

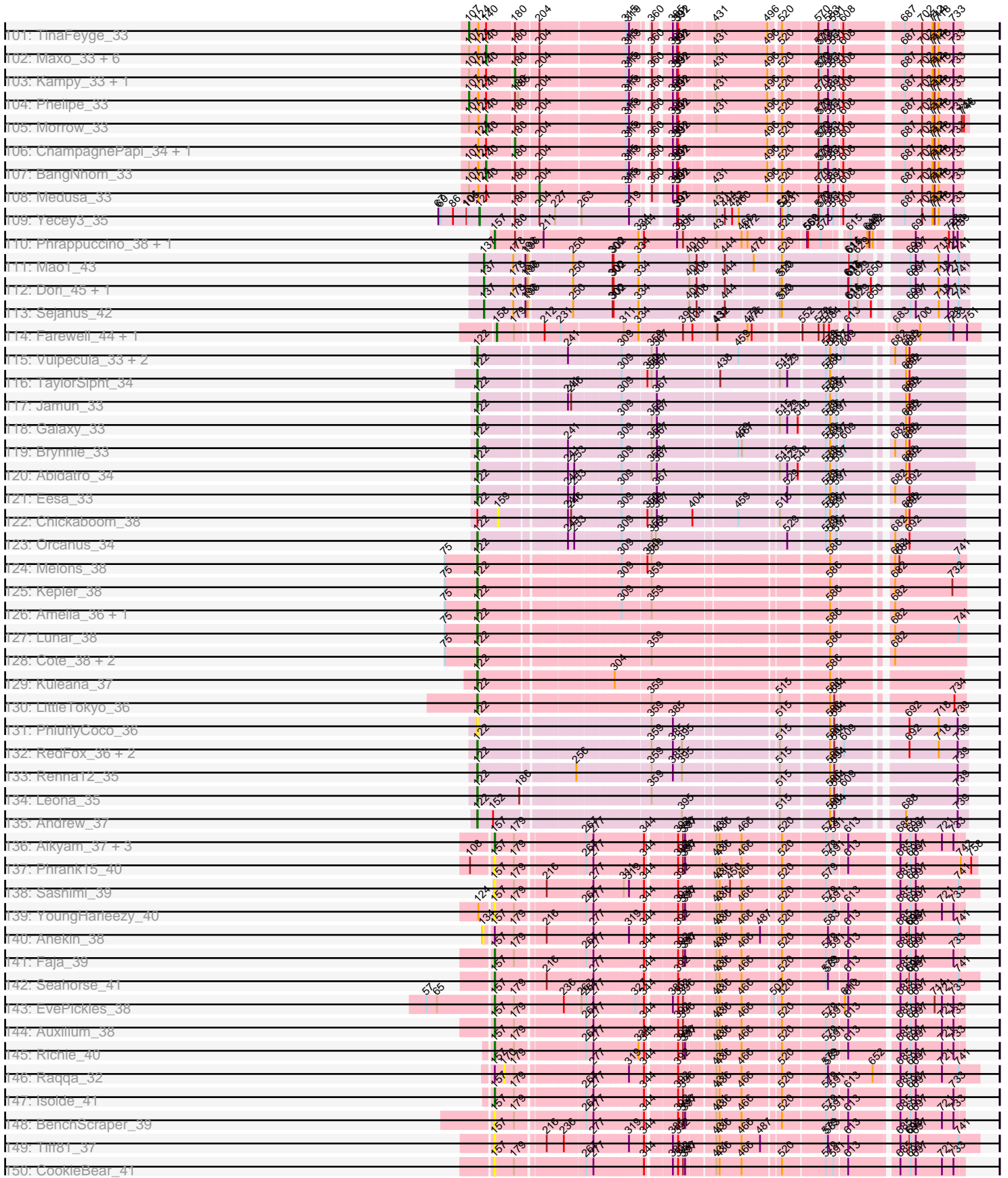
Pham 171078

1: Pharaoh_32	108	127	180	204	227	310	360	386	413	452	486	521	558	594	631	667	704	739			
2: Zimmer_35	112	130	186	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
3: Kimona_30	123	144	173	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739
4: Baehexic_34 + 4	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
5: SwiftSquare_35	148	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
6: WeiHuaDA_38	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
7: Pn8s_35	111	142	165	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739
8: XianYue_35	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
9: Iwokeupikedis_34	140	140	165	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739
10: Bactobuster_35	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
11: Leviathan_35	123	123	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
12: Pukovnik_35	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
13: KingCyrus_36	102	123	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
14: QueenBeesly_34 + 1	128	128	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
15: Jaan_37	102	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
16: C3_31	138	138	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
17: Kaipine_35	88	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
18: MiculUcigas_34	140	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
19: Serenity_34	98	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
20: TarsusIV_33	98	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
21: Leogania_35	102	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
22: AN9_36 + 4	63	98	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739
23: Journey13_31	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
24: Koduck_33 + 1	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
25: Trxie_35	88	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
26: SnapTap_34 + 2	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
27: Agape74_35 + 1	123	123	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
28: HeiHalump_35	102	123	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
29: JoshKayV_35	102	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
30: Bianca11192_35	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
31: Pomar16_37	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
32: Dupio_37	88	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
33: Drake55_36	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
34: Odin_33	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
35: Naji_37 + 2	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
36: Acolyte_34	140	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
37: Jsquared_34	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
38: Larenn_35	88	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
39: Flare16_34	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
40: Adzzy_35	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
41: IronMan_36	140	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
42: Phaded_37	88	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
43: GaugeLDP_35	123	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
44: NothingSpecial_35	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
45: Kerberos_37 + 1	144	144	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
46: Che12_36	140	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
47: P11094_34	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
48: Dignity_35 + 1	140	140	173	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
49: Tomathan_37	142	142	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	
50: EvilGenius_36	140	140	188	204	221	244	276	319	360	386	413	452	486	521	558	594	631	667	704	739	

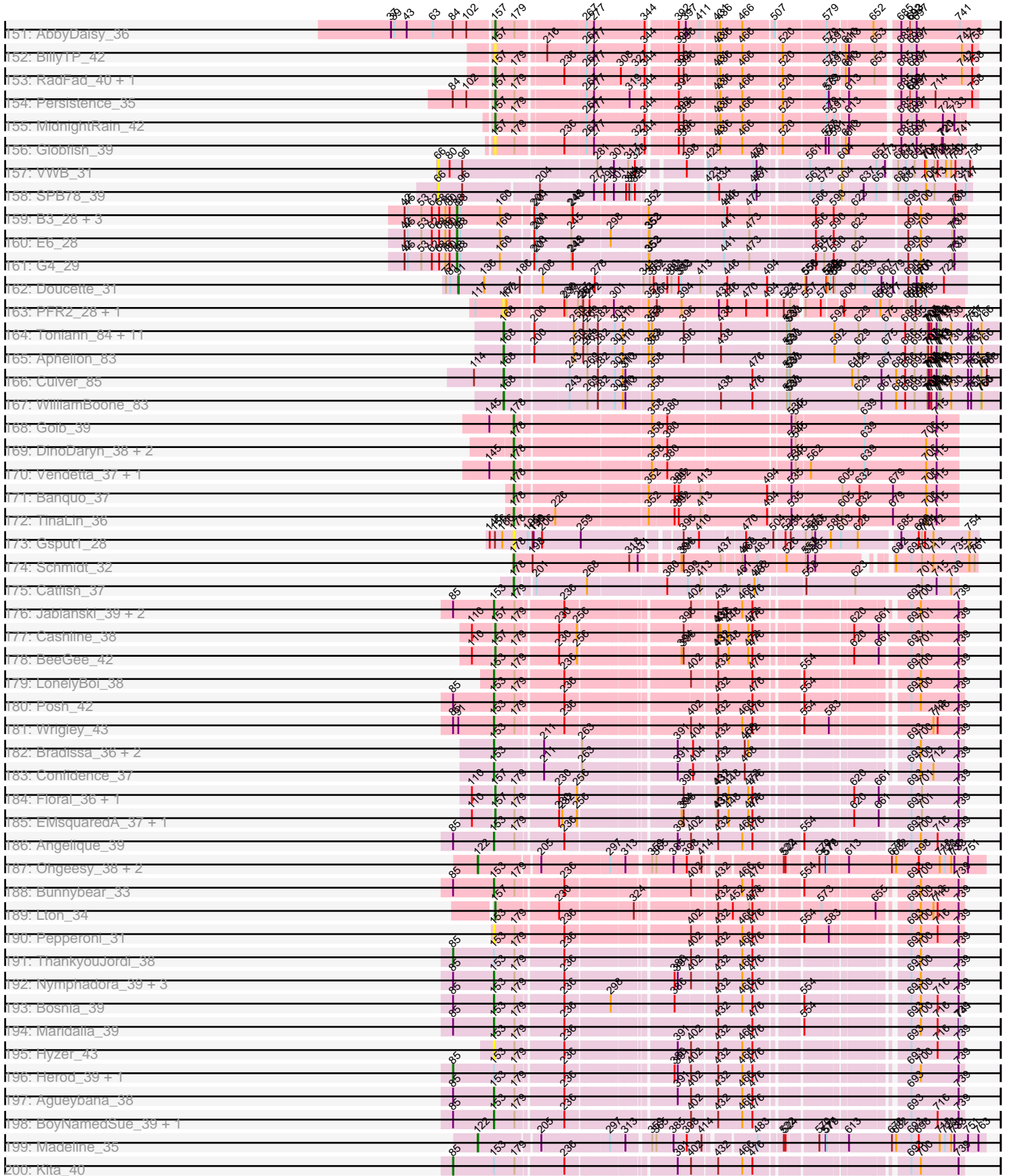
Pham 171078

51: Georgie2_35	103	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
52: DBQu4n_37	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
53: Caraxes_33 + 1	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
54: Turbido_34	63	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733	
55: Malec_36	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
56: Anselm_35 + 2	103	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
57: Power_33	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
58: ChipMunk_36	103	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
59: SemperFI_35	103	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733	
60: HarryHoudini_36	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
61: TopsytheTRex_33	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
62: Trooper_35	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
63: Whnabigail7_34 + 1	103	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
64: DudeLittle_33	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
65: NaSiTalie_34	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
66: Bugsy_36	103	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
67: Colin_37	103	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
68: Fameo_34	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
69: MissWhite_33	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
70: Landor_35	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
71: NicoleTera_37	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
72: QueenB2_34	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
73: Smeagan_36	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
74: Grub_36 + 7	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
75: Dieselweasel_36 + 30	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
76: Heathen_33 + 2	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
77: Kai097_36 + 10	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
78: Microwave_36 + 3	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
79: Pistachio_34 + 4	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
80: BabyRay_33	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
81: MA5_33	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
82: Fred3T3_33 + 1	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
83: GingkoViaracino_36 + 4	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
84: Jobu08_35 + 1	108	140	173	204	221	261	306	360	382	431	480	521	556	584	681	733	
85: JF2_33 + 2	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
86: JeppNRM_36 + 1	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
87: Pawn_36	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
88: Giroux_33	98	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
89: HaveUMetTed_36	108	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733
90: Isca_33	108	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733	
91: Rockstar_33	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
92: TNguyen7_33	108	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733	
93: Zetzy_35	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
94: Ulme_36	98	140	173	204	221	261	306	360	382	431	480	521	556	584	681	733	
95: OlanP_35	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
96: Phantastic_33	140	173	188	204	221	261	306	360	382	431	480	521	556	584	681	733	
97: BT_31	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
98: Melvin_33 + 3	108	140	173	204	221	306	360	382	431	480	521	556	584	681	733		
99: Abdel_32	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		
100: SheldonCooper_34 + 2	140	173	188	204	221	306	360	382	431	480	521	556	584	681	733		

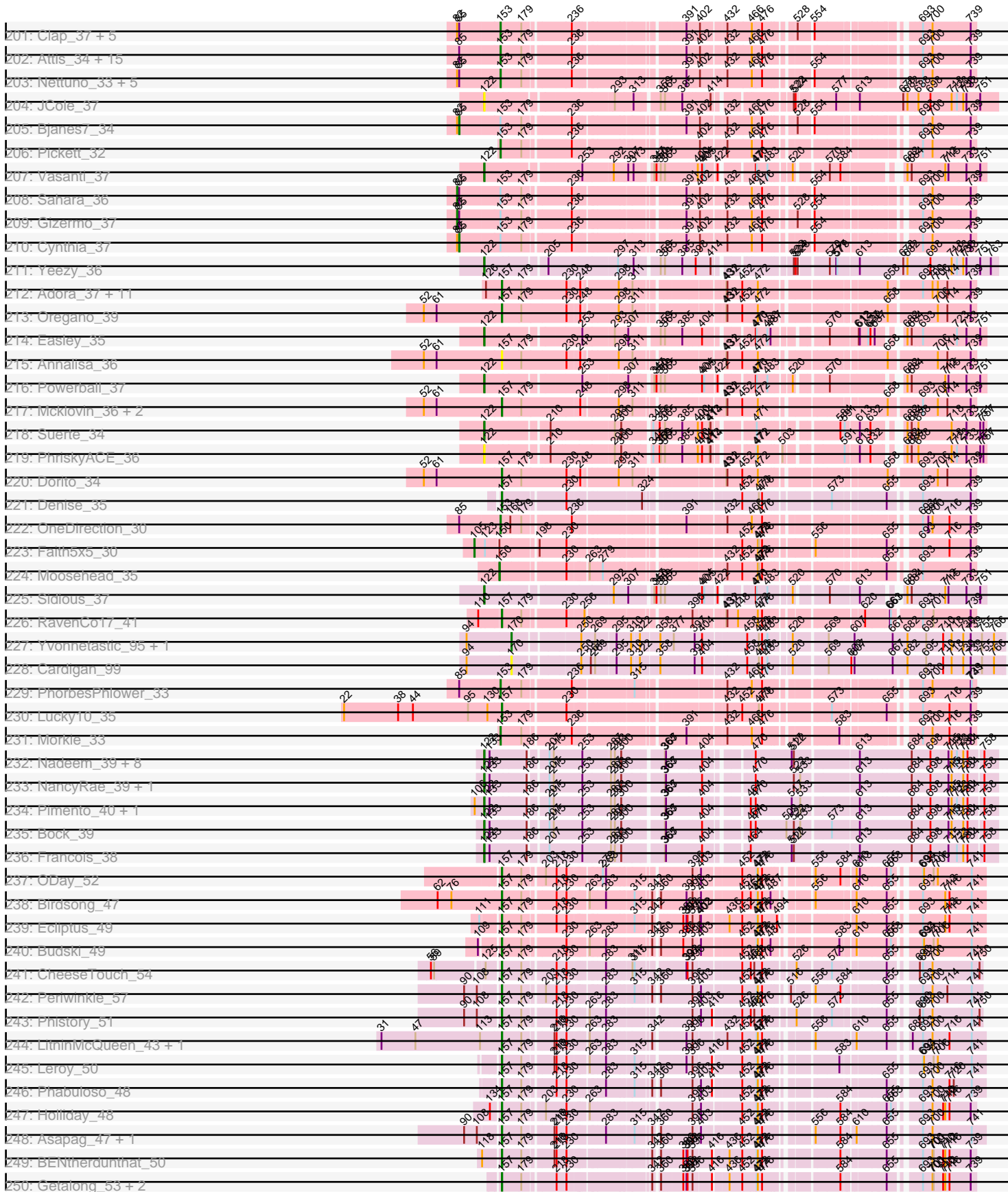
Pham 171078



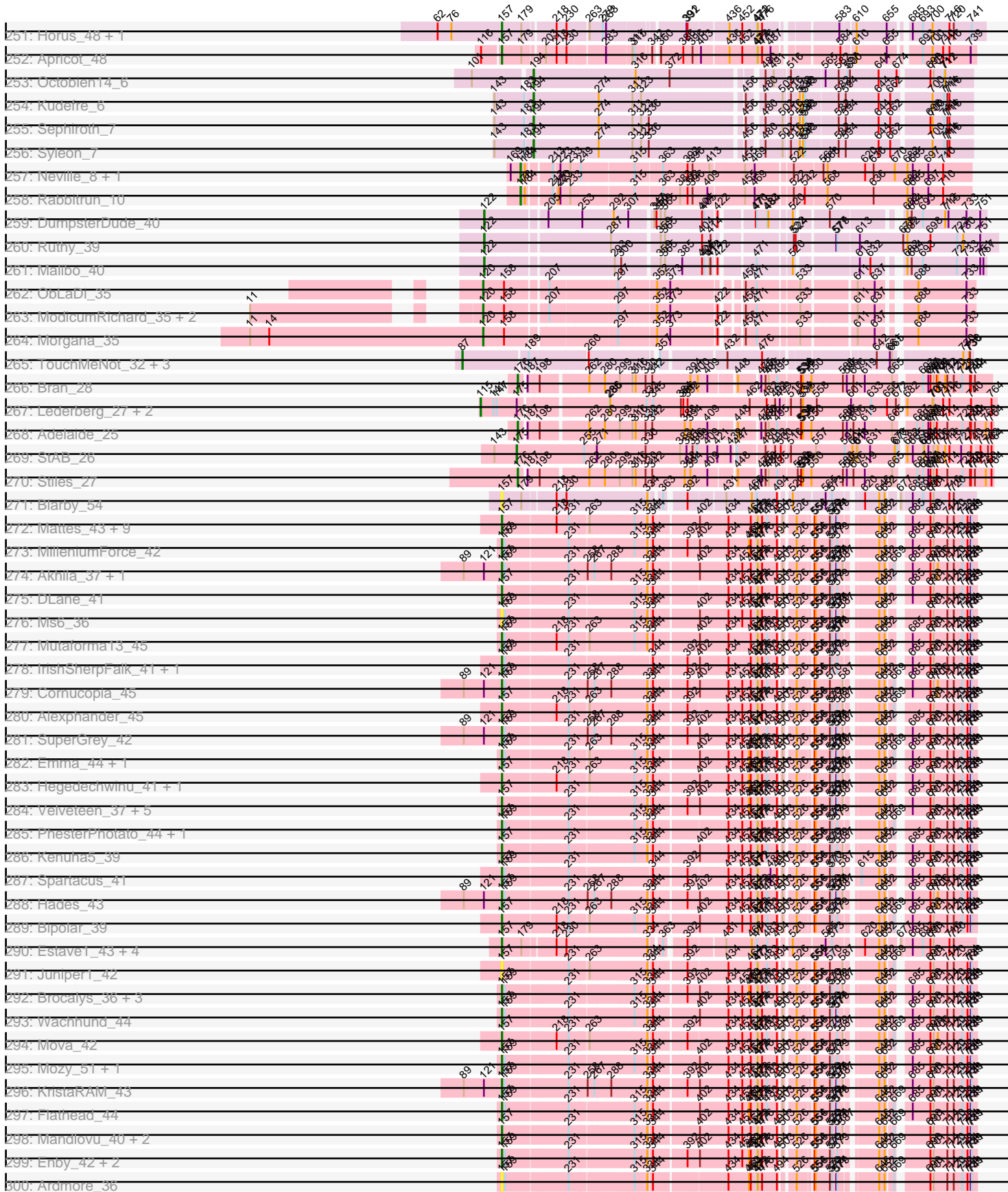
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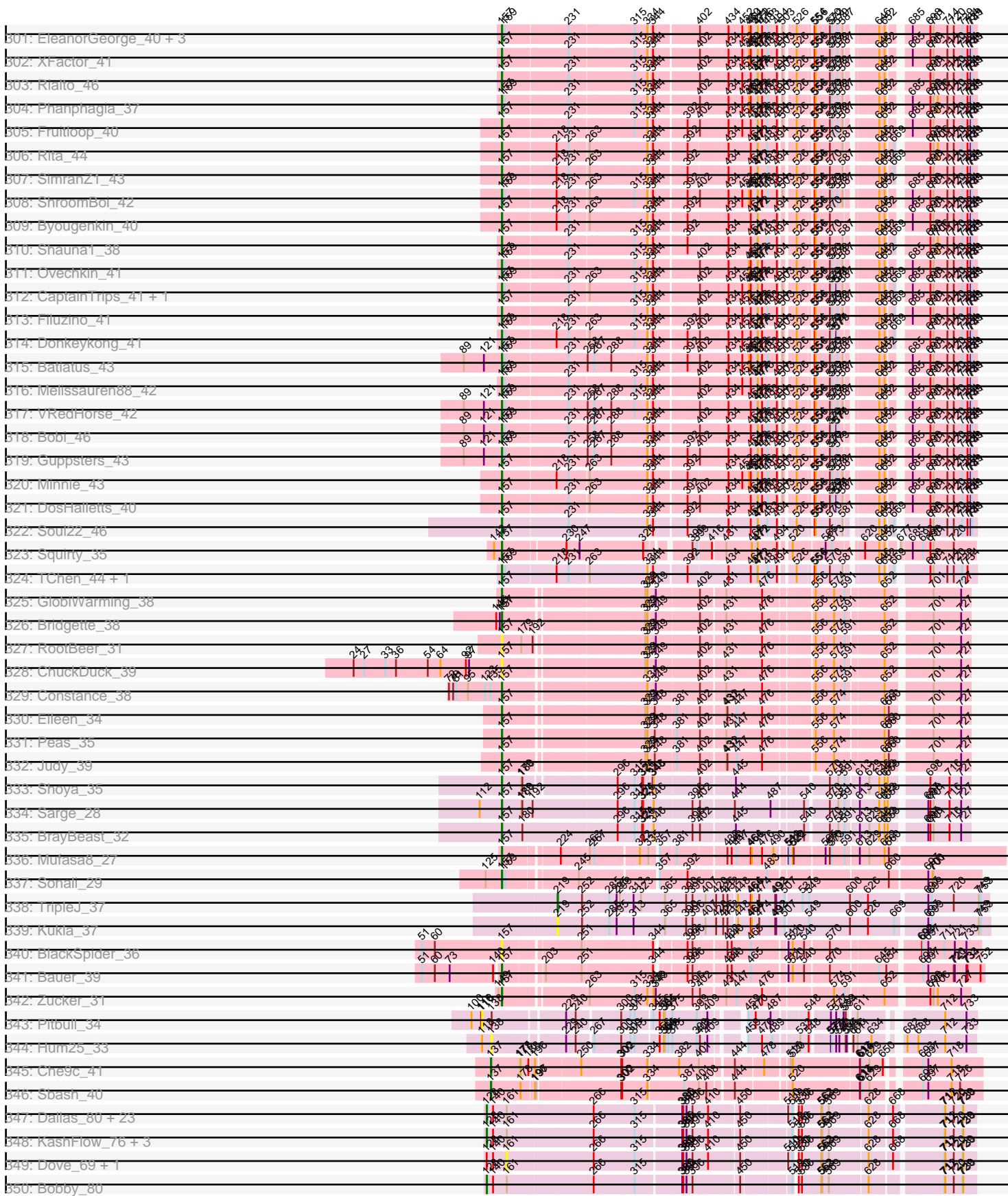
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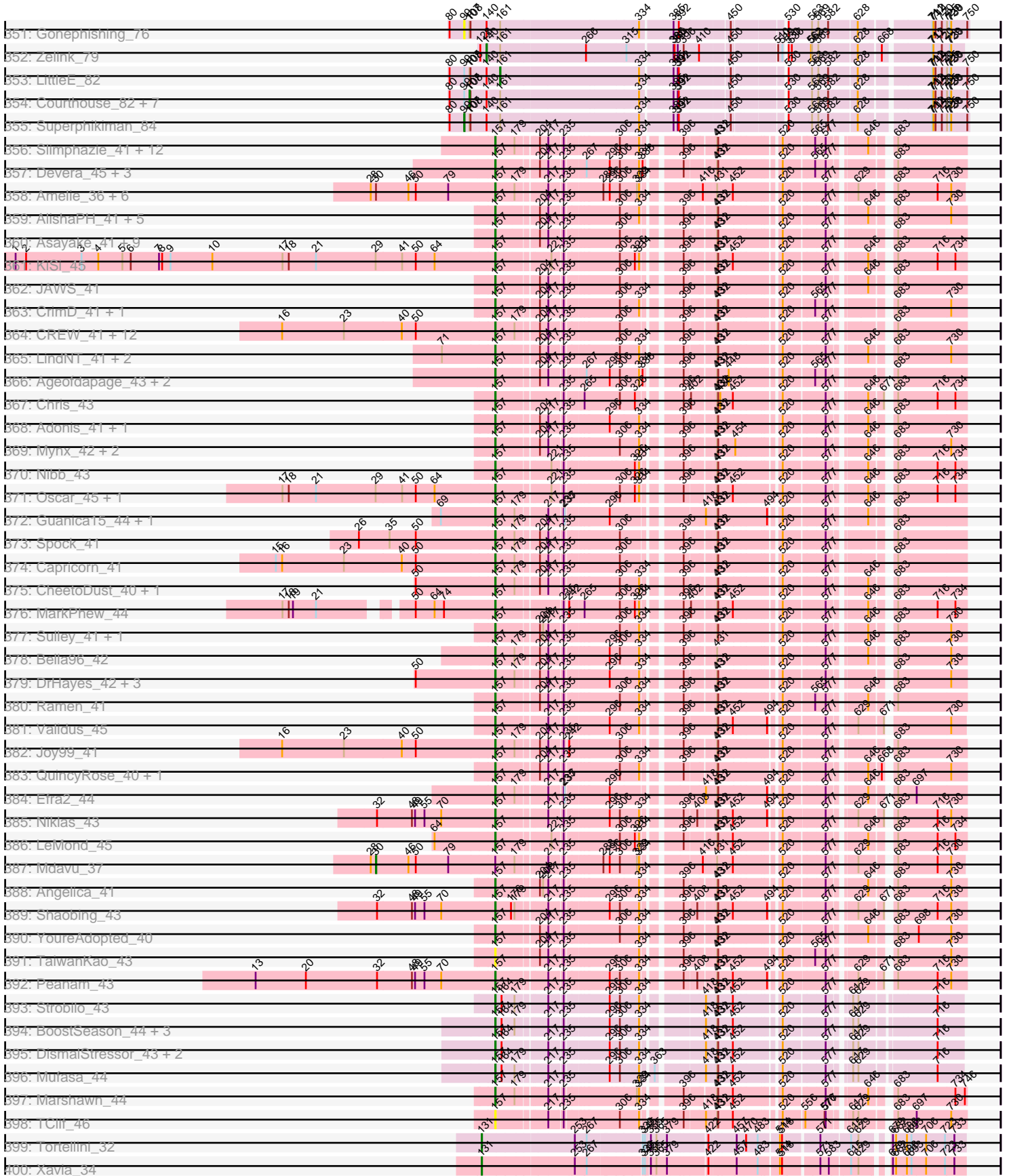
Pham 171078



Pham 171078

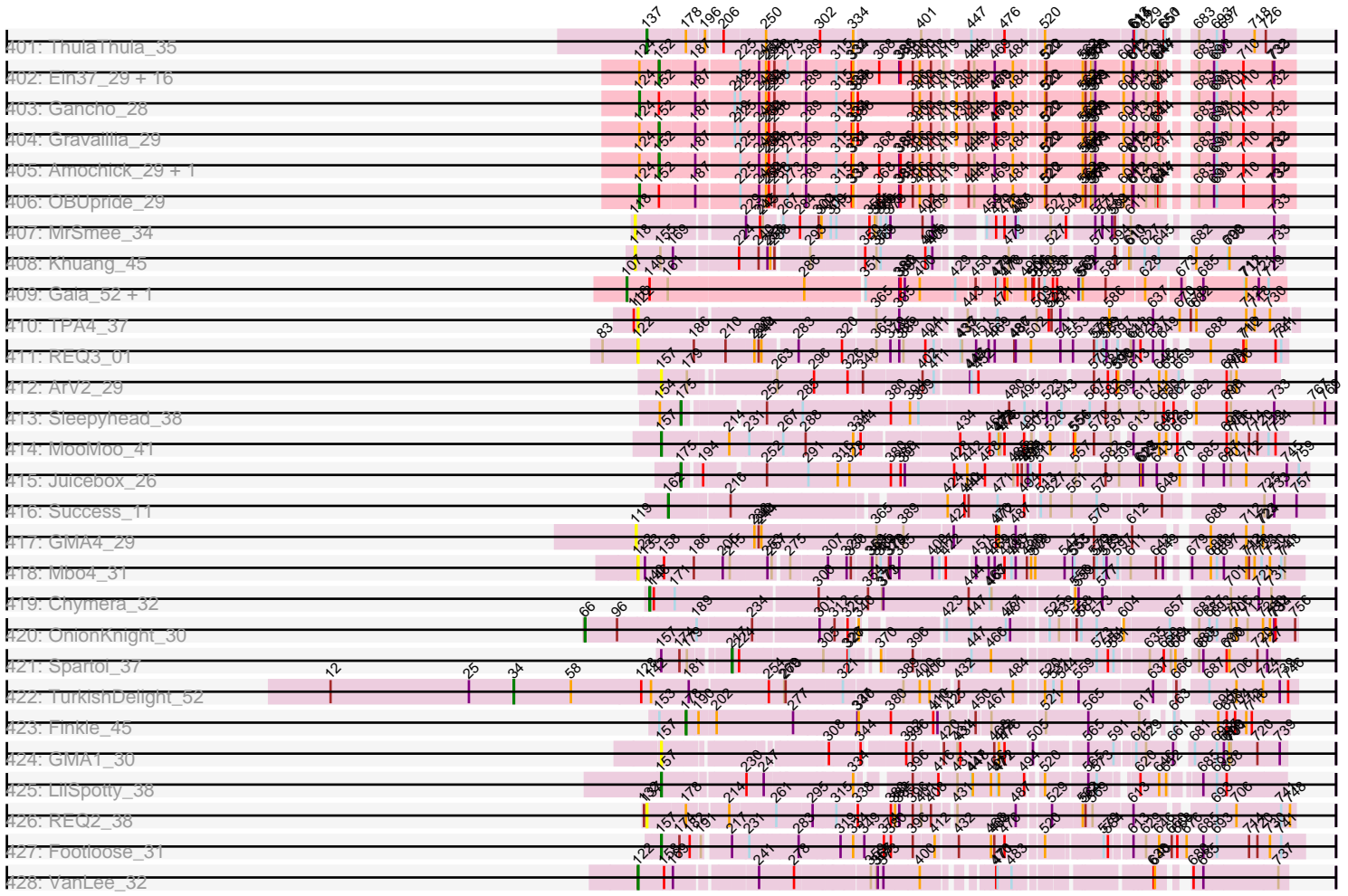


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 171078 Report

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

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

Pham number 171078 has 790 members, 74 are drafts.

Phages represented in each track:

- Track 1 : Pharaoh\_32
- Track 2 : Zimmer\_35
- Track 3 : Kimona\_30
- Track 4 : Baehexic\_34, Centaur\_35, WideWale\_35, Updawg\_35, Equemioh13\_35
- Track 5 : SwirlSquare\_35
- Track 6 : WeiHuaDA\_38
- Track 7 : Ph8s\_35
- Track 8 : XianYue\_35
- Track 9 : Iwokeuplikedis\_34
- Track 10 : Bactobuster\_35
- Track 11 : Leviathan\_35
- Track 12 : Pukovnik\_35
- Track 13 : KingCyrus\_36
- Track 14 : QueenBeesly\_34, FiringLine\_34
- Track 15 : Jaan\_37
- Track 16 : C3\_31
- Track 17 : Kalpine\_35
- Track 18 : MiculUcigas\_34
- Track 19 : Serenity\_34
- Track 20 : TarsusIV\_33
- Track 21 : Leogania\_35
- Track 22 : AN9\_36, VC3\_36, ANI8\_36, AN3\_33, VA6\_33
- Track 23 : Journey13\_31
- Track 24 : Koduck\_33, L5\_33
- Track 25 : Trixie\_35
- Track 26 : SnapTap\_34, Crucio\_34, SweetiePie\_34
- Track 27 : Agape74\_35, AbbyPaige\_35
- Track 28 : Heffalump\_35
- Track 29 : JoshKayV\_35
- Track 30 : BiancaTri92\_35
- Track 31 : Pomar16\_37
- Track 32 : Duplo\_37
- Track 33 : Drake55\_36

- Track 34 : Odin\_33
- Track 35 : Naji\_37, D29\_33, D32\_37
- Track 36 : Acolyte\_34
- Track 37 : Jsquared\_34
- Track 38 : Larenn\_35
- Track 39 : Flare16\_34
- Track 40 : Adzzy\_35
- Track 41 : IronMan\_36
- Track 42 : Phaded\_37
- Track 43 : GaugeLDP\_35
- Track 44 : NothingSpecial\_35
- Track 45 : Kerberos\_37, StarStuff\_37
- Track 46 : Che12\_36
- Track 47 : Piro94\_34
- Track 48 : Dignity\_35, Jerm\_35
- Track 49 : Tomathan\_37
- Track 50 : EvilGenius\_36
- Track 51 : Georgie2\_35
- Track 52 : DBQu4n\_37
- Track 53 : Caraxes\_33, Superchunk\_33
- Track 54 : Turbido\_34
- Track 55 : Malec\_36
- Track 56 : Anselm\_35, Dalmatian\_35, Retro23\_35
- Track 57 : Power\_33
- Track 58 : ChipMunk\_36
- Track 59 : SemperFi\_35
- Track 60 : HarryHoudini\_36
- Track 61 : TipsytheTRex\_33
- Track 62 : Trooper\_35
- Track 63 : Whabigail7\_34, LilTurb\_34
- Track 64 : DudeLittle\_33
- Track 65 : NaSiaTalie\_34
- Track 66 : Buggy\_36
- Track 67 : Colin\_37
- Track 68 : Fameo\_34
- Track 69 : MissWhite\_33
- Track 70 : Landor\_35
- Track 71 : NicoleTera\_37
- Track 72 : QueenB2\_34
- Track 73 : Smeagan\_36
- Track 74 : Grub\_36, DaHudson\_36, GtownJaz\_36, Aglet\_36, Watson\_36, Pembroke\_36, Wooldri\_38, PGHhamlin\_38
- Track 75 : Dieselweasel\_36, MuchMore\_38, Colbster\_36, Vix\_36, Grum1\_36, JHC117\_36, Grif\_36, Penny1\_36, EpicPhail\_36, LBerry\_36, Tiffany\_36, AugsMagnumOpus\_38, Mainiac\_36, Cullens\_36, LugYA\_38, Anubis\_38, Phoebe\_36, SoYo\_36, P28Green\_36, Beauxregard13\_36, MoneyMay\_36, Marie\_36, Sabinator\_36, Hercules11\_36, StepMih\_36, MadMarie\_36, PotatoSplit\_37, BreSam8\_36, Stagni\_36, Sabia\_36, MarQuardt\_36
- Track 76 : Heathen\_33, HelDan\_33, Puppy\_34
- Track 77 : Kalb97\_36, Reba\_36, Manu\_36, Marius\_36, Groupthink\_36, Kalnoky\_36, Phranny\_36, PurpleHaze\_35, Heliosoles\_35, PhishRPhriends\_34, Gemma\_35
- Track 78 : Microwolf\_36, Lilith\_36, Malinsilva\_38, Farber\_36
- Track 79 : Pistachio\_34, SaturnRing\_33, BlueBird\_34, Idleandcovert\_33, Bugatti\_33

- Track 80 : BabyRay\_33
- Track 81 : MA5\_33
- Track 82 : Fred313\_33, Scout\_33
- Track 83 : GingkoMaracino\_36, Snickers\_36, Fernando\_36, Taurus\_36, JenCasNa\_36
- Track 84 : Jobu08\_35, SoilDragon\_35
- Track 85 : JF2\_33, MK4\_33, JF4\_33
- Track 86 : JeppNRM\_36, ACFishhook\_35
- Track 87 : Pawn\_36
- Track 88 : Giroux\_33
- Track 89 : HaveUMetTed\_36
- Track 90 : Isca\_33
- Track 91 : Rockstar\_33
- Track 92 : TNguyen7\_33
- Track 93 : Zetzy\_35
- Track 94 : Ollie\_36
- Track 95 : OlanP\_35
- Track 96 : Phantastic\_33
- Track 97 : B1\_31
- Track 98 : Melvin\_33, TroyPia\_33, Commander\_33, BellusTerra\_33
- Track 99 : Abdiel\_32
- Track 100 : SheldonCooper\_34, Cerulean\_34, Obama12\_34
- Track 101 : TinaFeyge\_33
- Track 102 : Maxo\_33, Eurydice\_33, Eagle\_32, Ohfah\_33, Sparxx\_33, Nebs\_33, Polymorphads\_33
- Track 103 : Kamy\_33, LeoAvram\_33
- Track 104 : Phelipe\_33
- Track 105 : Morrow\_33
- Track 106 : ChampagnePapi\_34, LHTSCC\_34
- Track 107 : BangNhom\_33
- Track 108 : Medusa\_33
- Track 109 : Yecey3\_35
- Track 110 : Phrappuccino\_38, Settecandela\_38
- Track 111 : Mao1\_43
- Track 112 : Dori\_45, Mask\_46
- Track 113 : Sejanus\_42
- Track 114 : Farewell\_44, Sparky\_45
- Track 115 : Vulpecula\_33, Basilisk\_34, Ruchi\_33
- Track 116 : TaylorSipht\_34
- Track 117 : Jamun\_33
- Track 118 : Galaxy\_33
- Track 119 : Brynnie\_33
- Track 120 : Abidatro\_34
- Track 121 : Eesa\_33
- Track 122 : Chickaboom\_38
- Track 123 : Orcanus\_34
- Track 124 : Melons\_38
- Track 125 : Kepler\_38
- Track 126 : Amelia\_36, Daob\_38
- Track 127 : Lunar\_38
- Track 128 : Cote\_38, Coral\_36, Polka\_36
- Track 129 : Kuleana\_37
- Track 130 : LittleTokyo\_36

- Track 131 : PhluffyCoco\_36
- Track 132 : RedFox\_36, KHumphrey\_35, Juno112\_36
- Track 133 : Renna12\_35
- Track 134 : Leona\_35
- Track 135 : Andrew\_37
- Track 136 : Aikyam\_37, Gorpy\_41, Raphaella\_40, Sakai\_40
- Track 137 : Phrank15\_40
- Track 138 : Sashimi\_39
- Track 139 : YoungHarleezy\_40
- Track 140 : Anekin\_38
- Track 141 : Faja\_39
- Track 142 : Seahorse\_41
- Track 143 : EvePickles\_38
- Track 144 : Auxilium\_38
- Track 145 : Richie\_40
- Track 146 : Raqqa\_32
- Track 147 : Isolde\_41
- Track 148 : BenchScraper\_39
- Track 149 : Tiff81\_37
- Track 150 : CookieBear\_41
- Track 151 : AbbyDaisy\_36
- Track 152 : BillyTP\_42
- Track 153 : RadFad\_40, Hillester\_40
- Track 154 : Persistence\_35
- Track 155 : MidnightRain\_42
- Track 156 : Globfish\_39
- Track 157 : VWB\_31
- Track 158 : SPB78\_39
- Track 159 : B3\_28, Anatole\_28, B22\_29, E1\_28
- Track 160 : E6\_28
- Track 161 : G4\_29
- Track 162 : Doucette\_31
- Track 163 : PFR2\_28, PFR1\_26
- Track 164 : Toniann\_84, Dusty\_80, Bachita\_85, Abscondus\_83, Norvs\_84, Smoothie\_85, Miskis\_80, Cucurbita\_85, ClubL\_83, PhinkBoden\_83, Lozinak\_84, Engineer\_85
- Track 165 : Aphelion\_83
- Track 166 : Culver\_85
- Track 167 : WilliamBoone\_83
- Track 168 : Goib\_39
- Track 169 : DinoDaryn\_38, TZGordon\_39, Huffy\_38
- Track 170 : Vendetta\_37, Splinter\_37
- Track 171 : Banquo\_37
- Track 172 : TinaLin\_36
- Track 173 : Gspud1\_28
- Track 174 : Schmidt\_32
- Track 175 : Catfish\_37
- Track 176 : Jablanski\_39, WelcomeAyanna\_38, Pytheas\_39
- Track 177 : Cashline\_38
- Track 178 : BeeGee\_42
- Track 179 : LonelyBoi\_38
- Track 180 : Posh\_42
- Track 181 : Wrigley\_43

- Track 182 : Bradissa\_36, EnalisNailo\_35, Lilas\_38
- Track 183 : Confidence\_37
- Track 184 : Floral\_36, Pollux\_38
- Track 185 : EMSquaredA\_37, Marteena\_36
- Track 186 : Angelique\_39
- Track 187 : Ohgeesy\_38, BaxterFox\_37, PantheRoc\_36
- Track 188 : Bunnybear\_33
- Track 189 : Lton\_34
- Track 190 : Pepperoni\_31
- Track 191 : ThankyouJordi\_38
- Track 192 : Nymphadora\_39, Hugley\_36, Eviarto\_39, TimTam\_39
- Track 193 : Bosnia\_39
- Track 194 : Maridalia\_39
- Track 195 : Hyzer\_43
- Track 196 : Herod\_39, BatStarr\_39
- Track 197 : Agueybana\_38
- Track 198 : BoyNamedSue\_39, AlumE\_39
- Track 199 : Madeline\_35
- Track 200 : Kita\_40
- Track 201 : Clap\_37, GemG\_37, Mocha12\_37, Ebert\_39, Lamberg\_33, Haley23\_37
- Track 202 : Attis\_34, EdnaMode\_33, Eudoria\_39, Neobush\_39, Zirinka\_36, Suscepit\_39, Bialota\_37, Zameen\_39, Yeet412\_34, Antonio\_39, Tayonia\_39, Manasvini\_39, SoilAssassin\_34, LordFarquaad\_35, Polly\_36, Trumpet\_39
- Track 203 : Nettuno\_33, Savage\_37, Matteo\_30, Sproutie\_37, TuertoX\_37, Whiteclaw\_37
- Track 204 : JCole\_37
- Track 205 : Bjanes7\_34
- Track 206 : Pickett\_32
- Track 207 : Vasanti\_37
- Track 208 : Sahara\_36
- Track 209 : Gizermo\_37
- Track 210 : Cynthia\_37
- Track 211 : Yeezy\_36
- Track 212 : Adora\_37, Samman98\_40, Dolores\_40, Twinkle\_39, WinkNick\_41, Howe\_40, Shlim410\_38, Beenie\_33, Hortense\_40, Clark\_39, Sekhmet\_40, MichaelScott\_40
- Track 213 : Oregano\_39
- Track 214 : Easley\_35
- Track 215 : Annalisa\_36
- Track 216 : Powerball\_37
- Track 217 : Mcklovin\_36, Thimann\_36, DobbysSock\_31
- Track 218 : Suerte\_34
- Track 219 : PhriskyACE\_36
- Track 220 : Dorito\_34
- Track 221 : Denise\_35
- Track 222 : OneDirection\_30
- Track 223 : Faith5x5\_30
- Track 224 : Moosehead\_35
- Track 225 : Sidious\_37
- Track 226 : RavenCo17\_41
- Track 227 : Yvonnetastic\_95, JonJames\_97
- Track 228 : Cardigan\_99
- Track 229 : PhorbesPhlower\_33

- Track 230 : Lucky10\_35
- Track 231 : Morkie\_33
- Track 232 : Nadeem\_39, Brylie\_39, Mulch\_39, Ayotoya\_39, Hamood\_39, Chop\_39, GrandSlam\_39, Parada\_39, WheatThin\_39
- Track 233 : NancyRae\_39, BetterKatz\_39
- Track 234 : Pimento\_40, DelRio\_40
- Track 235 : Bock\_39
- Track 236 : Francois\_38
- Track 237 : ODay\_52
- Track 238 : Birdsong\_47
- Track 239 : Ecliptus\_49
- Track 240 : Budski\_49
- Track 241 : CheeseTouch\_54
- Track 242 : Periwinkle\_57
- Track 243 : Phistory\_51
- Track 244 : LitninMcQueen\_43, Kamaru\_44
- Track 245 : Leroy\_50
- Track 246 : Phabuloso\_48
- Track 247 : Holliday\_48
- Track 248 : Asapag\_47, Frickyeah\_52
- Track 249 : BENtherdunthat\_50
- Track 250 : Getalong\_53, Kenna\_49, Lutum\_50
- Track 251 : Horus\_48, Crater\_49
- Track 252 : Apricot\_48
- Track 253 : Octobien14\_6
- Track 254 : Kudfre\_6
- Track 255 : Sephiroth\_7
- Track 256 : Syleon\_7
- Track 257 : Neville\_8, Trax\_8
- Track 258 : Rabbitrun\_10
- Track 259 : DumpsterDude\_40
- Track 260 : Ruthy\_39
- Track 261 : Malibo\_40
- Track 262 : ObLaDi\_35
- Track 263 : ModicumRichard\_35, Aleemily\_34, Cafasso\_35
- Track 264 : Morgana\_35
- Track 265 : TouchMeNot\_32, Colleen\_32, Arianna\_32, Poushou\_32
- Track 266 : Bran\_28
- Track 267 : Lederberg\_27, Troy\_27, SamW\_27
- Track 268 : Adelaide\_25
- Track 269 : StAB\_26
- Track 270 : Stiles\_27
- Track 271 : Blarby\_54
- Track 272 : Mattes\_43, SwagPiggett\_45, Saal\_43, Gorge\_43, DRBy19\_43, BobaPhett\_43, Zizzle\_44, Philus\_43, James\_43, Whatsapiecost\_41
- Track 273 : MilleniumForce\_42
- Track 274 : Akhila\_37, MilanaBonita\_37
- Track 275 : DLane\_41
- Track 276 : Ms6\_36
- Track 277 : Mutaforma13\_45
- Track 278 : IrishSherpFalk\_41, WillSterrel\_41
- Track 279 : Cornucopia\_45
- Track 280 : Alexphander\_45

- Track 281 : SuperGrey\_42
- Track 282 : Emma\_44, Moonbeam\_41
- Track 283 : Hegedechwinu\_41, Juice456\_44
- Track 284 : Velveteen\_37, Kingsley\_38, Sarma624\_38, Cerasum\_38, Coco12\_40, BigPhil\_38
- Track 285 : PhesterPhotato\_44, Phalconet\_41
- Track 286 : Kenuha5\_39
- Track 287 : Spartacus\_41
- Track 288 : Hades\_43
- Track 289 : Bipolar\_39
- Track 290 : Estave1\_43, Wee\_46, DeadP\_46, Renaud18\_46, Taj\_45
- Track 291 : Juniper1\_42
- Track 292 : Brocalys\_36, Clifton\_35, LastJedi\_34, Pippy\_38
- Track 293 : Wachhund\_44
- Track 294 : Mova\_42
- Track 295 : Mozy\_51, StAnnes\_42
- Track 296 : KristaRAM\_43
- Track 297 : Flathead\_44
- Track 298 : Mandlovu\_40, Strokeseat\_41, Hlubikazi\_41
- Track 299 : Enby\_42, Lorde\_42, SG4\_40
- Track 300 : Ardmore\_36
- Track 301 : EleanorGeorge\_40, Beakin\_43, LunaBlu\_46, Galactic\_43
- Track 302 : XFactor\_41
- Track 303 : Rialto\_46
- Track 304 : Phanphagia\_37
- Track 305 : Fruitloop\_40
- Track 306 : Rita\_44
- Track 307 : SimranZ1\_43
- Track 308 : ShroomBoi\_42
- Track 309 : Byougenkin\_40
- Track 310 : Shauna1\_38
- Track 311 : Ovechkin\_41
- Track 312 : CaptainTrips\_41, MinionDave\_43
- Track 313 : Filuzino\_41
- Track 314 : Donkeykong\_41
- Track 315 : Batiatus\_43
- Track 316 : Melissauren88\_42
- Track 317 : VRedHorse\_42
- Track 318 : Bobi\_46
- Track 319 : Guppsters\_43
- Track 320 : Minnie\_43
- Track 321 : DosHalletts\_40
- Track 322 : Soul22\_46
- Track 323 : Squirty\_35
- Track 324 : TChen\_44, LunaStella\_42
- Track 325 : GlobiWarming\_38
- Track 326 : Bridgette\_38
- Track 327 : RootBeer\_31
- Track 328 : ChuckDuck\_39
- Track 329 : Constance\_38
- Track 330 : Eileen\_34
- Track 331 : Peas\_35
- Track 332 : Judy\_39



