Start: 48 @20371 has 538 MA's), (Start: 70 @20428 has 1 MA's), (74, 20443), (84, 20476), (86, 20497), (89, 20512), (105, 20599), (107, 20611), (108, 20614), (120, 20689), (123, 20704), (129, 20740), (161, 20947), (187, 21061), (195, 21100), (211, 21187), (229, 21301), (234, 21325), (239, 21343), (258, 21424), (274, 21499), (277, 21517), (283, 21550), (285, 21556), (295, 21595), (309, 21649), (310, 21652), (314, 21673), (322, 21730), (351, 21898), (369, 22003), (371, 22009), (391, 22144),

Gene: WeiHuaDA\_34 Start: 22438, Stop: 24234, Start Num: 39

Candidate Starts for WeiHuaDA\_34:

(30, 22396), (Start: 39 @22438 has 8 MA's), (Start: 48 @22462 has 538 MA's), (107, 22696), (108, 22699), (119, 22771), (120, 22774), (130, 22828), (131, 22834), (134, 22867), (144, 22945), (161, 23032), (181, 23113), (183, 23116), (187, 23146), (230, 23389), (254, 23494), (258, 23509), (285, 23641), (305, 23689), (310, 23719), (315, 23752), (318, 23767), (319, 23773), (329, 23827), (337, 23881), (351, 23965), (362, 24031), (369, 24070), (371, 24076),

Gene: Whabigail7\_30 Start: 20683, Stop: 22455, Start Num: 48

Candidate Starts for Whabigail7\_30:

(Start: 39 @20659 has 8 MA's), (Start: 48 @20683 has 538 MA's), (84, 20782), (98, 20866), (107, 20917), (108, 20920), (119, 20992), (120, 20995), (130, 21049), (134, 21088), (144, 21166), (161, 21253), (181, 21334), (183, 21337), (215, 21523), (230, 21610), (254, 21715), (258, 21730), (283, 21856), (285, 21862), (305, 21910), (318, 21988), (319, 21994), (329, 22048), (334, 22087), (337, 22102), (351, 22186), (371, 22297),

Gene: Wheeler\_27 Start: 21414, Stop: 23216, Start Num: 50

Candidate Starts for Wheeler\_27:

(Start: 50 @21414 has 210 MA's), (Start: 59 @21435 has 4 MA's), (Start: 70 @21477 has 1 MA's), (83, 21522), (120, 21738), (127, 21783), (130, 21792), (134, 21831), (140, 21882), (141, 21885), (158, 21978), (183, 22080), (195, 22149), (229, 22350), (230, 22353), (234, 22374), (257, 22470), (258, 22473), (260, 22479), (274, 22548), (277, 22566), (279, 22575), (285, 22605), (310, 22701), (315, 22734), (318, 22749), (342, 22890), (351, 22947), (371, 23058), (395, 23211),

Gene: Whitney\_21 Start: 17225, Stop: 18922, Start Num: 47

Candidate Starts for Whitney\_21:

(35, 17186), (Start: 47 @17225 has 34 MA's), (53, 17237), (55, 17240), (66, 17276), (77, 17315), (84, 17336), (91, 17378), (92, 17384), (93, 17387), (97, 17399), (101, 17435), (107, 17471), (116, 17528), (123, 17576), (126, 17603), (140, 17705), (148, 17744), (158, 17801), (161, 17819), (165, 17828), (167, 17834), (177, 17882), (184, 17912), (189, 17948), (191, 17954), (194, 17975), (195, 17978), (203, 18029), (216, 18056), (217, 18059), (221, 18086), (224, 18113), (241, 18185), (250, 18224), (265, 18278), (279, 18350), (290, 18395), (311, 18458), (316, 18485), (317, 18488), (322, 18503), (339, 18587), (341, 18596), (342, 18599), (344, 18605), (346, 18617), (347, 18620), (350, 18650), (351, 18656), (356, 18677), (357, 18680), (365, 18734), (371, 18764), (372, 18773), (379, 18824), (382, 18857), (385, 18869), (389, 18887),

Gene: WideWale\_30 Start: 20656, Stop: 22428, Start Num: 48

Candidate Starts for WideWale\_30:

(Start: 39 @20632 has 8 MA's), (Start: 48 @20656 has 538 MA's), (89, 20791), (107, 20890), (108, 20893), (119, 20965), (120, 20968), (130, 21022), (131, 21028), (137, 21091), (144, 21139), (153, 21172), (161, 21226), (181, 21307), (183, 21310), (187, 21340), (215, 21496), (230, 21583), (258, 21703), (282, 21826), (283, 21829), (285, 21835), (305, 21883), (315, 21946), (318, 21961), (319, 21967), (329, 22021), (334, 22060), (337, 22075), (344, 22108), (350, 22153), (369, 22264), (371, 22270), (378, 22324),

Gene: Wiks\_31 Start: 19971, Stop: 21743, Start Num: 48

Candidate Starts for Wiks\_31:

(30, 19905), (Start: 39 @19947 has 8 MA's), (Start: 48 @19971 has 538 MA's), (108, 20208), (119, 20280), (120, 20283), (123, 20298), (130, 20337), (131, 20343), (144, 20454), (146, 20460), (155, 20499), (161, 20541), (172, 20580), (181, 20622), (183, 20625), (211, 20781), (235, 20922), (239, 20937), (285, 21150), (314, 21249), (318, 21276), (327, 21327), (329, 21336), (334, 21375), (337, 21390), (351, 21474), (369, 21579), (371, 21585), (391, 21720),

Gene: Wilbur\_27 Start: 19827, Stop: 21605, Start Num: 48

Candidate Starts for Wilbur\_27:

(Start: 39 @19803 has 8 MA's), (Start: 48 @19827 has 538 MA's), (Start: 70 @19884 has 1 MA's), (85, 19938), (86, 19953), (90, 19971), (105, 20055), (107, 20067), (108, 20070), (120, 20145), (123, 20160), (130, 20199), (144, 20316), (161, 20403), (181, 20484), (191, 20532), (195, 20556), (211, 20643), (219, 20688), (230, 20760), (234, 20781), (239, 20799), (258, 20880), (277, 20973), (279, 20982), (283, 21006), (285, 21012), (291, 21036), (310, 21090), (314, 21111), (321, 21162), (326, 21186), (335, 21240), (351, 21336), (369, 21441), (372, 21456), (388, 21564), (391, 21582),

Gene: Wile\_27 Start: 19836, Stop: 21635, Start Num: 48

Candidate Starts for Wile\_27:

(Start: 39 @19812 has 8 MA's), (Start: 48 @19836 has 538 MA's), (Start: 52 @19842 has 3 MA's), (Start: 70 @19896 has 1 MA's), (86, 19965), (101, 20043), (105, 20067), (108, 20082), (115, 20118), (120, 20157), (123, 20172), (130, 20211), (141, 20304), (144, 20328), (161, 20415), (187, 20529), (195, 20568), (211, 20655), (219, 20700), (229, 20769), (234, 20793), (237, 20805), (258, 20892), (274, 20967), (277, 20985), (279, 20994), (283, 21018), (285, 21024), (288, 21039), (300, 21072), (309, 21117), (310, 21120), (314, 21141), (351, 21366), (365, 21444), (369, 21471), (371, 21477), (391, 21612),

Gene: Wilkins\_27 Start: 20952, Stop: 22754, Start Num: 50

Candidate Starts for Wilkins\_27:

(Start: 50 @20952 has 210 MA's), (Start: 59 @20973 has 4 MA's), (Start: 70 @21015 has 1 MA's), (83, 21060), (120, 21276), (127, 21321), (130, 21330), (134, 21369), (140, 21420), (141, 21423), (158, 21516), (183, 21618), (195, 21687), (226, 21876), (229, 21888), (230, 21891), (234, 21912), (257, 22008), (258, 22011), (260, 22017), (274, 22086), (277, 22104), (279, 22113), (285, 22143), (310, 22239), (315, 22272), (318, 22287), (322, 22317), (342, 22428), (351, 22485), (371, 22596),

Gene: Wizard\_31 Start: 25993, Stop: 27759, Start Num: 32

Candidate Starts for Wizard\_31:

(26, 25951), (Start: 32 @25993 has 74 MA's), (Start: 37 @26029 has 5 MA's), (Start: 51 @26062 has 7 MA's), (102, 26272), (103, 26275), (107, 26305), (117, 26371), (120, 26395), (121, 26404), (126, 26437), (152, 26590), (158, 26629), (171, 26680), (173, 26692), (177, 26710), (180, 26722), (182, 26734), (185, 26749), (190, 26779), (191, 26782), (194, 26803), (216, 26875), (222, 26923), (247, 27034), (255, 27067), (264, 27106), (265, 27109), (279, 27181), (296, 27247), (304, 27259), (342, 27430), (343, 27433), (350, 27481), (356, 27508), (360, 27535), (369, 27589), (385, 27706), (390, 27727), (395, 27754),

Gene: Wizard007\_27 Start: 19829, Stop: 21607, Start Num: 48

Candidate Starts for Wizard007\_27:

(Start: 39 @19805 has 8 MA's), (Start: 48 @19829 has 538 MA's), (Start: 70 @19886 has 1 MA's), (85, 19940), (86, 19955), (90, 19973), (105, 20057), (107, 20069), (108, 20072), (120, 20147), (123, 20162), (130, 20201), (144, 20318), (161, 20405), (181, 20486), (191, 20534), (195, 20558), (211, 20645), (219, 20690), (230, 20762), (234, 20783), (239, 20801), (258, 20882), (277, 20975), (279, 20984), (283, 21008), (285, 21014), (291, 21038), (310, 21092), (314, 21113), (321, 21164), (326, 21188), (335, 21242), (351, 21338), (369, 21443), (372, 21458), (388, 21566), (391, 21584),

Gene: Wooldri\_31 Start: 20290, Stop: 22086, Start Num: 48

Candidate Starts for Wooldri\_31:

(Start: 48 @20290 has 538 MA's), (Start: 70 @20347 has 1 MA's), (74, 20362), (84, 20395), (86, 20416), (89, 20431), (105, 20518), (107, 20530), (108, 20533), (120, 20608), (123, 20623), (129, 20659), (161, 20866), (187, 20980), (195, 21019), (211, 21106), (229, 21220), (234, 21244), (239, 21262), (258, 21343), (274, 21418), (277, 21436), (283, 21469), (285, 21475), (295, 21514), (309, 21568), (310, 21571), (314, 21592), (322, 21649), (351, 21817), (369, 21922), (371, 21928), (391, 22063),



Gene: WunderPhul\_31 Start: 19971, Stop: 21743, Start Num: 48

Candidate Starts for WunderPhul\_31:

(30, 19905), (Start: 39 @19947 has 8 MA's), (Start: 48 @19971 has 538 MA's), (108, 20208), (119, 20280), (120, 20283), (123, 20298), (130, 20337), (131, 20343), (144, 20454), (146, 20460), (155, 20499), (161, 20541), (172, 20580), (181, 20622), (183, 20625), (211, 20781), (235, 20922), (239, 20937), (285, 21150), (314, 21249), (318, 21276), (327, 21327), (329, 21336), (334, 21375), (335, 21378), (351, 21474), (369, 21579), (371, 21585), (391, 21720),

Gene: Xena\_27 Start: 19823, Stop: 21622, Start Num: 48

Candidate Starts for Xena\_27:

(Start: 39 @19799 has 8 MA's), (Start: 48 @19823 has 538 MA's), (Start: 52 @19829 has 3 MA's), (Start: 70 @19883 has 1 MA's), (86, 19952), (101, 20030), (105, 20054), (108, 20069), (115, 20105), (120, 20144), (123, 20159), (130, 20198), (141, 20291), (144, 20315), (161, 20402), (187, 20516), (195, 20555), (211, 20642), (219, 20687), (229, 20756), (234, 20780), (237, 20792), (258, 20879), (274, 20954), (277, 20972), (279, 20981), (283, 21005), (285, 21011), (288, 21026), (300, 21059), (309, 21104), (310, 21107), (314, 21128), (351, 21353), (365, 21431), (369, 21458), (371, 21464), (391, 21599),

Gene: XianYue\_28 Start: 20112, Stop: 21908, Start Num: 39

Candidate Starts for XianYue\_28:

(30, 20070), (Start: 39 @20112 has 8 MA's), (Start: 48 @20136 has 538 MA's), (84, 20235), (94, 20289), (107, 20370), (108, 20373), (119, 20445), (120, 20448), (130, 20502), (135, 20559), (139, 20586), (161, 20706), (181, 20787), (183, 20790), (187, 20820), (211, 20946), (230, 21063), (257, 21180), (258, 21183), (285, 21315), (315, 21426), (318, 21441), (319, 21447), (329, 21501), (334, 21540), (337, 21555), (344, 21588), (365, 21717), (369, 21744), (371, 21750), (374, 21768), (378, 21804),

Gene: Yakult\_19 Start: 15320, Stop: 17008, Start Num: 47

Candidate Starts for Yakult\_19:

(35, 15290), (Start: 41 @15317 has 2 MA's), (Start: 47 @15320 has 34 MA's), (77, 15404), (102, 15527), (107, 15560), (118, 15638), (134, 15743), (135, 15761), (139, 15788), (143, 15818), (151, 15845), (158, 15890), (167, 15920), (168, 15932), (171, 15938), (172, 15941), (175, 15959), (187, 16025), (201, 16106), (215, 16142), (217, 16148), (219, 16157), (221, 16175), (228, 16220), (248, 16304), (256, 16340), (257, 16343), (258, 16346), (262, 16361), (264, 16370), (266, 16379), (277, 16436), (316, 16565), (318, 16577), (324, 16592), (327, 16604), (341, 16676), (342, 16679), (343, 16682), (348, 16715), (353, 16745), (359, 16778), (364, 16814), (365, 16817), (371, 16847), (372, 16856), (389, 16973), (394, 17000),

Gene: Yecey3\_29 Start: 19844, Stop: 21634, Start Num: 48

Candidate Starts for Yecey3\_29:

(Start: 46 @19841 has 8 MA's), (Start: 48 @19844 has 538 MA's), (84, 19943), (101, 20042), (108, 20081), (119, 20153), (120, 20156), (130, 20210), (131, 20216), (135, 20267), (139, 20294), (144, 20327), (161, 20414), (181, 20495), (183, 20498), (192, 20558), (212, 20660), (225, 20747), (230, 20771), (239, 20810), (258, 20891), (262, 20906), (300, 21071), (303, 21080), (310, 21119), (318, 21167), (321, 21191), (329, 21227), (334, 21266), (335, 21269), (337, 21281), (344, 21314), (351, 21365), (362, 21431), (369, 21470), (371, 21476),

Gene: YoSam321\_27 Start: 19824, Stop: 21602, Start Num: 48

Candidate Starts for YoSam321\_27:

(Start: 39 @19800 has 8 MA's), (Start: 48 @19824 has 538 MA's), (Start: 70 @19881 has 1 MA's), (85, 19935), (86, 19950), (90, 19968), (105, 20052), (107, 20064), (108, 20067), (120, 20142), (123, 20157), (130, 20196), (144, 20313), (161, 20400), (181, 20481), (191, 20529), (195, 20553), (211, 20640), (219, 20685), (230, 20757), (234, 20778), (239, 20796), (258, 20877), (277, 20970), (279,

20979), (283, 21003), (285, 21009), (291, 21033), (310, 21087), (314, 21108), (321, 21159), (326, 21183), (335, 21237), (351, 21333), (369, 21438), (372, 21453), (388, 21561), (391, 21579),

Gene: Yogi\_23 Start: 16323, Stop: 17948, Start Num: 62

Candidate Starts for Yogi\_23:

(Start: 56 @16308 has 3 MA's), (Start: 62 @16323 has 32 MA's), (81, 16392), (88, 16428), (120, 16614), (138, 16743), (144, 16785), (152, 16812), (Start: 156 @16836 has 1 MA's), (158, 16854), (167, 16884), (170, 16899), (183, 16950), (198, 17034), (225, 17151), (230, 17175), (257, 17289), (268, 17337), (274, 17367), (280, 17406), (283, 17418), (305, 17448), (318, 17526), (349, 17673), (354, 17697), (360, 17733), (367, 17772), (394, 17940),

Gene: Yokurt\_31 Start: 19971, Stop: 21743, Start Num: 48

Candidate Starts for Yokurt\_31:

(30, 19905), (Start: 39 @19947 has 8 MA's), (Start: 48 @19971 has 538 MA's), (108, 20208), (119, 20280), (120, 20283), (123, 20298), (130, 20337), (131, 20343), (144, 20454), (146, 20460), (155, 20499), (161, 20541), (172, 20580), (181, 20622), (183, 20625), (211, 20781), (235, 20922), (239, 20937), (285, 21150), (314, 21249), (318, 21276), (327, 21327), (329, 21336), (334, 21375), (337, 21390), (351, 21474), (369, 21579), (371, 21585), (391, 21720),

Gene: Yoncess\_23 Start: 16323, Stop: 17948, Start Num: 62

Candidate Starts for Yoncess\_23:

(Start: 56 @16308 has 3 MA's), (Start: 62 @16323 has 32 MA's), (73, 16365), (81, 16392), (88, 16428), (120, 16614), (138, 16743), (144, 16785), (152, 16812), (Start: 156 @16836 has 1 MA's), (158, 16854), (167, 16884), (170, 16899), (183, 16950), (198, 17034), (225, 17151), (230, 17175), (257, 17289), (268, 17337), (274, 17367), (280, 17406), (283, 17418), (305, 17448), (318, 17526), (349, 17673), (354, 17697), (360, 17733), (367, 17772), (394, 17940),

Gene: YorkOnyx\_35 Start: 29872, Stop: 31635, Start Num: 32

Candidate Starts for YorkOnyx\_35:

(Start: 32 @29872 has 74 MA's), (Start: 37 @29908 has 5 MA's), (81, 30037), (84, 30046), (87, 30070), (100, 30142), (103, 30151), (112, 30220), (120, 30271), (121, 30280), (127, 30316), (131, 30331), (133, 30349), (140, 30412), (150, 30457), (152, 30466), (177, 30586), (181, 30601), (182, 30610), (185, 30625), (190, 30655), (239, 30877), (244, 30895), (247, 30910), (257, 30952), (258, 30955), (264, 30982), (289, 31102), (317, 31195), (342, 31306), (343, 31309), (350, 31357), (356, 31384), (360, 31411), (369, 31465),

Gene: Yoshi\_19 Start: 13743, Stop: 15407, Start Num: 51

Candidate Starts for Yoshi\_19:

(Start: 51 @13743 has 7 MA's), (76, 13824), (85, 13854), (88, 13875), (90, 13887), (103, 13953), (109, 13992), (110, 14004), (114, 14028), (122, 14085), (123, 14088), (125, 14112), (127, 14118), (128, 14121), (134, 14166), (135, 14184), (141, 14220), (162, 14331), (172, 14367), (177, 14394), (180, 14406), (181, 14409), (187, 14451), (190, 14463), (194, 14487), (214, 14541), (229, 14640), (253, 14733), (258, 14760), (261, 14772), (273, 14817), (277, 14838), (279, 14847), (342, 15081), (343, 15084), (344, 15087), (362, 15204), (371, 15246), (381, 15330), (393, 15393),

Gene: YungMoney\_33 Start: 27341, Stop: 29107, Start Num: 32

Candidate Starts for YungMoney\_33:

(26, 27299), (29, 27329), (Start: 32 @27341 has 74 MA's), (Start: 37 @27377 has 5 MA's), (Start: 51 @27410 has 7 MA's), (92, 27566), (93, 27569), (102, 27620), (103, 27623), (107, 27653), (112, 27692), (120, 27743), (121, 27752), (126, 27785), (152, 27938), (158, 27977), (171, 28028), (173, 28040), (177, 28058), (180, 28070), (182, 28082), (185, 28097), (190, 28127), (191, 28130), (194, 28151), (222, 28271), (247, 28382), (255, 28415), (265, 28457), (279, 28529), (296, 28595), (342, 28778), (343, 28781), (350, 28829), (356, 28856), (360, 28883), (369, 28937), (385, 29054), (390,

29075), (395, 29102),

Gene: ZAYM\_19 Start: 16938, Stop: 18701, Start Num: 35

Candidate Starts for ZAYM\_19:

(17, 16659), (24, 16854), (35, 16938), (Start: 37 @16950 has 5 MA's), (Start: 43 @16971 has 5 MA's), (105, 17208), (110, 17241), (140, 17454), (155, 17526), (161, 17568), (172, 17607), (177, 17634), (182, 17658), (189, 17700), (194, 17727), (195, 17730), (213, 17784), (214, 17790), (226, 17877), (292, 18168), (293, 18171), (316, 18261), (322, 18279), (342, 18375), (346, 18393), (365, 18510), (372, 18549), (373, 18552), (376, 18564), (383, 18639), (389, 18666),