- Track 333 : Shoya\_35
- Track 334 : Sarge\_28
- Track 335 : BrayBeast\_32
- Track 336 : Mufasa8\_27
- Track 337 : Sonali\_29
- Track 338 : TripleJ\_37
- Track 339 : Kukla\_37
- Track 340 : BlackSpider\_36
- Track 341 : Bauer\_39
- Track 342 : Zucker\_31
- Track 343 : Pitbull\_34
- Track 344 : Hum25\_33
- Track 345 : Che9c\_41
- Track 346 : Sbash\_40
- Track 347 : Dallas\_80, NihilNomen\_82, BAKA\_86, Phoebus\_84, Yeet\_76, ThreeRngTarjay\_79, Kalah2\_76, Redno2\_78, Beem\_81, Hughesyang\_81, Optimus\_79, Wanda\_85, Bombitas\_71, Duke13\_85, Minerva\_84, JuicyJay\_79, Bagrid\_82, Halley\_83, EricMillard\_80, DmpstrDiver\_82, Pound\_82, Klein\_81, HokkenD\_73, Schatzie\_77
- Track 348 : KashFlow\_76, Constella\_68, Ejimix\_81, Thibault\_69
- Track 349 : Dove\_69, Odette\_80
- Track 350 : Bobby\_80
- Track 351 : Gonephishing\_76
- Track 352 : Zelink\_79
- Track 353 : LittleE\_82
- Track 354 : Courthouse\_82, MiaZeal\_87, Hannaconda\_75, Omega\_85, Ariel\_86, Lucky2013\_84, Porcelain\_86, Squint\_87
- Track 355 : Superphikiman\_84
- Track 356 : Slimphazie\_41, BarrelRoll\_41, TruffulaTree\_41, Adephegia\_41, ActinUp\_41, Atiba\_41, Tachez\_41, Jayhawk\_42, Padpat\_42, HedwigODU\_41, Rapunzel97\_41, Veliki\_41, Emerson\_42
- Track 357 : Devera\_45, Dole\_44, Illumine\_44, Stinson\_42
- Track 358 : Amelie\_36, Binglebops\_36, Nikao\_39, LilPharaoh\_36, SgtBeansprout\_36, Nutello\_36, Enkosi\_39
- Track 359 : AlishaPH\_41, Beezoo\_43, Tiri\_42, Pokerus\_40, Geraldini\_43, Apocalypse\_44
- Track 360 : Asayake\_41, BEEST\_41, Hyperbowlee\_41, Durfee\_41, Padfoot\_41, Blizzard\_41, ShiaSurprise\_42, CaseJules\_42, Boiiii\_41, Piatt\_41
- Track 361 : KiSi\_45
- Track 362 : JAWS\_41
- Track 363 : CrimD\_41, Megsy\_42
- Track 364 : CREW\_41, Topper\_41, Dalmuri\_41, Rosmarinus\_41, Belladonna\_41, Homura\_41, Inky\_41, Lunahalos\_41, Jeckyll\_41, Peel\_41, BGIluviae\_41, Jarvi\_41, Twitch\_41
- Track 365 : LindNT\_41, TreyKay\_42, Prithvi\_42
- Track 366 : Ageofdapage\_43, LaterM\_42, Murucutumbu\_42
- Track 367 : Chris\_43
- Track 368 : Adonis\_41, Anaya\_43
- Track 369 : Mynx\_42, MeaningOfLife\_42, Zavala\_42
- Track 370 : Nibb\_43
- Track 371 : Oscar\_45, Scarlett\_45
- Track 372 : Guanica15\_44, Yunkel11\_44
- Track 373 : Spock\_41

- Track 374 : Capricorn\_41
- Track 375 : CheetoDust\_40, BaghaKamala\_40
- Track 376 : MarkPheW\_44
- Track 377 : Sulley\_41, Deby\_41
- Track 378 : Bella96\_42
- Track 379 : DrHayes\_42, TiniBug\_42, SamuelLPlaQson\_42, Urkel\_42
- Track 380 : Ramen\_41
- Track 381 : Validus\_45
- Track 382 : Joy99\_41
- Track 383 : QuincyRose\_40, Ganymede\_42
- Track 384 : Efra2\_44
- Track 385 : Niklas\_43
- Track 386 : LeMond\_45
- Track 387 : Mdavu\_37
- Track 388 : Angelica\_41
- Track 389 : Shaobing\_43
- Track 390 : YoureAdopted\_40
- Track 391 : TaiwanKao\_43
- Track 392 : Peanam\_43
- Track 393 : Strobilo\_43
- Track 394 : BoostSeason\_44, Findley\_43, Milly\_43, ZoeJ\_43
- Track 395 : DismalStressor\_43, Marcoliusprime\_43, DismalFunk\_43
- Track 396 : Mufasa\_44
- Track 397 : Marshawn\_44
- Track 398 : TClif\_46
- Track 399 : Tortellini\_32
- Track 400 : Xavia\_34
- Track 401 : ThulaThula\_35
- Track 402 : Ein37\_29, Amymech\_29, Webster2\_29, Giles\_29, LilHazelNut\_29, Kinbote\_29, Hadrien\_29, Evanesce\_29, HH92\_29, Wishmaker\_29, Dewey\_29, Luna22\_29, Luke\_29, Hail\_29, Ubuntu\_29, DeepSoil15\_29, Forge\_29
- Track 403 : Gancho\_28
- Track 404 : Gravaillia\_29
- Track 405 : Amochick\_29, Daegal\_30
- Track 406 : OBUpride\_29
- Track 407 : MrSmee\_34
- Track 408 : Khuang\_45
- Track 409 : Gaia\_52, Nebkiss\_56
- Track 410 : TPA4\_37
- Track 411 : REQ3\_01
- Track 412 : ArV2\_29
- Track 413 : Sleepyhead\_38
- Track 414 : MooMoo\_41
- Track 415 : Juicebox\_26
- Track 416 : Success\_11
- Track 417 : GMA4\_29
- Track 418 : Mbo4\_31
- Track 419 : Chymera\_32
- Track 420 : OnionKnight\_30
- Track 421 : Spartoi\_37
- Track 422 : TurkishDelight\_52
- Track 423 : Finkle\_45
- Track 424 : GMA1\_30

- Track 425 : LilSpotty\_38
- Track 426 : REQ2\_38
- Track 427 : Footloose\_31
- Track 428 : VanLee\_32

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

The start number called the most often in the published annotations is 157, it was called in 270 of the 716 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbyDaisy\_36, ActinUp\_41, Adephagia\_41, Adonis\_41, Adora\_37, Ageofdapage\_43, Aikyam\_37, Akhila\_37, Alexphander\_45, AlishaPH\_41, Amelie\_36, Anaya\_43, Angelica\_41, Annalisa\_36, Apocalypse\_44, Apricot\_48, ArV2\_29, Ardmore\_36, Asapag\_47, Asayake\_41, Atiba\_41, Auxilium\_38, BEEST\_41, BENtherdunthat\_50, BGlluviae\_41, BaghaKamala\_40, BarrelRoll\_41, Batiatus\_43, Bauer\_39, Beakin\_43, BeeGee\_42, Beenie\_33, Beezoo\_43, Bella96\_42, Belladonna\_41, BenchScraper\_39, BigPhil\_38, Biglebops\_36, BillyTP\_42, Bipolar\_39, Birdsong\_47, BlackSpider\_36, Blarby\_54, Blizzard\_41, BobaPhett\_43, Bobi\_46, Boiiii\_41, BoostSeason\_44, BrayBeast\_32, Bridgette\_38, Brocalys\_36, Budski\_49, Byougenkin\_40, CREW\_41, Capricorn\_41, CaptainTrips\_41, CaseJules\_42, Cashline\_38, Cerasum\_38, CheeseTouch\_54, CheetoDust\_40, Chris\_43, ChuckDuck\_39, Clark\_39, Clifton\_35, Coco12\_40, Constance\_38, CookieBear\_41, Cornucopia\_45, Crater\_49, CrimD\_41, DLane\_41, DRBy19\_43, Dalmuri\_41, DeadP\_46, Deby\_41, Denise\_35, Devera\_45, DismalFunk\_43, DismalStressor\_43, DobbysSock\_31, Dole\_44, Dolores\_40, Donkeykong\_41, Dorito\_34, DosHalletts\_40, DrHayes\_42, Durfee\_41, EMsquaredA\_37, Ecliptus\_49, Efra2\_44, Eileen\_34, EleanorGeorge\_40, Emerson\_42, Emma\_44, Enby\_42, Enkosi\_39, Estave1\_43, EvePickles\_38, Faja\_39, Filuzino\_41, Findley\_43, Flathead\_44, Floral\_36, Footloose\_31, Frickyeah\_52, Fruitloop\_40, GMA1\_30, Galactic\_43, Ganymede\_42, Geraldini\_43, Getalong\_53, Globfish\_39, GlobiWarming\_38, Gorge\_43, Gorpy\_41, Guanica15\_44, Guppsters\_43, Hades\_43, HedwigODU\_41, Hegedechwinu\_41, Hillester\_40, Hlubikazi\_41, Holliday\_48, Homura\_41, Hortense\_40, Horus\_48, Howe\_40, Hyperbowlee\_41, Illumine\_44, Inky\_41, IrishSherpFalk\_41, Isolde\_41, JAWS\_41, James\_43, Jarvi\_41, Jayhawk\_42, Jeckyll\_41, Joy99\_41, Judy\_39, Juice456\_44, Juniper1\_42, Kamaru\_44, Kenna\_49, Kenuha5\_39, KiSi\_45, Kingsley\_38, KristaRAM\_43, LastJedi\_34, LaterM\_42, LeMond\_45, Leroy\_50, LilPharaoh\_36, LilSpotty\_38, LindNT\_41, LitninMcQueen\_43, Lorde\_42, Lton\_34, Lucky10\_35, LunaBlu\_46, LunaStella\_42, Lunahalos\_41, Lutum\_50, Mandlovu\_40, Marcoliusprime\_43, MarkPhew\_44, Marshawn\_44, Marteena\_36, Mattes\_43, Mcklovin\_36, MeaningOfLife\_42, Megsy\_42, Melissauren88\_42, MichaelScott\_40, MidnightRain\_42, MilanaBonita\_37, MilleniumForce\_42, Milly\_43, MinionDave\_43, Minnie\_43, MooMoo\_41, Moonbeam\_41, Mova\_42, Mozy\_51, Ms6\_36, Mufasa8\_27, Mufasa\_44, Murucutumbu\_42, Mutaforma13\_45, Mynx\_42, Nibb\_43, Nikao\_39, Niklas\_43, Nutello\_36, ODay\_52, Oregano\_39, Oscar\_45, Ovechkin\_41, Padfoot\_41, Padpat\_42, Peanam\_43, Peas\_35, Peel\_41, Periwinkle\_57, Persistence\_35, Phabuloso\_48, Phalconet\_41, Phanphagia\_37, PhesterPhotato\_44, Philus\_43, Phistory\_51, Phrank15\_40, Phrappuccino\_38, Piatt\_41, Pippy\_38, Pokerus\_40, Pollux\_38, Prithvi\_42, QuincyRose\_40, RadFad\_40, Ramen\_41, Raphaella\_40,

Rapunzel97\_41, RavenCo17\_41, Renaud18\_46, Rialto\_46, Richie\_40, Rita\_44, RootBeer\_31, Rosmarinus\_41, SG4\_40, Saal\_43, Sakai\_40, Samman98\_40, SamuelLPlaqson\_42, Sarge\_28, Sarma624\_38, Sashimi\_39, Scarlett\_45, Seahorse\_41, Sekhmet\_40, Settecandela\_38, SgtBeansprout\_36, Shaobing\_43, Shauna1\_38, ShiaSurprise\_42, Shlim410\_38, Shoya\_35, ShroomBoi\_42, SimranZ1\_43, Slimphazie\_41, Sonali\_29, Soul22\_46, Spartacus\_41, Spock\_41, Squirty\_35, StAnnes\_42, Stinson\_42, Strobilo\_43, Strokeseat\_41, Sulley\_41, SuperGrey\_42, SwagPiggett\_45, TChen\_44, TClif\_46, Tachez\_41, TaiwanKao\_43, Taj\_45, Thimann\_36, Tiff81\_37, TiniBug\_42, Tiri\_42, Topper\_41, TreyKay\_42, TruffulaTree\_41, Twinkle\_39, Twitch\_41, Urkel\_42, VRedHorse\_42, Validus\_45, Veliki\_41, Velveteen\_37, Wachhund\_44, Wee\_46, Whatsapiecost\_41, WillSterrel\_41, WinkNick\_41, XFactor\_41, YoungHarleezy\_40, YoureAdopted\_40, Yunkel11\_44, Zavala\_42, Zizzle\_44, ZoeJ\_43, Zucker\_31,

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

- Anekin\_38, Mdavu\_37, Raqqa\_32, Spartoi\_37,

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

- ACFishhook\_35, AN3\_33, AN9\_36, ANI8\_36, AbbyPaige\_35, Abdiel\_32, Abidatro\_34, Abscondus\_83, Acolyte\_34, Adelaide\_25, Adzzy\_35, Agape74\_35, Aglet\_36, Agueybana\_38, Aleemily\_34, AlumE\_39, Amelia\_36, Amochick\_29, Amymech\_29, Anatole\_28, Andrew\_37, Angelique\_39, Anselm\_35, Antonio\_39, Anubis\_38, Aphelion\_83, Arianna\_32, Ariel\_86, Attis\_34, AugsMagnumOpus\_38, Ayotoya\_39, B1\_31, B22\_29, B3\_28, BAKA\_86, BabyRay\_33, Bachita\_85, Bactobuster\_35, Baehexic\_34, Bagrid\_82, BangNhom\_33, Banquo\_37, Basilisk\_34, BatStarr\_39, BaxterFox\_37, Beauxregard13\_36, Beem\_81, BellusTerra\_33, BetterKatz\_39, Bialota\_37, BiancaTri92\_35, Bjaner7\_34, BlueBird\_34, Bobby\_80, Bock\_39, Bombitas\_71, Bosnia\_39, BoyNamedSue\_39, Bradissa\_36, Bran\_28, BreSam8\_36, Brylie\_39, Brynnie\_33, Bugatti\_33, Buggy\_36, Bunnybear\_33, C3\_31, Cafasso\_35, Caraxes\_33, Cardigan\_99, Catfish\_37, Centaur\_35, Cerulean\_34, ChampagnePapi\_34, Che12\_36, Che9c\_41, Chickaboom\_38, ChipMunk\_36, Chop\_39, Chymera\_32, Clap\_37, ClubL\_83, Colbster\_36, Colin\_37, Colleen\_32, Commander\_33, Confidence\_37, Constella\_68, Coral\_36, Cote\_38, Courthouse\_82, Crucio\_34, Cucurbita\_85, Cullens\_36, Culver\_85, Cynthia\_37, D29\_33, D32\_37, DBQu4n\_37, DaHudson\_36, Daegal\_30, Dallas\_80, Dalmatian\_35, Daob\_38, DeepSoil15\_29, DelRio\_40, Dewey\_29, Dieselweasel\_36, Dignity\_35, DinoDaryn\_38, DmpstrDiver\_82, Dori\_45, Doucette\_31, Dove\_69, Drake55\_36, DudeLittle\_33, Duke13\_85, DumpsterDude\_40, Duplo\_37, Dusty\_80, E1\_28, E6\_28, Eagle\_32, Easley\_35, Ebert\_39, EdnaMode\_33, Eesa\_33, Ein37\_29, Ejimix\_81, EnalisNailo\_35, Engineer\_85, EpicPhail\_36, Equemioh13\_35, EricMillard\_80, Eudoria\_39, Eurydice\_33, Evanesce\_29, Eviarto\_39, EvilGenius\_36, Faith5x5\_30, Fameo\_34, Farber\_36, Farewell\_44, Fernando\_36, Finkle\_45, FiringLine\_34, Flare16\_34, Forge\_29, Francois\_38, Fred313\_33, G4\_29, GMA4\_29, Gaia\_52, Galaxy\_33, Gancho\_28, GaugeLDP\_35, GemG\_37, Gemma\_35, Georgie2\_35, Giles\_29, GingkoMaracino\_36, Giroux\_33, Gizermo\_37, Goib\_39, Gonephishing\_76, GrandSlam\_39, Gravallia\_29, Grif\_36, Groupthink\_36, Grub\_36, Grum1\_36, Gspu1\_28, GtownJaz\_36, HH92\_29, Hadrien\_29, Hail\_29, Haley23\_37, Halley\_83, Hamood\_39, Hannaconda\_75, HarryHoudini\_36, HaveUMetTed\_36, Heathen\_33, Heffalump\_35, HelDan\_33, Heliosoles\_35, Hercules11\_36, Herod\_39, HokkenD\_73, Huffy\_38, Hughesyang\_81, Hugley\_36, Hum25\_33, Hyzer\_43, Idleandcovert\_33, IronMan\_36, Isca\_33, Iwokeuplikedis\_34, JCole\_37, JF2\_33, JF4\_33, JHC117\_36, Jaan\_37, Jablanski\_39, Jamun\_33, JenCasNa\_36, JeppNRM\_36, Jerm\_35, Jobu08\_35, JonJames\_97, JoshKayV\_35, Journey13\_31, Jsquared\_34,

Juicebox\_26, JuicyJay\_79, Juno112\_36, KHumphrey\_35, Kalah2\_76, Kalb97\_36, Kalnoky\_36, Kalpine\_35, Kampy\_33, KashFlow\_76, Kepler\_38, Kerberos\_37, Khuang\_45, Kimona\_30, Kinbote\_29, KingCyrus\_36, Kita\_40, Klein\_81, Koduck\_33, Kudrefre\_6, Kukla\_37, Kuleana\_37, L5\_33, LBerry\_36, LHTSCC\_34, Lamberg\_33, Landor\_35, Larenn\_35, Lederberg\_27, LeoAvram\_33, Leogania\_35, Leona\_35, Leviathan\_35, LilHazelNut\_29, LilTurb\_34, Lilas\_38, Lilith\_36, LittleE\_82, LittleTokyo\_36, LonelyBoi\_38, LordFarquaad\_35, Lozinak\_84, Lucky2013\_84, LugYA\_38, Luke\_29, Luna22\_29, Lunar\_38, MA5\_33, MK4\_33, MadMarie\_36, Madeline\_35, Mainiac\_36, Malec\_36, Malibo\_40, Malinsilva\_38, Manasvini\_39, Manu\_36, Mao1\_43, MarQuardt\_36, Maridalia\_39, Marie\_36, Marius\_36, Mask\_46, Matteo\_30, Maxo\_33, Mbo4\_31, Medusa\_33, Melons\_38, Melvin\_33, MiaZeal\_87, Microwolf\_36, MiculUcigas\_34, Minerva\_84, Miskis\_80, MissWhite\_33, Mocha12\_37, ModicumRichard\_35, MoneyMay\_36, Moosehead\_35, Morgana\_35, Morkie\_33, Morrow\_33, MrSmee\_34, MuchMore\_38, Mulch\_39, NaSiaTalie\_34, Nadeem\_39, Naji\_37, NancyRae\_39, Nebkiss\_56, Nebs\_33, Neobush\_39, Nettuno\_33, Neville\_8, NicoleTera\_37, NihilNomen\_82, Norvs\_84, NothingSpecial\_35, Nymphadora\_39, OBUpride\_29, ObLaDi\_35, Obama12\_34, Octobien14\_6, Odette\_80, Odin\_33, Ohfah\_33, Ohgeesy\_38, OlanP\_35, Ollie\_36, Omega\_85, OneDirection\_30, OnionKnight\_30, Optimus\_79, Orcanus\_34, P28Green\_36, PFR1\_26, PFR2\_28, PGHhamlin\_38, PantheRoc\_36, Parada\_39, Pawn\_36, Pembroke\_36, Penny1\_36, Pepperoni\_31, Ph8s\_35, Phaded\_37, Phantastic\_33, Pharaoh\_32, Phelipe\_33, PhinkBoden\_83, PhishRPhriends\_34, PhluffyCoco\_36, Phoebe\_36, Phoebus\_84, PhorbesPhlower\_33, Phranny\_36, PhriskyACE\_36, Pickett\_32, Pimento\_40, Piro94\_34, Pistachio\_34, Pitbull\_34, Polka\_36, Polly\_36, Polymorphads\_33, Pomar16\_37, Porcelain\_86, Posh\_42, PotatoSplit\_37, Pound\_82, Poushou\_32, Power\_33, Powerball\_37, Pukovnik\_35, Puppy\_34, PurpleHaze\_35, Pytheas\_39, QueenB2\_34, QueenBeesly\_34, REQ2\_38, REQ3\_01, Rabbitrun\_10, Reba\_36, RedFox\_36, Redno2\_78, Renna12\_35, Retro23\_35, Rockstar\_33, Ruchi\_33, Ruthy\_39, SPB78\_39, Sabia\_36, Sabinator\_36, Sahara\_36, SamW\_27, SaturnRing\_33, Savage\_37, Sbash\_40, Schatzie\_77, Schmidt\_32, Scout\_33, Sejanus\_42, SemperFi\_35, Sephiroth\_7, Serenity\_34, SheldonCooper\_34, Sidious\_37, Sleepyhead\_38, Smeagan\_36, Smoothie\_85, SnapTap\_34, Snickers\_36, SoYo\_36, SoilAssassin\_34, SoilDragon\_35, Sparky\_45, Sparxx\_33, Splinter\_37, Sproutie\_37, Squint\_87, StAB\_26, Stagni\_36, StarStuff\_37, StepMih\_36, Stiles\_27, Success\_11, Suerte\_34, Superchunk\_33, Superphikiman\_84, Suscepit\_39, SweetiePie\_34, SwirlSquare\_35, Syleon\_7, TNguyen7\_33, TPA4\_37, TZGordon\_39, TarsusIV\_33, Taurus\_36, TaylorSipht\_34, Tayonia\_39, ThankyouJordi\_38, Thibault\_69, ThreeRngTarjay\_79, ThulaThula\_35, Tiffany\_36, TimTam\_39, TinaFeyge\_33, TinaLin\_36, TipsytheTRex\_33, Tomathan\_37, Toniann\_84, Tortellini\_32, TouchMeNot\_32, Trax\_8, TripleJ\_37, Trixie\_35, Trooper\_35, TroyPia\_33, Troy\_27, Trumpet\_39, TuertoX\_37, Turbido\_34, TurkishDelight\_52, Ubuntu\_29, Updawg\_35, VA6\_33, VC3\_36, VWB\_31, VanLee\_32, Vasanti\_37, Vendetta\_37, Vix\_36, Vulpecula\_33, Wanda\_85, Watson\_36, Webster2\_29, WeiHuaDA\_38, WelcomeAyanna\_38, Whabigail7\_34, WheatThin\_39, Whiteclaw\_37, WideWale\_35, WilliamBoone\_83, Wishmaker\_29, Wooldri\_38, Wrigley\_43, Xavia\_34, XianYue\_35, Yecey3\_35, Yeet412\_34, Yeet\_76, Yeezy\_36, Yvonnestic\_95, Zameen\_39, Zelink\_79, Zetzy\_35, Zimmer\_35, Zirinka\_36,

### Summary by start number:

Start 30:

- Found in 8 of 790 ( 1.0% ) of genes in pham

- Manual Annotations of this start: 1 of 716
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Mdavu\_37 (K1),

Start 34:

- Found in 1 of 790 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TurkishDelight\_52 (singleton),

Start 66:

- Found in 3 of 790 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OnionKnight\_30 (singleton), SPB78\_39 (BA), VWB\_31 (BA),

Start 82:

- Found in 16 of 790 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Gizermo\_37 (CZ2), Sahara\_36 (CZ2),

Start 85:

- Found in 54 of 790 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 6 of 716
- Called 11.1% of time when present
- Phage (with cluster) where this start called: BatStarr\_39 (CZ1), Bjaner7\_34 (CZ2), Cynthia\_37 (CZ2), Herod\_39 (CZ1), Kita\_40 (CZ1), ThankyouJordi\_38 (CZ1),

Start 87:

- Found in 4 of 790 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 4 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arianna\_32 (EO), Colleen\_32 (EO), Poushou\_32 (EO), TouchMeNot\_32 (EO),

Start 88:

- Found in 6 of 790 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 6 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anatole\_28 (BV), B22\_29 (BW), B3\_28 (BV), E1\_28 (BV), E6\_28 (BW), G4\_29 (BW),

Start 91:

- Found in 2 of 790 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Doucette\_31 (BW),

Start 98:

- Found in 31 of 790 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 1 of 716

- Called 3.2% of time when present
- Phage (with cluster) where this start called: GaugeLDP\_35 (A2),

Start 99:

- Found in 13 of 790 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 15.4% of time when present
- Phage (with cluster) where this start called: Gonephishing\_76 (J), Superphikiman\_84 (J),

Start 105:

- Found in 12 of 790 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Faith5x5\_30 (CZ6),

Start 107:

- Found in 35 of 790 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 13 of 716
- Called 37.1% of time when present
- Phage (with cluster) where this start called: Abdiel\_32 (A4), Ariel\_86 (J), Courthouse\_82 (J), Gaia\_52 (X), Hannaconda\_75 (J), Lucky2013\_84 (J), MiaZeal\_87 (J), Nebkiss\_56 (X), Omega\_85 (J), Phelipe\_33 (A4), Porcelain\_86 (J), Squint\_87 (J), TinaFeyge\_33 (A4),

Start 108:

- Found in 24 of 790 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 4.2% of time when present
- Phage (with cluster) where this start called: B1\_31 (A3),

Start 113:

- Found in 16 of 790 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 7 of 716
- Called 43.8% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_35 (A2), Agape74\_35 (A2), ChipMunk\_36 (A2), Larenn\_35 (A2), Leviathan\_35 (A2), LilTurb\_34 (A2), Whabigail7\_34 (A2),

Start 115:

- Found in 4 of 790 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 716
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Lederberg\_27 (EP), SamW\_27 (EP), Troy\_27 (EP),

Start 118:

- Found in 6 of 790 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Khuang\_45 (UNK), MrSmee\_34 (UNK), Pitbull\_34 (FQ),

Start 119:

- Found in 1 of 790 ( 0.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4\_29 (singleton),

Start 120:

- Found in 11 of 790 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 9 of 716
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Aleemily\_34 (DZ), Baehexic\_34 (A2), Cafasso\_35 (DZ), Centaur\_35 (A2), Equemioh13\_35 (A2), ModicumRichard\_35 (DZ), Morgana\_35 (DZ), ObLaDi\_35 (DZ), Updawg\_35 (A2), WideWale\_35 (A2),

Start 121:

- Found in 12 of 790 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Phantastic\_33 (A3), TNguyen7\_33 (A3),

Start 122:

- Found in 62 of 790 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 50 of 716
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Abidatro\_34 (AS1), Amelia\_36 (AS2), Andrew\_37 (AS3), Ayotoya\_39 (DI), Basilisk\_34 (AS1), BaxterFox\_37 (CZ3), BetterKatz\_39 (DI), Bock\_39 (DI), Brylie\_39 (DI), Brynnie\_33 (AS1), Chop\_39 (DI), Coral\_36 (AS2), Cote\_38 (AS2), Daob\_38 (AS2), DelRio\_40 (DI), DumpsterDude\_40 (DW), Easley\_35 (CZ4), Eesa\_33 (AS1), Francois\_38 (DI), Galaxy\_33 (AS1), GrandSlam\_39 (DI), Hamood\_39 (DI), JCole\_37 (CZ2), Jamun\_33 (AS1), Juno112\_36 (AS3), KHumphrey\_35 (AS3), Kepler\_38 (AS2), Kuleana\_37 (AS2), Leona\_35 (AS3), LittleTokyo\_36 (AS2), Lunar\_38 (AS2), Madeline\_35 (CZ1), Malibo\_40 (DW), Mbo4\_31 (singleton), Melons\_38 (AS2), Mulch\_39 (DI), Nadeem\_39 (DI), NancyRae\_39 (DI), Ohgeesy\_38 (CZ), Orcanus\_34 (AS1), PantheRoc\_36 (CZ3), Parada\_39 (DI), PhluffyCoco\_36 (AS3), PhriskyACE\_36 (CZ4), Pimento\_40 (DI), Polka\_36 (AS2), Powerball\_37 (CZ4), REQ3\_01 (singleton), RedFox\_36 (AS3), Renna12\_35 (AS3), Ruchi\_33 (AS1), Ruthy\_39 (DW), Sidious\_37 (CZ7), Suerte\_34 (CZ4), TPA4\_37 (singleton), TaylorSipht\_34 (AS1), VanLee\_32 (singleton), Vasanti\_37 (CZ2), Vulpecula\_33 (AS1), WheatThin\_39 (DI), Yeezy\_36 (CZ3),

Start 123:

- Found in 11 of 790 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 8 of 716
- Called 72.7% of time when present
- Phage (with cluster) where this start called: BiancaTri92\_35 (A2), DudeLittle\_33 (A2), FiringLine\_34 (A2), Georgie2\_35 (A2), JoshKayV\_35 (A2), Power\_33 (A2), QueenBeesly\_34 (A2), SemperFi\_35 (A2),

Start 124:

- Found in 49 of 790 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 4.1% of time when present



- Phage (with cluster) where this start called: Gancho\_28 (Q), OBUpride\_29 (Q),

#### Start 127:

- Found in 16 of 790 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 7 of 716
- Called 43.8% of time when present
- Phage (with cluster) where this start called: Dignity\_35 (A2), IronMan\_36 (A2), Jerm\_35 (A2), KingCyrus\_36 (A2), Pharaoh\_32 (A12), Turbido\_34 (A2), Yecey3\_35 (A9),

#### Start 128:

- Found in 36 of 790 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 28 of 716
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BAKA\_86 (J), Bagrid\_82 (J), Beem\_81 (J), Bobby\_80 (J), Bombitas\_71 (J), Constella\_68 (J), Dallas\_80 (J), DmpstrDiver\_82 (J), Duke13\_85 (J), Ejimix\_81 (J), EricMillard\_80 (J), Halley\_83 (J), HokkenD\_73 (J), Hughesyang\_81 (J), JuicyJay\_79 (J), Kalah2\_76 (J), KashFlow\_76 (J), Klein\_81 (J), Landor\_35 (A2), Minerva\_84 (J), NihilNomen\_82 (J), Optimus\_79 (J), Phoebus\_84 (J), Pound\_82 (J), Redno2\_78 (J), Schatzie\_77 (J), Thibault\_69 (J), ThreeRngTarjay\_79 (J), Wanda\_85 (J), Yeet\_76 (J),

#### Start 129:

- Found in 5 of 790 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 716
- Called 60.0% of time when present
- Phage (with cluster) where this start called: BabyRay\_33 (A3), Jaan\_37 (A2), Pukovnik\_35 (A2),

#### Start 131:

- Found in 2 of 790 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tortellini\_32 (P2), Xavia\_34 (P3),

#### Start 134:

- Found in 3 of 790 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Anekin\_38 (AY), Iwokeuplikedis\_34 (A2),

#### Start 137:

- Found in 8 of 790 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 7 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9c\_41 (I2), Dori\_45 (AD), Mao1\_43 (AD), Mask\_46 (AD), REQ2\_38 (singleton), Sbash\_40 (I2), Sejanus\_42 (AD), ThulaThula\_35 (P5),

#### Start 138:

- Found in 2 of 790 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.

- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hum25\_33 (FQ),

#### Start 139:

- Found in 3 of 790 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Colin\_37 (A2), Kalpine\_35 (A2), Zimmer\_35 (A12),

#### Start 140:

- Found in 203 of 790 ( 25.7% ) of genes in pham
- Manual Annotations of this start: 113 of 716
- Called 57.1% of time when present
- Phage (with cluster) where this start called: ACFishhook\_35 (A3), AN3\_33 (A2), AN9\_36 (A2), ANI8\_36 (A2), Aglet\_36 (A3), Anselm\_35 (A2), Anubis\_38 (A3), AugsMagnumOpus\_38 (A3), BangNhom\_33 (A4), Beauxregard13\_36 (A3), BellusTerra\_33 (A4), BlueBird\_34 (A3), BreSam8\_36 (A3), Bugatti\_33 (A3), Buggy\_36 (A2), Chymera\_32 (singleton), Colbster\_36 (A3), Commander\_33 (A4), Cullens\_36 (A3), D29\_33 (A2), D32\_37 (A2), DBQu4n\_37 (A2), DaHudson\_36 (A3), Dalmatian\_35 (A2), Dieselweasel\_36 (A3), Duplo\_37 (A2), Eagle\_32 (A4), EpicPhail\_36 (A3), Eurydice\_33 (A4), Fred313\_33 (A3), Gemma\_35 (A3), Grif\_36 (A3), Groupthink\_36 (A3), Grub\_36 (A3), Grum1\_36 (A3), GtownJaz\_36 (A3), HaveUMetTed\_36 (A3), Heathen\_33 (A3), HelDan\_33 (A3), Heliosoles\_35 (A3), Hercules11\_36 (A3), Idleandcovert\_33 (A3), Isca\_33 (A3), JF2\_33 (A3), JF4\_33 (A3), JHC117\_36 (A3), JeppNRM\_36 (A3), Jobu08\_35 (A3), Journey13\_31 (A2), Jsquared\_34 (A2), Kalb97\_36 (A3), Kalnoky\_36 (A3), Kimona\_30 (A19), LBerry\_36 (A3), Leogania\_35 (A2), LugYA\_38 (A3), MA5\_33 (A3), MK4\_33 (A3), MadMarie\_36 (A3), Mainiac\_36 (A3), Manu\_36 (A3), MarQuardt\_36 (A3), Marie\_36 (A3), Marius\_36 (A3), Maxo\_33 (A4), Melvin\_33 (A4), MiculUcigas\_34 (A2), MissWhite\_33 (A2), MoneyMay\_36 (A3), Morrow\_33 (A4), MuchMore\_38 (A3), Naji\_37 (A2), Nebs\_33 (A4), NicoleTera\_37 (A2), Ohfah\_33 (A4), OlanP\_35 (A3), P28Green\_36 (A3), PGHhamlin\_38 (A3), Pembroke\_36 (A3), Penny1\_36 (A3), Phaded\_37 (A2), PhishRPhriends\_34 (A3), Phoebe\_36 (A3), Phranny\_36 (A3), Piro94\_34 (A2), Pistachio\_34 (A3), Polymorphads\_33 (A4), PotatoSplit\_37 (A3), Puppy\_34 (A3), PurpleHaze\_35 (A3), QueenB2\_34 (A2), Reba\_36 (A3), Retro23\_35 (A2), Rockstar\_33 (A3), Sabia\_36 (A3), Sabinator\_36 (A3), SaturnRing\_33 (A3), Scout\_33 (A3), Serenity\_34 (A2), Smeagan\_36 (A2), SoYo\_36 (A3), SoilDragon\_35 (A3), Sparxx\_33 (A4), Stagni\_36 (A3), StepMih\_36 (A3), TarsusIV\_33 (A2), Tiffany\_36 (A3), TopsytheTRex\_33 (A2), TroyPia\_33 (A4), VA6\_33 (A2), VC3\_36 (A2), Vix\_36 (A3), Watson\_36 (A3), WeiHuaDA\_38 (A2), Wooldri\_38 (A3), Zelink\_79 (J),

#### Start 142:

- Found in 3 of 790 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 33.3% of time when present
- Phage (with cluster) where this start called: XianYue\_35 (A2),

#### Start 144:

- Found in 10 of 790 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 6 of 716
- Called 90.0% of time when present

- Phage (with cluster) where this start called: Adzzy\_35 (A2), Caraxes\_33 (A2), Che12\_36 (A2), HarryHoudini\_36 (A2), Koduck\_33 (A2), L5\_33 (A2), Odin\_33 (A2), Superchunk\_33 (A2), SwirlSquare\_35 (A2),

#### Start 148:

- Found in 1 of 790 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Malec\_36 (A2),

#### Start 150:

- Found in 2 of 790 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Moosehead\_35 (CZ6),

#### Start 152:

- Found in 23 of 790 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 20 of 716
- Called 87.0% of time when present
- Phage (with cluster) where this start called: Amochick\_29 (Q), Amymech\_29 (Q), Daegal\_30 (Q), DeepSoil15\_29 (Q), Dewey\_29 (Q), Ein37\_29 (Q), Evanesce\_29 (Q), Forge\_29 (Q), Giles\_29 (Q), Gravaillia\_29 (Q), HH92\_29 (Q), Hadrien\_29 (Q), Hail\_29 (Q), Kinbote\_29 (Q), LilHazelut\_29 (Q), Luke\_29 (Q), Luna22\_29 (Q), Ubuntu\_29 (Q), Webster2\_29 (Q), Wishmaker\_29 (Q),

#### Start 153:

- Found in 64 of 790 ( 8.1% ) of genes in pham
- Manual Annotations of this start: 52 of 716
- Called 85.9% of time when present
- Phage (with cluster) where this start called: Agueybana\_38 (CZ1), AlumE\_39 (CZ1), Angelique\_39 (CY1), Antonio\_39 (CZ1), Attis\_34 (CZ2), Bialota\_37 (CZ1), Bosnia\_39 (CZ1), BoyNamedSue\_39 (CZ1), Bradissa\_36 (CY1), Bunnybear\_33 (CZ), Clap\_37 (CZ2), Confidence\_37 (CY1), Ebert\_39 (CZ2), EdnaMode\_33 (CZ2), EnalisNailo\_35 (CY1), Eudoria\_39 (CZ1), Eviarto\_39 (CZ1), GemG\_37 (CZ2), Haley23\_37 (CZ2), Hugley\_36 (CZ1), Hyzer\_43 (CZ1), Jablanski\_39 (CY), Lamberg\_33 (CZ2), Lilas\_38 (CY1), LonelyBoi\_38 (CY), LordFarquaad\_35 (CZ2), Manasvini\_39 (CZ1), Maridalia\_39 (CZ1), Matteo\_30 (CZ2), Mocha12\_37 (CZ2), Morkie\_33 (DH), Neobush\_39 (CZ1), Nettuno\_33 (CZ2), Nymphadora\_39 (CZ1), OneDirection\_30 (CZ6), Pepperoni\_31 (CZ), PhorbPhlower\_33 (DH), Pickett\_32 (CZ2), Polly\_36 (CZ1), Posh\_42 (CY), Pytheas\_39 (CY), Savage\_37 (CZ2), SoilAssassin\_34 (CZ2), Sproutie\_37 (CZ2), Suscepit\_39 (CZ1), Tayonia\_39 (CZ1), TimTam\_39 (CZ1), Trumpet\_39 (CZ1), TuertoX\_37 (CZ2), WelcomeAyanna\_38 (CZ1), Whiteclaw\_37 (CZ2), Wrigley\_43 (CY), Yeet412\_34 (CZ2), Zameen\_39 (CZ1), Zirinka\_36 (CZ1),

#### Start 157:

- Found in 299 of 790 ( 37.8% ) of genes in pham
- Manual Annotations of this start: 270 of 716
- Called 98.7% of time when present
- Phage (with cluster) where this start called: AbbyDaisy\_36 (AY), ActinUp\_41 (K1), Adephegia\_41 (K1), Adonis\_41 (K1), Adora\_37 (CZ4), Ageofdapage\_43 (K1), Aikyam\_37 (AY), Akhila\_37 (F1), Alexphander\_45 (F1), AlishaPH\_41 (K1), Amelie\_36 (K1), Anaya\_43 (K1), Angelica\_41 (K1), Annalisa\_36 (CZ4),

Apocalypse\_44 (K1), Apricot\_48 (DN3), ArV2\_29 (singleton), Ardmore\_36 (F1), Asapag\_47 (DN1), Asayake\_41 (K1), Atiba\_41 (K1), Auxilium\_38 (AY), BEEST\_41 (K1), BENTherdunthat\_50 (DN1), BGilluviae\_41 (K1), BaghaKamala\_40 (K1), BarrelRoll\_41 (K1), Batiatus\_43 (F1), Bauer\_39 (FN), Beakin\_43 (F1), BeeGee\_42 (CY), Beenie\_33 (CZ4), Beezoo\_43 (K1), Bella96\_42 (K1), Belladonna\_41 (K1), BenchScraper\_39 (AY), BigPhil\_38 (F1), Biglebops\_36 (K1), BillyTP\_42 (AY), Bipolar\_39 (F1), Birdsong\_47 (DN), BlackSpider\_36 (FN), Blarby\_54 (F), Blizzard\_41 (K1), BobaPhett\_43 (F1), Bobi\_46 (F1), Boiii\_41 (K1), BoostSeason\_44 (K2), BrayBeast\_32 (FB), Bridgette\_38 (FA), Brocalys\_36 (F1), Budski\_49 (DN), Byougenkin\_40 (F1), CREW\_41 (K1), Capricorn\_41 (K1), CaptainTrips\_41 (F1), CaseJules\_42 (K1), Cashline\_38 (CY), Cerasum\_38 (F1), CheeseTouch\_54 (DN1), CheetoDust\_40 (K1), Chris\_43 (K1), ChuckDuck\_39 (FA), Clark\_39 (CZ4), Clifton\_35 (F1), Coco12\_40 (F1), Constance\_38 (FA), CookieBear\_41 (AY), Cornucopia\_45 (F1), Crater\_49 (DN3), CrimD\_41 (K1), DLane\_41 (F1), DRBy19\_43 (F1), Dalmuri\_41 (K1), DeadP\_46 (F1), Deby\_41 (K1), Denise\_35 (CZ5), Devera\_45 (K1), DismalFunk\_43 (K2), DismalStressor\_43 (K2), DobbysSock\_31 (CZ4), Dole\_44 (K1), Dolores\_40 (CZ4), Donkeykong\_41 (F1), Dorito\_34 (CZ4), DosHalletts\_40 (F1), DrHayes\_42 (K1), Durfee\_41 (K1), EMsquaredA\_37 (CY1), Ecliptus\_49 (DN), Efra2\_44 (K1), Eileen\_34 (FA), EleanorGeorge\_40 (F1), Emerson\_42 (K1), Emma\_44 (F1), Enby\_42 (F1), Enkosi\_39 (K1), Estave1\_43 (F1), EvePickles\_38 (AY), Faja\_39 (AY), Filuzino\_41 (F1), Findley\_43 (K2), Flathead\_44 (F1), Floral\_36 (CY1), Footloose\_31 (singleton), Frickyeah\_52 (DN1), Fruitloop\_40 (F1), GMA1\_30 (singleton), Galactic\_43 (F1), Ganymede\_42 (K1), Geraldini\_43 (K1), Getalong\_53 (DN1), Globfish\_39 (AY), GlobiWarming\_38 (FA), Gorge\_43 (F1), Gorpy\_41 (AY), Guanica15\_44 (K1), Guppsters\_43 (F1), Hades\_43 (F1), HedwigODU\_41 (K1), Hegedechwinu\_41 (F1), Hillester\_40 (AY), Hlubikazi\_41 (F1), Holliday\_48 (DN1), Homura\_41 (K1), Hortense\_40 (CZ4), Horus\_48 (DN1), Howe\_40 (CZ4), Hyperbowlee\_41 (K1), Illumine\_44 (K1), Inky\_41 (K1), IrishSherpFalk\_41 (F1), Isolde\_41 (AY), JAWS\_41 (K1), James\_43 (F1), Jarvi\_41 (K1), Jayhawk\_42 (K1), Jeckyll\_41 (K1), Joy99\_41 (K1), Judy\_39 (FA), Juice456\_44 (F1), Juniper1\_42 (F1), Kamaru\_44 (DN1), Kenna\_49 (DN1), Kenuha5\_39 (F1), KiSi\_45 (K1), Kingsley\_38 (F1), KristaRAM\_43 (F1), LastJedi\_34 (F1), LaterM\_42 (K1), LeMond\_45 (K1), Leroy\_50 (DN1), LilPharaoh\_36 (K1), LilSpotty\_38 (singleton), LindNT\_41 (K1), LitninMcQueen\_43 (DN1), Lorde\_42 (F1), Lton\_34 (CZ), Lucky10\_35 (DH), LunaBlu\_46 (F1), LunaStella\_42 (F4), Lunahalos\_41 (K1), Lutum\_50 (DN1), Mandlovu\_40 (F1), Marcoliusprime\_43 (K2), MarkPhew\_44 (K1), Marshawn\_44 (K6), Marteena\_36 (CY1), Mattes\_43 (F1), Mcklovin\_36 (CZ4), MeaningOfLife\_42 (K1), Megsy\_42 (K1), Melissaren88\_42 (F1), MichaelScott\_40 (CZ4), MidnightRain\_42 (AY), MilanaBonita\_37 (F1), MilleniumForce\_42 (F1), Milly\_43 (K2), MinionDave\_43 (F1), Minnie\_43 (F1), MooMoo\_41 (singleton), Moonbeam\_41 (F1), Mova\_42 (F1), Mozy\_51 (F1), Ms6\_36 (F1), Mufasa8\_27 (FG), Mufasa\_44 (K2), Murucutumbu\_42 (K1), Mutaforma13\_45 (F1), Mynx\_42 (K1), Nibb\_43 (K1), Nikao\_39 (K1), Niklas\_43 (K1), Nutello\_36 (K1), ODay\_52 (DN), Oregano\_39 (CZ4), Oscar\_45 (K1), Ovechkin\_41 (F1), Padfoot\_41 (K1), Padpat\_42 (K1), Peanam\_43 (K1), Peas\_35 (FA), Peel\_41 (K1), Periwinkle\_57 (DN1), Persistence\_35 (AY), Phabuloso\_48 (DN1), Phalconet\_41 (F1), Phanphagia\_37 (F1), PhesterPhotato\_44 (F1), Philus\_43 (F1), Phistory\_51 (DN1), Phrank15\_40 (AY), Phrappuccino\_38 (AA), Piatt\_41 (K1), Pippy\_38 (F1), Pokerus\_40 (K1), Pollux\_38 (CY1), Prithvi\_42 (K1), QuincyRose\_40 (K1), RadFad\_40 (AY), Ramen\_41 (K1), Raphaella\_40 (AY), Rapunzel97\_41 (K1), RavenCo17\_41 (CZ8), Renaud18\_46 (F4), Rialto\_46 (F1), Richie\_40 (AY), Rita\_44 (F1), RootBeer\_31 (FA), Rosmarinus\_41 (K1), SG4\_40 (F1), Saal\_43 (F1), Sakai\_40 (AY), Samman98\_40 (CZ4), SamuelLPlaqson\_42 (K1), Sarge\_28 (FB), Sarma624\_38 (F1), Sashimi\_39 (AY), Scarlett\_45 (K1), Seahorse\_41 (AY),

Sekhmet\_40 (CZ4), Settecandela\_38 (AA), SgtBeansprout\_36 (K1), Shaobing\_43 (K1), Shauna1\_38 (F1), ShiaSurprise\_42 (K1), Shlim410\_38 (CZ4), Shoya\_35 (FB), ShroomBoi\_42 (F1), SimranZ1\_43 (F1), Slimphazie\_41 (K1), Sonali\_29 (FG), Soul22\_46 (F2), Spartacus\_41 (F1), Spock\_41 (K1), Squirty\_35 (F3), StAnnes\_42 (F1), Stinson\_42 (K1), Strobilo\_43 (K2), Strokeseat\_41 (F1), Sulley\_41 (K1), SuperGrey\_42 (F1), SwagPigglett\_45 (F1), TChen\_44 (F4), TClif\_46 (K6), Tachez\_41 (K1), TaiwanKao\_43 (K1), Taj\_45 (F1), Thimann\_36 (CZ4), Tiff81\_37 (AY), TiniBug\_42 (K1), Tiri\_42 (K1), Topper\_41 (K1), TreyKay\_42 (K1), TruffulaTree\_41 (K1), Twinkle\_39 (CZ4), Twitch\_41 (K1), Urkel\_42 (K1), VRedHorse\_42 (F1), Validus\_45 (K1), Veliki\_41 (K1), Velveteen\_37 (F1), Wachhund\_44 (F1), Wee\_46 (F1), Whatsapiecost\_41 (F1), WillSterrel\_41 (F1), WinkNick\_41 (CZ4), XFactor\_41 (F1), YoungHarleezy\_40 (AY), YoureAdopted\_40 (K1), Yunkel11\_44 (K1), Zavala\_42 (K1), Zizzle\_44 (F1), ZoeJ\_43 (K2), Zucker\_31 (FN),

#### Start 158:

- Found in 9 of 790 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Farewell\_44 (AF), Sparky\_45 (AF),

#### Start 159:

- Found in 47 of 790 ( 5.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Chickaboom\_38 (AS1),

#### Start 161:

- Found in 45 of 790 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 6.7% of time when present
- Phage (with cluster) where this start called: Dove\_69 (J), LittleE\_82 (J), Odette\_80 (J),

#### Start 162:

- Found in 1 of 790 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Success\_11 (singleton),

#### Start 165:

- Found in 60 of 790 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 10 of 716
- Called 18.3% of time when present
- Phage (with cluster) where this start called: Farber\_36 (A3), Fernando\_36 (A3), GingkoMaracino\_36 (A3), JenCasNa\_36 (A3), Lilith\_36 (A3), Malinsilva\_38 (A3), Microwolf\_36 (A3), Ollie\_36 (A3), Snickers\_36 (A3), Taurus\_36 (A3), Zetzy\_35 (A3),

#### Start 167:

- Found in 2 of 790 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PFR1\_26 (BX), PFR2\_28 (BX),

Start 168:

- Found in 16 of 790 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 12 of 716
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Abscondus\_83 (CQ), Aphelion\_83 (CQ1), Bachita\_85 (CQ1), ClubL\_83 (CQ1), Cucurbita\_85 (CQ1), Culver\_85 (CQ1), Dusty\_80 (CQ), Engineer\_85 (CQ1), Lozinak\_84 (CQ1), Miskis\_80 (CQ), Norvs\_84 (CQ), PhinkBoden\_83 (CQ1), Smoothie\_85 (CQ1), Toniann\_84 (CQ1), WilliamBoone\_83 (CQ1),

Start 170:

- Found in 4 of 790 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 716
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan\_99 (DD), JonJames\_97 (DD), Raqqa\_32 (AY), Yvonnetastic\_95 (DD),

Start 173:

- Found in 63 of 790 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 14 of 716
- Called 23.8% of time when present
- Phage (with cluster) where this start called: Acolyte\_34 (A2), C3\_31 (A2), Crucio\_34 (A2), Drake55\_36 (A2), Fameo\_34 (A2), Flare16\_34 (A2), Kerberos\_37 (A2), Pawn\_36 (A3), Pomar16\_37 (A2), SnapTap\_34 (A2), StarStuff\_37 (A2), SweetiePie\_34 (A2), Tomathan\_37 (A2), Trixie\_35 (A2), Trooper\_35 (A2),

Start 175:

- Found in 6 of 790 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 3 of 716
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Juicebox\_26 (singleton), Sleepyhead\_38 (singleton), StAB\_26 (EP),

Start 176:

- Found in 4 of 790 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 3 of 716
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Adelaide\_25 (EP), Bran\_28 (EP), Stiles\_27 (EP),

Start 178:

- Found in 23 of 790 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 14 of 716
- Called 65.2% of time when present
- Phage (with cluster) where this start called: Banquo\_37 (CU1), Catfish\_37 (CU5), DinoDaryn\_38 (CU1), Finkle\_45 (singleton), Goib\_39 (CU1), Gsput1\_28 (CU2), Huffy\_38 (CU1), Neville\_8 (DU2), Rabbitrun\_10 (DU2), Schmidt\_32 (CU4), Splinter\_37 (CU1), TZGordon\_39 (CU1), TinaLin\_36 (CU1), Trax\_8 (DU2), Vendetta\_37 (CU1),

Start 180:

- Found in 45 of 790 ( 5.7% ) of genes in pham

- Manual Annotations of this start: 8 of 716
- Called 17.8% of time when present
- Phage (with cluster) where this start called: Cerulean\_34 (A4), ChampagnePapi\_34 (A4), Kampy\_33 (A4), LHTSCC\_34 (A4), LeoAvram\_33 (A4), NothingSpecial\_35 (A2), Obama12\_34 (A4), SheldonCooper\_34 (A4),

Start 189:

- Found in 67 of 790 ( 8.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Giroux\_33 (A3),

Start 194:

- Found in 5 of 790 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 4 of 716
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Kudrefre\_6 (DU1), Octobien14\_6 (DU1), Sephiroth\_7 (DU1), Syleon\_7 (DU1),

Start 204:

- Found in 287 of 790 ( 36.3% ) of genes in pham
- Manual Annotations of this start: 6 of 716
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Bactobuster\_35 (A2), EvilGenius\_36 (A2), Heffalump\_35 (A2), Medusa\_33 (A4), NaSiaTalie\_34 (A2), Ph8s\_35 (A2),

Start 217:

- Found in 106 of 790 ( 13.4% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 0.9% of time when present
- Phage (with cluster) where this start called: Spartoi\_37 (singleton),

Start 219:

- Found in 4 of 790 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 716
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kukla\_37 (FJ), TripleJ\_37 (FJ),

### Summary by clusters:

There are 69 clusters represented in this pham: DN, AA, singleton, I2, BA, DH, FQ, CZ2, CZ3, DD, CZ1, CZ6, CZ7, CZ4, CZ5, K2, K1, BW, DZ, K6, CZ8, FG, DW, FJ, AS1, FN, CU5, CU4, CU2, CU1, A12, BX, DU2, A19, A3, A2, DI, A4, P3, A9, DN1, CQ1, P5, AS3, AS2, EO, AD, F, J, DN3, Q, CZ, CY, DU1, AY, X, CQ, UNK, AF, EP, CY1, F1, F2, F3, F4, FA, FB, P2, BV,

Info for manual annotations of cluster A12:

- Start number 127 was manually annotated 1 time for cluster A12.
- Start number 139 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A19:

- Start number 140 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 98 was manually annotated 1 time for cluster A2.
- Start number 113 was manually annotated 7 times for cluster A2.
- Start number 120 was manually annotated 5 times for cluster A2.
- Start number 123 was manually annotated 8 times for cluster A2.
- Start number 127 was manually annotated 5 times for cluster A2.
- Start number 129 was manually annotated 2 times for cluster A2.
- Start number 134 was manually annotated 1 time for cluster A2.
- Start number 139 was manually annotated 1 time for cluster A2.
- Start number 140 was manually annotated 27 times for cluster A2.
- Start number 142 was manually annotated 1 time for cluster A2.
- Start number 144 was manually annotated 6 times for cluster A2.
- Start number 148 was manually annotated 1 time for cluster A2.
- Start number 173 was manually annotated 14 times for cluster A2.
- Start number 180 was manually annotated 1 time for cluster A2.
- Start number 204 was manually annotated 5 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 108 was manually annotated 1 time for cluster A3.
- Start number 121 was manually annotated 2 times for cluster A3.
- Start number 129 was manually annotated 1 time for cluster A3.
- Start number 140 was manually annotated 70 times for cluster A3.
- Start number 165 was manually annotated 10 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 107 was manually annotated 3 times for cluster A4.
- Start number 140 was manually annotated 13 times for cluster A4.
- Start number 180 was manually annotated 7 times for cluster A4.
- Start number 204 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A9:

- Start number 127 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster AA:

- Start number 157 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster AD:

- Start number 137 was manually annotated 4 times for cluster AD.

Info for manual annotations of cluster AF:

- Start number 158 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster AS1:

- Start number 122 was manually annotated 10 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 122 was manually annotated 10 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 122 was manually annotated 4 times for cluster AS3.

Info for manual annotations of cluster AY:

- Start number 157 was manually annotated 13 times for cluster AY.



Info for manual annotations of cluster BV:

- Start number 88 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 88 was manually annotated 3 times for cluster BW.
- Start number 91 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CQ:

- Start number 168 was manually annotated 1 time for cluster CQ.

Info for manual annotations of cluster CQ1:

- Start number 168 was manually annotated 11 times for cluster CQ1.

Info for manual annotations of cluster CU1:

- Start number 178 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU4:

- Start number 178 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 178 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CY:

- Start number 153 was manually annotated 5 times for cluster CY.
- Start number 157 was manually annotated 2 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 153 was manually annotated 5 times for cluster CY1.
- Start number 157 was manually annotated 4 times for cluster CY1.

Info for manual annotations of cluster CZ:

- Start number 122 was manually annotated 1 time for cluster CZ.
- Start number 153 was manually annotated 1 time for cluster CZ.
- Start number 157 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 85 was manually annotated 4 times for cluster CZ1.
- Start number 122 was manually annotated 1 time for cluster CZ1.
- Start number 153 was manually annotated 20 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 82 was manually annotated 2 times for cluster CZ2.
- Start number 85 was manually annotated 2 times for cluster CZ2.
- Start number 122 was manually annotated 1 time for cluster CZ2.
- Start number 153 was manually annotated 18 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 122 was manually annotated 2 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 122 was manually annotated 3 times for cluster CZ4.
- Start number 157 was manually annotated 17 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 157 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 105 was manually annotated 1 time for cluster CZ6.
- Start number 150 was manually annotated 1 time for cluster CZ6.
- Start number 153 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 122 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster CZ8:

- Start number 157 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DD:

- Start number 170 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DH:

- Start number 153 was manually annotated 2 times for cluster DH.
- Start number 157 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DI:

- Start number 122 was manually annotated 13 times for cluster DI.

Info for manual annotations of cluster DN:

- Start number 157 was manually annotated 4 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 157 was manually annotated 14 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 157 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DU1:

- Start number 194 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 178 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster DW:

- Start number 122 was manually annotated 3 times for cluster DW.

Info for manual annotations of cluster DZ:

- Start number 120 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster EO:

- Start number 87 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster EP:

- Start number 115 was manually annotated 3 times for cluster EP.
- Start number 175 was manually annotated 1 time for cluster EP.
- Start number 176 was manually annotated 3 times for cluster EP.

Info for manual annotations of cluster F1:

- Start number 157 was manually annotated 80 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 157 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F3:

- Start number 157 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 157 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster FA:

- Start number 157 was manually annotated 6 times for cluster FA.

Info for manual annotations of cluster FB:

- Start number 157 was manually annotated 3 times for cluster FB.

Info for manual annotations of cluster FG:

- Start number 157 was manually annotated 2 times for cluster FG.

Info for manual annotations of cluster FJ:

- Start number 219 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FN:

- Start number 157 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster I2:

- Start number 137 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster J:

- Start number 99 was manually annotated 1 time for cluster J.
- Start number 107 was manually annotated 8 times for cluster J.
- Start number 128 was manually annotated 28 times for cluster J.
- Start number 140 was manually annotated 1 time for cluster J.
- Start number 161 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K1:

- Start number 30 was manually annotated 1 time for cluster K1.
- Start number 157 was manually annotated 97 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 157 was manually annotated 9 times for cluster K2.

Info for manual annotations of cluster K6:

- Start number 157 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster P2:

- Start number 131 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 131 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P5:

- Start number 137 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster Q:

- Start number 124 was manually annotated 2 times for cluster Q.
- Start number 152 was manually annotated 20 times for cluster Q.

Info for manual annotations of cluster X:

- Start number 107 was manually annotated 2 times for cluster X.

### **Gene Information:**

Gene: ACFishhook\_35 Start: 26718, Stop: 25579, Start Num: 140

Candidate Starts for ACFishhook\_35:

(Start: 98 @26781 has 1 MA's), (Start: 140 @26718 has 113 MA's), (Start: 173 @26664 has 14 MA's), (Start: 204 @26595 has 6 MA's), (315, 26376), (319, 26367), (360, 26331), (392, 26274), (431, 26196), (444, 26172), (448, 26163), (496, 26061), (520, 26043), (531, 26031), (570, 25956), (573, 25950), (583, 25929), (591, 25914), (608, 25896), (621, 25872), (701, 25713), (702, 25710), (712, 25680), (714, 25674), (718, 25662), (733, 25623),

Gene: AN3\_33 Start: 26414, Stop: 25290, Start Num: 140

Candidate Starts for AN3\_33:

(102, 26468), (Start: 140 @26414 has 113 MA's), (Start: 173 @26360 has 14 MA's), (Start: 204 @26291 has 6 MA's), (306, 26090), (319, 26063), (360, 26027), (391, 25973), (392, 25970), (400, 25943), (431, 25892), (448, 25859), (452, 25847), (460, 25829), (496, 25757), (520, 25739), (531, 25727), (556, 25688), (570, 25652), (573, 25646), (583, 25625), (591, 25610), (608, 25592), (624, 25565), (687, 25454), (702, 25406), (703, 25403), (712, 25376), (714, 25370), (718, 25358), (733, 25319),

Gene: AN9\_36 Start: 26399, Stop: 25275, Start Num: 140

Candidate Starts for AN9\_36:

(102, 26453), (Start: 140 @26399 has 113 MA's), (Start: 173 @26345 has 14 MA's), (Start: 204 @26276 has 6 MA's), (306, 26075), (319, 26048), (360, 26012), (391, 25958), (392, 25955), (400, 25928), (431, 25877), (448, 25844), (452, 25832), (460, 25814), (496, 25742), (520, 25724), (531, 25712), (556, 25673), (570, 25637), (573, 25631), (583, 25610), (591, 25595), (608, 25577), (624, 25550), (687, 25439), (702, 25391), (703, 25388), (712, 25361), (714, 25355), (718, 25343), (733, 25304),

Gene: ANI8\_36 Start: 26399, Stop: 25275, Start Num: 140

Candidate Starts for ANI8\_36:

(102, 26453), (Start: 140 @26399 has 113 MA's), (Start: 173 @26345 has 14 MA's), (Start: 204 @26276 has 6 MA's), (306, 26075), (319, 26048), (360, 26012), (391, 25958), (392, 25955), (400, 25928), (431, 25877), (448, 25844), (452, 25832), (460, 25814), (496, 25742), (520, 25724), (531, 25712), (556, 25673), (570, 25637), (573, 25631), (583, 25610), (591, 25595), (608, 25577), (624,

25550), (687, 25439), (702, 25391), (703, 25388), (712, 25361), (714, 25355), (718, 25343), (733, 25304),

Gene: AbbyDaisy\_36 Start: 27417, Stop: 26233, Start Num: 157

Candidate Starts for AbbyDaisy\_36:

(37, 27699), (39, 27690), (43, 27654), (63, 27579), (84, 27522), (102, 27483), (Start: 157 @27417 has 270 MA's), (179, 27366), (267, 27198), (277, 27180), (344, 27048), (392, 26970), (397, 26952), (411, 26919), (431, 26883), (436, 26874), (466, 26814), (507, 26739), (579, 26619), (652, 26505), (685, 26448), (692, 26427), (693, 26424), (697, 26409), (741, 26289),

Gene: AbbyPaige\_35 Start: 26720, Stop: 25575, Start Num: 113

Candidate Starts for AbbyPaige\_35:

(Start: 113 @26720 has 7 MA's), (Start: 127 @26702 has 7 MA's), (Start: 180 @26618 has 8 MA's), (Start: 204 @26570 has 6 MA's), (227, 26525), (319, 26342), (360, 26306), (392, 26249), (396, 26237), (448, 26138), (452, 26126), (460, 26108), (520, 26018), (531, 26006), (570, 25931), (573, 25925), (583, 25904), (591, 25889), (608, 25871), (624, 25844), (687, 25733), (702, 25685), (703, 25682), (712, 25655), (714, 25649), (718, 25637), (733, 25598),

Gene: Abdiel\_32 Start: 26295, Stop: 25129, Start Num: 107

Candidate Starts for Abdiel\_32:

(Start: 107 @26295 has 13 MA's), (Start: 124 @26268 has 2 MA's), (Start: 140 @26250 has 113 MA's), (Start: 180 @26181 has 8 MA's), (Start: 204 @26127 has 6 MA's), (315, 25908), (319, 25899), (360, 25863), (385, 25821), (391, 25809), (392, 25806), (431, 25728), (496, 25593), (520, 25575), (570, 25488), (573, 25482), (583, 25461), (591, 25446), (608, 25428), (687, 25290), (702, 25242), (712, 25212), (714, 25206), (718, 25194), (733, 25155),

Gene: Abidatro\_34 Start: 24278, Stop: 23067, Start Num: 122

Candidate Starts for Abidatro\_34:

(Start: 122 @24278 has 50 MA's), (241, 24059), (253, 24041), (309, 23924), (359, 23849), (367, 23834), (515, 23540), (529, 23519), (548, 23492), (579, 23426), (586, 23414), (597, 23396), (688, 23252), (692, 23243),

Gene: Abscondus\_83 Start: 51076, Stop: 52374, Start Num: 168

Candidate Starts for Abscondus\_83:

(Start: 168 @51076 has 12 MA's), (200, 51142), (250, 51244), (264, 51271), (269, 51283), (282, 51313), (303, 51352), (310, 51370), (352, 51436), (358, 51445), (396, 51529), (438, 51619), (527, 51778), (531, 51784), (533, 51787), (592, 51913), (629, 51982), (675, 52060), (686, 52111), (695, 52138), (707, 52174), (708, 52177), (709, 52180), (710, 52186), (715, 52198), (717, 52204), (718, 52207), (719, 52210), (730, 52240), (751, 52288), (757, 52297), (766, 52327),

Gene: Acolyte\_34 Start: 27024, Stop: 25957, Start Num: 173

Candidate Starts for Acolyte\_34:

(Start: 140 @27078 has 113 MA's), (Start: 173 @27024 has 14 MA's), (Start: 204 @26955 has 6 MA's), (319, 26727), (360, 26691), (392, 26634), (400, 26607), (431, 26556), (460, 26493), (520, 26403), (531, 26391), (546, 26370), (570, 26316), (573, 26310), (583, 26289), (591, 26274), (624, 26229), (687, 26118), (702, 26070), (712, 26040), (714, 26034), (718, 26022), (733, 25983),

Gene: ActinUp\_41 Start: 32479, Stop: 33567, Start Num: 157

Candidate Starts for ActinUp\_41:

(Start: 157 @32479 has 270 MA's), (179, 32530), (Start: 204 @32581 has 6 MA's), (Start: 217 @32605 has 1 MA's), (235, 32641), (306, 32779), (334, 32833), (396, 32917), (431, 32986), (432, 32989), (520, 33139), (565, 33217), (577, 33244), (646, 33331), (683, 33379),

Gene: Adelaide\_25 Start: 24090, Stop: 22960, Start Num: 176

Candidate Starts for Adelaide\_25:

(Start: 176 @24090 has 3 MA's), (187, 24075), (198, 24051), (262, 23937), (280, 23898), (299, 23856), (311, 23823), (316, 23814), (330, 23787), (342, 23769), (388, 23685), (394, 23670), (409, 23625), (448, 23565), (475, 23523), (480, 23511), (485, 23505), (495, 23484), (534, 23430), (536, 23427), (538, 23424), (550, 23403), (588, 23319), (595, 23313), (606, 23295), (619, 23265), (665, 23208), (687, 23166), (693, 23151), (697, 23136), (698, 23130), (701, 23121), (704, 23112), (714, 23082), (729, 23040), (738, 23019), (740, 23016), (744, 23007), (760, 22980), (764, 22965),

Gene: Adephagia\_41 Start: 32476, Stop: 33564, Start Num: 157

Candidate Starts for Adephagia\_41:

(Start: 157 @32476 has 270 MA's), (179, 32527), (Start: 204 @32578 has 6 MA's), (Start: 217 @32602 has 1 MA's), (235, 32638), (306, 32776), (334, 32830), (396, 32914), (431, 32983), (432, 32986), (520, 33136), (565, 33214), (577, 33241), (646, 33328), (683, 33376),

Gene: Adonis\_41 Start: 32777, Stop: 33865, Start Num: 157

Candidate Starts for Adonis\_41:

(Start: 157 @32777 has 270 MA's), (Start: 204 @32879 has 6 MA's), (Start: 217 @32903 has 1 MA's), (235, 32939), (296, 33053), (334, 33131), (396, 33215), (431, 33284), (432, 33287), (520, 33437), (577, 33542), (646, 33629), (683, 33677),

Gene: Adora\_37 Start: 31194, Stop: 32321, Start Num: 157

Candidate Starts for Adora\_37:

(126, 31155), (Start: 157 @31194 has 270 MA's), (179, 31248), (230, 31371), (248, 31404), (298, 31494), (311, 31527), (431, 31722), (432, 31725), (452, 31767), (472, 31803), (658, 32100), (693, 32178), (700, 32205), (706, 32220), (714, 32247), (739, 32310),

Gene: Adzzy\_35 Start: 25141, Stop: 24026, Start Num: 144

Candidate Starts for Adzzy\_35:

(Start: 144 @25141 has 6 MA's), (Start: 204 @25024 has 6 MA's), (227, 24979), (319, 24796), (360, 24760), (385, 24718), (391, 24706), (392, 24703), (399, 24679), (496, 24490), (520, 24472), (531, 24460), (546, 24439), (570, 24385), (583, 24358), (591, 24343), (608, 24325), (624, 24298), (702, 24139), (712, 24109), (714, 24103), (718, 24091), (733, 24052), (737, 24043),

Gene: Agape74\_35 Start: 26696, Stop: 25551, Start Num: 113

Candidate Starts for Agape74\_35:

(Start: 113 @26696 has 7 MA's), (Start: 127 @26678 has 7 MA's), (Start: 180 @26594 has 8 MA's), (Start: 204 @26546 has 6 MA's), (227, 26501), (319, 26318), (360, 26282), (392, 26225), (396, 26213), (448, 26114), (452, 26102), (460, 26084), (520, 25994), (531, 25982), (570, 25907), (573, 25901), (583, 25880), (591, 25865), (608, 25847), (624, 25820), (687, 25709), (702, 25661), (703, 25658), (712, 25631), (714, 25625), (718, 25613), (733, 25574),

Gene: Ageofdapage\_43 Start: 33453, Stop: 34541, Start Num: 157

Candidate Starts for Ageofdapage\_43:

(Start: 157 @33453 has 270 MA's), (Start: 204 @33555 has 6 MA's), (Start: 217 @33579 has 1 MA's), (235, 33615), (267, 33666), (296, 33729), (306, 33753), (334, 33807), (338, 33810), (396, 33891), (431, 33960), (432, 33963), (448, 33993), (520, 34113), (565, 34191), (577, 34218), (683, 34353),

Gene: Aglet\_36 Start: 26791, Stop: 25646, Start Num: 140

Candidate Starts for Aglet\_36:

(Start: 140 @26791 has 113 MA's), (Start: 165 @26752 has 10 MA's), (Start: 204 @26668 has 6 MA's), (227, 26623), (306, 26467), (319, 26440), (360, 26404), (392, 26347), (431, 26269), (444, 26245), (460, 26206), (496, 26134), (515, 26122), (520, 26116), (531, 26104), (570, 26029), (573,

26023), (583, 26002), (591, 25987), (608, 25969), (621, 25945), (687, 25831), (701, 25786), (702, 25783), (706, 25774), (712, 25753), (714, 25747), (718, 25735), (733, 25696),

Gene: Agueybana\_38 Start: 30381, Stop: 31463, Start Num: 153

Candidate Starts for Agueybana\_38:

(Start: 85 @30270 has 6 MA's), (Start: 153 @30381 has 52 MA's), (179, 30435), (236, 30555), (391, 30810), (402, 30840), (432, 30900), (466, 30966), (476, 30990), (693, 31320), (739, 31452),

Gene: Aikyam\_37 Start: 25607, Stop: 24468, Start Num: 157

Candidate Starts for Aikyam\_37:

(Start: 157 @25607 has 270 MA's), (179, 25556), (267, 25388), (277, 25370), (344, 25238), (392, 25160), (396, 25148), (397, 25142), (431, 25073), (436, 25064), (466, 25004), (520, 24914), (579, 24809), (591, 24788), (613, 24761), (685, 24638), (693, 24614), (697, 24599), (721, 24524), (733, 24494),

Gene: Akhila\_37 Start: 29110, Stop: 30237, Start Num: 157

Candidate Starts for Akhila\_37:

(89, 29008), (Start: 121 @29065 has 2 MA's), (Start: 157 @29110 has 270 MA's), (159, 29119), (231, 29281), (258, 29332), (267, 29350), (288, 29395), (334, 29491), (344, 29500), (402, 29605), (434, 29674), (452, 29713), (464, 29734), (471, 29746), (472, 29749), (476, 29761), (494, 29800), (503, 29806), (526, 29827), (554, 29863), (556, 29866), (570, 29902), (573, 29908), (577, 29920), (579, 29923), (587, 29938), (646, 30007), (652, 30022), (669, 30040), (685, 30064), (698, 30109), (701, 30118), (706, 30130), (714, 30157), (720, 30175), (729, 30196), (734, 30211), (739, 30220), (741, 30223),

Gene: Aleemily\_34 Start: 29847, Stop: 28720, Start Num: 120

Candidate Starts for Aleemily\_34:

(11, 30327), (Start: 120 @29847 has 9 MA's), (Start: 158 @29793 has 2 MA's), (207, 29688), (297, 29517), (352, 29427), (373, 29391), (422, 29277), (456, 29238), (471, 29214), (533, 29118), (611, 28986), (637, 28941), (688, 28869), (733, 28743),

Gene: Alexphander\_45 Start: 32418, Stop: 33536, Start Num: 157

Candidate Starts for Alexphander\_45:

(Start: 157 @32418 has 270 MA's), (218, 32556), (231, 32589), (263, 32637), (334, 32790), (344, 32799), (392, 32880), (434, 32973), (452, 33012), (464, 33033), (471, 33045), (472, 33048), (476, 33060), (494, 33099), (503, 33105), (526, 33126), (554, 33162), (556, 33165), (570, 33201), (573, 33207), (579, 33222), (587, 33237), (646, 33306), (652, 33321), (669, 33339), (698, 33408), (701, 33417), (714, 33456), (720, 33474), (729, 33495), (734, 33510), (739, 33519), (741, 33522),

Gene: AlishaPH\_41 Start: 32751, Stop: 33839, Start Num: 157

Candidate Starts for AlishaPH\_41:

(Start: 157 @32751 has 270 MA's), (Start: 204 @32853 has 6 MA's), (Start: 217 @32877 has 1 MA's), (235, 32913), (306, 33051), (334, 33105), (396, 33189), (431, 33258), (432, 33261), (520, 33411), (577, 33516), (646, 33603), (683, 33651), (730, 33795),

Gene: AlumE\_39 Start: 31289, Stop: 32371, Start Num: 153

Candidate Starts for AlumE\_39:

(Start: 85 @31178 has 6 MA's), (Start: 153 @31289 has 52 MA's), (179, 31343), (236, 31463), (402, 31748), (432, 31808), (466, 31874), (476, 31898), (693, 32228), (716, 32303), (739, 32360),

Gene: Amelia\_36 Start: 24019, Stop: 22832, Start Num: 122

Candidate Starts for Amelia\_36:

(75, 24109), (Start: 122 @24019 has 50 MA's), (309, 23665), (359, 23590), (586, 23155), (682, 23020),

Gene: Amelie\_36 Start: 31976, Stop: 33070, Start Num: 157

Candidate Starts for Amelie\_36:

(28, 31625), (Start: 30 @31640 has 1 MA's), (46, 31733), (50, 31754), (79, 31847), (Start: 157 @31976 has 270 MA's), (179, 32027), (Start: 217 @32102 has 1 MA's), (235, 32138), (288, 32234), (296, 32252), (306, 32276), (329, 32324), (334, 32330), (416, 32462), (431, 32495), (452, 32540), (520, 32648), (577, 32753), (629, 32813), (683, 32888), (716, 32996), (730, 33032),

Gene: Amochick\_29 Start: 26484, Stop: 25291, Start Num: 152

Candidate Starts for Amochick\_29:

(Start: 124 @26526 has 2 MA's), (Start: 152 @26484 has 20 MA's), (187, 26418), (225, 26337), (241, 26298), (250, 26283), (254, 26277), (258, 26265), (273, 26238), (289, 26205), (315, 26148), (332, 26115), (334, 26112), (368, 26064), (385, 26022), (386, 26019), (396, 25995), (400, 25980), (408, 25956), (419, 25941), (444, 25902), (449, 25890), (469, 25851), (484, 25812), (520, 25764), (522, 25761), (562, 25689), (564, 25683), (568, 25671), (569, 25668), (571, 25662), (604, 25608), (612, 25590), (613, 25587), (629, 25560), (647, 25533), (683, 25491), (691, 25464), (693, 25458), (710, 25401), (732, 25338), (733, 25335),

Gene: Amymech\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Amymech\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Anatole\_28 Start: 21218, Stop: 22537, Start Num: 88

Candidate Starts for Anatole\_28:

(42, 21068), (45, 21077), (53, 21116), (62, 21146), (68, 21167), (76, 21185), (80, 21197), (Start: 88 @21218 has 6 MA's), (93, 21227), (160, 21341), (200, 21419), (201, 21425), (245, 21521), (248, 21524), (352, 21716), (441, 21905), (446, 21914), (473, 21968), (566, 22130), (590, 22181), (623, 22238), (690, 22373), (700, 22409), (731, 22496), (733, 22502),

Gene: Anaya\_43 Start: 33089, Stop: 34177, Start Num: 157

Candidate Starts for Anaya\_43:

(Start: 157 @33089 has 270 MA's), (Start: 204 @33191 has 6 MA's), (Start: 217 @33215 has 1 MA's), (235, 33251), (296, 33365), (334, 33443), (396, 33527), (431, 33596), (432, 33599), (520, 33749), (577, 33854), (646, 33941), (683, 33989),

Gene: Andrew\_37 Start: 23839, Stop: 22646, Start Num: 122

Candidate Starts for Andrew\_37:

(Start: 122 @23839 has 50 MA's), (Start: 152 @23794 has 20 MA's), (395, 23329), (515, 23101), (586, 22975), (594, 22963), (688, 22813), (739, 22675),

Gene: Anekin\_38 Start: 27011, Stop: 25815, Start Num: 134

Candidate Starts for Anekin\_38:

(Start: 134 @27011 has 1 MA's), (Start: 157 @26993 has 270 MA's), (179, 26942), (216, 26876), (277, 26756), (319, 26660), (344, 26624), (392, 26546), (431, 26459), (436, 26450), (466, 26390), (487, 26342), (520, 26300), (583, 26189), (613, 26147), (685, 26030), (692, 26009), (693, 26006), (697,



25991), (741, 25871),

Gene: Angelica\_41 Start: 32708, Stop: 33796, Start Num: 157

Candidate Starts for Angelica\_41:

(Start: 157 @32708 has 270 MA's), (Start: 204 @32810 has 6 MA's), (209, 32819), (Start: 217 @32834 has 1 MA's), (235, 32870), (334, 33062), (396, 33146), (431, 33215), (432, 33218), (520, 33368), (577, 33473), (646, 33560), (683, 33608), (730, 33752),

Gene: Angelique\_39 Start: 30954, Stop: 32036, Start Num: 153

Candidate Starts for Angelique\_39:

(Start: 85 @30843 has 6 MA's), (Start: 153 @30954 has 52 MA's), (179, 31008), (236, 31128), (391, 31383), (402, 31413), (432, 31473), (466, 31539), (476, 31563), (554, 31668), (693, 31893), (700, 31920), (716, 31968), (739, 32025),

Gene: Annalisa\_36 Start: 28551, Stop: 29678, Start Num: 157

Candidate Starts for Annalisa\_36:

(52, 28332), (61, 28368), (Start: 157 @28551 has 270 MA's), (179, 28605), (230, 28728), (248, 28761), (298, 28851), (311, 28884), (431, 29079), (432, 29082), (452, 29124), (472, 29160), (658, 29457), (706, 29577), (714, 29604), (739, 29667),

Gene: Anselm\_35 Start: 26782, Stop: 25661, Start Num: 140

Candidate Starts for Anselm\_35:

(Start: 98 @26845 has 1 MA's), (Start: 140 @26782 has 113 MA's), (Start: 173 @26728 has 14 MA's), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (360, 26395), (396, 26326), (413, 26284), (431, 26260), (460, 26197), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (624, 25933), (687, 25822), (701, 25777), (702, 25774), (703, 25771), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Antonio\_39 Start: 30563, Stop: 31645, Start Num: 153

Candidate Starts for Antonio\_39:

(Start: 85 @30452 has 6 MA's), (Start: 153 @30563 has 52 MA's), (179, 30617), (236, 30737), (391, 30992), (402, 31022), (432, 31082), (466, 31148), (476, 31172), (693, 31502), (700, 31529), (739, 31634),

Gene: Anubis\_38 Start: 26676, Stop: 25531, Start Num: 140

Candidate Starts for Anubis\_38:

(Start: 140 @26676 has 113 MA's), (Start: 165 @26637 has 10 MA's), (189, 26589), (Start: 204 @26553 has 6 MA's), (227, 26508), (306, 26352), (319, 26325), (360, 26289), (392, 26232), (431, 26154), (444, 26130), (460, 26091), (496, 26019), (515, 26007), (520, 26001), (531, 25989), (570, 25914), (573, 25908), (583, 25887), (591, 25872), (608, 25854), (621, 25830), (687, 25716), (701, 25671), (702, 25668), (706, 25659), (712, 25638), (714, 25632), (718, 25620), (733, 25581),

Gene: Aphelion\_83 Start: 51698, Stop: 52996, Start Num: 168

Candidate Starts for Aphelion\_83:

(Start: 168 @51698 has 12 MA's), (200, 51764), (250, 51866), (264, 51893), (269, 51905), (282, 51935), (303, 51974), (310, 51992), (352, 52058), (358, 52067), (396, 52151), (438, 52241), (527, 52400), (531, 52406), (533, 52409), (592, 52535), (629, 52604), (675, 52682), (686, 52733), (695, 52760), (707, 52796), (708, 52799), (710, 52808), (715, 52820), (717, 52826), (718, 52829), (719, 52832), (730, 52862), (751, 52910), (757, 52919), (766, 52949),

Gene: Apocalypse\_44 Start: 33493, Stop: 34581, Start Num: 157

Candidate Starts for Apocalypse\_44:

(Start: 157 @33493 has 270 MA's), (Start: 204 @33595 has 6 MA's), (Start: 217 @33619 has 1 MA's), (235, 33655), (306, 33793), (334, 33847), (396, 33931), (431, 34000), (432, 34003), (520, 34153), (577, 34258), (646, 34345), (683, 34393), (730, 34537),

Gene: Apricot\_48 Start: 31405, Stop: 32475, Start Num: 157

Candidate Starts for Apricot\_48:

(116, 31360), (Start: 157 @31405 has 270 MA's), (179, 31456), (203, 31504), (218, 31534), (230, 31561), (283, 31648), (311, 31714), (315, 31720), (342, 31756), (360, 31765), (386, 31816), (396, 31840), (403, 31858), (436, 31921), (452, 31957), (471, 31990), (472, 31993), (476, 32005), (487, 32029), (584, 32173), (610, 32200), (655, 32272), (693, 32332), (700, 32359), (710, 32389), (716, 32407), (739, 32464),

Gene: ArV2\_29 Start: 22829, Stop: 21699, Start Num: 157

Candidate Starts for ArV2\_29:

(Start: 157 @22829 has 270 MA's), (179, 22778), (263, 22625), (296, 22550), (326, 22481), (348, 22454), (402, 22343), (411, 22319), (445, 22259), (447, 22256), (452, 22241), (570, 22046), (584, 22016), (596, 21998), (598, 21995), (613, 21977), (646, 21923), (652, 21908), (669, 21881), (698, 21809), (701, 21800), (706, 21788),

Gene: Ardmore\_36 Start: 30890, Stop: 32008, Start Num: 157

Candidate Starts for Ardmore\_36:

(Start: 157 @30890 has 270 MA's), (159, 30899), (231, 31061), (315, 31226), (334, 31262), (344, 31271), (434, 31445), (460, 31502), (464, 31505), (471, 31517), (472, 31520), (476, 31532), (494, 31571), (526, 31598), (554, 31634), (556, 31637), (570, 31673), (573, 31679), (577, 31691), (579, 31694), (646, 31778), (652, 31793), (669, 31811), (698, 31880), (701, 31889), (714, 31928), (720, 31946), (729, 31967), (734, 31982), (739, 31991), (741, 31994),

Gene: Arianna\_32 Start: 30114, Stop: 28903, Start Num: 87

Candidate Starts for Arianna\_32:

(Start: 87 @30114 has 4 MA's), (189, 29940), (260, 29799), (357, 29640), (432, 29490), (476, 29400), (642, 29136), (661, 29100), (665, 29094), (730, 28929), (736, 28914), (738, 28911),

Gene: Ariel\_86 Start: 50063, Stop: 51337, Start Num: 107

Candidate Starts for Ariel\_86:

(80, 50006), (Start: 99 @50048 has 1 MA's), (Start: 107 @50063 has 13 MA's), (Start: 108 @50066 has 1 MA's), (Start: 140 @50111 has 113 MA's), (Start: 161 @50150 has 1 MA's), (334, 50531), (385, 50615), (391, 50627), (392, 50630), (450, 50759), (530, 50879), (563, 50942), (569, 50960), (582, 50984), (628, 51056), (711, 51233), (712, 51236), (714, 51242), (720, 51260), (725, 51275), (729, 51284), (730, 51287), (750, 51332),

Gene: Asapag\_47 Start: 32537, Stop: 33631, Start Num: 157

Candidate Starts for Asapag\_47:

(90, 32450), (Start: 108 @32486 has 1 MA's), (Start: 157 @32537 has 270 MA's), (179, 32588), (216, 32660), (218, 32666), (230, 32693), (283, 32780), (315, 32852), (342, 32888), (360, 32897), (396, 32972), (403, 32990), (452, 33089), (471, 33122), (472, 33125), (476, 33137), (556, 33239), (584, 33305), (610, 33332), (655, 33404), (693, 33464), (700, 33491), (741, 33599),

Gene: Asayake\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for Asayake\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Atiba\_41 Start: 32439, Stop: 33527, Start Num: 157

Candidate Starts for Atiba\_41:

(Start: 157 @32439 has 270 MA's), (179, 32490), (Start: 204 @32541 has 6 MA's), (Start: 217 @32565 has 1 MA's), (235, 32601), (306, 32739), (334, 32793), (396, 32877), (431, 32946), (432, 32949), (520, 33099), (565, 33177), (577, 33204), (646, 33291), (683, 33339),

Gene: Attis\_34 Start: 27696, Stop: 28778, Start Num: 153

Candidate Starts for Attis\_34:

(Start: 85 @27585 has 6 MA's), (Start: 153 @27696 has 52 MA's), (179, 27750), (236, 27870), (391, 28125), (402, 28155), (432, 28215), (466, 28281), (476, 28305), (693, 28635), (700, 28662), (739, 28767),

Gene: AugsMagnumOpus\_38 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for AugsMagnumOpus\_38:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (189, 26695), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Auxilium\_38 Start: 25309, Stop: 24170, Start Num: 157

Candidate Starts for Auxilium\_38:

(Start: 157 @25309 has 270 MA's), (179, 25258), (267, 25090), (277, 25072), (344, 24940), (392, 24862), (396, 24850), (431, 24775), (436, 24766), (466, 24706), (520, 24616), (579, 24511), (591, 24490), (613, 24463), (685, 24340), (693, 24316), (697, 24301), (721, 24226), (733, 24196),

Gene: Ayotoya\_39 Start: 32055, Stop: 30784, Start Num: 122

Candidate Starts for Ayotoya\_39:

(Start: 122 @32055 has 50 MA's), (133, 32040), (186, 31938), (207, 31896), (215, 31884), (253, 31809), (287, 31734), (293, 31725), (300, 31707), (365, 31608), (367, 31605), (404, 31515), (470, 31410), (517, 31314), (522, 31308), (613, 31146), (684, 31005), (698, 30960), (715, 30909), (718, 30900), (723, 30885), (730, 30873), (734, 30861), (758, 30822),

Gene: B1\_31 Start: 25858, Stop: 24692, Start Num: 108

Candidate Starts for B1\_31:

(Start: 108 @25858 has 1 MA's), (Start: 140 @25816 has 113 MA's), (Start: 204 @25693 has 6 MA's), (227, 25648), (267, 25576), (291, 25528), (315, 25474), (319, 25465), (360, 25429), (392, 25372), (520, 25141), (531, 25129), (546, 25108), (570, 25054), (573, 25048), (583, 25027), (591, 25012), (608, 24994), (624, 24967), (687, 24856), (702, 24808), (703, 24805), (712, 24778), (714, 24772), (718, 24760), (726, 24739), (733, 24721),

Gene: B22\_29 Start: 20933, Stop: 22252, Start Num: 88

Candidate Starts for B22\_29:

(42, 20783), (45, 20792), (53, 20831), (62, 20861), (68, 20882), (76, 20900), (80, 20912), (Start: 88 @20933 has 6 MA's), (93, 20942), (160, 21056), (200, 21134), (201, 21140), (245, 21236), (248, 21239), (352, 21431), (441, 21620), (446, 21629), (473, 21683), (566, 21845), (590, 21896), (623, 21953), (690, 22088), (700, 22124), (731, 22211), (733, 22217),

Gene: B3\_28 Start: 21212, Stop: 22531, Start Num: 88

Candidate Starts for B3\_28:

(42, 21062), (45, 21071), (53, 21110), (62, 21140), (68, 21161), (76, 21179), (80, 21191), (Start: 88 @21212 has 6 MA's), (93, 21221), (160, 21335), (200, 21413), (201, 21419), (245, 21515), (248, 21518), (352, 21710), (441, 21899), (446, 21908), (473, 21962), (566, 22124), (590, 22175), (623,

22232), (690, 22367), (700, 22403), (731, 22490), (733, 22496),

Gene: BAKA\_86 Start: 53552, Stop: 54781, Start Num: 128

Candidate Starts for BAKA\_86:

(Start: 128 @53552 has 28 MA's), (Start: 140 @53570 has 113 MA's), (Start: 161 @53609 has 1 MA's), (266, 53846), (315, 53954), (385, 54074), (386, 54077), (391, 54086), (396, 54101), (410, 54140), (450, 54218), (510, 54323), (519, 54335), (530, 54338), (536, 54347), (562, 54398), (563, 54401), (569, 54419), (628, 54515), (668, 54572), (711, 54692), (712, 54695), (720, 54719), (729, 54743), (730, 54746),

Gene: BEEST\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for BEEST\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: BENtherdunthat\_50 Start: 31782, Stop: 32852, Start Num: 157

Candidate Starts for BENtherdunthat\_50:

(118, 31740), (Start: 157 @31782 has 270 MA's), (179, 31833), (216, 31905), (218, 31911), (230, 31938), (342, 32133), (360, 32142), (386, 32193), (391, 32202), (392, 32205), (396, 32217), (416, 32262), (436, 32298), (452, 32334), (471, 32367), (472, 32370), (476, 32382), (584, 32550), (655, 32649), (693, 32709), (700, 32736), (701, 32739), (710, 32766), (712, 32772), (716, 32784), (739, 32841),

Gene: BGlluviae\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for BGlluviae\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: BabyRay\_33 Start: 26385, Stop: 25249, Start Num: 129

Candidate Starts for BabyRay\_33:

(Start: 129 @26385 has 3 MA's), (Start: 204 @26250 has 6 MA's), (316, 26028), (319, 26022), (327, 26007), (360, 25986), (392, 25929), (431, 25851), (520, 25698), (531, 25686), (570, 25611), (573, 25605), (583, 25584), (591, 25569), (608, 25551), (702, 25365), (712, 25335), (714, 25329), (718, 25317), (726, 25296), (733, 25278),

Gene: Bachita\_85 Start: 52123, Stop: 53421, Start Num: 168

Candidate Starts for Bachita\_85:

(Start: 168 @52123 has 12 MA's), (200, 52189), (250, 52291), (264, 52318), (269, 52330), (282, 52360), (303, 52399), (310, 52417), (352, 52483), (358, 52492), (396, 52576), (438, 52666), (527, 52825), (531, 52831), (533, 52834), (592, 52960), (629, 53029), (675, 53107), (686, 53158), (695, 53185), (707, 53221), (708, 53224), (709, 53227), (710, 53233), (715, 53245), (717, 53251), (718, 53254), (719, 53257), (730, 53287), (751, 53335), (757, 53344), (766, 53374),

Gene: Bactobuster\_35 Start: 27867, Stop: 26860, Start Num: 204

Candidate Starts for Bactobuster\_35:

(Start: 140 @27987 has 113 MA's), (Start: 165 @27951 has 10 MA's), (Start: 204 @27867 has 6 MA's), (227, 27822), (311, 27654), (360, 27603), (413, 27492), (431, 27468), (448, 27435), (452, 27423), (476, 27375), (520, 27315), (522, 27312), (531, 27303), (570, 27228), (573, 27222), (583, 27201), (591, 27186), (608, 27168), (702, 26982), (712, 26952), (714, 26946), (718, 26934), (733, 26895), (744, 26871),

Gene: Baehexic\_34 Start: 26830, Stop: 25697, Start Num: 120

Candidate Starts for Baehexic\_34:

(Start: 120 @26830 has 9 MA's), (Start: 173 @26776 has 14 MA's), (Start: 204 @26707 has 6 MA's), (227, 26662), (306, 26506), (319, 26479), (360, 26443), (392, 26386), (452, 26263), (460, 26245), (520, 26155), (531, 26143), (570, 26068), (573, 26062), (583, 26041), (591, 26026), (608, 26008), (624, 25981), (630, 25972), (687, 25870), (702, 25822), (712, 25792), (714, 25786), (718, 25774), (733, 25735),

Gene: BaghaKamala\_40 Start: 31917, Stop: 33005, Start Num: 157

Candidate Starts for BaghaKamala\_40:

(50, 31695), (Start: 157 @31917 has 270 MA's), (179, 31968), (Start: 204 @32019 has 6 MA's), (Start: 217 @32043 has 1 MA's), (235, 32079), (306, 32217), (334, 32271), (396, 32355), (431, 32424), (432, 32427), (520, 32577), (577, 32682), (646, 32769), (683, 32817),

Gene: Bagrid\_82 Start: 52202, Stop: 53431, Start Num: 128

Candidate Starts for Bagrid\_82:

(Start: 128 @52202 has 28 MA's), (Start: 140 @52220 has 113 MA's), (Start: 161 @52259 has 1 MA's), (266, 52496), (315, 52604), (385, 52724), (386, 52727), (391, 52736), (396, 52751), (410, 52790), (450, 52868), (510, 52973), (519, 52985), (530, 52988), (536, 52997), (562, 53048), (563, 53051), (569, 53069), (628, 53165), (668, 53222), (711, 53342), (712, 53345), (720, 53369), (729, 53393), (730, 53396),

Gene: BangNhom\_33 Start: 26587, Stop: 25466, Start Num: 140

Candidate Starts for BangNhom\_33:

(Start: 107 @26632 has 13 MA's), (Start: 124 @26605 has 2 MA's), (Start: 140 @26587 has 113 MA's), (Start: 180 @26518 has 8 MA's), (Start: 204 @26464 has 6 MA's), (315, 26245), (319, 26236), (360, 26200), (385, 26158), (391, 26146), (392, 26143), (496, 25930), (520, 25912), (570, 25825), (573, 25819), (583, 25798), (591, 25783), (608, 25765), (687, 25627), (702, 25579), (712, 25549), (714, 25543), (718, 25531), (733, 25492),

Gene: Banquo\_37 Start: 27140, Stop: 26034, Start Num: 178

Candidate Starts for Banquo\_37:

(Start: 178 @27140 has 14 MA's), (352, 26819), (386, 26756), (392, 26744), (413, 26693), (494, 26531), (535, 26483), (605, 26354), (632, 26306), (679, 26210), (706, 26120), (715, 26093),

Gene: BarrelRoll\_41 Start: 32462, Stop: 33550, Start Num: 157

Candidate Starts for BarrelRoll\_41:

(Start: 157 @32462 has 270 MA's), (179, 32513), (Start: 204 @32564 has 6 MA's), (Start: 217 @32588 has 1 MA's), (235, 32624), (306, 32762), (334, 32816), (396, 32900), (431, 32969), (432, 32972), (520, 33122), (565, 33200), (577, 33227), (646, 33314), (683, 33362),

Gene: Basilisk\_34 Start: 24758, Stop: 23574, Start Num: 122

Candidate Starts for Basilisk\_34:

(Start: 122 @24758 has 50 MA's), (241, 24539), (309, 24404), (359, 24329), (367, 24314), (459, 24113), (579, 23906), (586, 23894), (597, 23876), (609, 23861), (682, 23759), (688, 23732), (692, 23723),

Gene: BatStarr\_39 Start: 31901, Stop: 33094, Start Num: 85

Candidate Starts for BatStarr\_39:

(Start: 85 @31901 has 6 MA's), (Start: 153 @32012 has 52 MA's), (179, 32066), (236, 32186), (386, 32432), (391, 32441), (402, 32471), (432, 32531), (466, 32597), (476, 32621), (693, 32951), (700, 32978), (739, 33083),

Gene: Batiatus\_43 Start: 33150, Stop: 34277, Start Num: 157

Candidate Starts for Batiatus\_43:

(89, 33048), (Start: 121 @33105 has 2 MA's), (Start: 157 @33150 has 270 MA's), (159, 33159), (231, 33321), (258, 33372), (267, 33390), (288, 33435), (334, 33531), (344, 33540), (392, 33621), (402, 33645), (434, 33714), (452, 33753), (460, 33771), (464, 33774), (471, 33786), (472, 33789), (476, 33801), (483, 33816), (494, 33840), (503, 33846), (526, 33867), (554, 33903), (556, 33906), (570, 33942), (573, 33948), (579, 33963), (587, 33978), (646, 34047), (652, 34062), (685, 34104), (698, 34149), (701, 34158), (714, 34197), (720, 34215), (729, 34236), (734, 34251), (739, 34260), (741, 34263),

Gene: Bauer\_39 Start: 26996, Stop: 28129, Start Num: 157

Candidate Starts for Bauer\_39:

(51, 26783), (60, 26819), (73, 26861), (Start: 140 @26984 has 113 MA's), (Start: 157 @26996 has 270 MA's), (203, 27089), (251, 27182), (344, 27359), (392, 27422), (396, 27434), (432, 27512), (440, 27524), (465, 27575), (511, 27656), (520, 27668), (540, 27695), (570, 27749), (645, 27869), (654, 27890), (693, 27962), (697, 27977), (720, 28049), (721, 28052), (733, 28082), (734, 28085), (752, 28118),

Gene: BaxterFox\_37 Start: 31379, Stop: 30117, Start Num: 122

Candidate Starts for BaxterFox\_37:

(Start: 122 @31379 has 50 MA's), (205, 31223), (297, 31040), (313, 31004), (359, 30944), (365, 30932), (385, 30887), (398, 30854), (414, 30812), (522, 30644), (524, 30641), (570, 30566), (577, 30548), (579, 30545), (613, 30488), (678, 30371), (682, 30359), (698, 30302), (718, 30242), (723, 30227), (730, 30215), (733, 30206), (751, 30167),

Gene: Beakin\_43 Start: 31583, Stop: 32701, Start Num: 157

Candidate Starts for Beakin\_43:

(Start: 157 @31583 has 270 MA's), (159, 31592), (231, 31754), (315, 31919), (334, 31955), (344, 31964), (402, 32069), (434, 32138), (452, 32177), (460, 32195), (464, 32198), (471, 32210), (472, 32213), (476, 32225), (483, 32240), (494, 32264), (503, 32270), (526, 32291), (554, 32327), (556, 32330), (570, 32366), (573, 32372), (579, 32387), (587, 32402), (646, 32471), (652, 32486), (685, 32528), (698, 32573), (701, 32582), (714, 32621), (720, 32639), (729, 32660), (734, 32675), (739, 32684), (741, 32687),

Gene: Beauxregard13\_36 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for Beauxregard13\_36:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701, 25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: BeeGee\_42 Start: 31829, Stop: 32935, Start Num: 157

Candidate Starts for BeeGee\_42:

(110, 31772), (Start: 157 @31829 has 270 MA's), (179, 31880), (230, 31985), (256, 32024), (394, 32258), (396, 32264), (431, 32333), (432, 32336), (448, 32366), (472, 32417), (476, 32429), (620, 32657), (661, 32717), (693, 32792), (701, 32822), (739, 32924),

Gene: Beem\_81 Start: 53063, Stop: 54292, Start Num: 128

Candidate Starts for Beem\_81:

(Start: 128 @53063 has 28 MA's), (Start: 140 @53081 has 113 MA's), (Start: 161 @53120 has 1 MA's), (266, 53357), (315, 53465), (385, 53585), (386, 53588), (391, 53597), (396, 53612), (410, 53651), (450, 53729), (510, 53834), (519, 53846), (530, 53849), (536, 53858), (562, 53909), (563,

53912), (569, 53930), (628, 54026), (668, 54083), (711, 54203), (712, 54206), (720, 54230), (729, 54254), (730, 54257),

Gene: Beenie\_33 Start: 29179, Stop: 30306, Start Num: 157

Candidate Starts for Beenie\_33:

(126, 29140), (Start: 157 @29179 has 270 MA's), (179, 29233), (230, 29356), (248, 29389), (298, 29479), (311, 29512), (431, 29707), (432, 29710), (452, 29752), (472, 29788), (658, 30085), (693, 30163), (700, 30190), (706, 30205), (714, 30232), (739, 30295),

Gene: Beezoo\_43 Start: 33442, Stop: 34530, Start Num: 157

Candidate Starts for Beezoo\_43:

(Start: 157 @33442 has 270 MA's), (Start: 204 @33544 has 6 MA's), (Start: 217 @33568 has 1 MA's), (235, 33604), (306, 33742), (334, 33796), (396, 33880), (431, 33949), (432, 33952), (520, 34102), (577, 34207), (646, 34294), (683, 34342), (730, 34486),

Gene: Bella96\_42 Start: 33333, Stop: 34421, Start Num: 157

Candidate Starts for Bella96\_42:

(Start: 157 @33333 has 270 MA's), (179, 33384), (Start: 204 @33435 has 6 MA's), (Start: 217 @33459 has 1 MA's), (235, 33495), (296, 33609), (306, 33633), (334, 33687), (396, 33771), (431, 33840), (520, 33993), (577, 34098), (646, 34185), (683, 34233), (730, 34377),

Gene: Belladonna\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Belladonna\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: BellusTerra\_33 Start: 26249, Stop: 25128, Start Num: 140

Candidate Starts for BellusTerra\_33:

(Start: 107 @26294 has 13 MA's), (Start: 124 @26267 has 2 MA's), (Start: 140 @26249 has 113 MA's), (Start: 180 @26180 has 8 MA's), (Start: 204 @26126 has 6 MA's), (315, 25907), (319, 25898), (360, 25862), (385, 25820), (391, 25808), (392, 25805), (431, 25727), (496, 25592), (520, 25574), (570, 25487), (583, 25460), (591, 25445), (608, 25427), (687, 25289), (702, 25241), (712, 25211), (714, 25205), (718, 25193), (733, 25154),

Gene: BenchScraper\_39 Start: 27267, Stop: 26128, Start Num: 157

Candidate Starts for BenchScraper\_39:

(Start: 157 @27267 has 270 MA's), (179, 27216), (267, 27048), (277, 27030), (344, 26898), (392, 26820), (396, 26808), (397, 26802), (431, 26733), (436, 26724), (466, 26664), (520, 26574), (579, 26469), (591, 26448), (613, 26421), (685, 26298), (693, 26274), (697, 26259), (721, 26184), (733, 26154),

Gene: BetterKatz\_39 Start: 31582, Stop: 30311, Start Num: 122

Candidate Starts for BetterKatz\_39:

(Start: 122 @31582 has 50 MA's), (133, 31567), (186, 31465), (207, 31423), (215, 31411), (253, 31336), (287, 31261), (293, 31252), (300, 31234), (365, 31135), (367, 31132), (404, 31042), (470, 30937), (522, 30835), (533, 30817), (613, 30673), (684, 30532), (698, 30487), (715, 30436), (718, 30427), (730, 30400), (734, 30388), (758, 30349),

Gene: Bialota\_37 Start: 31315, Stop: 32397, Start Num: 153

Candidate Starts for Bialota\_37:

(Start: 85 @31204 has 6 MA's), (Start: 153 @31315 has 52 MA's), (179, 31369), (236, 31489), (391, 31744), (402, 31774), (432, 31834), (466, 31900), (476, 31924), (693, 32254), (700, 32281), (739,

32386),

Gene: BiancaTri92\_35 Start: 27662, Stop: 26547, Start Num: 123

Candidate Starts for BiancaTri92\_35:

(Start: 105 @27692 has 1 MA's), (Start: 123 @27662 has 8 MA's), (Start: 173 @27611 has 14 MA's), (Start: 204 @27542 has 6 MA's), (227, 27497), (306, 27341), (308, 27338), (319, 27314), (360, 27278), (392, 27221), (431, 27143), (460, 27080), (520, 26990), (531, 26978), (570, 26903), (573, 26897), (583, 26876), (591, 26861), (608, 26843), (702, 26657), (712, 26627), (714, 26621), (718, 26609), (733, 26570),

Gene: BigPhil\_38 Start: 27903, Stop: 29021, Start Num: 157

Candidate Starts for BigPhil\_38:

(Start: 157 @27903 has 270 MA's), (231, 28074), (315, 28239), (334, 28275), (344, 28284), (392, 28365), (402, 28389), (434, 28458), (452, 28497), (460, 28515), (464, 28518), (471, 28530), (472, 28533), (476, 28545), (483, 28560), (494, 28584), (503, 28590), (526, 28611), (554, 28647), (556, 28650), (570, 28686), (573, 28692), (577, 28704), (579, 28707), (587, 28722), (646, 28791), (652, 28806), (685, 28848), (698, 28893), (701, 28902), (714, 28941), (720, 28959), (729, 28980), (734, 28995), (739, 29004), (741, 29007),

Gene: Biglebops\_36 Start: 31976, Stop: 33070, Start Num: 157

Candidate Starts for Biglebops\_36:

(28, 31625), (Start: 30 @31640 has 1 MA's), (46, 31733), (50, 31754), (79, 31847), (Start: 157 @31976 has 270 MA's), (179, 32027), (Start: 217 @32102 has 1 MA's), (235, 32138), (288, 32234), (296, 32252), (306, 32276), (329, 32324), (334, 32330), (416, 32462), (431, 32495), (452, 32540), (520, 32648), (577, 32753), (629, 32813), (683, 32888), (716, 32996), (730, 33032),

Gene: BillyTP\_42 Start: 29080, Stop: 27908, Start Num: 157

Candidate Starts for BillyTP\_42:

(Start: 157 @29080 has 270 MA's), (216, 28963), (267, 28861), (277, 28843), (344, 28711), (392, 28633), (396, 28621), (431, 28546), (436, 28537), (466, 28477), (520, 28387), (579, 28282), (591, 28261), (610, 28237), (613, 28234), (653, 28165), (685, 28111), (693, 28087), (697, 28072), (742, 27952), (758, 27925),

Gene: Bipolar\_39 Start: 31381, Stop: 32499, Start Num: 157

Candidate Starts for Bipolar\_39:

(Start: 157 @31381 has 270 MA's), (218, 31519), (231, 31552), (263, 31600), (315, 31717), (334, 31753), (344, 31762), (402, 31867), (434, 31936), (452, 31975), (464, 31996), (471, 32008), (472, 32011), (476, 32023), (483, 32038), (494, 32062), (503, 32068), (526, 32089), (554, 32125), (556, 32128), (570, 32164), (573, 32170), (579, 32185), (646, 32269), (652, 32284), (669, 32302), (685, 32326), (698, 32371), (701, 32380), (714, 32419), (720, 32437), (729, 32458), (734, 32473), (739, 32482), (741, 32485),

Gene: Birdsong\_47 Start: 32758, Stop: 33852, Start Num: 157

Candidate Starts for Birdsong\_47:

(62, 32578), (76, 32617), (Start: 157 @32758 has 270 MA's), (179, 32809), (218, 32887), (230, 32914), (263, 32959), (283, 33001), (315, 33073), (342, 33109), (360, 33118), (391, 33178), (396, 33193), (403, 33211), (452, 33310), (464, 33331), (471, 33343), (472, 33346), (476, 33358), (487, 33382), (556, 33460), (610, 33553), (655, 33625), (693, 33685), (712, 33748), (716, 33760), (741, 33820),

Gene: Bjaner7\_34 Start: 27585, Stop: 28778, Start Num: 85

Candidate Starts for Bjaner7\_34:



(Start: 82 @27579 has 2 MA's), (Start: 85 @27585 has 6 MA's), (Start: 153 @27696 has 52 MA's), (179, 27750), (236, 27870), (391, 28125), (402, 28155), (432, 28215), (466, 28281), (476, 28305), (528, 28374), (554, 28410), (693, 28635), (700, 28662), (739, 28767),

Gene: BlackSpider\_36 Start: 26664, Stop: 27788, Start Num: 157

Candidate Starts for BlackSpider\_36:

(51, 26439), (60, 26475), (Start: 157 @26664 has 270 MA's), (251, 26850), (344, 27027), (392, 27090), (396, 27102), (432, 27180), (440, 27192), (465, 27243), (511, 27324), (520, 27336), (540, 27363), (570, 27417), (692, 27627), (693, 27630), (697, 27645), (711, 27690), (721, 27720), (733, 27750),

Gene: Blarby\_54 Start: 32907, Stop: 34010, Start Num: 157

Candidate Starts for Blarby\_54:

(Start: 157 @32907 has 270 MA's), (179, 32955), (218, 33036), (230, 33063), (334, 33276), (363, 33300), (392, 33348), (431, 33429), (466, 33498), (471, 33507), (494, 33561), (520, 33582), (565, 33660), (573, 33675), (620, 33735), (646, 33774), (652, 33789), (677, 33813), (685, 33840), (693, 33864), (698, 33885), (701, 33894), (716, 33939), (720, 33951),

Gene: Blizzard\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for Blizzard\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: BlueBird\_34 Start: 26297, Stop: 25170, Start Num: 140

Candidate Starts for BlueBird\_34:

(Start: 140 @26297 has 113 MA's), (189, 26210), (Start: 204 @26174 has 6 MA's), (227, 26129), (306, 25973), (311, 25961), (315, 25955), (360, 25910), (391, 25856), (392, 25853), (431, 25775), (520, 25622), (531, 25610), (556, 25571), (570, 25535), (573, 25529), (583, 25508), (591, 25493), (608, 25475), (624, 25448), (687, 25337), (702, 25289), (712, 25259), (714, 25253), (718, 25241), (733, 25202),

Gene: BobaPhett\_43 Start: 33216, Stop: 34334, Start Num: 157

Candidate Starts for BobaPhett\_43:

(Start: 157 @33216 has 270 MA's), (218, 33354), (231, 33387), (263, 33435), (315, 33552), (334, 33588), (344, 33597), (402, 33702), (434, 33771), (464, 33831), (471, 33843), (472, 33846), (476, 33858), (483, 33873), (494, 33897), (503, 33903), (526, 33924), (554, 33960), (556, 33963), (570, 33999), (573, 34005), (577, 34017), (579, 34020), (646, 34104), (652, 34119), (685, 34161), (698, 34206), (701, 34215), (714, 34254), (720, 34272), (729, 34293), (734, 34308), (739, 34317), (741, 34320),

Gene: Bobby\_80 Start: 53134, Stop: 54363, Start Num: 128

Candidate Starts for Bobby\_80:

(Start: 128 @53134 has 28 MA's), (Start: 140 @53152 has 113 MA's), (Start: 161 @53191 has 1 MA's), (266, 53428), (315, 53536), (385, 53656), (386, 53659), (391, 53668), (396, 53683), (450, 53800), (519, 53917), (530, 53920), (536, 53929), (562, 53980), (563, 53983), (569, 54001), (628, 54097), (711, 54274), (712, 54277), (720, 54301), (729, 54325), (730, 54328),

Gene: Bobi\_46 Start: 33890, Stop: 35017, Start Num: 157

Candidate Starts for Bobi\_46:

(89, 33788), (Start: 121 @33845 has 2 MA's), (Start: 157 @33890 has 270 MA's), (159, 33899), (231, 34061), (258, 34112), (267, 34130), (288, 34175), (334, 34271), (344, 34280), (402, 34385), (434, 34454), (464, 34514), (471, 34526), (472, 34529), (476, 34541), (483, 34556), (494, 34580), (503,

34586), (526, 34607), (554, 34643), (556, 34646), (570, 34682), (573, 34688), (577, 34700), (579, 34703), (646, 34787), (652, 34802), (685, 34844), (698, 34889), (701, 34898), (714, 34937), (720, 34955), (729, 34976), (734, 34991), (739, 35000), (741, 35003),

Gene: Bock\_39 Start: 31274, Stop: 30003, Start Num: 122

Candidate Starts for Bock\_39:

(Start: 122 @31274 has 50 MA's), (133, 31259), (186, 31157), (207, 31115), (215, 31103), (253, 31028), (287, 30953), (293, 30944), (300, 30926), (365, 30827), (367, 30824), (404, 30734), (464, 30638), (470, 30629), (509, 30548), (522, 30527), (533, 30509), (573, 30434), (613, 30365), (684, 30224), (698, 30179), (715, 30128), (718, 30119), (730, 30092), (734, 30080), (758, 30041),

Gene: Boiiii\_41 Start: 32794, Stop: 33882, Start Num: 157

Candidate Starts for Boiiii\_41:

(Start: 157 @32794 has 270 MA's), (Start: 204 @32896 has 6 MA's), (Start: 217 @32920 has 1 MA's), (235, 32956), (306, 33094), (396, 33232), (431, 33301), (432, 33304), (520, 33454), (577, 33559), (683, 33694),

Gene: Bombitas\_71 Start: 50226, Stop: 51455, Start Num: 128

Candidate Starts for Bombitas\_71:

(Start: 128 @50226 has 28 MA's), (Start: 140 @50244 has 113 MA's), (Start: 161 @50283 has 1 MA's), (266, 50520), (315, 50628), (385, 50748), (386, 50751), (391, 50760), (396, 50775), (410, 50814), (450, 50892), (510, 50997), (519, 51009), (530, 51012), (536, 51021), (562, 51072), (563, 51075), (569, 51093), (628, 51189), (668, 51246), (711, 51366), (712, 51369), (720, 51393), (729, 51417), (730, 51420),

Gene: BoostSeason\_44 Start: 34144, Stop: 35244, Start Num: 157

Candidate Starts for BoostSeason\_44:

(Start: 157 @34144 has 270 MA's), (164, 34162), (179, 34195), (Start: 217 @34270 has 1 MA's), (235, 34306), (296, 34420), (306, 34444), (334, 34498), (418, 34639), (431, 34663), (432, 34666), (452, 34708), (520, 34816), (577, 34921), (617, 34966), (629, 34981), (716, 35173),

Gene: Bosnia\_39 Start: 32012, Stop: 33094, Start Num: 153

Candidate Starts for Bosnia\_39:

(Start: 85 @31901 has 6 MA's), (Start: 153 @32012 has 52 MA's), (179, 32066), (236, 32186), (298, 32297), (386, 32432), (432, 32531), (466, 32597), (476, 32621), (554, 32726), (693, 32951), (700, 32978), (716, 33026), (739, 33083),

Gene: BoyNamedSue\_39 Start: 31289, Stop: 32371, Start Num: 153

Candidate Starts for BoyNamedSue\_39:

(Start: 85 @31178 has 6 MA's), (Start: 153 @31289 has 52 MA's), (179, 31343), (236, 31463), (402, 31748), (432, 31808), (466, 31874), (476, 31898), (693, 32228), (716, 32303), (739, 32360),

Gene: Bradissa\_36 Start: 31469, Stop: 32551, Start Num: 153

Candidate Starts for Bradissa\_36:

(Start: 153 @31469 has 52 MA's), (211, 31586), (263, 31679), (391, 31901), (404, 31937), (432, 31991), (468, 32060), (472, 32069), (693, 32408), (700, 32435), (739, 32540),

Gene: Bran\_28 Start: 25552, Stop: 24428, Start Num: 176

Candidate Starts for Bran\_28:

(Start: 176 @25552 has 3 MA's), (187, 25537), (198, 25513), (262, 25399), (280, 25360), (299, 25318), (311, 25285), (316, 25276), (330, 25249), (342, 25231), (394, 25132), (400, 25111), (409, 25087), (448, 25027), (475, 24985), (480, 24973), (485, 24967), (495, 24946), (534, 24892), (536, 24889), (538, 24886), (550, 24865), (588, 24781), (595, 24775), (606, 24757), (619, 24727), (665,

24670), (693, 24613), (697, 24598), (698, 24592), (701, 24583), (704, 24574), (706, 24571), (712, 24550), (714, 24544), (720, 24526), (729, 24502), (738, 24481), (740, 24478), (744, 24469),

Gene: BrayBeast\_32 Start: 24672, Stop: 23518, Start Num: 157

Candidate Starts for BrayBeast\_32:

(Start: 157 @24672 has 270 MA's), (Start: 180 @24618 has 8 MA's), (296, 24369), (315, 24324), (324, 24303), (326, 24300), (346, 24276), (396, 24177), (402, 24162), (445, 24078), (540, 23919), (570, 23865), (581, 23841), (591, 23823), (613, 23796), (629, 23769), (646, 23742), (652, 23727), (658, 23718), (697, 23634), (698, 23628), (701, 23619), (716, 23574), (727, 23544),

Gene: BreSam8\_36 Start: 26783, Stop: 25638, Start Num: 140

Candidate Starts for BreSam8\_36:

(Start: 140 @26783 has 113 MA's), (Start: 165 @26744 has 10 MA's), (189, 26696), (Start: 204 @26660 has 6 MA's), (227, 26615), (306, 26459), (319, 26432), (360, 26396), (392, 26339), (431, 26261), (444, 26237), (460, 26198), (496, 26126), (515, 26114), (520, 26108), (531, 26096), (570, 26021), (573, 26015), (583, 25994), (591, 25979), (608, 25961), (621, 25937), (687, 25823), (701, 25778), (702, 25775), (706, 25766), (712, 25745), (714, 25739), (718, 25727), (733, 25688),

Gene: Bridgette\_38 Start: 26661, Stop: 27803, Start Num: 157

Candidate Starts for Bridgette\_38:

(146, 26646), (151, 26655), (Start: 157 @26661 has 270 MA's), (329, 27015), (334, 27021), (349, 27039), (402, 27147), (431, 27207), (476, 27300), (556, 27420), (574, 27468), (591, 27498), (652, 27594), (701, 27702), (727, 27777),

Gene: Brocalys\_36 Start: 27204, Stop: 28322, Start Num: 157

Candidate Starts for Brocalys\_36:

(Start: 157 @27204 has 270 MA's), (159, 27213), (231, 27375), (315, 27540), (334, 27576), (344, 27585), (392, 27666), (402, 27690), (434, 27759), (452, 27798), (460, 27816), (464, 27819), (471, 27831), (472, 27834), (476, 27846), (483, 27861), (494, 27885), (503, 27891), (526, 27912), (554, 27948), (556, 27951), (570, 27987), (573, 27993), (579, 28008), (587, 28023), (646, 28092), (652, 28107), (685, 28149), (698, 28194), (701, 28203), (714, 28242), (720, 28260), (729, 28281), (734, 28296), (739, 28305), (741, 28308),

Gene: Brylie\_39 Start: 31322, Stop: 30051, Start Num: 122

Candidate Starts for Brylie\_39:

(Start: 122 @31322 has 50 MA's), (133, 31307), (186, 31205), (207, 31163), (215, 31151), (253, 31076), (287, 31001), (293, 30992), (300, 30974), (365, 30875), (367, 30872), (404, 30782), (470, 30677), (517, 30581), (522, 30575), (613, 30413), (684, 30272), (698, 30227), (715, 30176), (718, 30167), (723, 30152), (730, 30140), (734, 30128), (758, 30089),

Gene: Brynnie\_33 Start: 24636, Stop: 23452, Start Num: 122

Candidate Starts for Brynnie\_33:

(Start: 122 @24636 has 50 MA's), (241, 24417), (309, 24282), (359, 24207), (367, 24192), (459, 23991), (467, 23982), (579, 23784), (586, 23772), (597, 23754), (609, 23739), (682, 23637), (688, 23610), (692, 23601),

Gene: Budski\_49 Start: 33439, Stop: 34533, Start Num: 157

Candidate Starts for Budski\_49:

(109, 33394), (Start: 157 @33439 has 270 MA's), (179, 33490), (230, 33595), (263, 33640), (283, 33682), (342, 33790), (360, 33799), (386, 33850), (396, 33874), (403, 33892), (452, 33991), (471, 34024), (472, 34027), (476, 34039), (487, 34063), (583, 34204), (610, 34234), (655, 34306), (663, 34315), (693, 34366), (694, 34369), (701, 34396), (706, 34408), (741, 34501),

Gene: Bugatti\_33 Start: 26297, Stop: 25170, Start Num: 140

Candidate Starts for Bugatti\_33:

(Start: 140 @26297 has 113 MA's), (189, 26210), (Start: 204 @26174 has 6 MA's), (227, 26129), (306, 25973), (311, 25961), (315, 25955), (360, 25910), (391, 25856), (392, 25853), (431, 25775), (520, 25622), (531, 25610), (556, 25571), (570, 25535), (573, 25529), (583, 25508), (591, 25493), (608, 25475), (624, 25448), (687, 25337), (702, 25289), (712, 25259), (714, 25253), (718, 25241), (733, 25202),

Gene: Buggy\_36 Start: 26995, Stop: 25874, Start Num: 140

Candidate Starts for Buggy\_36:

(Start: 98 @27058 has 1 MA's), (Start: 140 @26995 has 113 MA's), (Start: 173 @26941 has 14 MA's), (Start: 204 @26872 has 6 MA's), (227, 26827), (294, 26701), (319, 26644), (360, 26608), (391, 26554), (392, 26551), (452, 26428), (460, 26410), (520, 26320), (531, 26308), (570, 26233), (573, 26227), (583, 26206), (591, 26191), (608, 26173), (702, 25987), (712, 25957), (714, 25951), (718, 25939), (733, 25900),

Gene: Bunnybear\_33 Start: 29696, Stop: 30778, Start Num: 153

Candidate Starts for Bunnybear\_33:

(Start: 85 @29585 has 6 MA's), (Start: 153 @29696 has 52 MA's), (179, 29750), (236, 29870), (402, 30155), (432, 30215), (466, 30281), (476, 30305), (554, 30410), (693, 30635), (700, 30662), (739, 30767),

Gene: Byougenkin\_40 Start: 32001, Stop: 33119, Start Num: 157

Candidate Starts for Byougenkin\_40:

(Start: 157 @32001 has 270 MA's), (218, 32139), (231, 32172), (263, 32220), (334, 32373), (344, 32382), (392, 32463), (434, 32556), (464, 32616), (471, 32628), (472, 32631), (494, 32682), (526, 32709), (554, 32745), (556, 32748), (570, 32784), (646, 32889), (652, 32904), (685, 32946), (698, 32991), (701, 33000), (714, 33039), (720, 33057), (729, 33078), (734, 33093), (739, 33102), (741, 33105),

Gene: C3\_31 Start: 26345, Stop: 25275, Start Num: 173

Candidate Starts for C3\_31:

(102, 26453), (Start: 140 @26399 has 113 MA's), (Start: 173 @26345 has 14 MA's), (Start: 204 @26276 has 6 MA's), (306, 26075), (319, 26048), (360, 26012), (391, 25958), (392, 25955), (400, 25928), (431, 25877), (448, 25844), (452, 25832), (460, 25814), (496, 25742), (520, 25724), (531, 25712), (556, 25673), (570, 25637), (573, 25631), (583, 25610), (591, 25595), (608, 25577), (624, 25550), (687, 25439), (702, 25391), (703, 25388), (712, 25361), (714, 25355), (718, 25343), (733, 25304),

Gene: CREW\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for CREW\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: Cafasso\_35 Start: 30421, Stop: 29294, Start Num: 120

Candidate Starts for Cafasso\_35:

(11, 30901), (Start: 120 @30421 has 9 MA's), (Start: 158 @30367 has 2 MA's), (207, 30262), (297, 30091), (352, 30001), (373, 29965), (422, 29851), (456, 29812), (471, 29788), (533, 29692), (611, 29560), (637, 29515), (688, 29443), (733, 29317),

Gene: Capricorn\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Capricorn\_41:

(15, 31974), (16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: CaptainTrips\_41 Start: 32330, Stop: 33448, Start Num: 157

Candidate Starts for CaptainTrips\_41:

(Start: 157 @32330 has 270 MA's), (159, 32339), (231, 32501), (263, 32549), (315, 32666), (334, 32702), (344, 32711), (402, 32816), (434, 32885), (452, 32924), (460, 32942), (464, 32945), (471, 32957), (472, 32960), (476, 32972), (494, 33011), (503, 33017), (526, 33038), (554, 33074), (556, 33077), (570, 33113), (573, 33119), (577, 33131), (579, 33134), (587, 33149), (646, 33218), (652, 33233), (669, 33251), (685, 33275), (698, 33320), (701, 33329), (714, 33368), (720, 33386), (729, 33407), (734, 33422), (739, 33431), (741, 33434),

Gene: Caraxes\_33 Start: 24997, Stop: 23882, Start Num: 144

Candidate Starts for Caraxes\_33:

(Start: 144 @24997 has 6 MA's), (Start: 173 @24949 has 14 MA's), (189, 24916), (Start: 204 @24880 has 6 MA's), (227, 24835), (311, 24667), (319, 24652), (360, 24616), (385, 24574), (391, 24562), (392, 24559), (436, 24472), (444, 24457), (520, 24328), (531, 24316), (546, 24295), (556, 24277), (570, 24241), (583, 24214), (591, 24199), (608, 24181), (624, 24154), (687, 24043), (702, 23995), (712, 23965), (714, 23959), (718, 23947), (733, 23908),

Gene: Cardigan\_99 Start: 58096, Stop: 59343, Start Num: 170

Candidate Starts for Cardigan\_99:

(94, 57970), (Start: 170 @58096 has 2 MA's), (250, 58261), (264, 58288), (269, 58300), (295, 58351), (310, 58387), (322, 58405), (358, 58456), (397, 58546), (404, 58567), (458, 58678), (473, 58702), (476, 58711), (483, 58726), (520, 58777), (569, 58861), (602, 58921), (607, 58930), (667, 59038), (682, 59080), (695, 59131), (710, 59179), (718, 59200), (730, 59233), (739, 59254), (755, 59281), (766, 59314),

Gene: CaseJules\_42 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for CaseJules\_42:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Cashline\_38 Start: 32110, Stop: 33216, Start Num: 157

Candidate Starts for Cashline\_38:

(110, 32053), (Start: 157 @32110 has 270 MA's), (179, 32161), (230, 32266), (256, 32305), (396, 32545), (431, 32614), (432, 32617), (436, 32623), (448, 32647), (472, 32698), (476, 32710), (620, 32938), (661, 32998), (693, 33073), (701, 33103), (739, 33205),

Gene: Catfish\_37 Start: 28481, Stop: 27369, Start Num: 178

Candidate Starts for Catfish\_37:

(Start: 178 @28481 has 14 MA's), (201, 28439), (268, 28313), (380, 28112), (399, 28055), (413, 28028), (461, 27932), (478, 27899), (483, 27890), (558, 27782), (623, 27653), (701, 27467), (715, 27428), (730, 27389),

Gene: Centaur\_35 Start: 26808, Stop: 25675, Start Num: 120

Candidate Starts for Centaur\_35:

(Start: 120 @26808 has 9 MA's), (Start: 173 @26754 has 14 MA's), (Start: 204 @26685 has 6 MA's), (227, 26640), (306, 26484), (319, 26457), (360, 26421), (392, 26364), (452, 26241), (460, 26223), (520, 26133), (531, 26121), (570, 26046), (573, 26040), (583, 26019), (591, 26004), (608, 25986), (624, 25959), (630, 25950), (687, 25848), (702, 25800), (712, 25770), (714, 25764), (718, 25752),

(733, 25713),

Gene: Cerasum\_38 Start: 27921, Stop: 29039, Start Num: 157

Candidate Starts for Cerasum\_38:

(Start: 157 @27921 has 270 MA's), (231, 28092), (315, 28257), (334, 28293), (344, 28302), (392, 28383), (402, 28407), (434, 28476), (452, 28515), (460, 28533), (464, 28536), (471, 28548), (472, 28551), (476, 28563), (483, 28578), (494, 28602), (503, 28608), (526, 28629), (554, 28665), (556, 28668), (570, 28704), (573, 28710), (577, 28722), (579, 28725), (587, 28740), (646, 28809), (652, 28824), (685, 28866), (698, 28911), (701, 28920), (714, 28959), (720, 28977), (729, 28998), (734, 29013), (739, 29022), (741, 29025),

Gene: Cerulean\_34 Start: 26519, Stop: 25467, Start Num: 180

Candidate Starts for Cerulean\_34:

(Start: 107 @26633 has 13 MA's), (Start: 124 @26606 has 2 MA's), (Start: 140 @26588 has 113 MA's), (Start: 180 @26519 has 8 MA's), (Start: 204 @26465 has 6 MA's), (315, 26246), (319, 26237), (360, 26201), (385, 26159), (391, 26147), (392, 26144), (496, 25931), (520, 25913), (570, 25826), (573, 25820), (583, 25799), (591, 25784), (608, 25766), (687, 25628), (702, 25580), (712, 25550), (714, 25544), (718, 25532), (733, 25493),

Gene: ChampagnePapi\_34 Start: 26518, Stop: 25466, Start Num: 180

Candidate Starts for ChampagnePapi\_34:

(Start: 124 @26605 has 2 MA's), (Start: 140 @26587 has 113 MA's), (Start: 180 @26518 has 8 MA's), (Start: 204 @26464 has 6 MA's), (315, 26245), (319, 26236), (360, 26200), (385, 26158), (391, 26146), (392, 26143), (496, 25930), (520, 25912), (570, 25825), (573, 25819), (583, 25798), (591, 25783), (608, 25765), (687, 25627), (702, 25579), (712, 25549), (714, 25543), (718, 25531), (733, 25492),

Gene: Che12\_36 Start: 25378, Stop: 24263, Start Num: 144

Candidate Starts for Che12\_36:

(Start: 144 @25378 has 6 MA's), (189, 25297), (Start: 204 @25261 has 6 MA's), (227, 25216), (276, 25129), (311, 25048), (360, 24997), (385, 24955), (391, 24943), (392, 24940), (431, 24862), (483, 24754), (496, 24727), (520, 24709), (531, 24697), (546, 24676), (570, 24622), (583, 24595), (591, 24580), (608, 24562), (624, 24535), (687, 24424), (702, 24376), (712, 24346), (714, 24340), (718, 24328), (733, 24289),

Gene: Che9c\_41 Start: 33550, Stop: 32348, Start Num: 137

Candidate Starts for Che9c\_41:

(Start: 137 @33550 has 7 MA's), (177, 33478), (Start: 178 @33475 has 14 MA's), (188, 33457), (196, 33445), (250, 33340), (300, 33229), (302, 33226), (334, 33163), (382, 33082), (401, 33028), (444, 32953), (478, 32878), (515, 32824), (520, 32818), (613, 32641), (614, 32638), (615, 32635), (629, 32614), (650, 32578), (693, 32512), (697, 32497), (718, 32431),

Gene: CheeseTouch\_54 Start: 30887, Stop: 31984, Start Num: 157

Candidate Starts for CheeseTouch\_54:

(56, 30722), (59, 30731), (125, 30857), (Start: 157 @30887 has 270 MA's), (179, 30938), (218, 31016), (230, 31043), (283, 31130), (311, 31196), (315, 31202), (391, 31307), (392, 31310), (396, 31322), (452, 31439), (464, 31460), (468, 31466), (476, 31487), (526, 31559), (573, 31643), (655, 31766), (690, 31817), (693, 31826), (700, 31853), (741, 31961), (750, 31976),

Gene: CheetoDust\_40 Start: 31967, Stop: 33055, Start Num: 157

Candidate Starts for CheetoDust\_40:

(50, 31745), (Start: 157 @31967 has 270 MA's), (179, 32018), (Start: 204 @32069 has 6 MA's), (Start: 217 @32093 has 1 MA's), (235, 32129), (306, 32267), (334, 32321), (396, 32405), (431, 32474), (432,

32477), (520, 32627), (577, 32732), (646, 32819), (683, 32867),

Gene: Chickaboom\_38 Start: 24192, Stop: 23065, Start Num: 159

Candidate Starts for Chickaboom\_38:

(Start: 122 @24249 has 50 MA's), (159, 24192), (241, 24030), (246, 24021), (309, 23895), (350, 23832), (359, 23820), (367, 23805), (404, 23715), (459, 23604), (515, 23511), (579, 23397), (586, 23385), (597, 23367), (688, 23223), (692, 23214),

Gene: ChipMunk\_36 Start: 28148, Stop: 27003, Start Num: 113

Candidate Starts for ChipMunk\_36:

(Start: 113 @28148 has 7 MA's), (Start: 127 @28130 has 7 MA's), (Start: 180 @28049 has 8 MA's), (Start: 204 @28001 has 6 MA's), (227, 27956), (306, 27800), (315, 27782), (319, 27773), (360, 27737), (385, 27695), (392, 27680), (396, 27668), (431, 27602), (448, 27569), (452, 27557), (460, 27539), (520, 27449), (531, 27437), (570, 27362), (573, 27356), (583, 27335), (591, 27320), (608, 27302), (624, 27275), (630, 27266), (687, 27164), (702, 27116), (703, 27113), (712, 27086), (714, 27080), (718, 27068), (733, 27029),

Gene: Chop\_39 Start: 31803, Stop: 30532, Start Num: 122

Candidate Starts for Chop\_39:

(Start: 122 @31803 has 50 MA's), (133, 31788), (186, 31686), (207, 31644), (215, 31632), (253, 31557), (287, 31482), (293, 31473), (300, 31455), (365, 31356), (367, 31353), (404, 31263), (470, 31158), (517, 31062), (522, 31056), (613, 30894), (684, 30753), (698, 30708), (715, 30657), (718, 30648), (723, 30633), (730, 30621), (734, 30609), (758, 30570),

Gene: Chris\_43 Start: 33288, Stop: 34373, Start Num: 157

Candidate Starts for Chris\_43:

(Start: 157 @33288 has 270 MA's), (235, 33450), (265, 33495), (306, 33588), (326, 33630), (396, 33726), (402, 33741), (431, 33795), (432, 33798), (436, 33804), (452, 33840), (520, 33948), (577, 34053), (646, 34140), (671, 34176), (683, 34188), (716, 34296), (734, 34344),

Gene: ChuckDuck\_39 Start: 26485, Stop: 27627, Start Num: 157

Candidate Starts for ChuckDuck\_39:

(24, 26068), (27, 26098), (33, 26158), (36, 26188), (54, 26278), (64, 26314), (92, 26386), (97, 26395), (Start: 157 @26485 has 270 MA's), (329, 26839), (334, 26845), (349, 26863), (402, 26971), (431, 27031), (476, 27124), (556, 27244), (574, 27292), (591, 27322), (652, 27418), (701, 27526), (727, 27601),

Gene: Chymera\_32 Start: 24210, Stop: 22924, Start Num: 140

Candidate Starts for Chymera\_32:

(Start: 140 @24210 has 113 MA's), (146, 24201), (171, 24156), (300, 23862), (354, 23760), (371, 23730), (373, 23727), (444, 23547), (465, 23502), (467, 23499), (556, 23358), (559, 23352), (577, 23304), (701, 23067), (721, 23007), (731, 22983),

Gene: Clap\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for Clap\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (528, 28553), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Clark\_39 Start: 28996, Stop: 30123, Start Num: 157

Candidate Starts for Clark\_39:

(126, 28957), (Start: 157 @28996 has 270 MA's), (179, 29050), (230, 29173), (248, 29206), (298, 29296), (311, 29329), (431, 29524), (432, 29527), (452, 29569), (472, 29605), (658, 29902), (693,

29980), (700, 30007), (706, 30022), (714, 30049), (739, 30112),

Gene: Clifton\_35 Start: 27555, Stop: 28673, Start Num: 157

Candidate Starts for Clifton\_35:

(Start: 157 @27555 has 270 MA's), (159, 27564), (231, 27726), (315, 27891), (334, 27927), (344, 27936), (392, 28017), (402, 28041), (434, 28110), (452, 28149), (460, 28167), (464, 28170), (471, 28182), (472, 28185), (476, 28197), (483, 28212), (494, 28236), (503, 28242), (526, 28263), (554, 28299), (556, 28302), (570, 28338), (573, 28344), (579, 28359), (587, 28374), (646, 28443), (652, 28458), (685, 28500), (698, 28545), (701, 28554), (714, 28593), (720, 28611), (729, 28632), (734, 28647), (739, 28656), (741, 28659),

Gene: ClubL\_83 Start: 50811, Stop: 52109, Start Num: 168

Candidate Starts for ClubL\_83:

(Start: 168 @50811 has 12 MA's), (200, 50877), (250, 50979), (264, 51006), (269, 51018), (282, 51048), (303, 51087), (310, 51105), (352, 51171), (358, 51180), (396, 51264), (438, 51354), (527, 51513), (531, 51519), (533, 51522), (592, 51648), (629, 51717), (675, 51795), (686, 51846), (695, 51873), (707, 51909), (708, 51912), (709, 51915), (710, 51921), (715, 51933), (717, 51939), (718, 51942), (719, 51945), (730, 51975), (751, 52023), (757, 52032), (766, 52062),

Gene: Coco12\_40 Start: 31978, Stop: 33096, Start Num: 157

Candidate Starts for Coco12\_40:

(Start: 157 @31978 has 270 MA's), (231, 32149), (315, 32314), (334, 32350), (344, 32359), (392, 32440), (402, 32464), (434, 32533), (452, 32572), (460, 32590), (464, 32593), (471, 32605), (472, 32608), (476, 32620), (483, 32635), (494, 32659), (503, 32665), (526, 32686), (554, 32722), (556, 32725), (570, 32761), (573, 32767), (577, 32779), (579, 32782), (587, 32797), (646, 32866), (652, 32881), (685, 32923), (698, 32968), (701, 32977), (714, 33016), (720, 33034), (729, 33055), (734, 33070), (739, 33079), (741, 33082),

Gene: Colbster\_36 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for Colbster\_36:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701, 25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: Colin\_37 Start: 27841, Stop: 26711, Start Num: 139

Candidate Starts for Colin\_37:

(Start: 139 @27841 has 2 MA's), (Start: 204 @27721 has 6 MA's), (227, 27676), (315, 27502), (319, 27493), (360, 27457), (391, 27403), (392, 27400), (431, 27322), (448, 27289), (452, 27277), (520, 27169), (531, 27157), (570, 27082), (583, 27055), (591, 27040), (608, 27022), (624, 26995), (702, 26836), (712, 26806), (714, 26800), (718, 26788), (733, 26749),

Gene: Colleen\_32 Start: 30114, Stop: 28903, Start Num: 87

Candidate Starts for Colleen\_32:

(Start: 87 @30114 has 4 MA's), (189, 29940), (260, 29799), (357, 29640), (432, 29490), (476, 29400), (642, 29136), (661, 29100), (665, 29094), (730, 28929), (736, 28914), (738, 28911),

Gene: Commander\_33 Start: 26250, Stop: 25129, Start Num: 140

Candidate Starts for Commander\_33:

(Start: 107 @26295 has 13 MA's), (Start: 124 @26268 has 2 MA's), (Start: 140 @26250 has 113 MA's), (Start: 180 @26181 has 8 MA's), (Start: 204 @26127 has 6 MA's), (315, 25908), (319, 25899), (360, 25863), (385, 25821), (391, 25809), (392, 25806), (431, 25728), (496, 25593), (520, 25575),



(570, 25488), (583, 25461), (591, 25446), (608, 25428), (687, 25290), (702, 25242), (712, 25212), (714, 25206), (718, 25194), (733, 25155),

Gene: Confidence\_37 Start: 29321, Stop: 30403, Start Num: 153

Candidate Starts for Confidence\_37:

(Start: 153 @29321 has 52 MA's), (211, 29438), (263, 29531), (391, 29753), (404, 29789), (432, 29843), (468, 29912), (693, 30260), (700, 30287), (712, 30323), (739, 30392),

Gene: Constance\_38 Start: 26814, Stop: 27956, Start Num: 157

Candidate Starts for Constance\_38:

(72, 26667), (78, 26679), (81, 26688), (95, 26721), (Start: 123 @26769 has 8 MA's), (135, 26784), (Start: 157 @26814 has 270 MA's), (334, 27174), (349, 27192), (402, 27300), (431, 27360), (476, 27453), (556, 27573), (574, 27621), (591, 27651), (652, 27747), (701, 27855), (727, 27930),

Gene: Constella\_68 Start: 47200, Stop: 48429, Start Num: 128

Candidate Starts for Constella\_68:

(Start: 128 @47200 has 28 MA's), (Start: 140 @47218 has 113 MA's), (Start: 161 @47257 has 1 MA's), (266, 47494), (315, 47602), (385, 47722), (386, 47725), (391, 47734), (396, 47749), (410, 47788), (450, 47866), (519, 47983), (530, 47986), (536, 47995), (562, 48046), (563, 48049), (569, 48067), (628, 48163), (668, 48220), (711, 48340), (712, 48343), (720, 48367), (729, 48391), (730, 48394),

Gene: CookieBear\_41 Start: 27769, Stop: 26630, Start Num: 157

Candidate Starts for CookieBear\_41:

(Start: 157 @27769 has 270 MA's), (179, 27718), (267, 27550), (277, 27532), (344, 27400), (385, 27337), (392, 27322), (396, 27310), (397, 27304), (431, 27235), (436, 27226), (466, 27166), (520, 27076), (579, 26971), (591, 26950), (613, 26923), (685, 26800), (693, 26776), (697, 26761), (721, 26686), (733, 26656),

Gene: Coral\_36 Start: 23868, Stop: 22681, Start Num: 122

Candidate Starts for Coral\_36:

(75, 23958), (Start: 122 @23868 has 50 MA's), (359, 23439), (586, 23004), (682, 22869),

Gene: Cornucopia\_45 Start: 32843, Stop: 33970, Start Num: 157

Candidate Starts for Cornucopia\_45:

(89, 32741), (Start: 121 @32798 has 2 MA's), (Start: 157 @32843 has 270 MA's), (159, 32852), (231, 33014), (258, 33065), (267, 33083), (288, 33128), (334, 33224), (344, 33233), (392, 33314), (402, 33338), (434, 33407), (452, 33446), (464, 33467), (471, 33479), (472, 33482), (476, 33494), (483, 33509), (494, 33533), (526, 33560), (554, 33596), (556, 33599), (570, 33635), (587, 33671), (646, 33740), (652, 33755), (669, 33773), (685, 33797), (698, 33842), (701, 33851), (706, 33863), (714, 33890), (720, 33908), (729, 33929), (734, 33944), (739, 33953), (741, 33956),

Gene: Cote\_38 Start: 24345, Stop: 23158, Start Num: 122

Candidate Starts for Cote\_38:

(75, 24435), (Start: 122 @24345 has 50 MA's), (359, 23916), (586, 23481), (682, 23346),

Gene: Courthouse\_82 Start: 49663, Stop: 50937, Start Num: 107

Candidate Starts for Courthouse\_82:

(80, 49606), (Start: 99 @49648 has 1 MA's), (Start: 107 @49663 has 13 MA's), (Start: 108 @49666 has 1 MA's), (Start: 140 @49711 has 113 MA's), (Start: 161 @49750 has 1 MA's), (334, 50131), (385, 50215), (391, 50227), (392, 50230), (450, 50359), (530, 50479), (563, 50542), (569, 50560), (582, 50584), (628, 50656), (711, 50833), (712, 50836), (714, 50842), (720, 50860), (725, 50875), (729, 50884), (730, 50887), (750, 50932),

Gene: Crater\_49 Start: 32565, Stop: 33662, Start Num: 157

Candidate Starts for Crater\_49:

(62, 32385), (76, 32424), (Start: 157 @32565 has 270 MA's), (179, 32616), (218, 32694), (230, 32721), (263, 32766), (279, 32799), (283, 32808), (391, 32985), (392, 32988), (436, 33081), (452, 33117), (471, 33150), (472, 33153), (476, 33165), (583, 33330), (610, 33360), (655, 33432), (685, 33468), (693, 33492), (700, 33519), (716, 33567), (720, 33579), (741, 33627),

Gene: CrimD\_41 Start: 32723, Stop: 33811, Start Num: 157

Candidate Starts for CrimD\_41:

(Start: 157 @32723 has 270 MA's), (Start: 204 @32825 has 6 MA's), (Start: 217 @32849 has 1 MA's), (235, 32885), (306, 33023), (334, 33077), (396, 33161), (431, 33230), (432, 33233), (520, 33383), (565, 33461), (577, 33488), (683, 33623), (730, 33767),

Gene: Crucio\_34 Start: 26336, Stop: 25269, Start Num: 173

Candidate Starts for Crucio\_34:

(Start: 98 @26453 has 1 MA's), (Start: 140 @26390 has 113 MA's), (Start: 173 @26336 has 14 MA's), (Start: 204 @26267 has 6 MA's), (227, 26222), (294, 26096), (315, 26048), (319, 26039), (360, 26003), (391, 25949), (392, 25946), (452, 25823), (460, 25805), (476, 25775), (515, 25721), (520, 25715), (531, 25703), (570, 25628), (573, 25622), (583, 25601), (591, 25586), (608, 25568), (624, 25541), (687, 25430), (702, 25382), (712, 25352), (714, 25346), (718, 25334), (733, 25295),

Gene: Cucurbita\_85 Start: 52630, Stop: 53928, Start Num: 168

Candidate Starts for Cucurbita\_85:

(Start: 168 @52630 has 12 MA's), (200, 52696), (250, 52798), (264, 52825), (269, 52837), (282, 52867), (303, 52906), (310, 52924), (352, 52990), (358, 52999), (396, 53083), (438, 53173), (527, 53332), (531, 53338), (533, 53341), (592, 53467), (629, 53536), (675, 53614), (686, 53665), (695, 53692), (707, 53728), (708, 53731), (709, 53734), (710, 53740), (715, 53752), (717, 53758), (718, 53761), (719, 53764), (730, 53794), (751, 53842), (757, 53851), (766, 53881),

Gene: Cullens\_36 Start: 26789, Stop: 25644, Start Num: 140

Candidate Starts for Cullens\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701, 25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: Culver\_85 Start: 50733, Stop: 52031, Start Num: 168

Candidate Starts for Culver\_85:

(114, 50664), (Start: 168 @50733 has 12 MA's), (243, 50892), (269, 50940), (282, 50970), (303, 51009), (310, 51027), (313, 51033), (358, 51102), (476, 51357), (527, 51435), (531, 51441), (533, 51444), (616, 51621), (629, 51639), (667, 51705), (682, 51744), (686, 51768), (695, 51795), (707, 51831), (708, 51834), (709, 51837), (710, 51843), (715, 51855), (717, 51861), (718, 51864), (719, 51867), (730, 51897), (751, 51945), (757, 51954), (765, 51981), (766, 51984), (768, 51999),

Gene: Cynthia\_37 Start: 27764, Stop: 28957, Start Num: 85

Candidate Starts for Cynthia\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: D29\_33 Start: 26474, Stop: 25350, Start Num: 140

Candidate Starts for D29\_33:

(Start: 140 @26474 has 113 MA's), (Start: 173 @26420 has 14 MA's), (Start: 204 @26351 has 6 MA's), (306, 26150), (308, 26147), (319, 26123), (360, 26087), (392, 26030), (400, 26003), (431, 25952), (448, 25919), (452, 25907), (460, 25889), (496, 25817), (520, 25799), (531, 25787), (570, 25712), (573, 25706), (583, 25685), (591, 25670), (608, 25652), (624, 25625), (687, 25514), (702, 25466), (703, 25463), (712, 25436), (714, 25430), (718, 25418), (733, 25379),

Gene: D32\_37 Start: 26474, Stop: 25350, Start Num: 140

Candidate Starts for D32\_37:

(Start: 140 @26474 has 113 MA's), (Start: 173 @26420 has 14 MA's), (Start: 204 @26351 has 6 MA's), (306, 26150), (308, 26147), (319, 26123), (360, 26087), (392, 26030), (400, 26003), (431, 25952), (448, 25919), (452, 25907), (460, 25889), (496, 25817), (520, 25799), (531, 25787), (570, 25712), (573, 25706), (583, 25685), (591, 25670), (608, 25652), (624, 25625), (687, 25514), (702, 25466), (703, 25463), (712, 25436), (714, 25430), (718, 25418), (733, 25379),

Gene: DBQu4n\_37 Start: 26474, Stop: 25350, Start Num: 140

Candidate Starts for DBQu4n\_37:

(Start: 140 @26474 has 113 MA's), (Start: 173 @26420 has 14 MA's), (Start: 204 @26351 has 6 MA's), (306, 26150), (319, 26123), (360, 26087), (392, 26030), (400, 26003), (431, 25952), (448, 25919), (452, 25907), (460, 25889), (496, 25817), (520, 25799), (531, 25787), (556, 25748), (570, 25712), (573, 25706), (583, 25685), (591, 25670), (608, 25652), (624, 25625), (687, 25514), (702, 25466), (703, 25463), (712, 25436), (714, 25430), (718, 25418), (733, 25379),

Gene: DLane\_41 Start: 32255, Stop: 33373, Start Num: 157

Candidate Starts for DLane\_41:

(Start: 157 @32255 has 270 MA's), (231, 32426), (315, 32591), (334, 32627), (344, 32636), (434, 32810), (452, 32849), (464, 32870), (471, 32882), (472, 32885), (476, 32897), (494, 32936), (503, 32942), (526, 32963), (554, 32999), (556, 33002), (570, 33038), (573, 33044), (579, 33059), (646, 33143), (652, 33158), (685, 33200), (698, 33245), (701, 33254), (714, 33293), (720, 33311), (729, 33332), (734, 33347), (739, 33356), (741, 33359),

Gene: DRBy19\_43 Start: 32003, Stop: 33121, Start Num: 157

Candidate Starts for DRBy19\_43:

(Start: 157 @32003 has 270 MA's), (218, 32141), (231, 32174), (263, 32222), (315, 32339), (334, 32375), (344, 32384), (402, 32489), (434, 32558), (464, 32618), (471, 32630), (472, 32633), (476, 32645), (483, 32660), (494, 32684), (503, 32690), (526, 32711), (554, 32747), (556, 32750), (570, 32786), (573, 32792), (577, 32804), (579, 32807), (646, 32891), (652, 32906), (685, 32948), (698, 32993), (701, 33002), (714, 33041), (720, 33059), (729, 33080), (734, 33095), (739, 33104), (741, 33107),

Gene: DaHudson\_36 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for DaHudson\_36:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Daegal\_30 Start: 26772, Stop: 25579, Start Num: 152

Candidate Starts for Daegal\_30:

(Start: 124 @26814 has 2 MA's), (Start: 152 @26772 has 20 MA's), (187, 26706), (225, 26625), (241, 26586), (250, 26571), (254, 26565), (258, 26553), (273, 26526), (289, 26493), (315, 26436), (332, 26403), (334, 26400), (368, 26352), (385, 26310), (386, 26307), (396, 26283), (400, 26268), (408,

26244), (419, 26229), (444, 26190), (449, 26178), (469, 26139), (484, 26100), (520, 26052), (522, 26049), (562, 25977), (564, 25971), (568, 25959), (569, 25956), (571, 25950), (604, 25896), (612, 25878), (613, 25875), (629, 25848), (647, 25821), (683, 25779), (691, 25752), (693, 25746), (710, 25689), (732, 25626), (733, 25623),

Gene: Dallas\_80 Start: 51984, Stop: 53213, Start Num: 128

Candidate Starts for Dallas\_80:

(Start: 128 @51984 has 28 MA's), (Start: 140 @52002 has 113 MA's), (Start: 161 @52041 has 1 MA's), (266, 52278), (315, 52386), (385, 52506), (386, 52509), (391, 52518), (396, 52533), (410, 52572), (450, 52650), (510, 52755), (519, 52767), (530, 52770), (536, 52779), (562, 52830), (563, 52833), (569, 52851), (628, 52947), (668, 53004), (711, 53124), (712, 53127), (720, 53151), (729, 53175), (730, 53178),

Gene: Dalmatian\_35 Start: 26758, Stop: 25637, Start Num: 140

Candidate Starts for Dalmatian\_35:

(Start: 98 @26821 has 1 MA's), (Start: 140 @26758 has 113 MA's), (Start: 173 @26704 has 14 MA's), (Start: 204 @26635 has 6 MA's), (227, 26590), (306, 26434), (360, 26371), (396, 26302), (413, 26260), (431, 26236), (460, 26173), (520, 26083), (531, 26071), (570, 25996), (573, 25990), (583, 25969), (591, 25954), (608, 25936), (624, 25909), (687, 25798), (701, 25753), (702, 25750), (703, 25747), (712, 25720), (714, 25714), (718, 25702), (733, 25663),

Gene: Dalmuri\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Dalmuri\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: Daob\_38 Start: 24353, Stop: 23166, Start Num: 122

Candidate Starts for Daob\_38:

(75, 24443), (Start: 122 @24353 has 50 MA's), (309, 23999), (359, 23924), (586, 23489), (682, 23354),

Gene: DeadP\_46 Start: 32604, Stop: 33707, Start Num: 157

Candidate Starts for DeadP\_46:

(Start: 157 @32604 has 270 MA's), (179, 32652), (218, 32733), (230, 32760), (334, 32973), (363, 32997), (392, 33045), (431, 33126), (466, 33195), (471, 33204), (483, 33234), (494, 33258), (520, 33279), (565, 33357), (573, 33372), (620, 33432), (646, 33471), (652, 33486), (677, 33510), (685, 33537), (693, 33561), (698, 33582), (701, 33591), (716, 33636), (720, 33648),

Gene: Deby\_41 Start: 32726, Stop: 33811, Start Num: 157

Candidate Starts for Deby\_41:

(Start: 157 @32726 has 270 MA's), (Start: 204 @32828 has 6 MA's), (209, 32837), (Start: 217 @32852 has 1 MA's), (235, 32888), (306, 33026), (334, 33080), (396, 33164), (431, 33233), (432, 33236), (520, 33386), (577, 33491), (646, 33578), (683, 33626), (730, 33770),

Gene: DeepSoil15\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for DeepSoil15\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691,

25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: DelRio\_40 Start: 32511, Stop: 31240, Start Num: 122

Candidate Starts for DelRio\_40:

(106, 32535), (Start: 122 @32511 has 50 MA's), (133, 32496), (186, 32394), (207, 32352), (215, 32340), (253, 32265), (287, 32190), (293, 32181), (300, 32163), (365, 32064), (367, 32061), (404, 31971), (464, 31875), (470, 31866), (517, 31770), (533, 31746), (613, 31602), (684, 31461), (698, 31416), (715, 31365), (718, 31356), (723, 31341), (730, 31329), (734, 31317), (758, 31278),

Gene: Denise\_35 Start: 27272, Stop: 28351, Start Num: 157

Candidate Starts for Denise\_35:

(Start: 157 @27272 has 270 MA's), (230, 27428), (324, 27608), (452, 27821), (473, 27860), (476, 27869), (573, 28025), (655, 28148), (693, 28208), (739, 28340),

Gene: Devera\_45 Start: 33261, Stop: 34349, Start Num: 157

Candidate Starts for Devera\_45:

(Start: 157 @33261 has 270 MA's), (Start: 204 @33363 has 6 MA's), (Start: 217 @33387 has 1 MA's), (235, 33423), (267, 33474), (296, 33537), (306, 33561), (334, 33615), (338, 33618), (396, 33699), (431, 33768), (432, 33771), (520, 33921), (565, 33999), (577, 34026), (683, 34161),

Gene: Dewey\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Dewey\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Dieselweasel\_36 Start: 26792, Stop: 25647, Start Num: 140

Candidate Starts for Dieselweasel\_36:

(Start: 140 @26792 has 113 MA's), (Start: 165 @26753 has 10 MA's), (189, 26705), (Start: 204 @26669 has 6 MA's), (227, 26624), (306, 26468), (319, 26441), (360, 26405), (392, 26348), (431, 26270), (444, 26246), (460, 26207), (496, 26135), (515, 26123), (520, 26117), (531, 26105), (570, 26030), (573, 26024), (583, 26003), (591, 25988), (608, 25970), (621, 25946), (687, 25832), (701, 25787), (702, 25784), (706, 25775), (712, 25754), (714, 25748), (718, 25736), (733, 25697),

Gene: Dignity\_35 Start: 26759, Stop: 25632, Start Num: 127

Candidate Starts for Dignity\_35:

(Start: 113 @26777 has 7 MA's), (Start: 127 @26759 has 7 MA's), (Start: 180 @26675 has 8 MA's), (Start: 204 @26627 has 6 MA's), (227, 26582), (319, 26399), (360, 26363), (392, 26306), (396, 26294), (448, 26195), (452, 26183), (460, 26165), (520, 26075), (570, 25988), (573, 25982), (583, 25961), (591, 25946), (608, 25928), (624, 25901), (687, 25790), (702, 25742), (703, 25739), (712, 25712), (714, 25706), (718, 25694), (733, 25655),

Gene: DinoDaryn\_38 Start: 27370, Stop: 26255, Start Num: 178

Candidate Starts for DinoDaryn\_38:

(Start: 178 @27370 has 14 MA's), (358, 27031), (380, 26998), (535, 26704), (545, 26692), (639, 26512), (706, 26341), (715, 26314),

Gene: DismalFunk\_43 Start: 34317, Stop: 35417, Start Num: 157

Candidate Starts for DismalFunk\_43:

(Start: 157 @34317 has 270 MA's), (164, 34335), (Start: 217 @34443 has 1 MA's), (235, 34479), (296, 34593), (306, 34617), (334, 34671), (418, 34812), (431, 34836), (432, 34839), (452, 34881), (520, 34989), (577, 35094), (617, 35139), (629, 35154), (716, 35346),

Gene: DismalStressor\_43 Start: 34317, Stop: 35417, Start Num: 157

Candidate Starts for DismalStressor\_43:

(Start: 157 @34317 has 270 MA's), (164, 34335), (Start: 217 @34443 has 1 MA's), (235, 34479), (296, 34593), (306, 34617), (334, 34671), (418, 34812), (431, 34836), (432, 34839), (452, 34881), (520, 34989), (577, 35094), (617, 35139), (629, 35154), (716, 35346),

Gene: DmpstrDiver\_82 Start: 52410, Stop: 53639, Start Num: 128

Candidate Starts for DmpstrDiver\_82:

(Start: 128 @52410 has 28 MA's), (Start: 140 @52428 has 113 MA's), (Start: 161 @52467 has 1 MA's), (266, 52704), (315, 52812), (385, 52932), (386, 52935), (391, 52944), (396, 52959), (410, 52998), (450, 53076), (510, 53181), (519, 53193), (530, 53196), (536, 53205), (562, 53256), (563, 53259), (569, 53277), (628, 53373), (668, 53430), (711, 53550), (712, 53553), (720, 53577), (729, 53601), (730, 53604),

Gene: DobbysSock\_31 Start: 27501, Stop: 28628, Start Num: 157

Candidate Starts for DobbysSock\_31:

(52, 27282), (61, 27318), (Start: 157 @27501 has 270 MA's), (179, 27555), (248, 27711), (298, 27801), (311, 27834), (431, 28029), (432, 28032), (452, 28074), (472, 28110), (658, 28407), (693, 28485), (706, 28527), (714, 28554), (739, 28617),

Gene: Dole\_44 Start: 33263, Stop: 34351, Start Num: 157

Candidate Starts for Dole\_44:

(Start: 157 @33263 has 270 MA's), (Start: 204 @33365 has 6 MA's), (Start: 217 @33389 has 1 MA's), (235, 33425), (267, 33476), (296, 33539), (306, 33563), (334, 33617), (338, 33620), (396, 33701), (431, 33770), (432, 33773), (520, 33923), (565, 34001), (577, 34028), (683, 34163),

Gene: Dolores\_40 Start: 29868, Stop: 30995, Start Num: 157

Candidate Starts for Dolores\_40:

(126, 29829), (Start: 157 @29868 has 270 MA's), (179, 29922), (230, 30045), (248, 30078), (298, 30168), (311, 30201), (431, 30396), (432, 30399), (452, 30441), (472, 30477), (658, 30774), (693, 30852), (700, 30879), (706, 30894), (714, 30921), (739, 30984),

Gene: Donkeykong\_41 Start: 32106, Stop: 33224, Start Num: 157

Candidate Starts for Donkeykong\_41:

(Start: 157 @32106 has 270 MA's), (159, 32115), (218, 32244), (231, 32277), (263, 32325), (315, 32442), (334, 32478), (344, 32487), (392, 32568), (402, 32592), (434, 32661), (452, 32700), (464, 32721), (471, 32733), (472, 32736), (476, 32748), (494, 32787), (503, 32793), (526, 32814), (554, 32850), (556, 32853), (570, 32889), (573, 32895), (577, 32907), (579, 32910), (646, 32994), (652, 33009), (669, 33027), (698, 33096), (701, 33105), (714, 33144), (720, 33162), (729, 33183), (734, 33198), (739, 33207), (741, 33210),

Gene: Dori\_45 Start: 42022, Stop: 40820, Start Num: 137

Candidate Starts for Dori\_45:

(Start: 137 @42022 has 7 MA's), (Start: 178 @41947 has 14 MA's), (193, 41923), (196, 41917), (250, 41812), (300, 41701), (302, 41698), (334, 41635), (401, 41500), (408, 41479), (444, 41425), (515, 41296), (520, 41290), (613, 41113), (614, 41110), (615, 41107), (629, 41086), (650, 41050), (693, 40984), (697, 40969), (718, 40903), (727, 40879), (741, 40849),

Gene: Dorito\_34 Start: 27145, Stop: 28272, Start Num: 157

Candidate Starts for Dorito\_34:

(52, 26926), (61, 26962), (Start: 157 @27145 has 270 MA's), (179, 27199), (230, 27322), (248, 27355), (298, 27445), (311, 27478), (431, 27673), (432, 27676), (452, 27718), (472, 27754), (658, 28051), (693, 28129), (706, 28171), (714, 28198), (739, 28261),

Gene: DosHalletts\_40 Start: 31274, Stop: 32392, Start Num: 157

Candidate Starts for DosHalletts\_40:

(Start: 157 @31274 has 270 MA's), (231, 31445), (263, 31493), (334, 31646), (344, 31655), (392, 31736), (402, 31760), (434, 31829), (464, 31889), (471, 31901), (472, 31904), (476, 31916), (483, 31931), (494, 31955), (503, 31961), (526, 31982), (554, 32018), (556, 32021), (570, 32057), (573, 32063), (577, 32075), (579, 32078), (587, 32093), (646, 32162), (652, 32177), (685, 32219), (698, 32264), (701, 32273), (714, 32312), (720, 32330), (729, 32351), (734, 32366), (739, 32375), (741, 32378),

Gene: Doucette\_31 Start: 22357, Stop: 23664, Start Num: 91

Candidate Starts for Doucette\_31:

(77, 22324), (81, 22336), (Start: 91 @22357 has 1 MA's), (136, 22426), (186, 22528), (208, 22573), (278, 22717), (341, 22831), (353, 22849), (362, 22858), (380, 22897), (383, 22909), (392, 22930), (393, 22933), (413, 22987), (446, 23044), (494, 23146), (556, 23227), (558, 23230), (578, 23287), (580, 23290), (585, 23299), (590, 23308), (593, 23311), (623, 23365), (639, 23392), (667, 23440), (679, 23473), (690, 23500), (697, 23524), (700, 23536), (701, 23539), (722, 23599),

Gene: Dove\_69 Start: 48549, Stop: 49721, Start Num: 161

Candidate Starts for Dove\_69:

(Start: 128 @48492 has 28 MA's), (Start: 140 @48510 has 113 MA's), (Start: 161 @48549 has 1 MA's), (266, 48786), (315, 48894), (385, 49014), (386, 49017), (391, 49026), (396, 49041), (410, 49080), (450, 49158), (510, 49263), (519, 49275), (530, 49278), (536, 49287), (562, 49338), (563, 49341), (569, 49359), (628, 49455), (668, 49512), (711, 49632), (712, 49635), (720, 49659), (729, 49683), (730, 49686),

Gene: DrHayes\_42 Start: 33376, Stop: 34464, Start Num: 157

Candidate Starts for DrHayes\_42:

(50, 33154), (Start: 157 @33376 has 270 MA's), (179, 33427), (Start: 204 @33478 has 6 MA's), (Start: 217 @33502 has 1 MA's), (235, 33538), (296, 33652), (334, 33730), (396, 33814), (431, 33883), (432, 33886), (520, 34036), (577, 34141), (683, 34276), (730, 34420),

Gene: Drake55\_36 Start: 26836, Stop: 25769, Start Num: 173

Candidate Starts for Drake55\_36:

(Start: 98 @26953 has 1 MA's), (Start: 140 @26890 has 113 MA's), (Start: 173 @26836 has 14 MA's), (Start: 204 @26767 has 6 MA's), (227, 26722), (228, 26716), (267, 26650), (295, 26593), (360, 26503), (413, 26392), (431, 26368), (448, 26335), (452, 26323), (520, 26215), (522, 26212), (570, 26128), (573, 26122), (583, 26101), (591, 26086), (608, 26068), (702, 25882), (712, 25852), (714, 25846), (718, 25834), (733, 25795),

Gene: DudeLittle\_33 Start: 26423, Stop: 25302, Start Num: 123

Candidate Starts for DudeLittle\_33:

(Start: 105 @26453 has 1 MA's), (Start: 123 @26423 has 8 MA's), (Start: 173 @26372 has 14 MA's), (Start: 204 @26303 has 6 MA's), (227, 26258), (306, 26102), (319, 26075), (360, 26039), (385, 25997), (392, 25982), (431, 25904), (448, 25871), (452, 25859), (460, 25841), (520, 25751), (531, 25739), (570, 25664), (573, 25658), (583, 25637), (591, 25622), (608, 25604), (624, 25577), (630, 25568), (702, 25418), (703, 25415), (712, 25388), (714, 25382), (718, 25370), (733, 25331),

Gene: Duke13\_85 Start: 52764, Stop: 53993, Start Num: 128

Candidate Starts for Duke13\_85:

(Start: 128 @52764 has 28 MA's), (Start: 140 @52782 has 113 MA's), (Start: 161 @52821 has 1 MA's), (266, 53058), (315, 53166), (385, 53286), (386, 53289), (391, 53298), (396, 53313), (410, 53352), (450, 53430), (510, 53535), (519, 53547), (530, 53550), (536, 53559), (562, 53610), (563, 53613), (569, 53631), (628, 53727), (668, 53784), (711, 53904), (712, 53907), (720, 53931), (729, 53955), (730, 53958),

Gene: DumpsterDude\_40 Start: 35157, Stop: 33988, Start Num: 122

Candidate Starts for DumpsterDude\_40:

(Start: 122 @35157 has 50 MA's), (205, 35001), (253, 34914), (292, 34833), (307, 34797), (347, 34743), (350, 34737), (359, 34725), (365, 34713), (404, 34620), (405, 34614), (422, 34584), (470, 34515), (471, 34512), (483, 34482), (484, 34479), (520, 34431), (570, 34359), (682, 34197), (684, 34185), (693, 34158), (712, 34098), (715, 34089), (733, 34044), (751, 34005),

Gene: Duplo\_37 Start: 26512, Stop: 25388, Start Num: 140

Candidate Starts for Duplo\_37:

(Start: 140 @26512 has 113 MA's), (Start: 173 @26458 has 14 MA's), (Start: 204 @26389 has 6 MA's), (306, 26188), (319, 26161), (360, 26125), (391, 26071), (392, 26068), (400, 26041), (431, 25990), (448, 25957), (452, 25945), (460, 25927), (496, 25855), (520, 25837), (531, 25825), (556, 25786), (570, 25750), (573, 25744), (583, 25723), (591, 25708), (608, 25690), (624, 25663), (687, 25552), (702, 25504), (703, 25501), (712, 25474), (714, 25468), (718, 25456), (733, 25417),

Gene: Durfee\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for Durfee\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Dusty\_80 Start: 50323, Stop: 51621, Start Num: 168

Candidate Starts for Dusty\_80:

(Start: 168 @50323 has 12 MA's), (200, 50389), (250, 50491), (264, 50518), (269, 50530), (282, 50560), (303, 50599), (310, 50617), (352, 50683), (358, 50692), (396, 50776), (438, 50866), (527, 51025), (531, 51031), (533, 51034), (592, 51160), (629, 51229), (675, 51307), (686, 51358), (695, 51385), (707, 51421), (708, 51424), (709, 51427), (710, 51433), (715, 51445), (717, 51451), (718, 51454), (719, 51457), (730, 51487), (751, 51535), (757, 51544), (766, 51574),

Gene: E1\_28 Start: 21218, Stop: 22537, Start Num: 88

Candidate Starts for E1\_28:

(42, 21068), (45, 21077), (53, 21116), (62, 21146), (68, 21167), (76, 21185), (80, 21197), (Start: 88 @21218 has 6 MA's), (93, 21227), (160, 21341), (200, 21419), (201, 21425), (245, 21521), (248, 21524), (352, 21716), (441, 21905), (446, 21914), (473, 21968), (566, 22130), (590, 22181), (623, 22238), (690, 22373), (700, 22409), (731, 22496), (733, 22502),

Gene: E6\_28 Start: 20940, Stop: 22259, Start Num: 88

Candidate Starts for E6\_28:

(42, 20790), (45, 20799), (53, 20838), (62, 20868), (68, 20889), (76, 20907), (80, 20919), (Start: 88 @20940 has 6 MA's), (93, 20949), (160, 21063), (200, 21141), (201, 21147), (245, 21243), (298, 21345), (352, 21438), (353, 21441), (441, 21627), (473, 21690), (566, 21852), (590, 21903), (623, 21960), (690, 22095), (700, 22131), (731, 22218), (733, 22224),

Gene: EMSquaredA\_37 Start: 30030, Stop: 31136, Start Num: 157

Candidate Starts for EMSquaredA\_37:



(110, 29973), (Start: 157 @30030 has 270 MA's), (179, 30081), (230, 30186), (232, 30195), (256, 30225), (394, 30459), (396, 30465), (431, 30534), (432, 30537), (448, 30567), (472, 30618), (476, 30630), (620, 30858), (661, 30918), (693, 30993), (701, 31023), (739, 31125),

Gene: Eagle\_32 Start: 26273, Stop: 25152, Start Num: 140

Candidate Starts for Eagle\_32:

(Start: 107 @26318 has 13 MA's), (Start: 124 @26291 has 2 MA's), (Start: 140 @26273 has 113 MA's), (Start: 180 @26204 has 8 MA's), (Start: 204 @26150 has 6 MA's), (315, 25931), (319, 25922), (360, 25886), (385, 25844), (391, 25832), (392, 25829), (431, 25751), (496, 25616), (520, 25598), (570, 25511), (573, 25505), (583, 25484), (591, 25469), (608, 25451), (687, 25313), (702, 25265), (712, 25235), (714, 25229), (718, 25217), (733, 25178),

Gene: Easley\_35 Start: 28370, Stop: 27201, Start Num: 122

Candidate Starts for Easley\_35:

(Start: 122 @28370 has 50 MA's), (253, 28127), (293, 28043), (307, 28010), (359, 27938), (365, 27926), (385, 27881), (404, 27833), (470, 27728), (471, 27725), (483, 27695), (487, 27686), (570, 27572), (612, 27500), (613, 27497), (627, 27473), (632, 27467), (637, 27455), (682, 27410), (684, 27398), (693, 27371), (723, 27278), (733, 27257), (751, 27218),

Gene: Ebert\_39 Start: 27799, Stop: 28881, Start Num: 153

Candidate Starts for Ebert\_39:

(Start: 82 @27682 has 2 MA's), (Start: 85 @27688 has 6 MA's), (Start: 153 @27799 has 52 MA's), (179, 27853), (236, 27973), (391, 28228), (402, 28258), (432, 28318), (466, 28384), (476, 28408), (528, 28477), (554, 28513), (693, 28738), (700, 28765), (739, 28870),

Gene: Ecliptus\_49 Start: 33668, Stop: 34762, Start Num: 157

Candidate Starts for Ecliptus\_49:

(111, 33623), (Start: 157 @33668 has 270 MA's), (179, 33719), (218, 33797), (230, 33824), (315, 33983), (342, 34019), (386, 34079), (391, 34088), (392, 34091), (396, 34103), (402, 34118), (403, 34121), (436, 34184), (452, 34220), (471, 34253), (472, 34256), (476, 34268), (494, 34307), (610, 34463), (655, 34535), (693, 34595), (712, 34658), (716, 34670), (741, 34730),

Gene: EdnaMode\_33 Start: 26384, Stop: 27466, Start Num: 153

Candidate Starts for EdnaMode\_33:

(Start: 85 @26273 has 6 MA's), (Start: 153 @26384 has 52 MA's), (179, 26438), (236, 26558), (391, 26813), (402, 26843), (432, 26903), (466, 26969), (476, 26993), (693, 27323), (700, 27350), (739, 27455),

Gene: Eesa\_33 Start: 25111, Stop: 23927, Start Num: 122

Candidate Starts for Eesa\_33:

(Start: 122 @25111 has 50 MA's), (241, 24892), (253, 24874), (309, 24757), (367, 24667), (529, 24352), (579, 24259), (586, 24247), (597, 24229), (682, 24112), (692, 24076),

Gene: Efra2\_44 Start: 32569, Stop: 33669, Start Num: 157

Candidate Starts for Efra2\_44:

(Start: 157 @32569 has 270 MA's), (179, 32620), (Start: 217 @32695 has 1 MA's), (235, 32731), (237, 32734), (296, 32845), (418, 33064), (431, 33088), (432, 33091), (494, 33220), (520, 33241), (577, 33346), (646, 33433), (683, 33481), (697, 33529),

Gene: Eileen\_34 Start: 24892, Stop: 26034, Start Num: 157

Candidate Starts for Eileen\_34:

(Start: 157 @24892 has 270 MA's), (329, 25246), (334, 25252), (348, 25267), (381, 25321), (402, 25378), (431, 25438), (432, 25441), (447, 25468), (476, 25531), (556, 25651), (574, 25699), (652,

25825), (660, 25837), (701, 25933), (727, 26008),

Gene: Ein37\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Ein37\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Ejimix\_81 Start: 53852, Stop: 55081, Start Num: 128

Candidate Starts for Ejimix\_81:

(Start: 128 @53852 has 28 MA's), (Start: 140 @53870 has 113 MA's), (Start: 161 @53909 has 1 MA's), (266, 54146), (315, 54254), (385, 54374), (386, 54377), (391, 54386), (396, 54401), (410, 54440), (450, 54518), (519, 54635), (530, 54638), (536, 54647), (562, 54698), (563, 54701), (569, 54719), (628, 54815), (668, 54872), (711, 54992), (712, 54995), (720, 55019), (729, 55043), (730, 55046),

Gene: EleanorGeorge\_40 Start: 31639, Stop: 32757, Start Num: 157

Candidate Starts for EleanorGeorge\_40:

(Start: 157 @31639 has 270 MA's), (159, 31648), (231, 31810), (315, 31975), (334, 32011), (344, 32020), (402, 32125), (434, 32194), (452, 32233), (460, 32251), (464, 32254), (471, 32266), (472, 32269), (476, 32281), (483, 32296), (494, 32320), (503, 32326), (526, 32347), (554, 32383), (556, 32386), (570, 32422), (573, 32428), (579, 32443), (587, 32458), (646, 32527), (652, 32542), (685, 32584), (698, 32629), (701, 32638), (714, 32677), (720, 32695), (729, 32716), (734, 32731), (739, 32740), (741, 32743),

Gene: Emerson\_42 Start: 32470, Stop: 33558, Start Num: 157

Candidate Starts for Emerson\_42:

(Start: 157 @32470 has 270 MA's), (179, 32521), (Start: 204 @32572 has 6 MA's), (Start: 217 @32596 has 1 MA's), (235, 32632), (306, 32770), (334, 32824), (396, 32908), (431, 32977), (432, 32980), (520, 33130), (565, 33208), (577, 33235), (646, 33322), (683, 33370),

Gene: Emma\_44 Start: 32666, Stop: 33784, Start Num: 157

Candidate Starts for Emma\_44:

(Start: 157 @32666 has 270 MA's), (159, 32675), (231, 32837), (263, 32885), (315, 33002), (334, 33038), (344, 33047), (402, 33152), (434, 33221), (452, 33260), (460, 33278), (464, 33281), (471, 33293), (472, 33296), (476, 33308), (483, 33323), (494, 33347), (503, 33353), (526, 33374), (554, 33410), (556, 33413), (570, 33449), (573, 33455), (577, 33467), (579, 33470), (587, 33485), (646, 33554), (652, 33569), (669, 33587), (685, 33611), (698, 33656), (701, 33665), (714, 33704), (720, 33722), (729, 33743), (734, 33758), (739, 33767), (741, 33770),

Gene: EnalisNailo\_35 Start: 31003, Stop: 32085, Start Num: 153

Candidate Starts for EnalisNailo\_35:

(Start: 153 @31003 has 52 MA's), (211, 31120), (263, 31213), (391, 31435), (404, 31471), (432, 31525), (468, 31594), (472, 31603), (693, 31942), (700, 31969), (739, 32074),

Gene: Enby\_42 Start: 31168, Stop: 32286, Start Num: 157

Candidate Starts for Enby\_42:

(Start: 157 @31168 has 270 MA's), (159, 31177), (231, 31339), (315, 31504), (334, 31540), (344, 31549), (392, 31630), (402, 31654), (434, 31723), (452, 31762), (460, 31780), (464, 31783), (471,

31795), (472, 31798), (476, 31810), (494, 31849), (503, 31855), (526, 31876), (554, 31912), (556, 31915), (570, 31951), (573, 31957), (579, 31972), (646, 32056), (652, 32071), (669, 32089), (698, 32158), (701, 32167), (714, 32206), (720, 32224), (729, 32245), (734, 32260), (739, 32269), (741, 32272),

Gene: Engineer\_85 Start: 52096, Stop: 53394, Start Num: 168

Candidate Starts for Engineer\_85:

(Start: 168 @52096 has 12 MA's), (200, 52162), (250, 52264), (264, 52291), (269, 52303), (282, 52333), (303, 52372), (310, 52390), (352, 52456), (358, 52465), (396, 52549), (438, 52639), (527, 52798), (531, 52804), (533, 52807), (592, 52933), (629, 53002), (675, 53080), (686, 53131), (695, 53158), (707, 53194), (708, 53197), (709, 53200), (710, 53206), (715, 53218), (717, 53224), (718, 53227), (719, 53230), (730, 53260), (751, 53308), (757, 53317), (766, 53347),

Gene: Enkosi\_39 Start: 34589, Stop: 35683, Start Num: 157

Candidate Starts for Enkosi\_39:

(28, 34238), (Start: 30 @34253 has 1 MA's), (46, 34346), (50, 34367), (79, 34460), (Start: 157 @34589 has 270 MA's), (179, 34640), (Start: 217 @34715 has 1 MA's), (235, 34751), (288, 34847), (296, 34865), (306, 34889), (329, 34937), (334, 34943), (416, 35075), (431, 35108), (452, 35153), (520, 35261), (577, 35366), (629, 35426), (683, 35501), (716, 35609), (730, 35645),

Gene: EpicPhail\_36 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for EpicPhail\_36:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701, 25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: Equemioh13\_35 Start: 26811, Stop: 25678, Start Num: 120

Candidate Starts for Equemioh13\_35:

(Start: 120 @26811 has 9 MA's), (Start: 173 @26757 has 14 MA's), (Start: 204 @26688 has 6 MA's), (227, 26643), (306, 26487), (319, 26460), (360, 26424), (392, 26367), (452, 26244), (460, 26226), (520, 26136), (531, 26124), (570, 26049), (573, 26043), (583, 26022), (591, 26007), (608, 25989), (624, 25962), (630, 25953), (687, 25851), (702, 25803), (712, 25773), (714, 25767), (718, 25755), (733, 25716),

Gene: EricMillard\_80 Start: 53055, Stop: 54284, Start Num: 128

Candidate Starts for EricMillard\_80:

(Start: 128 @53055 has 28 MA's), (Start: 140 @53073 has 113 MA's), (Start: 161 @53112 has 1 MA's), (266, 53349), (315, 53457), (385, 53577), (386, 53580), (391, 53589), (396, 53604), (410, 53643), (450, 53721), (510, 53826), (519, 53838), (530, 53841), (536, 53850), (562, 53901), (563, 53904), (569, 53922), (628, 54018), (668, 54075), (711, 54195), (712, 54198), (720, 54222), (729, 54246), (730, 54249),

Gene: Estave1\_43 Start: 31907, Stop: 33010, Start Num: 157

Candidate Starts for Estave1\_43:

(Start: 157 @31907 has 270 MA's), (179, 31955), (218, 32036), (230, 32063), (334, 32276), (363, 32300), (392, 32348), (431, 32429), (466, 32498), (471, 32507), (483, 32537), (494, 32561), (520, 32582), (565, 32660), (573, 32675), (620, 32735), (646, 32774), (652, 32789), (677, 32813), (685, 32840), (693, 32864), (698, 32885), (701, 32894), (716, 32939), (720, 32951),

Gene: Eudoria\_39 Start: 30563, Stop: 31645, Start Num: 153

Candidate Starts for Eudoria\_39:

(Start: 85 @30452 has 6 MA's), (Start: 153 @30563 has 52 MA's), (179, 30617), (236, 30737), (391, 30992), (402, 31022), (432, 31082), (466, 31148), (476, 31172), (693, 31502), (700, 31529), (739, 31634),

Gene: Eurydice\_33 Start: 26248, Stop: 25127, Start Num: 140

Candidate Starts for Eurydice\_33:

(Start: 107 @26293 has 13 MA's), (Start: 124 @26266 has 2 MA's), (Start: 140 @26248 has 113 MA's), (Start: 180 @26179 has 8 MA's), (Start: 204 @26125 has 6 MA's), (315, 25906), (319, 25897), (360, 25861), (385, 25819), (391, 25807), (392, 25804), (431, 25726), (496, 25591), (520, 25573), (570, 25486), (573, 25480), (583, 25459), (591, 25444), (608, 25426), (687, 25288), (702, 25240), (712, 25210), (714, 25204), (718, 25192), (733, 25153),

Gene: Evanesce\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Evanesce\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: EvePickles\_38 Start: 28599, Stop: 27466, Start Num: 157

Candidate Starts for EvePickles\_38:

(57, 28782), (65, 28752), (Start: 157 @28599 has 270 MA's), (179, 28548), (236, 28434), (263, 28392), (267, 28380), (277, 28362), (327, 28248), (344, 28230), (385, 28167), (392, 28152), (396, 28140), (431, 28065), (436, 28056), (466, 27996), (507, 27921), (520, 27906), (610, 27756), (613, 27753), (685, 27636), (693, 27612), (697, 27597), (714, 27543), (721, 27522), (733, 27492),

Gene: Eviarto\_39 Start: 31988, Stop: 33070, Start Num: 153

Candidate Starts for Eviarto\_39:

(Start: 85 @31877 has 6 MA's), (Start: 153 @31988 has 52 MA's), (179, 32042), (236, 32162), (386, 32408), (391, 32417), (402, 32447), (432, 32507), (466, 32573), (476, 32597), (693, 32927), (700, 32954), (739, 33059),

Gene: EvilGenius\_36 Start: 28005, Stop: 27007, Start Num: 204

Candidate Starts for EvilGenius\_36:

(Start: 113 @28152 has 7 MA's), (Start: 127 @28134 has 7 MA's), (Start: 180 @28053 has 8 MA's), (Start: 204 @28005 has 6 MA's), (227, 27960), (306, 27804), (319, 27777), (360, 27741), (392, 27684), (431, 27606), (448, 27573), (452, 27561), (460, 27543), (520, 27453), (531, 27441), (570, 27366), (573, 27360), (583, 27339), (591, 27324), (608, 27306), (624, 27279), (630, 27270), (687, 27168), (702, 27120), (703, 27117), (712, 27090), (714, 27084), (718, 27072), (733, 27033),

Gene: Faith5x5\_30 Start: 24997, Stop: 26145, Start Num: 105

Candidate Starts for Faith5x5\_30:

(Start: 105 @24997 has 1 MA's), (Start: 123 @25027 has 8 MA's), (Start: 150 @25060 has 1 MA's), (198, 25147), (230, 25219), (452, 25615), (472, 25651), (473, 25654), (476, 25663), (556, 25777), (655, 25942), (693, 26002), (716, 26077), (739, 26134),

Gene: Faja\_39 Start: 29043, Stop: 27904, Start Num: 157

Candidate Starts for Faja\_39:

(Start: 157 @29043 has 270 MA's), (179, 28992), (267, 28824), (277, 28806), (344, 28674), (392, 28596), (396, 28584), (397, 28578), (431, 28509), (436, 28500), (466, 28440), (520, 28350), (579,

28245), (591, 28224), (613, 28197), (685, 28074), (693, 28050), (697, 28035), (733, 27930),

Gene: Fameo\_34 Start: 26494, Stop: 25430, Start Num: 173

Candidate Starts for Fameo\_34:

(Start: 105 @26575 has 1 MA's), (Start: 123 @26545 has 8 MA's), (Start: 173 @26494 has 14 MA's), (Start: 204 @26425 has 6 MA's), (227, 26380), (306, 26224), (319, 26197), (360, 26161), (392, 26104), (431, 26026), (448, 25993), (452, 25981), (460, 25963), (520, 25873), (531, 25861), (573, 25780), (583, 25759), (591, 25744), (608, 25726), (624, 25699), (687, 25588), (701, 25543), (702, 25540), (703, 25537), (712, 25510), (714, 25504), (718, 25492), (733, 25453),

Gene: Farber\_36 Start: 26744, Stop: 25638, Start Num: 165

Candidate Starts for Farber\_36:

(Start: 140 @26783 has 113 MA's), (Start: 165 @26744 has 10 MA's), (Start: 204 @26660 has 6 MA's), (227, 26615), (306, 26459), (319, 26432), (360, 26396), (392, 26339), (431, 26261), (444, 26237), (460, 26198), (496, 26126), (515, 26114), (520, 26108), (531, 26096), (570, 26021), (573, 26015), (583, 25994), (591, 25979), (608, 25961), (621, 25937), (687, 25823), (701, 25778), (702, 25775), (706, 25766), (712, 25745), (714, 25739), (718, 25727), (733, 25688),

Gene: Farewell\_44 Start: 33396, Stop: 34574, Start Num: 158

Candidate Starts for Farewell\_44:

(Start: 158 @33396 has 2 MA's), (179, 33444), (212, 33510), (231, 33555), (311, 33705), (334, 33747), (396, 33861), (404, 33888), (431, 33936), (432, 33939), (472, 34020), (476, 34032), (552, 34137), (570, 34179), (576, 34194), (584, 34209), (613, 34233), (683, 34344), (700, 34404), (729, 34485), (733, 34497), (751, 34536),

Gene: Fernando\_36 Start: 26750, Stop: 25644, Start Num: 165

Candidate Starts for Fernando\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701, 25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: Filuzino\_41 Start: 31324, Stop: 32442, Start Num: 157

Candidate Starts for Filuzino\_41:

(Start: 157 @31324 has 270 MA's), (231, 31495), (315, 31660), (334, 31696), (344, 31705), (402, 31810), (434, 31879), (452, 31918), (464, 31939), (471, 31951), (472, 31954), (476, 31966), (483, 31981), (494, 32005), (503, 32011), (526, 32032), (554, 32068), (556, 32071), (570, 32107), (573, 32113), (579, 32128), (587, 32143), (646, 32212), (652, 32227), (669, 32245), (685, 32269), (698, 32314), (701, 32323), (714, 32362), (720, 32380), (729, 32401), (734, 32416), (739, 32425), (741, 32428),

Gene: Findley\_43 Start: 34310, Stop: 35410, Start Num: 157

Candidate Starts for Findley\_43:

(Start: 157 @34310 has 270 MA's), (164, 34328), (179, 34361), (Start: 217 @34436 has 1 MA's), (235, 34472), (296, 34586), (306, 34610), (334, 34664), (418, 34805), (431, 34829), (432, 34832), (452, 34874), (520, 34982), (577, 35087), (617, 35132), (629, 35147), (716, 35339),

Gene: Finkle\_45 Start: 32773, Stop: 31643, Start Num: 178

Candidate Starts for Finkle\_45:

(Start: 153 @32830 has 52 MA's), (Start: 178 @32773 has 14 MA's), (190, 32749), (202, 32716), (277, 32554), (337, 32419), (340, 32416), (380, 32350), (410, 32266), (415, 32257), (425, 32230), (450, 32188), (467, 32161), (521, 32056), (565, 31972), (617, 31870), (663, 31846), (694, 31795), (698,

31777), (704, 31759), (712, 31735), (716, 31723),

Gene: FiringLine\_34 Start: 26370, Stop: 25255, Start Num: 123

Candidate Starts for FiringLine\_34:

(Start: 105 @26400 has 1 MA's), (Start: 123 @26370 has 8 MA's), (Start: 204 @26250 has 6 MA's), (227, 26205), (306, 26049), (319, 26022), (360, 25986), (385, 25944), (392, 25929), (448, 25818), (452, 25806), (460, 25788), (520, 25698), (531, 25686), (570, 25611), (573, 25605), (583, 25584), (591, 25569), (608, 25551), (624, 25524), (630, 25515), (687, 25413), (701, 25368), (702, 25365), (703, 25362), (712, 25335), (714, 25329), (718, 25317), (733, 25278),

Gene: Flare16\_34 Start: 26449, Stop: 25382, Start Num: 173

Candidate Starts for Flare16\_34:

(Start: 98 @26566 has 1 MA's), (Start: 140 @26503 has 113 MA's), (Start: 173 @26449 has 14 MA's), (Start: 204 @26380 has 6 MA's), (227, 26335), (294, 26209), (319, 26152), (360, 26116), (391, 26062), (392, 26059), (452, 25936), (460, 25918), (520, 25828), (531, 25816), (570, 25741), (573, 25735), (583, 25714), (591, 25699), (608, 25681), (624, 25654), (702, 25495), (712, 25465), (714, 25459), (718, 25447), (733, 25408),

Gene: Flathead\_44 Start: 33580, Stop: 34698, Start Num: 157

Candidate Starts for Flathead\_44:

(Start: 157 @33580 has 270 MA's), (159, 33589), (231, 33751), (315, 33916), (334, 33952), (344, 33961), (402, 34066), (434, 34135), (452, 34174), (460, 34192), (464, 34195), (471, 34207), (472, 34210), (476, 34222), (483, 34237), (494, 34261), (503, 34267), (526, 34288), (554, 34324), (556, 34327), (570, 34363), (573, 34369), (577, 34381), (579, 34384), (646, 34468), (652, 34483), (669, 34501), (685, 34525), (698, 34570), (701, 34579), (714, 34618), (720, 34636), (729, 34657), (734, 34672), (739, 34681), (741, 34684),

Gene: Floral\_36 Start: 32103, Stop: 33209, Start Num: 157

Candidate Starts for Floral\_36:

(110, 32046), (Start: 157 @32103 has 270 MA's), (179, 32154), (230, 32259), (256, 32298), (396, 32538), (431, 32607), (432, 32610), (448, 32640), (472, 32691), (476, 32703), (620, 32931), (661, 32991), (693, 33066), (701, 33096), (739, 33198),

Gene: Footloose\_31 Start: 22512, Stop: 21292, Start Num: 157

Candidate Starts for Footloose\_31:

(Start: 157 @22512 has 270 MA's), (174, 22473), (182, 22455), (191, 22437), (Start: 217 @22386 has 1 MA's), (231, 22350), (283, 22254), (319, 22170), (334, 22143), (349, 22119), (374, 22077), (380, 22062), (396, 22017), (412, 21978), (432, 21945), (466, 21879), (468, 21876), (476, 21855), (520, 21789), (579, 21687), (584, 21678), (613, 21648), (629, 21621), (646, 21594), (660, 21567), (668, 21555), (676, 21537), (685, 21501), (693, 21477), (714, 21408), (720, 21390), (730, 21366), (741, 21342),

Gene: Forge\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Forge\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Francois\_38 Start: 31405, Stop: 30134, Start Num: 122

Candidate Starts for Francois\_38:

(Start: 122 @31405 has 50 MA's), (133, 31390), (186, 31288), (207, 31246), (253, 31159), (287, 31084), (293, 31075), (300, 31057), (365, 30958), (367, 30955), (404, 30865), (464, 30769), (517, 30664), (522, 30658), (613, 30496), (684, 30355), (698, 30310), (715, 30259), (723, 30235), (730, 30223), (734, 30211), (758, 30172),

Gene: Fred313\_33 Start: 26049, Stop: 24922, Start Num: 140

Candidate Starts for Fred313\_33:

(Start: 140 @26049 has 113 MA's), (189, 25962), (Start: 204 @25926 has 6 MA's), (227, 25881), (263, 25821), (306, 25725), (311, 25713), (315, 25707), (360, 25662), (391, 25608), (392, 25605), (399, 25581), (496, 25392), (520, 25374), (531, 25362), (556, 25323), (570, 25287), (573, 25281), (583, 25260), (591, 25245), (608, 25227), (687, 25089), (702, 25041), (712, 25011), (714, 25005), (718, 24993), (733, 24954),

Gene: Frickyeah\_52 Start: 32012, Stop: 33106, Start Num: 157

Candidate Starts for Frickyeah\_52:

(90, 31925), (Start: 108 @31961 has 1 MA's), (Start: 157 @32012 has 270 MA's), (179, 32063), (216, 32135), (218, 32141), (230, 32168), (283, 32255), (315, 32327), (342, 32363), (360, 32372), (396, 32447), (403, 32465), (452, 32564), (471, 32597), (472, 32600), (476, 32612), (556, 32714), (584, 32780), (610, 32807), (655, 32879), (693, 32939), (700, 32966), (741, 33074),