Gene: Zaka\_31 Start: 19971, Stop: 21743, Start Num: 48

Candidate Starts for Zaka\_31:

(30, 19905), (Start: 39 @19947 has 8 MA's), (Start: 48 @19971 has 538 MA's), (108, 20208), (119, 20280), (120, 20283), (123, 20298), (130, 20337), (131, 20343), (144, 20454), (146, 20460), (155, 20499), (161, 20541), (172, 20580), (181, 20622), (183, 20625), (211, 20781), (235, 20922), (239, 20937), (285, 21150), (314, 21249), (318, 21276), (327, 21327), (329, 21336), (334, 21375), (337, 21390), (351, 21474), (369, 21579), (371, 21585), (391, 21720),

Gene: Zapner\_20 Start: 14268, Stop: 15932, Start Num: 51

Candidate Starts for Zapner\_20:

(Start: 51 @14268 has 7 MA's), (76, 14349), (85, 14379), (88, 14400), (90, 14412), (103, 14478), (109, 14517), (110, 14529), (114, 14553), (122, 14610), (123, 14613), (125, 14637), (127, 14643), (128, 14646), (134, 14691), (135, 14709), (141, 14745), (162, 14856), (172, 14892), (177, 14919), (180, 14931), (181, 14934), (187, 14976), (190, 14988), (194, 15012), (214, 15066), (229, 15165), (253, 15258), (258, 15285), (261, 15297), (275, 15348), (277, 15363), (289, 15417), (306, 15444), (342, 15606), (343, 15609), (344, 15612), (362, 15729), (371, 15771), (381, 15855), (390, 15900), (393, 15918),

Gene: Zareef\_22 Start: 16723, Stop: 18405, Start Num: 53

Candidate Starts for Zareef\_22:

(16, 16387), (Start: 47 @16711 has 34 MA's), (53, 16723), (110, 16975), (113, 16996), (114, 16999), (120, 17044), (123, 17059), (134, 17137), (139, 17182), (158, 17284), (167, 17317), (168, 17329), (170, 17332), (182, 17389), (187, 17422), (191, 17437), (201, 17503), (217, 17545), (219, 17554), (224, 17599), (238, 17662), (257, 17743), (262, 17761), (264, 17770), (266, 17779), (277, 17836), (279, 17845), (318, 17977), (327, 18004), (332, 18025), (341, 18076), (342, 18079), (359, 18175), (362, 18202), (364, 18211), (365, 18214), (371, 18244), (374, 18262), (380, 18307), (394, 18397),

Gene: Zeeculate\_27 Start: 21795, Stop: 23597, Start Num: 50

Candidate Starts for Zeeculate\_27:

(Start: 50 @21795 has 210 MA's), (Start: 59 @21816 has 4 MA's), (Start: 70 @21858 has 1 MA's), (83, 21903), (120, 22119), (127, 22164), (130, 22173), (134, 22212), (140, 22263), (141, 22266), (183, 22461), (195, 22530), (229, 22731), (230, 22734), (234, 22755), (257, 22851), (258, 22854), (260, 22860), (274, 22929), (277, 22947), (279, 22956), (285, 22986), (310, 23082), (315, 23115), (318, 23130), (342, 23271), (351, 23328), (371, 23439),

Gene: Zephyr\_27 Start: 21215, Stop: 23017, Start Num: 50

Candidate Starts for Zephyr\_27:

(Start: 50 @21215 has 210 MA's), (Start: 59 @21236 has 4 MA's), (Start: 70 @21278 has 1 MA's), (83, 21323), (120, 21539), (127, 21584), (130, 21593), (134, 21632), (140, 21683), (141, 21686), (148, 21722), (158, 21779), (183, 21881), (195, 21950), (229, 22151), (230, 22154), (234, 22175), (257, 22271), (258, 22274), (260, 22280), (274, 22349), (277, 22367), (279, 22376), (285, 22406), (310, 22502), (315, 22535), (318, 22550), (342, 22691), (351, 22748), (371, 22859),