Gene: Fruitloop\_40 Start: 32560, Stop: 33678, Start Num: 157

Candidate Starts for Fruitloop\_40:

(Start: 157 @32560 has 270 MA's), (231, 32731), (315, 32896), (334, 32932), (344, 32941), (392, 33022), (402, 33046), (434, 33115), (452, 33154), (464, 33175), (471, 33187), (472, 33190), (476, 33202), (483, 33217), (494, 33241), (503, 33247), (526, 33268), (554, 33304), (556, 33307), (570, 33343), (573, 33349), (579, 33364), (587, 33379), (646, 33448), (652, 33463), (685, 33505), (698, 33550), (701, 33559), (714, 33598), (720, 33616), (729, 33637), (734, 33652), (739, 33661), (741, 33664),

Gene: G4\_29 Start: 21966, Stop: 23285, Start Num: 88

Candidate Starts for G4\_29:

(42, 21816), (45, 21825), (53, 21864), (62, 21894), (68, 21915), (76, 21933), (80, 21945), (Start: 88 @21966 has 6 MA's), (93, 21975), (160, 22089), (200, 22167), (201, 22173), (245, 22269), (248, 22272), (352, 22464), (353, 22467), (441, 22653), (473, 22716), (566, 22878), (575, 22902), (590, 22929), (623, 22986), (690, 23121), (700, 23157), (731, 23244), (733, 23250),

Gene: GMA1\_30 Start: 24152, Stop: 23064, Start Num: 157

Candidate Starts for GMA1\_30:

(Start: 157 @24152 has 270 MA's), (308, 23858), (344, 23798), (392, 23723), (396, 23711), (420, 23663), (431, 23642), (434, 23636), (468, 23567), (472, 23558), (476, 23546), (505, 23498), (565, 23414), (591, 23363), (615, 23336), (629, 23315), (661, 23267), (681, 23249), (693, 23207), (697, 23192), (699, 23183), (700, 23180), (701, 23177), (720, 23120), (739, 23075),

Gene: GMA4\_29 Start: 26449, Stop: 25217, Start Num: 119

Candidate Starts for GMA4\_29:

(119, 26449), (238, 26212), (240, 26203), (244, 26197), (365, 25981), (389, 25924), (427, 25837), (470, 25753), (472, 25747), (487, 25711), (570, 25570), (612, 25498), (688, 25381), (712, 25309), (723, 25276), (724, 25273),

Gene: Gaia\_52 Start: 37562, Stop: 38833, Start Num: 107

Candidate Starts for Gaia\_52:

(Start: 107 @37562 has 13 MA's), (Start: 140 @37610 has 113 MA's), (Start: 161 @37649 has 1 MA's), (286, 37928), (351, 38045), (385, 38114), (386, 38117), (391, 38126), (400, 38156), (429, 38222), (450, 38258), (470, 38285), (471, 38288), (476, 38303), (478, 38309), (496, 38342), (504, 38357), (506, 38360), (510, 38363), (519, 38375), (530, 38393), (536, 38402), (559, 38444), (561, 38450), (562, 38453), (582, 38498), (628, 38570), (673, 38636), (685, 38663), (711, 38747), (712, 38750), (721, 38777), (729, 38798),

Gene: Galactic\_43 Start: 32779, Stop: 33897, Start Num: 157

Candidate Starts for Galactic\_43:

(Start: 157 @32779 has 270 MA's), (159, 32788), (231, 32950), (315, 33115), (334, 33151), (344, 33160), (402, 33265), (434, 33334), (452, 33373), (460, 33391), (464, 33394), (471, 33406), (472, 33409), (476, 33421), (483, 33436), (494, 33460), (503, 33466), (526, 33487), (554, 33523), (556, 33526), (570, 33562), (573, 33568), (579, 33583), (587, 33598), (646, 33667), (652, 33682), (685, 33724), (698, 33769), (701, 33778), (714, 33817), (720, 33835), (729, 33856), (734, 33871), (739, 33880), (741, 33883),

Gene: Galaxy\_33 Start: 24046, Stop: 22862, Start Num: 122

Candidate Starts for Galaxy\_33:

(Start: 122 @24046 has 50 MA's), (309, 23692), (359, 23617), (367, 23602), (515, 23308), (529, 23287), (548, 23260), (579, 23194), (586, 23182), (597, 23164), (688, 23020), (692, 23011),

Gene: Gancho\_28 Start: 26243, Stop: 25008, Start Num: 124

Candidate Starts for Gancho\_28:

(Start: 124 @26243 has 2 MA's), (Start: 152 @26201 has 20 MA's), (187, 26135), (Start: 219 @26066 has 1 MA's), (225, 26054), (241, 26015), (250, 26000), (254, 25994), (258, 25982), (289, 25922), (315, 25865), (332, 25832), (334, 25829), (338, 25826), (396, 25712), (400, 25697), (408, 25673), (419, 25658), (430, 25643), (444, 25619), (449, 25607), (469, 25568), (470, 25565), (484, 25529), (520, 25481), (522, 25478), (562, 25406), (564, 25400), (568, 25388), (569, 25385), (571, 25379), (604, 25325), (613, 25304), (629, 25277), (641, 25259), (644, 25253), (683, 25208), (691, 25181), (693, 25175), (701, 25145), (710, 25118), (732, 25055),

Gene: Ganymede\_42 Start: 32781, Stop: 33869, Start Num: 157

Candidate Starts for Ganymede\_42:

(Start: 157 @32781 has 270 MA's), (Start: 204 @32883 has 6 MA's), (Start: 217 @32907 has 1 MA's), (235, 32943), (306, 33081), (334, 33135), (396, 33219), (431, 33288), (432, 33291), (520, 33441), (577, 33546), (646, 33633), (668, 33663), (683, 33681), (730, 33825),

Gene: GaugeLDP\_35 Start: 27254, Stop: 26070, Start Num: 98

Candidate Starts for GaugeLDP\_35:

(Start: 98 @27254 has 1 MA's), (Start: 140 @27191 has 113 MA's), (Start: 173 @27137 has 14 MA's), (Start: 204 @27068 has 6 MA's), (227, 27023), (295, 26894), (360, 26804), (413, 26693), (520, 26516), (531, 26504), (570, 26429), (573, 26423), (583, 26402), (591, 26387), (608, 26369), (687, 26231), (702, 26183), (703, 26180), (712, 26153), (714, 26147), (718, 26135), (733, 26096),

Gene: GemG\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for GemG\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (528, 28553), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Gemma\_35 Start: 26639, Stop: 25494, Start Num: 140

Candidate Starts for Gemma\_35:



(Start: 98 @26702 has 1 MA's), (Start: 140 @26639 has 113 MA's), (Start: 173 @26585 has 14 MA's), (Start: 204 @26516 has 6 MA's), (315, 26297), (319, 26288), (360, 26252), (392, 26195), (431, 26117), (448, 26084), (496, 25982), (520, 25964), (531, 25952), (570, 25877), (573, 25871), (583, 25850), (591, 25835), (608, 25817), (621, 25793), (701, 25634), (702, 25631), (712, 25601), (714, 25595), (718, 25583), (733, 25544),

Gene: Georgie2\_35 Start: 26415, Stop: 25300, Start Num: 123

Candidate Starts for Georgie2\_35:

(Start: 105 @26445 has 1 MA's), (Start: 123 @26415 has 8 MA's), (Start: 204 @26295 has 6 MA's), (227, 26250), (306, 26094), (319, 26067), (360, 26031), (385, 25989), (392, 25974), (431, 25896), (448, 25863), (452, 25851), (460, 25833), (520, 25743), (531, 25731), (570, 25656), (573, 25650), (583, 25629), (591, 25614), (608, 25596), (624, 25569), (687, 25458), (701, 25413), (702, 25410), (703, 25407), (712, 25380), (714, 25374), (718, 25362), (733, 25323),

Gene: Geraldini\_43 Start: 33527, Stop: 34615, Start Num: 157

Candidate Starts for Geraldini\_43:

(Start: 157 @33527 has 270 MA's), (Start: 204 @33629 has 6 MA's), (Start: 217 @33653 has 1 MA's), (235, 33689), (306, 33827), (334, 33881), (396, 33965), (431, 34034), (432, 34037), (520, 34187), (577, 34292), (646, 34379), (683, 34427), (730, 34571),

Gene: Getalong\_53 Start: 34783, Stop: 35853, Start Num: 157

Candidate Starts for Getalong\_53:

(Start: 157 @34783 has 270 MA's), (179, 34834), (218, 34912), (230, 34939), (342, 35134), (360, 35143), (386, 35194), (391, 35203), (392, 35206), (396, 35218), (416, 35263), (436, 35299), (452, 35335), (471, 35368), (472, 35371), (476, 35383), (584, 35551), (655, 35650), (693, 35710), (700, 35737), (701, 35740), (710, 35767), (712, 35773), (716, 35785), (739, 35842),

Gene: Giles\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Giles\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: GingkoMaracino\_36 Start: 26637, Stop: 25531, Start Num: 165

Candidate Starts for GingkoMaracino\_36:

(Start: 140 @26676 has 113 MA's), (Start: 165 @26637 has 10 MA's), (189, 26589), (Start: 204 @26553 has 6 MA's), (227, 26508), (306, 26352), (319, 26325), (360, 26289), (392, 26232), (431, 26154), (444, 26130), (460, 26091), (496, 26019), (515, 26007), (520, 26001), (531, 25989), (570, 25914), (573, 25908), (583, 25887), (591, 25872), (608, 25854), (621, 25830), (687, 25716), (701, 25671), (702, 25668), (706, 25659), (712, 25638), (714, 25632), (718, 25620), (733, 25581),

Gene: Giroux\_33 Start: 26209, Stop: 25169, Start Num: 189

Candidate Starts for Giroux\_33:

(Start: 140 @26296 has 113 MA's), (189, 26209), (Start: 204 @26173 has 6 MA's), (227, 26128), (306, 25972), (311, 25960), (315, 25954), (360, 25909), (391, 25855), (392, 25852), (399, 25828), (520, 25621), (531, 25609), (556, 25570), (570, 25534), (573, 25528), (583, 25507), (591, 25492), (608, 25474), (687, 25336), (702, 25288), (712, 25258), (714, 25252), (718, 25240), (733, 25201),

Gene: Gizermo\_37 Start: 27758, Stop: 28957, Start Num: 82

Candidate Starts for Gizermo\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (528, 28553), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Globfish\_39 Start: 27492, Stop: 26353, Start Num: 157

Candidate Starts for Globfish\_39:

(Start: 157 @27492 has 270 MA's), (179, 27441), (236, 27327), (267, 27273), (277, 27255), (327, 27141), (344, 27123), (392, 27045), (396, 27033), (431, 26958), (436, 26949), (466, 26889), (520, 26799), (577, 26697), (583, 26688), (591, 26673), (610, 26649), (613, 26646), (685, 26529), (693, 26505), (697, 26490), (720, 26418), (721, 26415), (741, 26370),

Gene: GlobiWarming\_38 Start: 26068, Stop: 27210, Start Num: 157

Candidate Starts for GlobiWarming\_38:

(Start: 157 @26068 has 270 MA's), (329, 26422), (334, 26428), (349, 26446), (402, 26554), (431, 26614), (476, 26707), (556, 26827), (574, 26875), (591, 26905), (652, 27001), (701, 27109), (727, 27184),

Gene: Goib\_39 Start: 28036, Stop: 26921, Start Num: 178

Candidate Starts for Goib\_39:

(145, 28105), (Start: 178 @28036 has 14 MA's), (358, 27697), (380, 27664), (535, 27370), (545, 27358), (639, 27178), (715, 26980),

Gene: Gonephishing\_76 Start: 48662, Stop: 49951, Start Num: 99

Candidate Starts for Gonephishing\_76:

(80, 48620), (Start: 99 @48662 has 1 MA's), (Start: 107 @48677 has 13 MA's), (Start: 108 @48680 has 1 MA's), (Start: 140 @48725 has 113 MA's), (Start: 161 @48764 has 1 MA's), (334, 49145), (385, 49229), (392, 49244), (450, 49373), (530, 49493), (563, 49556), (569, 49574), (582, 49598), (628, 49670), (711, 49847), (712, 49850), (714, 49856), (720, 49874), (725, 49889), (729, 49898), (730, 49901), (750, 49946),

Gene: Gorge\_43 Start: 32137, Stop: 33255, Start Num: 157

Candidate Starts for Gorge\_43:

(Start: 157 @32137 has 270 MA's), (218, 32275), (231, 32308), (263, 32356), (315, 32473), (334, 32509), (344, 32518), (402, 32623), (434, 32692), (464, 32752), (471, 32764), (472, 32767), (476, 32779), (483, 32794), (494, 32818), (503, 32824), (526, 32845), (554, 32881), (556, 32884), (570, 32920), (573, 32926), (577, 32938), (579, 32941), (646, 33025), (652, 33040), (685, 33082), (698, 33127), (701, 33136), (714, 33175), (720, 33193), (729, 33214), (734, 33229), (739, 33238), (741, 33241),

Gene: Gorpy\_41 Start: 29001, Stop: 27862, Start Num: 157

Candidate Starts for Gorpy\_41:

(Start: 157 @29001 has 270 MA's), (179, 28950), (267, 28782), (277, 28764), (344, 28632), (392, 28554), (396, 28542), (397, 28536), (431, 28467), (436, 28458), (466, 28398), (520, 28308), (579, 28203), (591, 28182), (613, 28155), (685, 28032), (693, 28008), (697, 27993), (721, 27918), (733, 27888),

Gene: GrandSlam\_39 Start: 31803, Stop: 30532, Start Num: 122

Candidate Starts for GrandSlam\_39:

(Start: 122 @31803 has 50 MA's), (133, 31788), (186, 31686), (207, 31644), (215, 31632), (253, 31557), (287, 31482), (293, 31473), (300, 31455), (365, 31356), (367, 31353), (404, 31263), (470, 31158), (517, 31062), (522, 31056), (613, 30894), (684, 30753), (698, 30708), (715, 30657), (718, 30648), (723, 30633), (730, 30621), (734, 30609), (758, 30570),

Gene: Gravaillia\_29 Start: 26207, Stop: 25014, Start Num: 152

Candidate Starts for Gravaillia\_29:

(Start: 124 @26249 has 2 MA's), (Start: 152 @26207 has 20 MA's), (187, 26141), (Start: 219 @26072 has 1 MA's), (225, 26060), (241, 26021), (250, 26006), (254, 26000), (258, 25988), (289, 25928), (315, 25871), (332, 25838), (334, 25835), (338, 25832), (396, 25718), (400, 25703), (408, 25679), (419, 25664), (430, 25649), (444, 25625), (449, 25613), (469, 25574), (470, 25571), (484, 25535), (520, 25487), (522, 25484), (562, 25412), (564, 25406), (568, 25394), (569, 25391), (571, 25385), (604, 25331), (613, 25310), (629, 25283), (641, 25265), (644, 25259), (683, 25214), (691, 25187), (693, 25181), (701, 25151), (710, 25124), (732, 25061),

Gene: Grif\_36 Start: 26864, Stop: 25719, Start Num: 140

Candidate Starts for Grif\_36:

(Start: 140 @26864 has 113 MA's), (Start: 165 @26825 has 10 MA's), (189, 26777), (Start: 204 @26741 has 6 MA's), (227, 26696), (306, 26540), (319, 26513), (360, 26477), (392, 26420), (431, 26342), (444, 26318), (460, 26279), (496, 26207), (515, 26195), (520, 26189), (531, 26177), (570, 26102), (573, 26096), (583, 26075), (591, 26060), (608, 26042), (621, 26018), (687, 25904), (701, 25859), (702, 25856), (706, 25847), (712, 25826), (714, 25820), (718, 25808), (733, 25769),

Gene: Groupthink\_36 Start: 26643, Stop: 25498, Start Num: 140

Candidate Starts for Groupthink\_36:

(Start: 98 @26706 has 1 MA's), (Start: 140 @26643 has 113 MA's), (Start: 173 @26589 has 14 MA's), (Start: 204 @26520 has 6 MA's), (315, 26301), (319, 26292), (360, 26256), (392, 26199), (431, 26121), (448, 26088), (496, 25986), (520, 25968), (531, 25956), (570, 25881), (573, 25875), (583, 25854), (591, 25839), (608, 25821), (621, 25797), (701, 25638), (702, 25635), (712, 25605), (714, 25599), (718, 25587), (733, 25548),

Gene: Grub\_36 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for Grub\_36:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Grum1\_36 Start: 26789, Stop: 25644, Start Num: 140

Candidate Starts for Grum1\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701, 25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: Gspu1\_28 Start: 24542, Stop: 23361, Start Num: 178

Candidate Starts for Gspu1\_28:

(146, 24608), (156, 24593), (166, 24572), (Start: 178 @24542 has 14 MA's), (195, 24506), (198, 24497), (199, 24494), (206, 24470), (259, 24359), (396, 24110), (410, 24071), (470, 23969), (504, 23891), (524, 23867), (534, 23852), (557, 23813), (563, 23795), (565, 23786), (586, 23744), (603, 23717), (628, 23675), (685, 23570), (698, 23525), (701, 23516), (704, 23507), (712, 23483), (754, 23387),

Gene: GtownJaz\_36 Start: 26791, Stop: 25646, Start Num: 140

Candidate Starts for GtownJaz\_36:

(Start: 140 @26791 has 113 MA's), (Start: 165 @26752 has 10 MA's), (Start: 204 @26668 has 6 MA's), (227, 26623), (306, 26467), (319, 26440), (360, 26404), (392, 26347), (431, 26269), (444, 26245), (460, 26206), (496, 26134), (515, 26122), (520, 26116), (531, 26104), (570, 26029), (573, 26023), (583, 26002), (591, 25987), (608, 25969), (621, 25945), (687, 25831), (701, 25786), (702, 25783), (706, 25774), (712, 25753), (714, 25747), (718, 25735), (733, 25696),

Gene: Guanica15\_44 Start: 32526, Stop: 33626, Start Num: 157

Candidate Starts for Guanica15\_44:

(69, 32376), (Start: 157 @32526 has 270 MA's), (179, 32577), (Start: 217 @32652 has 1 MA's), (235, 32688), (237, 32691), (296, 32802), (418, 33021), (431, 33045), (432, 33048), (494, 33177), (520, 33198), (577, 33303), (646, 33390), (683, 33438),

Gene: Guppsters\_43 Start: 32537, Stop: 33664, Start Num: 157

Candidate Starts for Guppsters\_43:

(89, 32435), (Start: 121 @32492 has 2 MA's), (Start: 157 @32537 has 270 MA's), (159, 32546), (231, 32708), (258, 32759), (267, 32777), (288, 32822), (334, 32918), (344, 32927), (392, 33008), (402, 33032), (434, 33101), (464, 33161), (471, 33173), (472, 33176), (476, 33188), (483, 33203), (494, 33227), (503, 33233), (526, 33254), (554, 33290), (556, 33293), (570, 33329), (573, 33335), (579, 33350), (646, 33434), (652, 33449), (685, 33491), (698, 33536), (701, 33545), (714, 33584), (720, 33602), (729, 33623), (734, 33638), (739, 33647), (741, 33650),

Gene: HH92\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for HH92\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Hades\_43 Start: 31946, Stop: 33073, Start Num: 157

Candidate Starts for Hades\_43:

(89, 31844), (Start: 121 @31901 has 2 MA's), (Start: 157 @31946 has 270 MA's), (159, 31955), (231, 32117), (258, 32168), (267, 32186), (288, 32231), (334, 32327), (344, 32336), (392, 32417), (402, 32441), (434, 32510), (452, 32549), (464, 32570), (471, 32582), (472, 32585), (476, 32597), (483, 32612), (494, 32636), (503, 32642), (526, 32663), (554, 32699), (556, 32702), (570, 32738), (573, 32744), (577, 32756), (579, 32759), (587, 32774), (646, 32843), (652, 32858), (685, 32900), (698, 32945), (701, 32954), (706, 32966), (714, 32993), (720, 33011), (729, 33032), (734, 33047), (739, 33056), (741, 33059),

Gene: Hadrien\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Hadrien\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Hail\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Hail\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Haley23\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for Haley23\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (528, 28553), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Halley\_83 Start: 53063, Stop: 54292, Start Num: 128

Candidate Starts for Halley\_83:

(Start: 128 @53063 has 28 MA's), (Start: 140 @53081 has 113 MA's), (Start: 161 @53120 has 1 MA's), (266, 53357), (315, 53465), (385, 53585), (386, 53588), (391, 53597), (396, 53612), (410, 53651), (450, 53729), (510, 53834), (519, 53846), (530, 53849), (536, 53858), (562, 53909), (563, 53912), (569, 53930), (628, 54026), (668, 54083), (711, 54203), (712, 54206), (720, 54230), (729, 54254), (730, 54257),

Gene: Hamood\_39 Start: 31803, Stop: 30532, Start Num: 122

Candidate Starts for Hamood\_39:

(Start: 122 @31803 has 50 MA's), (133, 31788), (186, 31686), (207, 31644), (215, 31632), (253, 31557), (287, 31482), (293, 31473), (300, 31455), (365, 31356), (367, 31353), (404, 31263), (470, 31158), (517, 31062), (522, 31056), (613, 30894), (684, 30753), (698, 30708), (715, 30657), (718, 30648), (723, 30633), (730, 30621), (734, 30609), (758, 30570),

Gene: Hannaconda\_75 Start: 47285, Stop: 48559, Start Num: 107

Candidate Starts for Hannaconda\_75:

(80, 47228), (Start: 99 @47270 has 1 MA's), (Start: 107 @47285 has 13 MA's), (Start: 108 @47288 has 1 MA's), (Start: 140 @47333 has 113 MA's), (Start: 161 @47372 has 1 MA's), (334, 47753), (385, 47837), (391, 47849), (392, 47852), (450, 47981), (530, 48101), (563, 48164), (569, 48182), (582, 48206), (628, 48278), (711, 48455), (712, 48458), (714, 48464), (720, 48482), (725, 48497), (729, 48506), (730, 48509), (750, 48554),

Gene: HarryHoudini\_36 Start: 26909, Stop: 25782, Start Num: 144

Candidate Starts for HarryHoudini\_36:

(103, 26963), (Start: 144 @26909 has 6 MA's), (Start: 165 @26876 has 10 MA's), (Start: 180 @26846 has 8 MA's), (Start: 204 @26792 has 6 MA's), (227, 26747), (319, 26564), (360, 26528), (392, 26471), (431, 26393), (452, 26348), (460, 26330), (520, 26240), (531, 26228), (546, 26207), (570, 26153), (573, 26147), (583, 26126), (591, 26111), (608, 26093), (624, 26066), (687, 25955), (701, 25910), (702, 25907), (703, 25904), (712, 25877), (714, 25871), (718, 25859), (733, 25820),

Gene: HaveUMetTed\_36 Start: 26636, Stop: 25491, Start Num: 140

Candidate Starts for HaveUMetTed\_36:

(Start: 98 @26699 has 1 MA's), (Start: 140 @26636 has 113 MA's), (Start: 173 @26582 has 14 MA's), (Start: 204 @26513 has 6 MA's), (315, 26294), (319, 26285), (360, 26249), (392, 26192), (431, 26114), (448, 26081), (496, 25979), (520, 25961), (531, 25949), (570, 25874), (573, 25868), (583, 25847), (591, 25832), (608, 25814), (701, 25631), (702, 25628), (712, 25598), (714, 25592), (718, 25580), (733, 25541),

Gene: Heathen\_33 Start: 26105, Stop: 24978, Start Num: 140

Candidate Starts for Heathen\_33:

(Start: 140 @26105 has 113 MA's), (189, 26018), (Start: 204 @25982 has 6 MA's), (227, 25937), (306, 25781), (311, 25769), (315, 25763), (360, 25718), (391, 25664), (392, 25661), (399, 25637), (496, 25448), (520, 25430), (531, 25418), (556, 25379), (570, 25343), (573, 25337), (583, 25316), (591, 25301), (608, 25283), (687, 25145), (702, 25097), (712, 25067), (714, 25061), (718, 25049), (733, 25010),

Gene: HedwigODU\_41 Start: 32479, Stop: 33567, Start Num: 157

Candidate Starts for HedwigODU\_41:

(Start: 157 @32479 has 270 MA's), (179, 32530), (Start: 204 @32581 has 6 MA's), (Start: 217 @32605 has 1 MA's), (235, 32641), (306, 32779), (334, 32833), (396, 32917), (431, 32986), (432, 32989), (520, 33139), (565, 33217), (577, 33244), (646, 33331), (683, 33379),

Gene: Heffalump\_35 Start: 27571, Stop: 26564, Start Num: 204

Candidate Starts for Heffalump\_35:

(Start: 128 @27706 has 28 MA's), (Start: 204 @27571 has 6 MA's), (222, 27535), (227, 27526), (295, 27397), (360, 27307), (413, 27196), (431, 27172), (448, 27139), (452, 27127), (520, 27019), (522, 27016), (570, 26932), (573, 26926), (583, 26905), (591, 26890), (608, 26872), (702, 26686), (712, 26656), (714, 26650), (718, 26638), (733, 26599), (744, 26575),

Gene: Hegedechwinu\_41 Start: 30918, Stop: 32036, Start Num: 157

Candidate Starts for Hegedechwinu\_41:

(Start: 157 @30918 has 270 MA's), (218, 31056), (231, 31089), (263, 31137), (315, 31254), (334, 31290), (344, 31299), (402, 31404), (434, 31473), (452, 31512), (460, 31530), (464, 31533), (471, 31545), (472, 31548), (476, 31560), (483, 31575), (494, 31599), (503, 31605), (526, 31626), (554, 31662), (556, 31665), (570, 31701), (573, 31707), (577, 31719), (579, 31722), (587, 31737), (646, 31806), (652, 31821), (685, 31863), (698, 31908), (701, 31917), (714, 31956), (720, 31974), (729, 31995), (734, 32010), (739, 32019), (741, 32022),

Gene: HelDan\_33 Start: 26357, Stop: 25230, Start Num: 140

Candidate Starts for HelDan\_33:

(Start: 140 @26357 has 113 MA's), (189, 26270), (Start: 204 @26234 has 6 MA's), (227, 26189), (306, 26033), (311, 26021), (315, 26015), (360, 25970), (391, 25916), (392, 25913), (399, 25889), (496, 25700), (520, 25682), (531, 25670), (556, 25631), (570, 25595), (573, 25589), (583, 25568), (591, 25553), (608, 25535), (687, 25397), (702, 25349), (712, 25319), (714, 25313), (718, 25301), (733, 25262),

Gene: Heliosoles\_35 Start: 26643, Stop: 25498, Start Num: 140

Candidate Starts for Heliosoles\_35:

(Start: 98 @26706 has 1 MA's), (Start: 140 @26643 has 113 MA's), (Start: 173 @26589 has 14 MA's), (Start: 204 @26520 has 6 MA's), (315, 26301), (319, 26292), (360, 26256), (392, 26199), (431, 26121), (448, 26088), (496, 25986), (520, 25968), (531, 25956), (570, 25881), (573, 25875), (583, 25854), (591, 25839), (608, 25821), (621, 25797), (701, 25638), (702, 25635), (712, 25605), (714, 25599), (718, 25587), (733, 25548),

Gene: Hercules11\_36 Start: 26798, Stop: 25653, Start Num: 140

Candidate Starts for Hercules11\_36:

(Start: 140 @26798 has 113 MA's), (Start: 165 @26759 has 10 MA's), (189, 26711), (Start: 204 @26675 has 6 MA's), (227, 26630), (306, 26474), (319, 26447), (360, 26411), (392, 26354), (431, 26276), (444, 26252), (460, 26213), (496, 26141), (515, 26129), (520, 26123), (531, 26111), (570, 26036), (573, 26030), (583, 26009), (591, 25994), (608, 25976), (621, 25952), (687, 25838), (701, 25793), (702, 25790), (706, 25781), (712, 25760), (714, 25754), (718, 25742), (733, 25703),

Gene: Herod\_39 Start: 31901, Stop: 33094, Start Num: 85

Candidate Starts for Herod\_39:

(Start: 85 @31901 has 6 MA's), (Start: 153 @32012 has 52 MA's), (179, 32066), (236, 32186), (386, 32432), (391, 32441), (402, 32471), (432, 32531), (466, 32597), (476, 32621), (693, 32951), (700, 32978), (739, 33083),

Gene: Hillester\_40 Start: 27831, Stop: 26659, Start Num: 157

Candidate Starts for Hillester\_40:

(Start: 157 @27831 has 270 MA's), (179, 27780), (236, 27666), (267, 27612), (277, 27594), (308, 27522), (327, 27480), (344, 27462), (392, 27384), (396, 27372), (431, 27297), (436, 27288), (466, 27228), (520, 27138), (579, 27033), (591, 27012), (610, 26988), (613, 26985), (653, 26916), (685, 26862), (693, 26838), (697, 26823), (742, 26703), (758, 26676),

Gene: Hlubikazi\_41 Start: 31787, Stop: 32905, Start Num: 157

Candidate Starts for Hlubikazi\_41:

(Start: 157 @31787 has 270 MA's), (231, 31958), (315, 32123), (334, 32159), (344, 32168), (402, 32273), (434, 32342), (452, 32381), (464, 32402), (471, 32414), (472, 32417), (476, 32429), (494, 32468), (503, 32474), (526, 32495), (554, 32531), (556, 32534), (570, 32570), (573, 32576), (577, 32588), (579, 32591), (587, 32606), (646, 32675), (652, 32690), (669, 32708), (698, 32777), (701, 32786), (714, 32825), (720, 32843), (729, 32864), (734, 32879), (739, 32888), (741, 32891),

Gene: HokkenD\_73 Start: 51332, Stop: 52561, Start Num: 128

Candidate Starts for HokkenD\_73:

(Start: 128 @51332 has 28 MA's), (Start: 140 @51350 has 113 MA's), (Start: 161 @51389 has 1 MA's), (266, 51626), (315, 51734), (385, 51854), (386, 51857), (391, 51866), (396, 51881), (410, 51920), (450, 51998), (510, 52103), (519, 52115), (530, 52118), (536, 52127), (562, 52178), (563, 52181), (569, 52199), (628, 52295), (668, 52352), (711, 52472), (712, 52475), (720, 52499), (729, 52523), (730, 52526),

Gene: Holliday\_48 Start: 32014, Stop: 33084, Start Num: 157

Candidate Starts for Holliday\_48:

(Start: 134 @31993 has 1 MA's), (Start: 157 @32014 has 270 MA's), (179, 32065), (203, 32113), (230, 32170), (263, 32215), (396, 32449), (403, 32467), (452, 32566), (471, 32599), (472, 32602), (476, 32614), (584, 32782), (655, 32881), (663, 32890), (693, 32941), (700, 32968), (710, 32998), (712, 33004), (716, 33016), (739, 33073),

Gene: Homura\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Homura\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: Hortense\_40 Start: 32549, Stop: 33676, Start Num: 157

Candidate Starts for Hortense\_40:

(126, 32510), (Start: 157 @32549 has 270 MA's), (179, 32603), (230, 32726), (248, 32759), (298, 32849), (311, 32882), (431, 33077), (432, 33080), (452, 33122), (472, 33158), (658, 33455), (693, 33533), (700, 33560), (706, 33575), (714, 33602), (739, 33665),

Gene: Horus\_48 Start: 33163, Stop: 34260, Start Num: 157

Candidate Starts for Horus\_48:

(62, 32983), (76, 33022), (Start: 157 @33163 has 270 MA's), (179, 33214), (218, 33292), (230, 33319), (263, 33364), (279, 33397), (283, 33406), (391, 33583), (392, 33586), (436, 33679), (452,

33715), (471, 33748), (472, 33751), (476, 33763), (583, 33928), (610, 33958), (655, 34030), (685, 34066), (693, 34090), (700, 34117), (716, 34165), (720, 34177), (741, 34225),

Gene: Howe\_40 Start: 32549, Stop: 33676, Start Num: 157

Candidate Starts for Howe\_40:

(126, 32510), (Start: 157 @32549 has 270 MA's), (179, 32603), (230, 32726), (248, 32759), (298, 32849), (311, 32882), (431, 33077), (432, 33080), (452, 33122), (472, 33158), (658, 33455), (693, 33533), (700, 33560), (706, 33575), (714, 33602), (739, 33665),

Gene: Huffy\_38 Start: 27370, Stop: 26255, Start Num: 178

Candidate Starts for Huffy\_38:

(Start: 178 @27370 has 14 MA's), (358, 27031), (380, 26998), (535, 26704), (545, 26692), (639, 26512), (706, 26341), (715, 26314),

Gene: Hughesyang\_81 Start: 53021, Stop: 54250, Start Num: 128

Candidate Starts for Hughesyang\_81:

(Start: 128 @53021 has 28 MA's), (Start: 140 @53039 has 113 MA's), (Start: 161 @53078 has 1 MA's), (266, 53315), (315, 53423), (385, 53543), (386, 53546), (391, 53555), (396, 53570), (410, 53609), (450, 53687), (510, 53792), (519, 53804), (530, 53807), (536, 53816), (562, 53867), (563, 53870), (569, 53888), (628, 53984), (668, 54041), (711, 54161), (712, 54164), (720, 54188), (729, 54212), (730, 54215),

Gene: Hugley\_36 Start: 32011, Stop: 33093, Start Num: 153

Candidate Starts for Hugley\_36:

(Start: 85 @31900 has 6 MA's), (Start: 153 @32011 has 52 MA's), (179, 32065), (236, 32185), (386, 32431), (391, 32440), (402, 32470), (432, 32530), (466, 32596), (476, 32620), (693, 32950), (700, 32977), (739, 33082),

Gene: Hum25\_33 Start: 25182, Stop: 24091, Start Num: 138

Candidate Starts for Hum25\_33:

(118, 25206), (138, 25182), (229, 25011), (240, 24984), (267, 24945), (300, 24876), (309, 24855), (315, 24846), (356, 24789), (364, 24777), (365, 24774), (369, 24765), (375, 24753), (399, 24693), (402, 24684), (409, 24669), (459, 24603), (476, 24570), (489, 24543), (533, 24489), (548, 24468), (571, 24420), (573, 24417), (577, 24405), (583, 24396), (594, 24378), (595, 24375), (606, 24369), (611, 24357), (634, 24324), (682, 24270), (688, 24243), (712, 24171), (733, 24117),

Gene: Hyperbowlee\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for Hyperbowlee\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Hyzer\_43 Start: 33426, Stop: 34508, Start Num: 153

Candidate Starts for Hyzer\_43:

(Start: 153 @33426 has 52 MA's), (179, 33480), (236, 33600), (391, 33855), (402, 33885), (432, 33945), (466, 34011), (476, 34035), (693, 34365), (716, 34440), (739, 34497),

Gene: Idleandcovert\_33 Start: 26297, Stop: 25170, Start Num: 140

Candidate Starts for Idleandcovert\_33:

(Start: 140 @26297 has 113 MA's), (189, 26210), (Start: 204 @26174 has 6 MA's), (227, 26129), (306, 25973), (311, 25961), (315, 25955), (360, 25910), (391, 25856), (392, 25853), (431, 25775), (520, 25622), (531, 25610), (556, 25571), (570, 25535), (573, 25529), (583, 25508), (591, 25493), (608, 25475), (624, 25448), (687, 25337), (702, 25289), (712, 25259), (714, 25253), (718, 25241), (733,



25202),

Gene: Illumine\_44 Start: 33263, Stop: 34351, Start Num: 157

Candidate Starts for Illumine\_44:

(Start: 157 @33263 has 270 MA's), (Start: 204 @33365 has 6 MA's), (Start: 217 @33389 has 1 MA's), (235, 33425), (267, 33476), (296, 33539), (306, 33563), (334, 33617), (338, 33620), (396, 33701), (431, 33770), (432, 33773), (520, 33923), (565, 34001), (577, 34028), (683, 34163),

Gene: Inky\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Inky\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: IrishSherpFalk\_41 Start: 32488, Stop: 33606, Start Num: 157

Candidate Starts for IrishSherpFalk\_41:

(Start: 157 @32488 has 270 MA's), (159, 32497), (231, 32659), (344, 32869), (392, 32950), (402, 32974), (434, 33043), (464, 33103), (471, 33115), (472, 33118), (476, 33130), (483, 33145), (494, 33169), (503, 33175), (526, 33196), (554, 33232), (556, 33235), (570, 33271), (573, 33277), (579, 33292), (646, 33376), (652, 33391), (685, 33433), (698, 33478), (701, 33487), (714, 33526), (720, 33544), (729, 33565), (734, 33580), (739, 33589), (741, 33592),

Gene: IronMan\_36 Start: 28052, Stop: 26925, Start Num: 127

Candidate Starts for IronMan\_36:

(Start: 113 @28070 has 7 MA's), (Start: 127 @28052 has 7 MA's), (Start: 204 @27923 has 6 MA's), (227, 27878), (319, 27695), (360, 27659), (392, 27602), (396, 27590), (460, 27461), (520, 27371), (531, 27359), (570, 27284), (583, 27257), (591, 27242), (608, 27224), (618, 27203), (687, 27086), (701, 27041), (702, 27038), (703, 27035), (712, 27008), (714, 27002), (718, 26990), (733, 26951),

Gene: Isca\_33 Start: 26066, Stop: 24942, Start Num: 140

Candidate Starts for Isca\_33:

(Start: 108 @26108 has 1 MA's), (Start: 140 @26066 has 113 MA's), (Start: 165 @26027 has 10 MA's), (189, 25979), (Start: 204 @25943 has 6 MA's), (227, 25898), (240, 25868), (295, 25769), (360, 25679), (413, 25568), (431, 25544), (452, 25499), (520, 25391), (531, 25379), (546, 25358), (570, 25304), (573, 25298), (583, 25277), (591, 25262), (608, 25244), (624, 25217), (687, 25106), (702, 25058), (703, 25055), (712, 25028), (714, 25022), (718, 25010), (726, 24989), (733, 24971),

Gene: Isolde\_41 Start: 27878, Stop: 26739, Start Num: 157

Candidate Starts for Isolde\_41:

(Start: 157 @27878 has 270 MA's), (179, 27827), (267, 27659), (277, 27641), (344, 27509), (392, 27431), (396, 27419), (431, 27344), (436, 27335), (466, 27275), (520, 27185), (579, 27080), (591, 27059), (613, 27032), (685, 26909), (693, 26885), (697, 26870), (733, 26765),

Gene: Iwokeuplikedis\_34 Start: 26178, Stop: 25060, Start Num: 134

Candidate Starts for Iwokeuplikedis\_34:

(Start: 134 @26178 has 1 MA's), (Start: 204 @26055 has 6 MA's), (227, 26010), (308, 25851), (319, 25827), (360, 25791), (392, 25734), (431, 25656), (452, 25611), (460, 25593), (520, 25503), (531, 25491), (570, 25416), (583, 25389), (591, 25374), (608, 25356), (624, 25329), (687, 25218), (701, 25173), (702, 25170), (703, 25167), (712, 25140), (714, 25134), (718, 25122), (733, 25083),

Gene: JAWS\_41 Start: 32469, Stop: 33557, Start Num: 157

Candidate Starts for JAWS\_41:

(Start: 157 @32469 has 270 MA's), (Start: 204 @32571 has 6 MA's), (Start: 217 @32595 has 1 MA's), (235, 32631), (306, 32769), (396, 32907), (431, 32976), (432, 32979), (520, 33129), (577, 33234), (646, 33321), (683, 33369),

Gene: JCole\_37 Start: 29060, Stop: 27801, Start Num: 122

Candidate Starts for JCole\_37:

(Start: 122 @29060 has 50 MA's), (293, 28730), (313, 28685), (359, 28625), (365, 28613), (385, 28568), (414, 28496), (522, 28328), (524, 28325), (577, 28232), (613, 28172), (678, 28055), (682, 28043), (688, 28016), (698, 27986), (718, 27926), (723, 27911), (730, 27899), (733, 27890), (751, 27851),

Gene: JF2\_33 Start: 25816, Stop: 24692, Start Num: 140

Candidate Starts for JF2\_33:

(Start: 108 @25858 has 1 MA's), (Start: 140 @25816 has 113 MA's), (Start: 204 @25693 has 6 MA's), (227, 25648), (267, 25576), (291, 25528), (315, 25474), (319, 25465), (360, 25429), (392, 25372), (520, 25141), (531, 25129), (546, 25108), (570, 25054), (573, 25048), (583, 25027), (591, 25012), (608, 24994), (624, 24967), (687, 24856), (702, 24808), (703, 24805), (712, 24778), (714, 24772), (718, 24760), (726, 24739), (733, 24721),

Gene: JF4\_33 Start: 25816, Stop: 24692, Start Num: 140

Candidate Starts for JF4\_33:

(Start: 108 @25858 has 1 MA's), (Start: 140 @25816 has 113 MA's), (Start: 204 @25693 has 6 MA's), (227, 25648), (267, 25576), (291, 25528), (315, 25474), (319, 25465), (360, 25429), (392, 25372), (520, 25141), (531, 25129), (546, 25108), (570, 25054), (573, 25048), (583, 25027), (591, 25012), (608, 24994), (624, 24967), (687, 24856), (702, 24808), (703, 24805), (712, 24778), (714, 24772), (718, 24760), (726, 24739), (733, 24721),

Gene: JHC117\_36 Start: 26788, Stop: 25643, Start Num: 140

Candidate Starts for JHC117\_36:

(Start: 140 @26788 has 113 MA's), (Start: 165 @26749 has 10 MA's), (189, 26701), (Start: 204 @26665 has 6 MA's), (227, 26620), (306, 26464), (319, 26437), (360, 26401), (392, 26344), (431, 26266), (444, 26242), (460, 26203), (496, 26131), (515, 26119), (520, 26113), (531, 26101), (570, 26026), (573, 26020), (583, 25999), (591, 25984), (608, 25966), (621, 25942), (687, 25828), (701, 25783), (702, 25780), (706, 25771), (712, 25750), (714, 25744), (718, 25732), (733, 25693),

Gene: Jaan\_37 Start: 28459, Stop: 27326, Start Num: 129

Candidate Starts for Jaan\_37:

(Start: 129 @28459 has 3 MA's), (Start: 204 @28324 has 6 MA's), (227, 28279), (228, 28273), (250, 28234), (306, 28123), (319, 28096), (360, 28060), (385, 28018), (391, 28006), (392, 28003), (444, 27901), (520, 27772), (531, 27760), (570, 27685), (573, 27679), (583, 27658), (591, 27643), (608, 27625), (638, 27574), (687, 27487), (702, 27439), (712, 27409), (714, 27403), (718, 27391), (733, 27352),

Gene: Jablanski\_39 Start: 31311, Stop: 32393, Start Num: 153

Candidate Starts for Jablanski\_39:

(Start: 85 @31200 has 6 MA's), (Start: 153 @31311 has 52 MA's), (179, 31365), (236, 31485), (402, 31770), (432, 31830), (466, 31896), (476, 31920), (693, 32250), (700, 32277), (739, 32382),

Gene: James\_43 Start: 32094, Stop: 33212, Start Num: 157

Candidate Starts for James\_43:

(Start: 157 @32094 has 270 MA's), (218, 32232), (231, 32265), (263, 32313), (315, 32430), (334, 32466), (344, 32475), (402, 32580), (434, 32649), (464, 32709), (471, 32721), (472, 32724), (476, 32736), (483, 32751), (494, 32775), (503, 32781), (526, 32802), (554, 32838), (556, 32841), (570,

32877), (573, 32883), (577, 32895), (579, 32898), (646, 32982), (652, 32997), (685, 33039), (698, 33084), (701, 33093), (714, 33132), (720, 33150), (729, 33171), (734, 33186), (739, 33195), (741, 33198),

Gene: Jamun\_33 Start: 24299, Stop: 23115, Start Num: 122

Candidate Starts for Jamun\_33:

(Start: 122 @24299 has 50 MA's), (241, 24080), (246, 24071), (309, 23945), (367, 23855), (579, 23447), (586, 23435), (597, 23417), (688, 23273), (692, 23264),

Gene: Jarvi\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Jarvi\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: Jayhawk\_42 Start: 32477, Stop: 33565, Start Num: 157

Candidate Starts for Jayhawk\_42:

(Start: 157 @32477 has 270 MA's), (179, 32528), (Start: 204 @32579 has 6 MA's), (Start: 217 @32603 has 1 MA's), (235, 32639), (306, 32777), (334, 32831), (396, 32915), (431, 32984), (432, 32987), (520, 33137), (565, 33215), (577, 33242), (646, 33329), (683, 33377),

Gene: Jeckyll\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Jeckyll\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: JenCasNa\_36 Start: 26750, Stop: 25644, Start Num: 165

Candidate Starts for JenCasNa\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701, 25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: JeppNRM\_36 Start: 26642, Stop: 25497, Start Num: 140

Candidate Starts for JeppNRM\_36:

(Start: 98 @26705 has 1 MA's), (Start: 140 @26642 has 113 MA's), (Start: 173 @26588 has 14 MA's), (Start: 204 @26519 has 6 MA's), (315, 26300), (319, 26291), (360, 26255), (392, 26198), (431, 26120), (444, 26096), (448, 26087), (496, 25985), (520, 25967), (531, 25955), (570, 25880), (573, 25874), (583, 25853), (591, 25838), (608, 25820), (621, 25796), (701, 25637), (702, 25634), (712, 25604), (714, 25598), (718, 25586), (733, 25547),

Gene: Jerm\_35 Start: 26752, Stop: 25625, Start Num: 127

Candidate Starts for Jerm\_35:

(Start: 113 @26770 has 7 MA's), (Start: 127 @26752 has 7 MA's), (Start: 180 @26668 has 8 MA's), (Start: 204 @26620 has 6 MA's), (227, 26575), (319, 26392), (360, 26356), (392, 26299), (396, 26287), (448, 26188), (452, 26176), (460, 26158), (520, 26068), (570, 25981), (573, 25975), (583, 25954), (591, 25939), (608, 25921), (624, 25894), (687, 25783), (702, 25735), (703, 25732), (712, 25705), (714, 25699), (718, 25687), (733, 25648),

Gene: Jobu08\_35 Start: 26620, Stop: 25475, Start Num: 140

Candidate Starts for Jobu08\_35:

(Start: 140 @26620 has 113 MA's), (Start: 165 @26581 has 10 MA's), (189, 26533), (Start: 204 @26497 has 6 MA's), (227, 26452), (306, 26296), (319, 26269), (360, 26233), (392, 26176), (431, 26098), (444, 26074), (460, 26035), (496, 25963), (515, 25951), (520, 25945), (531, 25933), (570, 25858), (573, 25852), (583, 25831), (591, 25816), (608, 25798), (687, 25660), (701, 25615), (702, 25612), (706, 25603), (712, 25582), (714, 25576), (718, 25564), (733, 25525),

Gene: JonJames\_97 Start: 58289, Stop: 59536, Start Num: 170

Candidate Starts for JonJames\_97:

(94, 58163), (Start: 170 @58289 has 2 MA's), (250, 58454), (269, 58493), (295, 58544), (310, 58580), (322, 58598), (358, 58649), (377, 58685), (397, 58739), (404, 58760), (458, 58871), (473, 58895), (476, 58904), (483, 58919), (520, 58970), (569, 59054), (607, 59123), (667, 59231), (682, 59273), (695, 59324), (710, 59372), (718, 59393), (730, 59426), (739, 59447), (755, 59474), (766, 59507),

Gene: JoshKayV\_35 Start: 26714, Stop: 25599, Start Num: 123

Candidate Starts for JoshKayV\_35:

(Start: 123 @26714 has 8 MA's), (Start: 204 @26594 has 6 MA's), (227, 26549), (306, 26393), (319, 26366), (360, 26330), (392, 26273), (396, 26261), (431, 26195), (460, 26132), (520, 26042), (570, 25955), (573, 25949), (583, 25928), (591, 25913), (608, 25895), (638, 25844), (687, 25757), (702, 25709), (712, 25679), (714, 25673), (718, 25661), (733, 25622),

Gene: Journey13\_31 Start: 25582, Stop: 24464, Start Num: 140

Candidate Starts for Journey13\_31:

(63, 25732), (Start: 99 @25642 has 1 MA's), (Start: 140 @25582 has 113 MA's), (Start: 173 @25528 has 14 MA's), (Start: 204 @25459 has 6 MA's), (214, 25441), (253, 25366), (256, 25360), (306, 25258), (311, 25246), (360, 25195), (392, 25138), (400, 25111), (483, 24952), (520, 24907), (531, 24895), (570, 24820), (573, 24814), (583, 24793), (591, 24778), (608, 24760), (624, 24733), (687, 24622), (702, 24574), (703, 24571), (712, 24544), (714, 24538), (718, 24526), (733, 24487),

Gene: Joy99\_41 Start: 32524, Stop: 33612, Start Num: 157

Candidate Starts for Joy99\_41:

(16, 31921), (23, 32098), (40, 32263), (50, 32302), (Start: 157 @32524 has 270 MA's), (179, 32575), (Start: 204 @32626 has 6 MA's), (Start: 217 @32650 has 1 MA's), (235, 32686), (242, 32695), (306, 32824), (396, 32962), (431, 33031), (432, 33034), (520, 33184), (577, 33289), (683, 33424),

Gene: Jsquared\_34 Start: 25672, Stop: 24548, Start Num: 140

Candidate Starts for Jsquared\_34:

(Start: 140 @25672 has 113 MA's), (185, 25594), (Start: 204 @25549 has 6 MA's), (227, 25504), (263, 25444), (319, 25321), (360, 25285), (391, 25231), (392, 25228), (431, 25150), (452, 25105), (453, 25102), (460, 25087), (476, 25057), (515, 25003), (520, 24997), (546, 24964), (570, 24910), (583, 24883), (591, 24868), (608, 24850), (624, 24823), (687, 24712), (702, 24664), (703, 24661), (706, 24655), (712, 24634), (714, 24628), (718, 24616), (733, 24577),

Gene: Judy\_39 Start: 26980, Stop: 28122, Start Num: 157

Candidate Starts for Judy\_39:

(Start: 157 @26980 has 270 MA's), (329, 27334), (334, 27340), (348, 27355), (381, 27409), (402, 27466), (431, 27526), (432, 27529), (447, 27556), (476, 27619), (556, 27739), (574, 27787), (652, 27913), (660, 27925), (701, 28021), (727, 28096),

Gene: Juice456\_44 Start: 33520, Stop: 34638, Start Num: 157

Candidate Starts for Juice456\_44:

(Start: 157 @33520 has 270 MA's), (218, 33658), (231, 33691), (263, 33739), (315, 33856), (334, 33892), (344, 33901), (402, 34006), (434, 34075), (452, 34114), (460, 34132), (464, 34135), (471, 34147), (472, 34150), (476, 34162), (483, 34177), (494, 34201), (503, 34207), (526, 34228), (554,

34264), (556, 34267), (570, 34303), (573, 34309), (577, 34321), (579, 34324), (587, 34339), (646, 34408), (652, 34423), (685, 34465), (698, 34510), (701, 34519), (714, 34558), (720, 34576), (729, 34597), (734, 34612), (739, 34621), (741, 34624),

Gene: Juicebox\_26 Start: 25055, Stop: 23880, Start Num: 175

Candidate Starts for Juicebox\_26:

(Start: 175 @25055 has 3 MA's), (Start: 194 @25028 has 4 MA's), (252, 24917), (291, 24833), (316, 24773), (328, 24749), (380, 24671), (386, 24650), (391, 24641), (428, 24545), (442, 24518), (458, 24485), (485, 24428), (488, 24419), (492, 24410), (497, 24401), (499, 24398), (501, 24392), (512, 24380), (557, 24314), (582, 24266), (599, 24242), (619, 24200), (622, 24197), (625, 24194), (643, 24173), (670, 24125), (685, 24092), (697, 24053), (701, 24038), (712, 24005), (745, 23921), (759, 23897),

Gene: JuicyJay\_79 Start: 54197, Stop: 55426, Start Num: 128

Candidate Starts for JuicyJay\_79:

(Start: 128 @54197 has 28 MA's), (Start: 140 @54215 has 113 MA's), (Start: 161 @54254 has 1 MA's), (266, 54491), (315, 54599), (385, 54719), (386, 54722), (391, 54731), (396, 54746), (410, 54785), (450, 54863), (510, 54968), (519, 54980), (530, 54983), (536, 54992), (562, 55043), (563, 55046), (569, 55064), (628, 55160), (668, 55217), (711, 55337), (712, 55340), (720, 55364), (729, 55388), (730, 55391),

Gene: Juniper1\_42 Start: 31679, Stop: 32797, Start Num: 157

Candidate Starts for Juniper1\_42:

(Start: 157 @31679 has 270 MA's), (231, 31850), (263, 31898), (334, 32051), (344, 32060), (392, 32141), (434, 32234), (464, 32294), (471, 32306), (472, 32309), (483, 32336), (494, 32360), (526, 32387), (554, 32423), (556, 32426), (570, 32462), (587, 32498), (646, 32567), (652, 32582), (669, 32600), (698, 32669), (701, 32678), (714, 32717), (720, 32735), (734, 32771), (739, 32780), (741, 32783),

Gene: Juno112\_36 Start: 23916, Stop: 22723, Start Num: 122

Candidate Starts for Juno112\_36:

(Start: 122 @23916 has 50 MA's), (359, 23487), (385, 23430), (395, 23406), (515, 23178), (586, 23052), (594, 23040), (609, 23019), (692, 22881), (718, 22800), (739, 22752),

Gene: KHumphrey\_35 Start: 23915, Stop: 22722, Start Num: 122

Candidate Starts for KHumphrey\_35:

(Start: 122 @23915 has 50 MA's), (359, 23486), (385, 23429), (395, 23405), (515, 23177), (586, 23051), (594, 23039), (609, 23018), (692, 22880), (718, 22799), (739, 22751),

Gene: Kalah2\_76 Start: 52356, Stop: 53585, Start Num: 128

Candidate Starts for Kalah2\_76:

(Start: 128 @52356 has 28 MA's), (Start: 140 @52374 has 113 MA's), (Start: 161 @52413 has 1 MA's), (266, 52650), (315, 52758), (385, 52878), (386, 52881), (391, 52890), (396, 52905), (410, 52944), (450, 53022), (510, 53127), (519, 53139), (530, 53142), (536, 53151), (562, 53202), (563, 53205), (569, 53223), (628, 53319), (668, 53376), (711, 53496), (712, 53499), (720, 53523), (729, 53547), (730, 53550),

Gene: Kalb97\_36 Start: 26642, Stop: 25497, Start Num: 140

Candidate Starts for Kalb97\_36:

(Start: 98 @26705 has 1 MA's), (Start: 140 @26642 has 113 MA's), (Start: 173 @26588 has 14 MA's), (Start: 204 @26519 has 6 MA's), (315, 26300), (319, 26291), (360, 26255), (392, 26198), (431, 26120), (448, 26087), (496, 25985), (520, 25967), (531, 25955), (570, 25880), (573, 25874), (583, 25853), (591, 25838), (608, 25820), (621, 25796), (701, 25637), (702, 25634), (712, 25604), (714,

25598), (718, 25586), (733, 25547),

Gene: Kalnoky\_36 Start: 26643, Stop: 25498, Start Num: 140

Candidate Starts for Kalnoky\_36:

(Start: 98 @26706 has 1 MA's), (Start: 140 @26643 has 113 MA's), (Start: 173 @26589 has 14 MA's), (Start: 204 @26520 has 6 MA's), (315, 26301), (319, 26292), (360, 26256), (392, 26199), (431, 26121), (448, 26088), (496, 25986), (520, 25968), (531, 25956), (570, 25881), (573, 25875), (583, 25854), (591, 25839), (608, 25821), (621, 25797), (701, 25638), (702, 25635), (712, 25605), (714, 25599), (718, 25587), (733, 25548),

Gene: Kalpine\_35 Start: 27525, Stop: 26410, Start Num: 139

Candidate Starts for Kalpine\_35:

(Start: 139 @27525 has 2 MA's), (Start: 204 @27405 has 6 MA's), (227, 27360), (267, 27288), (315, 27186), (319, 27177), (360, 27141), (386, 27096), (391, 27087), (392, 27084), (448, 26973), (452, 26961), (520, 26853), (531, 26841), (563, 26784), (570, 26766), (573, 26760), (583, 26739), (591, 26724), (608, 26706), (624, 26679), (687, 26568), (702, 26520), (712, 26490), (714, 26484), (718, 26472), (733, 26433),

Gene: Kamaru\_44 Start: 31555, Stop: 32652, Start Num: 157

Candidate Starts for Kamaru\_44:

(31, 31219), (47, 31315), (Start: 113 @31498 has 7 MA's), (Start: 157 @31555 has 270 MA's), (179, 31606), (216, 31678), (218, 31684), (230, 31711), (263, 31756), (283, 31798), (342, 31906), (391, 31975), (396, 31990), (432, 32065), (452, 32107), (471, 32140), (472, 32143), (476, 32155), (556, 32257), (610, 32350), (655, 32422), (685, 32458), (693, 32482), (700, 32509), (716, 32557), (741, 32617),

Gene: Kampy\_33 Start: 26181, Stop: 25129, Start Num: 180

Candidate Starts for Kampy\_33:

(Start: 107 @26295 has 13 MA's), (Start: 124 @26268 has 2 MA's), (Start: 140 @26250 has 113 MA's), (Start: 180 @26181 has 8 MA's), (Start: 204 @26127 has 6 MA's), (315, 25908), (319, 25899), (360, 25863), (385, 25821), (391, 25809), (392, 25806), (431, 25728), (496, 25593), (520, 25575), (570, 25488), (573, 25482), (583, 25461), (591, 25446), (608, 25428), (687, 25290), (702, 25242), (712, 25212), (714, 25206), (718, 25194), (733, 25155),

Gene: KashFlow\_76 Start: 48091, Stop: 49320, Start Num: 128

Candidate Starts for KashFlow\_76:

(Start: 128 @48091 has 28 MA's), (Start: 140 @48109 has 113 MA's), (Start: 161 @48148 has 1 MA's), (266, 48385), (315, 48493), (385, 48613), (386, 48616), (391, 48625), (396, 48640), (410, 48679), (450, 48757), (519, 48874), (530, 48877), (536, 48886), (562, 48937), (563, 48940), (569, 48958), (628, 49054), (668, 49111), (711, 49231), (712, 49234), (720, 49258), (729, 49282), (730, 49285),

Gene: Kenna\_49 Start: 32526, Stop: 33596, Start Num: 157

Candidate Starts for Kenna\_49:

(Start: 157 @32526 has 270 MA's), (179, 32577), (218, 32655), (230, 32682), (342, 32877), (360, 32886), (386, 32937), (391, 32946), (392, 32949), (396, 32961), (416, 33006), (436, 33042), (452, 33078), (471, 33111), (472, 33114), (476, 33126), (584, 33294), (655, 33393), (693, 33453), (700, 33480), (701, 33483), (710, 33510), (712, 33516), (716, 33528), (739, 33585),

Gene: Kenuha5\_39 Start: 31177, Stop: 32295, Start Num: 157

Candidate Starts for Kenuha5\_39:

(Start: 157 @31177 has 270 MA's), (231, 31348), (315, 31513), (334, 31549), (344, 31558), (402, 31663), (434, 31732), (452, 31771), (464, 31792), (471, 31804), (472, 31807), (476, 31819), (483,

31834), (494, 31858), (503, 31864), (526, 31885), (554, 31921), (556, 31924), (570, 31960), (573, 31966), (579, 31981), (587, 31996), (646, 32065), (652, 32080), (685, 32122), (698, 32167), (701, 32176), (714, 32215), (720, 32233), (729, 32254), (734, 32269), (739, 32278), (741, 32281),

Gene: Kepler\_38 Start: 24761, Stop: 23574, Start Num: 122

Candidate Starts for Kepler\_38:

(75, 24851), (Start: 122 @24761 has 50 MA's), (309, 24407), (359, 24332), (586, 23897), (682, 23762), (732, 23612),

Gene: Kerberos\_37 Start: 26420, Stop: 25350, Start Num: 173

Candidate Starts for Kerberos\_37:

(Start: 140 @26474 has 113 MA's), (Start: 173 @26420 has 14 MA's), (Start: 204 @26351 has 6 MA's), (306, 26150), (319, 26123), (360, 26087), (392, 26030), (400, 26003), (431, 25952), (448, 25919), (452, 25907), (460, 25889), (496, 25817), (520, 25799), (531, 25787), (556, 25748), (570, 25712), (573, 25706), (583, 25685), (591, 25670), (608, 25652), (624, 25625), (687, 25514), (702, 25466), (703, 25463), (712, 25436), (714, 25430), (718, 25418), (733, 25379),

Gene: Khuang\_45 Start: 28583, Stop: 27426, Start Num: 118

Candidate Starts for Khuang\_45:

(118, 28583), (155, 28532), (169, 28508), (224, 28388), (240, 28349), (253, 28331), (256, 28325), (258, 28316), (293, 28259), (350, 28160), (365, 28136), (369, 28127), (404, 28037), (405, 28031), (409, 28022), (479, 27905), (527, 27836), (571, 27767), (594, 27725), (610, 27707), (611, 27704), (627, 27680), (645, 27650), (682, 27599), (699, 27539), (700, 27536), (733, 27446),

Gene: KiSi\_45 Start: 33691, Stop: 34776, Start Num: 157

Candidate Starts for KiSi\_45:

(1, 32323), (2, 32353), (3, 32512), (4, 32560), (5, 32629), (6, 32653), (7, 32734), (8, 32743), (9, 32767), (10, 32887), (17, 33088), (18, 33106), (21, 33184), (29, 33355), (41, 33430), (50, 33469), (64, 33523), (Start: 157 @33691 has 270 MA's), (221, 33826), (235, 33853), (306, 33991), (326, 34033), (334, 34045), (396, 34129), (431, 34198), (432, 34201), (452, 34243), (520, 34351), (577, 34456), (646, 34543), (683, 34591), (716, 34699), (734, 34747),

Gene: Kimona\_30 Start: 24408, Stop: 23293, Start Num: 140

Candidate Starts for Kimona\_30:

(118, 24435), (Start: 124 @24426 has 2 MA's), (Start: 140 @24408 has 113 MA's), (185, 24330), (Start: 204 @24285 has 6 MA's), (315, 24066), (319, 24057), (360, 24021), (391, 23967), (392, 23964), (431, 23886), (520, 23733), (522, 23730), (570, 23646), (583, 23619), (591, 23604), (608, 23586), (624, 23559), (687, 23448), (702, 23400), (712, 23370), (714, 23364), (718, 23352), (726, 23331), (733, 23313),

Gene: Kinbote\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Kinbote\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: KingCyrus\_36 Start: 28129, Stop: 27002, Start Num: 127

Candidate Starts for KingCyrus\_36:

(Start: 113 @28147 has 7 MA's), (Start: 127 @28129 has 7 MA's), (Start: 180 @28048 has 8 MA's), (Start: 204 @28000 has 6 MA's), (227, 27955), (306, 27799), (319, 27772), (360, 27736), (392, 27679), (396, 27667), (431, 27601), (448, 27568), (452, 27556), (460, 27538), (520, 27448), (531, 27436), (570, 27361), (573, 27355), (583, 27334), (591, 27319), (608, 27301), (621, 27277), (624, 27274), (630, 27265), (687, 27163), (702, 27115), (703, 27112), (712, 27085), (714, 27079), (718, 27067), (733, 27028),

Gene: Kingsley\_38 Start: 30711, Stop: 31829, Start Num: 157

Candidate Starts for Kingsley\_38:

(Start: 157 @30711 has 270 MA's), (231, 30882), (315, 31047), (334, 31083), (344, 31092), (392, 31173), (402, 31197), (434, 31266), (452, 31305), (460, 31323), (464, 31326), (471, 31338), (472, 31341), (476, 31353), (483, 31368), (494, 31392), (503, 31398), (526, 31419), (554, 31455), (556, 31458), (570, 31494), (573, 31500), (577, 31512), (579, 31515), (587, 31530), (646, 31599), (652, 31614), (685, 31656), (698, 31701), (701, 31710), (714, 31749), (720, 31767), (729, 31788), (734, 31803), (739, 31812), (741, 31815),

Gene: Kita\_40 Start: 30461, Stop: 31654, Start Num: 85

Candidate Starts for Kita\_40:

(Start: 85 @30461 has 6 MA's), (Start: 153 @30572 has 52 MA's), (179, 30626), (236, 30746), (391, 31001), (402, 31031), (432, 31091), (466, 31157), (476, 31181), (693, 31511), (700, 31538), (739, 31643),

Gene: Klein\_81 Start: 51782, Stop: 53011, Start Num: 128

Candidate Starts for Klein\_81:

(Start: 128 @51782 has 28 MA's), (Start: 140 @51800 has 113 MA's), (Start: 161 @51839 has 1 MA's), (266, 52076), (315, 52184), (385, 52304), (386, 52307), (391, 52316), (396, 52331), (410, 52370), (450, 52448), (510, 52553), (519, 52565), (530, 52568), (536, 52577), (562, 52628), (563, 52631), (569, 52649), (628, 52745), (668, 52802), (711, 52922), (712, 52925), (720, 52949), (729, 52973), (730, 52976),

Gene: Koduck\_33 Start: 25409, Stop: 24294, Start Num: 144

Candidate Starts for Koduck\_33:

(Start: 144 @25409 has 6 MA's), (189, 25328), (Start: 204 @25292 has 6 MA's), (227, 25247), (276, 25160), (306, 25091), (311, 25079), (319, 25064), (327, 25049), (360, 25028), (391, 24974), (392, 24971), (496, 24758), (515, 24746), (520, 24740), (531, 24728), (546, 24707), (570, 24653), (583, 24626), (591, 24611), (608, 24593), (624, 24566), (702, 24407), (712, 24377), (714, 24371), (718, 24359), (733, 24320),

Gene: KristaRAM\_43 Start: 33503, Stop: 34630, Start Num: 157

Candidate Starts for KristaRAM\_43:

(89, 33401), (Start: 121 @33458 has 2 MA's), (Start: 157 @33503 has 270 MA's), (159, 33512), (231, 33674), (258, 33725), (267, 33743), (288, 33788), (334, 33884), (344, 33893), (392, 33974), (402, 33998), (434, 34067), (452, 34106), (464, 34127), (471, 34139), (472, 34142), (476, 34154), (483, 34169), (494, 34193), (503, 34199), (526, 34220), (554, 34256), (556, 34259), (570, 34295), (573, 34301), (577, 34313), (579, 34316), (587, 34331), (646, 34400), (652, 34415), (685, 34457), (698, 34502), (701, 34511), (714, 34550), (720, 34568), (729, 34589), (734, 34604), (739, 34613), (741, 34616),

Gene: Kudfre\_6 Start: 2520, Stop: 1432, Start Num: 194

Candidate Starts for Kudfre\_6:

(143, 2625), (183, 2541), (Start: 194 @2520 has 4 MA's), (274, 2349), (311, 2259), (323, 2235), (456, 1983), (480, 1950), (503, 1908), (516, 1893), (532, 1872), (538, 1863), (543, 1857), (582, 1773), (594, 1758), (644, 1671), (662, 1638), (700, 1545), (711, 1512), (714, 1503), (716, 1497),



Gene: Kukla\_37 Start: 28255, Stop: 27116, Start Num: 219

Candidate Starts for Kukla\_37:

(Start: 219 @28255 has 1 MA's), (252, 28189), (285, 28114), (295, 28093), (313, 28048), (365, 27964), (390, 27907), (396, 27889), (407, 27853), (420, 27823), (426, 27808), (432, 27796), (448, 27775), (464, 27739), (466, 27736), (474, 27715), (492, 27673), (493, 27670), (507, 27646), (549, 27589), (600, 27481), (626, 27430), (669, 27358), (697, 27289), (699, 27280), (749, 27148), (753, 27142),

Gene: Kuleana\_37 Start: 24189, Stop: 23008, Start Num: 122

Candidate Starts for Kuleana\_37:

(Start: 122 @24189 has 50 MA's), (304, 23850), (586, 23325),

Gene: L5\_33 Start: 25369, Stop: 24254, Start Num: 144

Candidate Starts for L5\_33:

(Start: 144 @25369 has 6 MA's), (189, 25288), (Start: 204 @25252 has 6 MA's), (227, 25207), (276, 25120), (306, 25051), (311, 25039), (319, 25024), (327, 25009), (360, 24988), (391, 24934), (392, 24931), (496, 24718), (515, 24706), (520, 24700), (531, 24688), (546, 24667), (570, 24613), (583, 24586), (591, 24571), (608, 24553), (624, 24526), (702, 24367), (712, 24337), (714, 24331), (718, 24319), (733, 24280),

Gene: LBerry\_36 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for LBerry\_36:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701, 25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: LHTSCC\_34 Start: 26518, Stop: 25466, Start Num: 180

Candidate Starts for LHTSCC\_34:

(Start: 124 @26605 has 2 MA's), (Start: 140 @26587 has 113 MA's), (Start: 180 @26518 has 8 MA's), (Start: 204 @26464 has 6 MA's), (315, 26245), (319, 26236), (360, 26200), (385, 26158), (391, 26146), (392, 26143), (496, 25930), (520, 25912), (570, 25825), (573, 25819), (583, 25798), (591, 25783), (608, 25765), (687, 25627), (702, 25579), (712, 25549), (714, 25543), (718, 25531), (733, 25492),

Gene: Lamberg\_33 Start: 26384, Stop: 27466, Start Num: 153

Candidate Starts for Lamberg\_33:

(Start: 82 @26267 has 2 MA's), (Start: 85 @26273 has 6 MA's), (Start: 153 @26384 has 52 MA's), (179, 26438), (236, 26558), (391, 26813), (402, 26843), (432, 26903), (466, 26969), (476, 26993), (528, 27062), (554, 27098), (693, 27323), (700, 27350), (739, 27455),

Gene: Landor\_35 Start: 28009, Stop: 26867, Start Num: 128

Candidate Starts for Landor\_35:

(Start: 128 @28009 has 28 MA's), (Start: 204 @27874 has 6 MA's), (227, 27829), (228, 27823), (250, 27784), (295, 27700), (311, 27661), (360, 27610), (413, 27499), (448, 27442), (452, 27430), (476, 27382), (520, 27322), (522, 27319), (570, 27235), (573, 27229), (583, 27208), (591, 27193), (608, 27175), (702, 26989), (712, 26959), (714, 26953), (718, 26941), (733, 26902), (744, 26878),

Gene: Larenn\_35 Start: 26836, Stop: 25694, Start Num: 113

Candidate Starts for Larenn\_35:

(Start: 113 @26836 has 7 MA's), (Start: 127 @26818 has 7 MA's), (Start: 204 @26689 has 6 MA's), (227, 26644), (315, 26470), (319, 26461), (360, 26425), (392, 26368), (431, 26290), (448, 26257), (452, 26245), (460, 26227), (520, 26137), (531, 26125), (570, 26050), (573, 26044), (583, 26023), (591, 26008), (608, 25990), (624, 25963), (687, 25852), (702, 25804), (703, 25801), (712, 25774), (714, 25768), (718, 25756), (733, 25717),

Gene: LastJedi\_34 Start: 27598, Stop: 28716, Start Num: 157

Candidate Starts for LastJedi\_34:

(Start: 157 @27598 has 270 MA's), (159, 27607), (231, 27769), (315, 27934), (334, 27970), (344, 27979), (392, 28060), (402, 28084), (434, 28153), (452, 28192), (460, 28210), (464, 28213), (471, 28225), (472, 28228), (476, 28240), (483, 28255), (494, 28279), (503, 28285), (526, 28306), (554, 28342), (556, 28345), (570, 28381), (573, 28387), (579, 28402), (587, 28417), (646, 28486), (652, 28501), (685, 28543), (698, 28588), (701, 28597), (714, 28636), (720, 28654), (729, 28675), (734, 28690), (739, 28699), (741, 28702),

Gene: LaterM\_42 Start: 33376, Stop: 34464, Start Num: 157

Candidate Starts for LaterM\_42:

(Start: 157 @33376 has 270 MA's), (Start: 204 @33478 has 6 MA's), (Start: 217 @33502 has 1 MA's), (235, 33538), (267, 33589), (296, 33652), (306, 33676), (334, 33730), (338, 33733), (396, 33814), (431, 33883), (432, 33886), (448, 33916), (520, 34036), (565, 34114), (577, 34141), (683, 34276),

Gene: LeMond\_45 Start: 33694, Stop: 34779, Start Num: 157

Candidate Starts for LeMond\_45:

(64, 33526), (Start: 157 @33694 has 270 MA's), (221, 33829), (235, 33856), (306, 33994), (326, 34036), (334, 34048), (396, 34132), (431, 34201), (432, 34204), (452, 34246), (520, 34354), (577, 34459), (646, 34546), (683, 34594), (716, 34702), (734, 34750),

Gene: Lederberg\_27 Start: 25613, Stop: 24285, Start Num: 115

Candidate Starts for Lederberg\_27:

(Start: 115 @25613 has 3 MA's), (141, 25577), (147, 25568), (Start: 175 @25511 has 3 MA's), (285, 25301), (286, 25298), (333, 25199), (345, 25181), (384, 25115), (386, 25109), (392, 25097), (462, 24932), (482, 24887), (492, 24866), (499, 24854), (516, 24830), (534, 24806), (538, 24800), (558, 24764), (601, 24668), (633, 24611), (656, 24566), (672, 24542), (682, 24527), (700, 24461), (701, 24458), (710, 24431), (716, 24413), (740, 24353), (764, 24299),

Gene: LeoAvram\_33 Start: 26179, Stop: 25127, Start Num: 180

Candidate Starts for LeoAvram\_33:

(Start: 107 @26293 has 13 MA's), (Start: 124 @26266 has 2 MA's), (Start: 140 @26248 has 113 MA's), (Start: 180 @26179 has 8 MA's), (Start: 204 @26125 has 6 MA's), (315, 25906), (319, 25897), (360, 25861), (385, 25819), (391, 25807), (392, 25804), (431, 25726), (496, 25591), (520, 25573), (570, 25486), (573, 25480), (583, 25459), (591, 25444), (608, 25426), (687, 25288), (702, 25240), (712, 25210), (714, 25204), (718, 25192), (733, 25153),

Gene: Leogania\_35 Start: 28027, Stop: 26906, Start Num: 140

Candidate Starts for Leogania\_35:

(Start: 98 @28090 has 1 MA's), (Start: 140 @28027 has 113 MA's), (Start: 173 @27973 has 14 MA's), (Start: 204 @27904 has 6 MA's), (227, 27859), (360, 27640), (413, 27529), (452, 27460), (520, 27352), (522, 27349), (531, 27340), (570, 27265), (573, 27259), (583, 27238), (591, 27223), (608, 27205), (687, 27067), (702, 27019), (703, 27016), (712, 26989), (714, 26983), (718, 26971), (733, 26932),

Gene: Leona\_35 Start: 23984, Stop: 22791, Start Num: 122

Candidate Starts for Leona\_35:

(Start: 122 @23984 has 50 MA's), (186, 23870), (359, 23555), (515, 23246), (586, 23120), (594, 23108), (609, 23087), (739, 22820),

Gene: Leroy\_50 Start: 33450, Stop: 34544, Start Num: 157

Candidate Starts for Leroy\_50:

(Start: 157 @33450 has 270 MA's), (179, 33501), (216, 33573), (218, 33579), (230, 33606), (263, 33651), (283, 33693), (315, 33765), (391, 33870), (396, 33885), (416, 33930), (452, 34002), (471, 34035), (472, 34038), (476, 34050), (583, 34215), (693, 34377), (694, 34380), (701, 34407), (706, 34419), (741, 34512),

Gene: Leviathan\_35 Start: 26826, Stop: 25681, Start Num: 113

Candidate Starts for Leviathan\_35:

(Start: 113 @26826 has 7 MA's), (Start: 127 @26808 has 7 MA's), (Start: 180 @26724 has 8 MA's), (Start: 204 @26676 has 6 MA's), (227, 26631), (319, 26448), (360, 26412), (392, 26355), (396, 26343), (448, 26244), (460, 26214), (520, 26124), (531, 26112), (570, 26037), (573, 26031), (583, 26010), (591, 25995), (608, 25977), (624, 25950), (687, 25839), (702, 25791), (703, 25788), (712, 25761), (714, 25755), (718, 25743), (733, 25704),

Gene: LilHazelnut\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for LilHazelnut\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: LilPharaoh\_36 Start: 31976, Stop: 33070, Start Num: 157

Candidate Starts for LilPharaoh\_36:

(28, 31625), (Start: 30 @31640 has 1 MA's), (46, 31733), (50, 31754), (79, 31847), (Start: 157 @31976 has 270 MA's), (179, 32027), (Start: 217 @32102 has 1 MA's), (235, 32138), (288, 32234), (296, 32252), (306, 32276), (329, 32324), (334, 32330), (416, 32462), (431, 32495), (452, 32540), (520, 32648), (577, 32753), (629, 32813), (683, 32888), (716, 32996), (730, 33032),

Gene: LilSpotty\_38 Start: 27607, Stop: 28713, Start Num: 157

Candidate Starts for LilSpotty\_38:

(Start: 157 @27607 has 270 MA's), (230, 27766), (247, 27802), (334, 27979), (396, 28063), (416, 28108), (431, 28132), (447, 28162), (448, 28165), (466, 28201), (471, 28210), (472, 28213), (494, 28264), (520, 28285), (565, 28363), (573, 28378), (620, 28438), (646, 28477), (652, 28492), (685, 28543), (693, 28567), (698, 28588),

Gene: LilTurb\_34 Start: 26659, Stop: 25508, Start Num: 113

Candidate Starts for LilTurb\_34:

(Start: 113 @26659 has 7 MA's), (Start: 127 @26641 has 7 MA's), (Start: 180 @26557 has 8 MA's), (Start: 204 @26509 has 6 MA's), (227, 26464), (319, 26281), (360, 26245), (392, 26188), (396, 26176), (400, 26161), (448, 26077), (452, 26065), (460, 26047), (520, 25957), (531, 25945), (570, 25870), (573, 25864), (583, 25843), (591, 25828), (608, 25810), (624, 25783), (687, 25672), (702, 25624), (703, 25621), (712, 25594), (714, 25588), (718, 25576), (733, 25537),

Gene: Lilas\_38 Start: 32714, Stop: 33796, Start Num: 153

Candidate Starts for Lilas\_38:

(Start: 153 @32714 has 52 MA's), (211, 32831), (263, 32924), (391, 33146), (404, 33182), (432, 33236), (468, 33305), (472, 33314), (693, 33653), (700, 33680), (739, 33785),

Gene: Lilith\_36 Start: 26744, Stop: 25638, Start Num: 165

Candidate Starts for Lilith\_36:

(Start: 140 @26783 has 113 MA's), (Start: 165 @26744 has 10 MA's), (Start: 204 @26660 has 6 MA's), (227, 26615), (306, 26459), (319, 26432), (360, 26396), (392, 26339), (431, 26261), (444, 26237), (460, 26198), (496, 26126), (515, 26114), (520, 26108), (531, 26096), (570, 26021), (573, 26015), (583, 25994), (591, 25979), (608, 25961), (621, 25937), (687, 25823), (701, 25778), (702, 25775), (706, 25766), (712, 25745), (714, 25739), (718, 25727), (733, 25688),

Gene: LindNT\_41 Start: 32665, Stop: 33753, Start Num: 157

Candidate Starts for LindNT\_41:

(71, 32518), (Start: 157 @32665 has 270 MA's), (Start: 204 @32767 has 6 MA's), (Start: 217 @32791 has 1 MA's), (235, 32827), (306, 32965), (334, 33019), (396, 33103), (431, 33172), (432, 33175), (520, 33325), (577, 33430), (646, 33517), (683, 33565), (730, 33709),

Gene: LitninMcQueen\_43 Start: 31304, Stop: 32401, Start Num: 157

Candidate Starts for LitninMcQueen\_43:

(31, 30968), (47, 31064), (Start: 113 @31247 has 7 MA's), (Start: 157 @31304 has 270 MA's), (179, 31355), (216, 31427), (218, 31433), (230, 31460), (263, 31505), (283, 31547), (342, 31655), (391, 31724), (396, 31739), (432, 31814), (452, 31856), (471, 31889), (472, 31892), (476, 31904), (556, 32006), (610, 32099), (655, 32171), (685, 32207), (693, 32231), (700, 32258), (716, 32306), (741, 32366),

Gene: LittleE\_82 Start: 51604, Stop: 52791, Start Num: 161

Candidate Starts for LittleE\_82:

(80, 51460), (Start: 99 @51502 has 1 MA's), (Start: 107 @51517 has 13 MA's), (Start: 108 @51520 has 1 MA's), (Start: 140 @51565 has 113 MA's), (Start: 161 @51604 has 1 MA's), (334, 51985), (385, 52069), (391, 52081), (392, 52084), (450, 52213), (530, 52333), (563, 52396), (569, 52414), (582, 52438), (628, 52510), (711, 52687), (712, 52690), (714, 52696), (720, 52714), (725, 52729), (729, 52738), (730, 52741), (750, 52786),

Gene: LittleTokyo\_36 Start: 23859, Stop: 22669, Start Num: 122

Candidate Starts for LittleTokyo\_36:

(Start: 122 @23859 has 50 MA's), (359, 23427), (515, 23118), (586, 22992), (594, 22980), (734, 22701),

Gene: LonelyBoi\_38 Start: 32508, Stop: 33590, Start Num: 153

Candidate Starts for LonelyBoi\_38:

(Start: 153 @32508 has 52 MA's), (179, 32562), (236, 32682), (402, 32967), (432, 33027), (476, 33117), (554, 33222), (693, 33447), (700, 33474), (739, 33579),

Gene: LordFarquaad\_35 Start: 27696, Stop: 28778, Start Num: 153

Candidate Starts for LordFarquaad\_35:

(Start: 85 @27585 has 6 MA's), (Start: 153 @27696 has 52 MA's), (179, 27750), (236, 27870), (391, 28125), (402, 28155), (432, 28215), (466, 28281), (476, 28305), (693, 28635), (700, 28662), (739, 28767),

Gene: Lorde\_42 Start: 31143, Stop: 32261, Start Num: 157

Candidate Starts for Lorde\_42:

(Start: 157 @31143 has 270 MA's), (159, 31152), (231, 31314), (315, 31479), (334, 31515), (344, 31524), (392, 31605), (402, 31629), (434, 31698), (452, 31737), (460, 31755), (464, 31758), (471,

31770), (472, 31773), (476, 31785), (494, 31824), (503, 31830), (526, 31851), (554, 31887), (556, 31890), (570, 31926), (573, 31932), (579, 31947), (646, 32031), (652, 32046), (669, 32064), (698, 32133), (701, 32142), (714, 32181), (720, 32199), (729, 32220), (734, 32235), (739, 32244), (741, 32247),

Gene: Lozinak\_84 Start: 51934, Stop: 53232, Start Num: 168

Candidate Starts for Lozinak\_84:

(Start: 168 @51934 has 12 MA's), (200, 52000), (250, 52102), (264, 52129), (269, 52141), (282, 52171), (303, 52210), (310, 52228), (352, 52294), (358, 52303), (396, 52387), (438, 52477), (527, 52636), (531, 52642), (533, 52645), (592, 52771), (629, 52840), (675, 52918), (686, 52969), (695, 52996), (707, 53032), (708, 53035), (709, 53038), (710, 53044), (715, 53056), (717, 53062), (718, 53065), (719, 53068), (730, 53098), (751, 53146), (757, 53155), (766, 53185),

Gene: Lton\_34 Start: 25220, Stop: 26299, Start Num: 157

Candidate Starts for Lton\_34:

(Start: 157 @25220 has 270 MA's), (230, 25376), (324, 25556), (432, 25727), (452, 25769), (473, 25808), (476, 25817), (573, 25973), (655, 26096), (693, 26156), (700, 26183), (712, 26219), (716, 26231), (739, 26288),

Gene: Lucky10\_35 Start: 28235, Stop: 29314, Start Num: 157

Candidate Starts for Lucky10\_35:

(22, 27794), (38, 27947), (44, 27989), (95, 28145), (130, 28199), (Start: 157 @28235 has 270 MA's), (230, 28391), (432, 28742), (452, 28784), (473, 28823), (476, 28832), (573, 28988), (655, 29111), (693, 29171), (716, 29246), (739, 29303),

Gene: Lucky2013\_84 Start: 50079, Stop: 51353, Start Num: 107

Candidate Starts for Lucky2013\_84:

(80, 50022), (Start: 99 @50064 has 1 MA's), (Start: 107 @50079 has 13 MA's), (Start: 108 @50082 has 1 MA's), (Start: 140 @50127 has 113 MA's), (Start: 161 @50166 has 1 MA's), (334, 50547), (385, 50631), (391, 50643), (392, 50646), (450, 50775), (530, 50895), (563, 50958), (569, 50976), (582, 51000), (628, 51072), (711, 51249), (712, 51252), (714, 51258), (720, 51276), (725, 51291), (729, 51300), (730, 51303), (750, 51348),

Gene: LugYA\_38 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for LugYA\_38:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701, 25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: Luke\_29 Start: 26433, Stop: 25240, Start Num: 152

Candidate Starts for Luke\_29:

(Start: 124 @26475 has 2 MA's), (Start: 152 @26433 has 20 MA's), (187, 26367), (225, 26286), (241, 26247), (250, 26232), (254, 26226), (258, 26214), (273, 26187), (289, 26154), (315, 26097), (332, 26064), (334, 26061), (368, 26013), (385, 25971), (386, 25968), (396, 25944), (400, 25929), (408, 25905), (419, 25890), (444, 25851), (449, 25839), (469, 25800), (484, 25761), (520, 25713), (522, 25710), (562, 25638), (564, 25632), (568, 25620), (569, 25617), (571, 25611), (604, 25557), (612, 25539), (613, 25536), (629, 25509), (641, 25491), (644, 25485), (647, 25482), (683, 25440), (691, 25413), (693, 25407), (710, 25350), (732, 25287), (733, 25284),

Gene: Luna22\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Luna22\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: LunaBlu\_46 Start: 33438, Stop: 34556, Start Num: 157

Candidate Starts for LunaBlu\_46:

(Start: 157 @33438 has 270 MA's), (159, 33447), (231, 33609), (315, 33774), (334, 33810), (344, 33819), (402, 33924), (434, 33993), (452, 34032), (460, 34050), (464, 34053), (471, 34065), (472, 34068), (476, 34080), (483, 34095), (494, 34119), (503, 34125), (526, 34146), (554, 34182), (556, 34185), (570, 34221), (573, 34227), (579, 34242), (587, 34257), (646, 34326), (652, 34341), (685, 34383), (698, 34428), (701, 34437), (714, 34476), (720, 34494), (729, 34515), (734, 34530), (739, 34539), (741, 34542),

Gene: LunaStella\_42 Start: 31631, Stop: 32749, Start Num: 157

Candidate Starts for LunaStella\_42:

(Start: 157 @31631 has 270 MA's), (159, 31640), (218, 31769), (231, 31802), (263, 31850), (334, 32003), (344, 32012), (392, 32093), (434, 32186), (464, 32246), (471, 32258), (472, 32261), (483, 32288), (494, 32312), (526, 32339), (554, 32375), (556, 32378), (570, 32414), (587, 32450), (646, 32519), (652, 32534), (669, 32552), (698, 32621), (701, 32630), (714, 32669), (720, 32687), (729, 32708), (734, 32723),

Gene: Lunahalos\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Lunahalos\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: Lunar\_38 Start: 24679, Stop: 23492, Start Num: 122

Candidate Starts for Lunar\_38:

(75, 24769), (Start: 122 @24679 has 50 MA's), (586, 23815), (682, 23680), (741, 23512),

Gene: Lutum\_50 Start: 32526, Stop: 33596, Start Num: 157

Candidate Starts for Lutum\_50:

(Start: 157 @32526 has 270 MA's), (179, 32577), (218, 32655), (230, 32682), (342, 32877), (360, 32886), (386, 32937), (391, 32946), (392, 32949), (396, 32961), (416, 33006), (436, 33042), (452, 33078), (471, 33111), (472, 33114), (476, 33126), (584, 33294), (655, 33393), (693, 33453), (700, 33480), (701, 33483), (710, 33510), (712, 33516), (716, 33528), (739, 33585),

Gene: MA5\_33 Start: 25943, Stop: 24819, Start Num: 140

Candidate Starts for MA5\_33:

(Start: 140 @25943 has 113 MA's), (Start: 204 @25820 has 6 MA's), (227, 25775), (267, 25703), (315, 25601), (319, 25592), (360, 25556), (392, 25499), (431, 25421), (520, 25268), (531, 25256), (563, 25199), (570, 25181), (573, 25175), (583, 25154), (591, 25139), (608, 25121), (702, 24935), (712, 24905), (714, 24899), (718, 24887), (733, 24848),

Gene: MK4\_33 Start: 26050, Stop: 24926, Start Num: 140

Candidate Starts for MK4\_33:

(Start: 108 @26092 has 1 MA's), (Start: 140 @26050 has 113 MA's), (Start: 204 @25927 has 6 MA's), (227, 25882), (267, 25810), (291, 25762), (315, 25708), (319, 25699), (360, 25663), (392, 25606),

(520, 25375), (531, 25363), (546, 25342), (570, 25288), (573, 25282), (583, 25261), (591, 25246), (608, 25228), (624, 25201), (687, 25090), (702, 25042), (703, 25039), (712, 25012), (714, 25006), (718, 24994), (726, 24973), (733, 24955),

Gene: MadMarie\_36 Start: 26792, Stop: 25647, Start Num: 140

Candidate Starts for MadMarie\_36:

(Start: 140 @26792 has 113 MA's), (Start: 165 @26753 has 10 MA's), (189, 26705), (Start: 204 @26669 has 6 MA's), (227, 26624), (306, 26468), (319, 26441), (360, 26405), (392, 26348), (431, 26270), (444, 26246), (460, 26207), (496, 26135), (515, 26123), (520, 26117), (531, 26105), (570, 26030), (573, 26024), (583, 26003), (591, 25988), (608, 25970), (621, 25946), (687, 25832), (701, 25787), (702, 25784), (706, 25775), (712, 25754), (714, 25748), (718, 25736), (733, 25697),

Gene: Madeline\_35 Start: 31541, Stop: 30279, Start Num: 122

Candidate Starts for Madeline\_35:

(Start: 122 @31541 has 50 MA's), (205, 31385), (297, 31202), (313, 31166), (359, 31106), (365, 31094), (385, 31049), (398, 31016), (414, 30974), (483, 30860), (522, 30806), (524, 30803), (570, 30728), (577, 30710), (579, 30707), (613, 30650), (678, 30533), (682, 30521), (693, 30482), (698, 30464), (718, 30404), (723, 30389), (730, 30377), (733, 30368), (751, 30329), (763, 30299),

Gene: Mainiac\_36 Start: 26783, Stop: 25638, Start Num: 140

Candidate Starts for Mainiac\_36:

(Start: 140 @26783 has 113 MA's), (Start: 165 @26744 has 10 MA's), (189, 26696), (Start: 204 @26660 has 6 MA's), (227, 26615), (306, 26459), (319, 26432), (360, 26396), (392, 26339), (431, 26261), (444, 26237), (460, 26198), (496, 26126), (515, 26114), (520, 26108), (531, 26096), (570, 26021), (573, 26015), (583, 25994), (591, 25979), (608, 25961), (621, 25937), (687, 25823), (701, 25778), (702, 25775), (706, 25766), (712, 25745), (714, 25739), (718, 25727), (733, 25688),

Gene: Malec\_36 Start: 27350, Stop: 26235, Start Num: 148

Candidate Starts for Malec\_36:

(63, 27515), (Start: 120 @27389 has 9 MA's), (Start: 148 @27350 has 1 MA's), (Start: 165 @27317 has 10 MA's), (189, 27269), (Start: 204 @27233 has 6 MA's), (227, 27188), (248, 27146), (250, 27143), (306, 27032), (319, 27005), (360, 26969), (396, 26900), (413, 26858), (452, 26789), (460, 26771), (520, 26681), (570, 26594), (573, 26588), (583, 26567), (591, 26552), (608, 26534), (624, 26507), (687, 26396), (701, 26351), (702, 26348), (703, 26345), (706, 26339), (712, 26318), (714, 26312), (718, 26300), (733, 26261),

Gene: Malibo\_40 Start: 32774, Stop: 31605, Start Num: 122

Candidate Starts for Malibo\_40:

(Start: 122 @32774 has 50 MA's), (293, 32450), (300, 32432), (359, 32345), (365, 32333), (385, 32288), (404, 32240), (405, 32234), (413, 32219), (414, 32216), (422, 32204), (471, 32132), (520, 32051), (613, 31901), (632, 31871), (682, 31814), (684, 31802), (693, 31775), (723, 31682), (733, 31661), (751, 31622), (757, 31613),

Gene: Malinsilva\_38 Start: 26743, Stop: 25637, Start Num: 165

Candidate Starts for Malinsilva\_38:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Manasvini\_39 Start: 30564, Stop: 31646, Start Num: 153

Candidate Starts for Manasvini\_39:

(Start: 85 @30453 has 6 MA's), (Start: 153 @30564 has 52 MA's), (179, 30618), (236, 30738), (391, 30993), (402, 31023), (432, 31083), (466, 31149), (476, 31173), (693, 31503), (700, 31530), (739, 31635),

Gene: Mandlovu\_40 Start: 31729, Stop: 32847, Start Num: 157

Candidate Starts for Mandlovu\_40:

(Start: 157 @31729 has 270 MA's), (231, 31900), (315, 32065), (334, 32101), (344, 32110), (402, 32215), (434, 32284), (452, 32323), (464, 32344), (471, 32356), (472, 32359), (476, 32371), (494, 32410), (503, 32416), (526, 32437), (554, 32473), (556, 32476), (570, 32512), (573, 32518), (577, 32530), (579, 32533), (587, 32548), (646, 32617), (652, 32632), (669, 32650), (698, 32719), (701, 32728), (714, 32767), (720, 32785), (729, 32806), (734, 32821), (739, 32830), (741, 32833),

Gene: Manu\_36 Start: 26643, Stop: 25498, Start Num: 140

Candidate Starts for Manu\_36:

(Start: 98 @26706 has 1 MA's), (Start: 140 @26643 has 113 MA's), (Start: 173 @26589 has 14 MA's), (Start: 204 @26520 has 6 MA's), (315, 26301), (319, 26292), (360, 26256), (392, 26199), (431, 26121), (448, 26088), (496, 25986), (520, 25968), (531, 25956), (570, 25881), (573, 25875), (583, 25854), (591, 25839), (608, 25821), (621, 25797), (701, 25638), (702, 25635), (712, 25605), (714, 25599), (718, 25587), (733, 25548),

Gene: Mao1\_43 Start: 40085, Stop: 38883, Start Num: 137

Candidate Starts for Mao1\_43:

(Start: 137 @40085 has 7 MA's), (Start: 178 @40010 has 14 MA's), (193, 39986), (196, 39980), (250, 39875), (300, 39764), (302, 39761), (334, 39698), (401, 39563), (408, 39542), (444, 39488), (478, 39413), (520, 39353), (614, 39173), (615, 39170), (629, 39149), (693, 39047), (697, 39032), (718, 38966), (727, 38942), (741, 38912),

Gene: MarQuardt\_36 Start: 26791, Stop: 25646, Start Num: 140

Candidate Starts for MarQuardt\_36:

(Start: 140 @26791 has 113 MA's), (Start: 165 @26752 has 10 MA's), (189, 26704), (Start: 204 @26668 has 6 MA's), (227, 26623), (306, 26467), (319, 26440), (360, 26404), (392, 26347), (431, 26269), (444, 26245), (460, 26206), (496, 26134), (515, 26122), (520, 26116), (531, 26104), (570, 26029), (573, 26023), (583, 26002), (591, 25987), (608, 25969), (621, 25945), (687, 25831), (701, 25786), (702, 25783), (706, 25774), (712, 25753), (714, 25747), (718, 25735), (733, 25696),

Gene: Marcoliusprime\_43 Start: 34317, Stop: 35417, Start Num: 157

Candidate Starts for Marcoliusprime\_43:

(Start: 157 @34317 has 270 MA's), (164, 34335), (Start: 217 @34443 has 1 MA's), (235, 34479), (296, 34593), (306, 34617), (334, 34671), (418, 34812), (431, 34836), (432, 34839), (452, 34881), (520, 34989), (577, 35094), (617, 35139), (629, 35154), (716, 35346),

Gene: Maridalia\_39 Start: 30563, Stop: 31645, Start Num: 153

Candidate Starts for Maridalia\_39:

(Start: 85 @30452 has 6 MA's), (Start: 153 @30563 has 52 MA's), (179, 30617), (236, 30737), (432, 31082), (476, 31172), (554, 31277), (693, 31502), (700, 31529), (716, 31577), (739, 31634), (741, 31637),

Gene: Marie\_36 Start: 26789, Stop: 25644, Start Num: 140

Candidate Starts for Marie\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701,