Gene: Zetzy\_28 Start: 19913, Stop: 21709, Start Num: 48

Candidate Starts for Zetzy\_28:

(Start: 48 @19913 has 538 MA's), (Start: 70 @19970 has 1 MA's), (74, 19985), (84, 20018), (86, 20039), (89, 20054), (105, 20141), (107, 20153), (108, 20156), (120, 20231), (123, 20246), (129, 20282), (161, 20489), (195, 20642), (211, 20729), (229, 20843), (234, 20867), (239, 20885), (258, 20966), (274, 21041), (277, 21059), (283, 21092), (285, 21098), (295, 21137), (309, 21191), (310, 21194), (314, 21215), (322, 21272), (351, 21440), (369, 21545), (371, 21551), (391, 21686),

Gene: Zeuska\_28 Start: 21670, Stop: 23451, Start Num: 59

Candidate Starts for Zeuska\_28:

(Start: 50 @21649 has 210 MA's), (Start: 59 @21670 has 4 MA's), (Start: 70 @21712 has 1 MA's), (83, 21757), (120, 21973), (127, 22018), (130, 22027), (134, 22066), (140, 22117), (141, 22120), (183, 22315), (195, 22384), (229, 22585), (230, 22588), (234, 22609), (257, 22705), (258, 22708), (260, 22714), (274, 22783), (277, 22801), (279, 22810), (285, 22840), (310, 22936), (315, 22969), (318, 22984), (342, 23125), (351, 23182), (371, 23293),

Gene: Ziko\_56 Start: 28834, Stop: 30519, Start Num: 42

Candidate Starts for Ziko\_56:

(19, 28642), (20, 28651), (21, 28657), (28, 28759), (33, 28789), (Start: 42 @28834 has 6 MA's), (88, 28975), (115, 29134), (123, 29188), (144, 29344), (166, 29443), (177, 29491), (187, 29548), (191, 29563), (215, 29653), (242, 29791), (257, 29854), (277, 29950), (287, 30001), (289, 30004), (302, 30016), (318, 30091), (324, 30106), (341, 30190), (356, 30271), (376, 30382), (390, 30487), (393, 30505),

Gene: Zimmer\_30 Start: 22382, Stop: 24154, Start Num: 48

Candidate Starts for Zimmer\_30:

(30, 22316), (Start: 39 @22358 has 8 MA's), (40, 22367), (Start: 48 @22382 has 538 MA's), (94, 22535), (107, 22616), (108, 22619), (119, 22691), (120, 22694), (124, 22712), (130, 22748), (131, 22754), (144, 22865), (161, 22952), (181, 23033), (183, 23036), (195, 23105), (211, 23192), (239, 23348), (258, 23429), (262, 23444), (315, 23672), (318, 23687), (321, 23711), (334, 23786), (337, 23801), (344, 23834), (351, 23885), (369, 23990), (391, 24131),

Gene: Zolita\_23 Start: 19917, Stop: 21716, Start Num: 48

Candidate Starts for Zolita\_23:

(Start: 48 @19917 has 538 MA's), (90, 20055), (108, 20154), (120, 20229), (129, 20280), (137, 20352), (139, 20367), (144, 20400), (146, 20406), (165, 20499), (187, 20601), (192, 20631), (194, 20637), (211, 20727), (215, 20757), (229, 20841), (230, 20844), (239, 20883), (243, 20901), (257, 20961), (258, 20964), (277, 21057), (309, 21198), (317, 21240), (371, 21558), (391, 21693), (393, 21702),

Gene: Zulu\_31 Start: 19970, Stop: 21742, Start Num: 48

Candidate Starts for Zulu\_31:

(30, 19904), (Start: 39 @19946 has 8 MA's), (Start: 48 @19970 has 538 MA's), (108, 20207), (119, 20279), (120, 20282), (123, 20297), (130, 20336), (131, 20342), (144, 20453), (146, 20459), (155, 20498), (161, 20540), (172, 20579), (181, 20621), (183, 20624), (211, 20780), (235, 20921), (239, 20936), (285, 21149), (314, 21248), (318, 21275), (327, 21326), (329, 21335), (334, 21374), (337, 21389), (351, 21473), (369, 21578), (371, 21584), (391, 21719),