25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: Marius\_36 Start: 26643, Stop: 25498, Start Num: 140

Candidate Starts for Marius\_36:

(Start: 98 @26706 has 1 MA's), (Start: 140 @26643 has 113 MA's), (Start: 173 @26589 has 14 MA's), (Start: 204 @26520 has 6 MA's), (315, 26301), (319, 26292), (360, 26256), (392, 26199), (431, 26121), (448, 26088), (496, 25986), (520, 25968), (531, 25956), (570, 25881), (573, 25875), (583, 25854), (591, 25839), (608, 25821), (621, 25797), (701, 25638), (702, 25635), (712, 25605), (714, 25599), (718, 25587), (733, 25548),

Gene: MarkPhew\_44 Start: 33135, Stop: 34214, Start Num: 157

Candidate Starts for MarkPhew\_44:

(17, 32601), (18, 32619), (19, 32631), (21, 32697), (50, 32913), (64, 32967), (74, 32994), (Start: 157 @33135 has 270 MA's), (235, 33297), (242, 33306), (265, 33339), (306, 33432), (326, 33474), (334, 33486), (396, 33570), (402, 33585), (431, 33639), (432, 33642), (452, 33684), (520, 33792), (577, 33897), (646, 33984), (683, 34032), (716, 34140), (734, 34188),

Gene: Marshawn\_44 Start: 33433, Stop: 34515, Start Num: 157

Candidate Starts for Marshawn\_44:

(Start: 157 @33433 has 270 MA's), (179, 33484), (Start: 217 @33559 has 1 MA's), (235, 33595), (329, 33781), (334, 33787), (396, 33871), (431, 33940), (432, 33943), (452, 33985), (520, 34093), (577, 34198), (646, 34285), (683, 34333), (734, 34489), (746, 34510),

Gene: Marteena\_36 Start: 30030, Stop: 31136, Start Num: 157

Candidate Starts for Marteena\_36:

(110, 29973), (Start: 157 @30030 has 270 MA's), (179, 30081), (230, 30186), (232, 30195), (256, 30225), (394, 30459), (396, 30465), (431, 30534), (432, 30537), (448, 30567), (472, 30618), (476, 30630), (620, 30858), (661, 30918), (693, 30993), (701, 31023), (739, 31125),

Gene: Mask\_46 Start: 43255, Stop: 42053, Start Num: 137

Candidate Starts for Mask\_46:

(Start: 137 @43255 has 7 MA's), (Start: 178 @43180 has 14 MA's), (193, 43156), (196, 43150), (250, 43045), (300, 42934), (302, 42931), (334, 42868), (401, 42733), (408, 42712), (444, 42658), (515, 42529), (520, 42523), (613, 42346), (614, 42343), (615, 42340), (629, 42319), (650, 42283), (693, 42217), (697, 42202), (718, 42136), (727, 42112), (741, 42082),

Gene: Matteo\_30 Start: 25426, Stop: 26508, Start Num: 153

Candidate Starts for Matteo\_30:

(Start: 82 @25309 has 2 MA's), (Start: 85 @25315 has 6 MA's), (Start: 153 @25426 has 52 MA's), (179, 25480), (236, 25600), (391, 25855), (402, 25885), (432, 25945), (466, 26011), (476, 26035), (554, 26140), (693, 26365), (700, 26392), (739, 26497),

Gene: Mattes\_43 Start: 32094, Stop: 33212, Start Num: 157

Candidate Starts for Mattes\_43:

(Start: 157 @32094 has 270 MA's), (218, 32232), (231, 32265), (263, 32313), (315, 32430), (334, 32466), (344, 32475), (402, 32580), (434, 32649), (464, 32709), (471, 32721), (472, 32724), (476, 32736), (483, 32751), (494, 32775), (503, 32781), (526, 32802), (554, 32838), (556, 32841), (570, 32877), (573, 32883), (577, 32895), (579, 32898), (646, 32982), (652, 32997), (685, 33039), (698, 33084), (701, 33093), (714, 33132), (720, 33150), (729, 33171), (734, 33186), (739, 33195), (741, 33198),

Gene: Maxo\_33 Start: 26250, Stop: 25129, Start Num: 140

Candidate Starts for Maxo\_33:

(Start: 107 @26295 has 13 MA's), (Start: 124 @26268 has 2 MA's), (Start: 140 @26250 has 113 MA's), (Start: 180 @26181 has 8 MA's), (Start: 204 @26127 has 6 MA's), (315, 25908), (319, 25899), (360, 25863), (385, 25821), (391, 25809), (392, 25806), (431, 25728), (496, 25593), (520, 25575), (570, 25488), (573, 25482), (583, 25461), (591, 25446), (608, 25428), (687, 25290), (702, 25242), (712, 25212), (714, 25206), (718, 25194), (733, 25155),

Gene: Mbo4\_31 Start: 29712, Stop: 28447, Start Num: 122

Candidate Starts for Mbo4\_31:

(Start: 122 @29712 has 50 MA's), (133, 29697), (Start: 158 @29658 has 2 MA's), (186, 29595), (205, 29538), (215, 29523), (253, 29448), (257, 29439), (275, 29412), (307, 29346), (325, 29310), (330, 29301), (359, 29265), (361, 29262), (365, 29253), (369, 29244), (378, 29226), (379, 29223), (385, 29208), (409, 29142), (417, 29127), (422, 29121), (451, 29076), (463, 29052), (469, 29043), (476, 29022), (483, 29007), (487, 28998), (498, 28974), (502, 28965), (508, 28956), (547, 28893), (553, 28875), (555, 28872), (570, 28830), (573, 28824), (579, 28809), (583, 28803), (597, 28779), (611, 28758), (642, 28707), (649, 28692), (679, 28674), (688, 28638), (693, 28626), (697, 28611), (712, 28563), (714, 28557), (718, 28545), (723, 28530), (730, 28518), (741, 28494), (743, 28488),

Gene: Mcklovin\_36 Start: 33917, Stop: 35044, Start Num: 157

Candidate Starts for Mcklovin\_36:

(52, 33698), (61, 33734), (Start: 157 @33917 has 270 MA's), (179, 33971), (248, 34127), (298, 34217), (311, 34250), (431, 34445), (432, 34448), (452, 34490), (472, 34526), (658, 34823), (693, 34901), (706, 34943), (714, 34970), (739, 35033),

Gene: Mdavu\_37 Start: 31629, Stop: 33059, Start Num: 30

Candidate Starts for Mdavu\_37:

(28, 31614), (Start: 30 @31629 has 1 MA's), (46, 31722), (50, 31743), (79, 31836), (Start: 157 @31965 has 270 MA's), (179, 32016), (Start: 217 @32091 has 1 MA's), (235, 32127), (288, 32223), (296, 32241), (306, 32265), (329, 32313), (334, 32319), (416, 32451), (431, 32484), (452, 32529), (520, 32637), (577, 32742), (629, 32802), (683, 32877), (716, 32985), (730, 33021),

Gene: MeaningOfLife\_42 Start: 33409, Stop: 34497, Start Num: 157

Candidate Starts for MeaningOfLife\_42:

(Start: 157 @33409 has 270 MA's), (Start: 204 @33511 has 6 MA's), (Start: 217 @33535 has 1 MA's), (235, 33571), (306, 33709), (334, 33763), (396, 33847), (431, 33916), (432, 33919), (454, 33967), (520, 34069), (577, 34174), (646, 34261), (683, 34309), (730, 34453),

Gene: Medusa\_33 Start: 26128, Stop: 25130, Start Num: 204

Candidate Starts for Medusa\_33:

(Start: 107 @26296 has 13 MA's), (Start: 124 @26269 has 2 MA's), (Start: 140 @26251 has 113 MA's), (Start: 180 @26182 has 8 MA's), (Start: 204 @26128 has 6 MA's), (315, 25909), (319, 25900), (360, 25864), (385, 25822), (391, 25810), (392, 25807), (431, 25729), (496, 25594), (520, 25576), (570, 25489), (583, 25462), (591, 25447), (608, 25429), (687, 25291), (702, 25243), (712, 25213), (714, 25207), (718, 25195), (733, 25156),

Gene: Megsy\_42 Start: 32724, Stop: 33812, Start Num: 157

Candidate Starts for Megsy\_42:

(Start: 157 @32724 has 270 MA's), (Start: 204 @32826 has 6 MA's), (Start: 217 @32850 has 1 MA's), (235, 32886), (306, 33024), (334, 33078), (396, 33162), (431, 33231), (432, 33234), (520, 33384), (565, 33462), (577, 33489), (683, 33624), (730, 33768),

Gene: Melissauren88\_42 Start: 32565, Stop: 33683, Start Num: 157

Candidate Starts for Melissauren88\_42:

(Start: 157 @32565 has 270 MA's), (159, 32574), (231, 32736), (315, 32901), (334, 32937), (344, 32946), (402, 33051), (434, 33120), (452, 33159), (464, 33180), (471, 33192), (472, 33195), (476, 33207), (494, 33246), (503, 33252), (526, 33273), (554, 33309), (556, 33312), (570, 33348), (573, 33354), (579, 33369), (587, 33384), (646, 33453), (652, 33468), (685, 33510), (698, 33555), (701, 33564), (714, 33603), (720, 33621), (729, 33642), (734, 33657), (739, 33666), (741, 33669),

Gene: Melons\_38 Start: 24495, Stop: 23308, Start Num: 122

Candidate Starts for Melons\_38:

(75, 24585), (Start: 122 @24495 has 50 MA's), (309, 24141), (350, 24078), (359, 24066), (586, 23631), (682, 23496), (684, 23484), (741, 23328),

Gene: Melvin\_33 Start: 26249, Stop: 25128, Start Num: 140

Candidate Starts for Melvin\_33:

(Start: 107 @26294 has 13 MA's), (Start: 124 @26267 has 2 MA's), (Start: 140 @26249 has 113 MA's), (Start: 180 @26180 has 8 MA's), (Start: 204 @26126 has 6 MA's), (315, 25907), (319, 25898), (360, 25862), (385, 25820), (391, 25808), (392, 25805), (431, 25727), (496, 25592), (520, 25574), (570, 25487), (583, 25460), (591, 25445), (608, 25427), (687, 25289), (702, 25241), (712, 25211), (714, 25205), (718, 25193), (733, 25154),

Gene: MiaZeal\_87 Start: 50735, Stop: 52009, Start Num: 107

Candidate Starts for MiaZeal\_87:

(80, 50678), (Start: 99 @50720 has 1 MA's), (Start: 107 @50735 has 13 MA's), (Start: 108 @50738 has 1 MA's), (Start: 140 @50783 has 113 MA's), (Start: 161 @50822 has 1 MA's), (334, 51203), (385, 51287), (391, 51299), (392, 51302), (450, 51431), (530, 51551), (563, 51614), (569, 51632), (582, 51656), (628, 51728), (711, 51905), (712, 51908), (714, 51914), (720, 51932), (725, 51947), (729, 51956), (730, 51959), (750, 52004),

Gene: MichaelScott\_40 Start: 30472, Stop: 31599, Start Num: 157

Candidate Starts for MichaelScott\_40:

(126, 30433), (Start: 157 @30472 has 270 MA's), (179, 30526), (230, 30649), (248, 30682), (298, 30772), (311, 30805), (431, 31000), (432, 31003), (452, 31045), (472, 31081), (658, 31378), (693, 31456), (700, 31483), (706, 31498), (714, 31525), (739, 31588),

Gene: Microwolf\_36 Start: 26752, Stop: 25646, Start Num: 165

Candidate Starts for Microwolf\_36:

(Start: 140 @26791 has 113 MA's), (Start: 165 @26752 has 10 MA's), (Start: 204 @26668 has 6 MA's), (227, 26623), (306, 26467), (319, 26440), (360, 26404), (392, 26347), (431, 26269), (444, 26245), (460, 26206), (496, 26134), (515, 26122), (520, 26116), (531, 26104), (570, 26029), (573, 26023), (583, 26002), (591, 25987), (608, 25969), (621, 25945), (687, 25831), (701, 25786), (702, 25783), (706, 25774), (712, 25753), (714, 25747), (718, 25735), (733, 25696),

Gene: MiculUcigas\_34 Start: 26502, Stop: 25381, Start Num: 140

Candidate Starts for MiculUcigas\_34:

(Start: 98 @26565 has 1 MA's), (Start: 140 @26502 has 113 MA's), (Start: 173 @26448 has 14 MA's), (Start: 204 @26379 has 6 MA's), (227, 26334), (294, 26208), (319, 26151), (360, 26115), (391, 26061), (392, 26058), (452, 25935), (460, 25917), (520, 25827), (531, 25815), (570, 25740), (573, 25734), (583, 25713), (591, 25698), (608, 25680), (624, 25653), (702, 25494), (712, 25464), (714, 25458), (718, 25446), (733, 25407),

Gene: MidnightRain\_42 Start: 28565, Stop: 27426, Start Num: 157

Candidate Starts for MidnightRain\_42:

(Start: 157 @28565 has 270 MA's), (179, 28514), (267, 28346), (277, 28328), (344, 28196), (392, 28118), (396, 28106), (431, 28031), (436, 28022), (466, 27962), (520, 27872), (579, 27767), (591,

27746), (613, 27719), (685, 27596), (693, 27572), (697, 27557), (721, 27482), (733, 27452),

Gene: MilanaBonita\_37 Start: 29110, Stop: 30237, Start Num: 157

Candidate Starts for MilanaBonita\_37:

(89, 29008), (Start: 121 @29065 has 2 MA's), (Start: 157 @29110 has 270 MA's), (159, 29119), (231, 29281), (258, 29332), (267, 29350), (288, 29395), (334, 29491), (344, 29500), (402, 29605), (434, 29674), (452, 29713), (464, 29734), (471, 29746), (472, 29749), (476, 29761), (494, 29800), (503, 29806), (526, 29827), (554, 29863), (556, 29866), (570, 29902), (573, 29908), (577, 29920), (579, 29923), (587, 29938), (646, 30007), (652, 30022), (669, 30040), (685, 30064), (698, 30109), (701, 30118), (706, 30130), (714, 30157), (720, 30175), (729, 30196), (734, 30211), (739, 30220), (741, 30223),

Gene: MilleniumForce\_42 Start: 32868, Stop: 33986, Start Num: 157

Candidate Starts for MilleniumForce\_42:

(Start: 157 @32868 has 270 MA's), (159, 32877), (231, 33039), (315, 33204), (334, 33240), (344, 33249), (392, 33330), (402, 33354), (434, 33423), (460, 33480), (464, 33483), (471, 33495), (472, 33498), (476, 33510), (494, 33549), (526, 33576), (554, 33612), (556, 33615), (570, 33651), (573, 33657), (579, 33672), (646, 33756), (652, 33771), (685, 33813), (698, 33858), (701, 33867), (714, 33906), (720, 33924), (729, 33945), (734, 33960), (739, 33969), (741, 33972),

Gene: Milly\_43 Start: 34290, Stop: 35390, Start Num: 157

Candidate Starts for Milly\_43:

(Start: 157 @34290 has 270 MA's), (164, 34308), (179, 34341), (Start: 217 @34416 has 1 MA's), (235, 34452), (296, 34566), (306, 34590), (334, 34644), (418, 34785), (431, 34809), (432, 34812), (452, 34854), (520, 34962), (577, 35067), (617, 35112), (629, 35127), (716, 35319),

Gene: Minerva\_84 Start: 53196, Stop: 54425, Start Num: 128

Candidate Starts for Minerva\_84:

(Start: 128 @53196 has 28 MA's), (Start: 140 @53214 has 113 MA's), (Start: 161 @53253 has 1 MA's), (266, 53490), (315, 53598), (385, 53718), (386, 53721), (391, 53730), (396, 53745), (410, 53784), (450, 53862), (510, 53967), (519, 53979), (530, 53982), (536, 53991), (562, 54042), (563, 54045), (569, 54063), (628, 54159), (668, 54216), (711, 54336), (712, 54339), (720, 54363), (729, 54387), (730, 54390),

Gene: MinionDave\_43 Start: 33105, Stop: 34223, Start Num: 157

Candidate Starts for MinionDave\_43:

(Start: 157 @33105 has 270 MA's), (159, 33114), (231, 33276), (263, 33324), (315, 33441), (334, 33477), (344, 33486), (402, 33591), (434, 33660), (452, 33699), (460, 33717), (464, 33720), (471, 33732), (472, 33735), (476, 33747), (494, 33786), (503, 33792), (526, 33813), (554, 33849), (556, 33852), (570, 33888), (573, 33894), (577, 33906), (579, 33909), (587, 33924), (646, 33993), (652, 34008), (669, 34026), (685, 34050), (698, 34095), (701, 34104), (714, 34143), (720, 34161), (729, 34182), (734, 34197), (739, 34206), (741, 34209),

Gene: Minnie\_43 Start: 32650, Stop: 33768, Start Num: 157

Candidate Starts for Minnie\_43:

(Start: 157 @32650 has 270 MA's), (218, 32788), (231, 32821), (263, 32869), (334, 33022), (344, 33031), (392, 33112), (434, 33205), (452, 33244), (460, 33262), (464, 33265), (471, 33277), (472, 33280), (476, 33292), (483, 33307), (494, 33331), (503, 33337), (526, 33358), (554, 33394), (556, 33397), (570, 33433), (573, 33439), (579, 33454), (587, 33469), (646, 33538), (652, 33553), (685, 33595), (698, 33640), (701, 33649), (714, 33688), (720, 33706), (729, 33727), (734, 33742), (739, 33751), (741, 33754),

Gene: Miskis\_80 Start: 49839, Stop: 51137, Start Num: 168

Candidate Starts for Miskis\_80:

(Start: 168 @49839 has 12 MA's), (200, 49905), (250, 50007), (264, 50034), (269, 50046), (282, 50076), (303, 50115), (310, 50133), (352, 50199), (358, 50208), (396, 50292), (438, 50382), (527, 50541), (531, 50547), (533, 50550), (592, 50676), (629, 50745), (675, 50823), (686, 50874), (695, 50901), (707, 50937), (708, 50940), (709, 50943), (710, 50949), (715, 50961), (717, 50967), (718, 50970), (719, 50973), (730, 51003), (751, 51051), (757, 51060), (766, 51090),

Gene: MissWhite\_33 Start: 25561, Stop: 24443, Start Num: 140

Candidate Starts for MissWhite\_33:

(Start: 140 @25561 has 113 MA's), (163, 25525), (Start: 173 @25507 has 14 MA's), (Start: 204 @25438 has 6 MA's), (214, 25420), (253, 25345), (256, 25339), (306, 25237), (311, 25225), (319, 25210), (360, 25174), (391, 25120), (520, 24886), (531, 24874), (570, 24799), (573, 24793), (583, 24772), (591, 24757), (608, 24739), (624, 24712), (702, 24553), (703, 24550), (712, 24523), (714, 24517), (718, 24505), (733, 24466), (739, 24454),

Gene: Mocha12\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for Mocha12\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (528, 28553), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: ModicumRichard\_35 Start: 30420, Stop: 29293, Start Num: 120

Candidate Starts for ModicumRichard\_35:

(11, 30900), (Start: 120 @30420 has 9 MA's), (Start: 158 @30366 has 2 MA's), (207, 30261), (297, 30090), (352, 30000), (373, 29964), (422, 29850), (456, 29811), (471, 29787), (533, 29691), (611, 29559), (637, 29514), (688, 29442), (733, 29316),

Gene: MoneyMay\_36 Start: 26789, Stop: 25644, Start Num: 140

Candidate Starts for MoneyMay\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701, 25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: MooMoo\_41 Start: 31904, Stop: 33025, Start Num: 157

Candidate Starts for MooMoo\_41:

(Start: 157 @31904 has 270 MA's), (214, 32033), (231, 32075), (267, 32135), (288, 32180), (334, 32276), (344, 32285), (434, 32462), (464, 32522), (471, 32534), (472, 32537), (473, 32540), (476, 32549), (494, 32588), (503, 32594), (526, 32615), (554, 32651), (556, 32654), (570, 32690), (587, 32726), (613, 32741), (646, 32795), (652, 32810), (668, 32825), (698, 32897), (701, 32906), (706, 32918), (714, 32945), (720, 32963), (729, 32984), (734, 32999),

Gene: Moonbeam\_41 Start: 32622, Stop: 33740, Start Num: 157

Candidate Starts for Moonbeam\_41:

(Start: 157 @32622 has 270 MA's), (159, 32631), (231, 32793), (263, 32841), (315, 32958), (334, 32994), (344, 33003), (402, 33108), (434, 33177), (452, 33216), (460, 33234), (464, 33237), (471, 33249), (472, 33252), (476, 33264), (483, 33279), (494, 33303), (503, 33309), (526, 33330), (554, 33366), (556, 33369), (570, 33405), (573, 33411), (577, 33423), (579, 33426), (587, 33441), (646, 33510), (652, 33525), (669, 33543), (685, 33567), (698, 33612), (701, 33621), (714, 33660), (720, 33678), (729, 33699), (734, 33714), (739, 33723), (741, 33726),

Gene: Moosehead\_35 Start: 25354, Stop: 26436, Start Num: 150

Candidate Starts for Moosehead\_35:

(Start: 150 @25354 has 1 MA's), (230, 25513), (263, 25558), (279, 25591), (432, 25864), (452, 25906), (472, 25942), (473, 25945), (476, 25954), (655, 26233), (693, 26293), (739, 26425),

Gene: Morgana\_35 Start: 30175, Stop: 29048, Start Num: 120

Candidate Starts for Morgana\_35:

(11, 30832), (14, 30778), (Start: 120 @30175 has 9 MA's), (Start: 158 @30121 has 2 MA's), (297, 29845), (352, 29755), (373, 29719), (422, 29605), (456, 29566), (471, 29542), (533, 29446), (611, 29314), (637, 29269), (688, 29197), (733, 29071),

Gene: Morkie\_33 Start: 26172, Stop: 27254, Start Num: 153

Candidate Starts for Morkie\_33:

(Start: 153 @26172 has 52 MA's), (179, 26226), (236, 26346), (391, 26601), (432, 26691), (466, 26757), (476, 26781), (583, 26952), (693, 27111), (700, 27138), (716, 27186), (739, 27243),

Gene: Morrow\_33 Start: 26255, Stop: 25116, Start Num: 140

Candidate Starts for Morrow\_33:

(Start: 107 @26300 has 13 MA's), (Start: 124 @26273 has 2 MA's), (Start: 140 @26255 has 113 MA's), (Start: 180 @26186 has 8 MA's), (Start: 204 @26132 has 6 MA's), (315, 25913), (319, 25904), (360, 25868), (385, 25826), (391, 25814), (392, 25811), (431, 25733), (496, 25598), (520, 25580), (570, 25493), (573, 25487), (583, 25466), (591, 25451), (608, 25433), (687, 25295), (702, 25247), (712, 25217), (714, 25211), (718, 25199), (733, 25160), (744, 25136), (746, 25130),

Gene: Mova\_42 Start: 31760, Stop: 32878, Start Num: 157

Candidate Starts for Mova\_42:

(Start: 157 @31760 has 270 MA's), (218, 31898), (231, 31931), (263, 31979), (334, 32132), (344, 32141), (392, 32222), (434, 32315), (452, 32354), (464, 32375), (471, 32387), (472, 32390), (476, 32402), (483, 32417), (494, 32441), (503, 32447), (526, 32468), (554, 32504), (556, 32507), (570, 32543), (579, 32564), (587, 32579), (646, 32648), (652, 32663), (669, 32681), (685, 32705), (698, 32750), (701, 32759), (706, 32771), (714, 32798), (720, 32816), (729, 32837), (734, 32852), (739, 32861), (741, 32864),

Gene: Mozy\_51 Start: 34630, Stop: 35748, Start Num: 157

Candidate Starts for Mozy\_51:

(Start: 157 @34630 has 270 MA's), (159, 34639), (231, 34801), (315, 34966), (334, 35002), (344, 35011), (402, 35116), (434, 35185), (452, 35224), (464, 35245), (471, 35257), (472, 35260), (476, 35272), (494, 35311), (503, 35317), (526, 35338), (554, 35374), (556, 35377), (570, 35413), (573, 35419), (579, 35434), (646, 35518), (652, 35533), (685, 35575), (698, 35620), (701, 35629), (714, 35668), (720, 35686), (729, 35707), (734, 35722), (739, 35731), (741, 35734),

Gene: MrSmee\_34 Start: 25508, Stop: 24390, Start Num: 118

Candidate Starts for MrSmee\_34:

(118, 25508), (229, 25313), (242, 25283), (245, 25277), (267, 25247), (284, 25211), (300, 25178), (304, 25172), (309, 25157), (315, 25148), (356, 25091), (364, 25079), (365, 25076), (369, 25067), (375, 25055), (379, 25046), (402, 24986), (409, 24971), (459, 24905), (470, 24890), (476, 24872), (487, 24848), (489, 24845), (527, 24794), (548, 24770), (571, 24722), (577, 24707), (589, 24686), (594, 24680), (611, 24659), (733, 24419),

Gene: Ms6\_36 Start: 27630, Stop: 28748, Start Num: 157

Candidate Starts for Ms6\_36:

(Start: 157 @27630 has 270 MA's), (159, 27639), (231, 27801), (315, 27966), (334, 28002), (344, 28011), (402, 28116), (434, 28185), (452, 28224), (464, 28245), (471, 28257), (472, 28260), (476, 28272), (494, 28311), (503, 28317), (526, 28338), (554, 28374), (556, 28377), (570, 28413), (573,

28419), (577, 28431), (579, 28434), (587, 28449), (646, 28518), (652, 28533), (698, 28620), (701, 28629), (714, 28668), (720, 28686), (729, 28707), (734, 28722), (739, 28731), (741, 28734),

Gene: MuchMore\_38 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for MuchMore\_38:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (189, 26695), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Mufasa\_44 Start: 34136, Stop: 35236, Start Num: 157

Candidate Starts for Mufasa\_44:

(Start: 157 @34136 has 270 MA's), (164, 34154), (179, 34187), (Start: 217 @34262 has 1 MA's), (235, 34298), (296, 34412), (306, 34436), (334, 34490), (363, 34514), (418, 34631), (431, 34655), (432, 34658), (452, 34700), (520, 34808), (577, 34913), (617, 34958), (629, 34973), (716, 35165),

Gene: Mufasa8\_27 Start: 25316, Stop: 26536, Start Num: 157

Candidate Starts for Mufasa8\_27:

(Start: 157 @25316 has 270 MA's), (224, 25445), (263, 25517), (267, 25529), (322, 25634), (335, 25658), (357, 25670), (381, 25712), (432, 25832), (440, 25844), (447, 25859), (464, 25895), (466, 25898), (476, 25922), (490, 25952), (511, 25976), (513, 25979), (520, 25988), (522, 25991), (565, 26063), (570, 26072), (573, 26078), (591, 26114), (613, 26144), (629, 26171), (652, 26213), (660, 26225),

Gene: Mulch\_39 Start: 31322, Stop: 30051, Start Num: 122

Candidate Starts for Mulch\_39:

(Start: 122 @31322 has 50 MA's), (133, 31307), (186, 31205), (207, 31163), (215, 31151), (253, 31076), (287, 31001), (293, 30992), (300, 30974), (365, 30875), (367, 30872), (404, 30782), (470, 30677), (517, 30581), (522, 30575), (613, 30413), (684, 30272), (698, 30227), (715, 30176), (718, 30167), (723, 30152), (730, 30140), (734, 30128), (758, 30089),

Gene: Murucutumbu\_42 Start: 33469, Stop: 34557, Start Num: 157

Candidate Starts for Murucutumbu\_42:

(Start: 157 @33469 has 270 MA's), (Start: 204 @33571 has 6 MA's), (Start: 217 @33595 has 1 MA's), (235, 33631), (267, 33682), (296, 33745), (306, 33769), (334, 33823), (338, 33826), (396, 33907), (431, 33976), (432, 33979), (448, 34009), (520, 34129), (565, 34207), (577, 34234), (683, 34369),

Gene: Mutaforma13\_45 Start: 33170, Stop: 34288, Start Num: 157

Candidate Starts for Mutaforma13\_45:

(Start: 157 @33170 has 270 MA's), (159, 33179), (218, 33308), (231, 33341), (263, 33389), (315, 33506), (334, 33542), (344, 33551), (402, 33656), (434, 33725), (464, 33785), (471, 33797), (472, 33800), (476, 33812), (483, 33827), (494, 33851), (503, 33857), (526, 33878), (554, 33914), (556, 33917), (570, 33953), (573, 33959), (577, 33971), (579, 33974), (646, 34058), (652, 34073), (685, 34115), (698, 34160), (701, 34169), (714, 34208), (720, 34226), (729, 34247), (734, 34262), (739, 34271), (741, 34274),

Gene: Mynx\_42 Start: 32799, Stop: 33887, Start Num: 157

Candidate Starts for Mynx\_42:

(Start: 157 @32799 has 270 MA's), (Start: 204 @32901 has 6 MA's), (Start: 217 @32925 has 1 MA's), (235, 32961), (306, 33099), (334, 33153), (396, 33237), (431, 33306), (432, 33309), (454, 33357), (520, 33459), (577, 33564), (646, 33651), (683, 33699), (730, 33843),

Gene: NaSiaTalie\_34 Start: 26377, Stop: 25379, Start Num: 204

Candidate Starts for NaSiaTalie\_34:

(Start: 98 @26563 has 1 MA's), (Start: 140 @26500 has 113 MA's), (Start: 173 @26446 has 14 MA's), (Start: 204 @26377 has 6 MA's), (227, 26332), (294, 26206), (319, 26149), (360, 26113), (391, 26059), (392, 26056), (452, 25933), (460, 25915), (520, 25825), (531, 25813), (570, 25738), (573, 25732), (583, 25711), (591, 25696), (608, 25678), (624, 25651), (702, 25492), (712, 25462), (714, 25456), (718, 25444), (733, 25405),

Gene: Nadeem\_39 Start: 31322, Stop: 30051, Start Num: 122

Candidate Starts for Nadeem\_39:

(Start: 122 @31322 has 50 MA's), (133, 31307), (186, 31205), (207, 31163), (215, 31151), (253, 31076), (287, 31001), (293, 30992), (300, 30974), (365, 30875), (367, 30872), (404, 30782), (470, 30677), (517, 30581), (522, 30575), (613, 30413), (684, 30272), (698, 30227), (715, 30176), (718, 30167), (723, 30152), (730, 30140), (734, 30128), (758, 30089),

Gene: Naji\_37 Start: 26474, Stop: 25350, Start Num: 140

Candidate Starts for Naji\_37:

(Start: 140 @26474 has 113 MA's), (Start: 173 @26420 has 14 MA's), (Start: 204 @26351 has 6 MA's), (306, 26150), (308, 26147), (319, 26123), (360, 26087), (392, 26030), (400, 26003), (431, 25952), (448, 25919), (452, 25907), (460, 25889), (496, 25817), (520, 25799), (531, 25787), (570, 25712), (573, 25706), (583, 25685), (591, 25670), (608, 25652), (624, 25625), (687, 25514), (702, 25466), (703, 25463), (712, 25436), (714, 25430), (718, 25418), (733, 25379),

Gene: NancyRae\_39 Start: 31331, Stop: 30060, Start Num: 122

Candidate Starts for NancyRae\_39:

(Start: 122 @31331 has 50 MA's), (133, 31316), (186, 31214), (207, 31172), (215, 31160), (253, 31085), (287, 31010), (293, 31001), (300, 30983), (365, 30884), (367, 30881), (404, 30791), (470, 30686), (522, 30584), (533, 30566), (613, 30422), (684, 30281), (698, 30236), (715, 30185), (718, 30176), (730, 30149), (734, 30137), (758, 30098),

Gene: Nebkiss\_56 Start: 37263, Stop: 38534, Start Num: 107

Candidate Starts for Nebkiss\_56:

(Start: 107 @37263 has 13 MA's), (Start: 140 @37311 has 113 MA's), (Start: 161 @37350 has 1 MA's), (286, 37629), (351, 37746), (385, 37815), (386, 37818), (391, 37827), (400, 37857), (429, 37923), (450, 37959), (470, 37986), (471, 37989), (476, 38004), (478, 38010), (496, 38043), (504, 38058), (506, 38061), (510, 38064), (519, 38076), (530, 38094), (536, 38103), (559, 38145), (561, 38151), (562, 38154), (582, 38199), (628, 38271), (673, 38337), (685, 38364), (711, 38448), (712, 38451), (721, 38478), (729, 38499),

Gene: Nebs\_33 Start: 26248, Stop: 25127, Start Num: 140

Candidate Starts for Nebs\_33:

(Start: 107 @26293 has 13 MA's), (Start: 124 @26266 has 2 MA's), (Start: 140 @26248 has 113 MA's), (Start: 180 @26179 has 8 MA's), (Start: 204 @26125 has 6 MA's), (315, 25906), (319, 25897), (360, 25861), (385, 25819), (391, 25807), (392, 25804), (431, 25726), (496, 25591), (520, 25573), (570, 25486), (573, 25480), (583, 25459), (591, 25444), (608, 25426), (687, 25288), (702, 25240), (712, 25210), (714, 25204), (718, 25192), (733, 25153),

Gene: Neobush\_39 Start: 30557, Stop: 31639, Start Num: 153

Candidate Starts for Neobush\_39:

(Start: 85 @30446 has 6 MA's), (Start: 153 @30557 has 52 MA's), (179, 30611), (236, 30731), (391, 30986), (402, 31016), (432, 31076), (466, 31142), (476, 31166), (693, 31496), (700, 31523), (739, 31628),



Gene: Nettuno\_33 Start: 26384, Stop: 27466, Start Num: 153

Candidate Starts for Nettuno\_33:

(Start: 82 @26267 has 2 MA's), (Start: 85 @26273 has 6 MA's), (Start: 153 @26384 has 52 MA's), (179, 26438), (236, 26558), (391, 26813), (402, 26843), (432, 26903), (466, 26969), (476, 26993), (554, 27098), (693, 27323), (700, 27350), (739, 27455),

Gene: Neville\_8 Start: 3425, Stop: 2322, Start Num: 178

Candidate Starts for Neville\_8:

(169, 3452), (Start: 178 @3425 has 14 MA's), (184, 3413), (213, 3359), (223, 3344), (233, 3320), (249, 3293), (315, 3167), (363, 3095), (392, 3032), (396, 3020), (413, 2981), (455, 2897), (469, 2876), (522, 2789), (564, 2720), (568, 2708), (620, 2612), (636, 2588), (670, 2528), (682, 2492), (685, 2477), (697, 2438), (710, 2396),

Gene: Nibb\_43 Start: 32855, Stop: 33940, Start Num: 157

Candidate Starts for Nibb\_43:

(Start: 157 @32855 has 270 MA's), (221, 32990), (235, 33017), (326, 33197), (334, 33209), (396, 33293), (431, 33362), (432, 33365), (520, 33515), (577, 33620), (646, 33707), (683, 33755), (716, 33863), (734, 33911),

Gene: NicoleTera\_37 Start: 27751, Stop: 26633, Start Num: 140

Candidate Starts for NicoleTera\_37:

(Start: 140 @27751 has 113 MA's), (Start: 173 @27697 has 14 MA's), (Start: 204 @27628 has 6 MA's), (306, 27427), (319, 27400), (360, 27364), (385, 27322), (392, 27307), (431, 27229), (452, 27184), (520, 27076), (531, 27064), (556, 27025), (570, 26989), (573, 26983), (583, 26962), (591, 26947), (608, 26929), (624, 26902), (687, 26791), (702, 26743), (703, 26740), (712, 26713), (714, 26707), (718, 26695), (733, 26656),

Gene: NihilNomen\_82 Start: 53150, Stop: 54379, Start Num: 128

Candidate Starts for NihilNomen\_82:

(Start: 128 @53150 has 28 MA's), (Start: 140 @53168 has 113 MA's), (Start: 161 @53207 has 1 MA's), (266, 53444), (315, 53552), (385, 53672), (386, 53675), (391, 53684), (396, 53699), (410, 53738), (450, 53816), (510, 53921), (519, 53933), (530, 53936), (536, 53945), (562, 53996), (563, 53999), (569, 54017), (628, 54113), (668, 54170), (711, 54290), (712, 54293), (720, 54317), (729, 54341), (730, 54344),

Gene: Nikao\_39 Start: 34589, Stop: 35683, Start Num: 157

Candidate Starts for Nikao\_39:

(28, 34238), (Start: 30 @34253 has 1 MA's), (46, 34346), (50, 34367), (79, 34460), (Start: 157 @34589 has 270 MA's), (179, 34640), (Start: 217 @34715 has 1 MA's), (235, 34751), (288, 34847), (296, 34865), (306, 34889), (329, 34937), (334, 34943), (416, 35075), (431, 35108), (452, 35153), (520, 35261), (577, 35366), (629, 35426), (683, 35501), (716, 35609), (730, 35645),

Gene: Niklas\_43 Start: 33040, Stop: 34131, Start Num: 157

Candidate Starts for Niklas\_43:

(32, 32707), (48, 32806), (49, 32815), (55, 32842), (70, 32890), (Start: 157 @33040 has 270 MA's), (Start: 217 @33166 has 1 MA's), (235, 33202), (296, 33316), (306, 33340), (334, 33394), (396, 33478), (408, 33511), (431, 33547), (432, 33550), (452, 33592), (494, 33679), (520, 33700), (577, 33808), (629, 33868), (671, 33931), (683, 33943), (716, 34051), (730, 34087),

Gene: Norvs\_84 Start: 51343, Stop: 52641, Start Num: 168

Candidate Starts for Norvs\_84:

(Start: 168 @51343 has 12 MA's), (200, 51409), (250, 51511), (264, 51538), (269, 51550), (282, 51580), (303, 51619), (310, 51637), (352, 51703), (358, 51712), (396, 51796), (438, 51886), (527,

52045), (531, 52051), (533, 52054), (592, 52180), (629, 52249), (675, 52327), (686, 52378), (695, 52405), (707, 52441), (708, 52444), (709, 52447), (710, 52453), (715, 52465), (717, 52471), (718, 52474), (719, 52477), (730, 52507), (751, 52555), (757, 52564), (766, 52594),

Gene: NothingSpecial\_35 Start: 27853, Stop: 26801, Start Num: 180

Candidate Starts for NothingSpecial\_35:

(Start: 124 @27940 has 2 MA's), (Start: 140 @27922 has 113 MA's), (Start: 180 @27853 has 8 MA's), (185, 27844), (Start: 204 @27799 has 6 MA's), (214, 27781), (227, 27754), (290, 27637), (306, 27598), (315, 27580), (319, 27571), (360, 27535), (385, 27493), (389, 27484), (392, 27478), (431, 27400), (452, 27355), (520, 27247), (531, 27235), (570, 27160), (573, 27154), (583, 27133), (591, 27118), (608, 27100), (687, 26962), (702, 26914), (712, 26884), (714, 26878), (718, 26866), (733, 26827),

Gene: Nutello\_36 Start: 31976, Stop: 33070, Start Num: 157

Candidate Starts for Nutello\_36:

(28, 31625), (Start: 30 @31640 has 1 MA's), (46, 31733), (50, 31754), (79, 31847), (Start: 157 @31976 has 270 MA's), (179, 32027), (Start: 217 @32102 has 1 MA's), (235, 32138), (288, 32234), (296, 32252), (306, 32276), (329, 32324), (334, 32330), (416, 32462), (431, 32495), (452, 32540), (520, 32648), (577, 32753), (629, 32813), (683, 32888), (716, 32996), (730, 33032),

Gene: Nymphadora\_39 Start: 32012, Stop: 33094, Start Num: 153

Candidate Starts for Nymphadora\_39:

(Start: 85 @31901 has 6 MA's), (Start: 153 @32012 has 52 MA's), (179, 32066), (236, 32186), (386, 32432), (391, 32441), (402, 32471), (432, 32531), (466, 32597), (476, 32621), (693, 32951), (700, 32978), (739, 33083),

Gene: OBUpride\_29 Start: 26514, Stop: 25279, Start Num: 124

Candidate Starts for OBUpride\_29:

(Start: 124 @26514 has 2 MA's), (Start: 152 @26472 has 20 MA's), (187, 26406), (225, 26325), (241, 26286), (250, 26271), (254, 26265), (258, 26253), (273, 26226), (289, 26193), (315, 26136), (332, 26103), (334, 26100), (368, 26052), (385, 26010), (386, 26007), (396, 25983), (400, 25968), (408, 25944), (419, 25929), (444, 25890), (449, 25878), (469, 25839), (484, 25800), (520, 25752), (522, 25749), (562, 25677), (564, 25671), (568, 25659), (569, 25656), (571, 25650), (604, 25596), (612, 25578), (613, 25575), (629, 25548), (641, 25530), (644, 25524), (647, 25521), (683, 25479), (691, 25452), (693, 25446), (710, 25389), (732, 25326), (733, 25323),

Gene: ODay\_52 Start: 33934, Stop: 35028, Start Num: 157

Candidate Starts for ODay\_52:

(Start: 157 @33934 has 270 MA's), (179, 33985), (203, 34033), (218, 34063), (230, 34090), (279, 34168), (283, 34177), (396, 34369), (403, 34387), (452, 34486), (471, 34519), (472, 34522), (476, 34534), (556, 34636), (584, 34702), (610, 34729), (613, 34732), (655, 34801), (663, 34810), (693, 34861), (694, 34864), (701, 34891), (706, 34903), (741, 34996),

Gene: ObLaDi\_35 Start: 30398, Stop: 29271, Start Num: 120

Candidate Starts for ObLaDi\_35:

(Start: 120 @30398 has 9 MA's), (Start: 158 @30344 has 2 MA's), (207, 30239), (297, 30068), (352, 29978), (373, 29942), (456, 29789), (471, 29765), (533, 29669), (611, 29537), (637, 29492), (688, 29420), (733, 29294),

Gene: Obama12\_34 Start: 26520, Stop: 25468, Start Num: 180

Candidate Starts for Obama12\_34:

(Start: 107 @26634 has 13 MA's), (Start: 124 @26607 has 2 MA's), (Start: 140 @26589 has 113 MA's), (Start: 180 @26520 has 8 MA's), (Start: 204 @26466 has 6 MA's), (315, 26247), (319, 26238),

(360, 26202), (385, 26160), (391, 26148), (392, 26145), (496, 25932), (520, 25914), (570, 25827), (573, 25821), (583, 25800), (591, 25785), (608, 25767), (687, 25629), (702, 25581), (712, 25551), (714, 25545), (718, 25533), (733, 25494),

Gene: Octobien14\_6 Start: 2858, Stop: 1764, Start Num: 194

Candidate Starts for Octobien14\_6:

(101, 3011), (Start: 194 @2858 has 4 MA's), (316, 2582), (372, 2495), (480, 2282), (491, 2264), (516, 2225), (565, 2141), (582, 2105), (597, 2084), (600, 2078), (644, 2003), (674, 1952), (698, 1883), (701, 1874), (711, 1844), (712, 1841),

Gene: Odette\_80 Start: 52249, Stop: 53421, Start Num: 161

Candidate Starts for Odette\_80:

(Start: 128 @52192 has 28 MA's), (Start: 140 @52210 has 113 MA's), (Start: 161 @52249 has 1 MA's), (266, 52486), (315, 52594), (385, 52714), (386, 52717), (391, 52726), (396, 52741), (410, 52780), (450, 52858), (510, 52963), (519, 52975), (530, 52978), (536, 52987), (562, 53038), (563, 53041), (569, 53059), (628, 53155), (668, 53212), (711, 53332), (712, 53335), (720, 53359), (729, 53383), (730, 53386),

Gene: Odin\_33 Start: 25191, Stop: 24076, Start Num: 144

Candidate Starts for Odin\_33:

(Start: 144 @25191 has 6 MA's), (Start: 173 @25143 has 14 MA's), (189, 25110), (Start: 204 @25074 has 6 MA's), (227, 25029), (311, 24861), (319, 24846), (360, 24810), (385, 24768), (391, 24756), (392, 24753), (448, 24642), (520, 24522), (531, 24510), (546, 24489), (570, 24435), (583, 24408), (591, 24393), (608, 24375), (624, 24348), (702, 24189), (712, 24159), (714, 24153), (718, 24141), (733, 24102), (737, 24093),

Gene: Ohfah\_33 Start: 26248, Stop: 25127, Start Num: 140

Candidate Starts for Ohfah\_33:

(Start: 107 @26293 has 13 MA's), (Start: 124 @26266 has 2 MA's), (Start: 140 @26248 has 113 MA's), (Start: 180 @26179 has 8 MA's), (Start: 204 @26125 has 6 MA's), (315, 25906), (319, 25897), (360, 25861), (385, 25819), (391, 25807), (392, 25804), (431, 25726), (496, 25591), (520, 25573), (570, 25486), (573, 25480), (583, 25459), (591, 25444), (608, 25426), (687, 25288), (702, 25240), (712, 25210), (714, 25204), (718, 25192), (733, 25153),

Gene: Ohgeesy\_38 Start: 32336, Stop: 31074, Start Num: 122

Candidate Starts for Ohgeesy\_38:

(Start: 122 @32336 has 50 MA's), (205, 32180), (297, 31997), (313, 31961), (359, 31901), (365, 31889), (385, 31844), (398, 31811), (414, 31769), (522, 31601), (524, 31598), (570, 31523), (577, 31505), (579, 31502), (613, 31445), (678, 31328), (682, 31316), (698, 31259), (718, 31199), (723, 31184), (730, 31172), (733, 31163), (751, 31124),

Gene: OlanP\_35 Start: 26824, Stop: 25679, Start Num: 140

Candidate Starts for OlanP\_35:

(Start: 98 @26887 has 1 MA's), (Start: 140 @26824 has 113 MA's), (Start: 173 @26770 has 14 MA's), (Start: 204 @26701 has 6 MA's), (275, 26572), (291, 26536), (315, 26482), (319, 26473), (360, 26437), (392, 26380), (431, 26302), (448, 26269), (496, 26167), (520, 26149), (531, 26137), (570, 26062), (573, 26056), (583, 26035), (591, 26020), (608, 26002), (638, 25951), (701, 25819), (702, 25816), (712, 25786), (714, 25780), (718, 25768), (733, 25729),

Gene: Ollie\_36 Start: 26621, Stop: 25515, Start Num: 165

Candidate Starts for Ollie\_36:

(Start: 140 @26660 has 113 MA's), (Start: 165 @26621 has 10 MA's), (Start: 204 @26537 has 6 MA's), (227, 26492), (306, 26336), (319, 26309), (360, 26273), (392, 26216), (431, 26138), (444,

26114), (460, 26075), (496, 26003), (515, 25991), (520, 25985), (531, 25973), (570, 25898), (573, 25892), (583, 25871), (591, 25856), (608, 25838), (687, 25700), (701, 25655), (702, 25652), (706, 25643), (712, 25622), (714, 25616), (718, 25604), (733, 25565),

Gene: Omega\_85 Start: 53296, Stop: 54570, Start Num: 107

Candidate Starts for Omega\_85:

(80, 53239), (Start: 99 @53281 has 1 MA's), (Start: 107 @53296 has 13 MA's), (Start: 108 @53299 has 1 MA's), (Start: 140 @53344 has 113 MA's), (Start: 161 @53383 has 1 MA's), (334, 53764), (385, 53848), (391, 53860), (392, 53863), (450, 53992), (530, 54112), (563, 54175), (569, 54193), (582, 54217), (628, 54289), (711, 54466), (712, 54469), (714, 54475), (720, 54493), (725, 54508), (729, 54517), (730, 54520), (750, 54565),

Gene: OneDirection\_30 Start: 24794, Stop: 25876, Start Num: 153

Candidate Starts for OneDirection\_30:

(Start: 85 @24683 has 6 MA's), (Start: 153 @24794 has 52 MA's), (Start: 168 @24821 has 12 MA's), (179, 24848), (236, 24968), (391, 25223), (432, 25313), (466, 25379), (476, 25403), (693, 25733), (697, 25748), (700, 25760), (716, 25808), (739, 25865),

Gene: OnionKnight\_30 Start: 24231, Stop: 22948, Start Num: 66

Candidate Starts for OnionKnight\_30:

(Start: 66 @24231 has 1 MA's), (96, 24165), (189, 24003), (234, 23898), (301, 23781), (312, 23754), (326, 23733), (340, 23718), (423, 23586), (447, 23544), (477, 23478), (481, 23469), (525, 23418), (539, 23400), (558, 23370), (561, 23361), (573, 23331), (604, 23286), (657, 23193), (683, 23151), (687, 23133), (693, 23118), (701, 23088), (706, 23076), (713, 23052), (724, 23019), (730, 23007), (733, 22998), (734, 22995), (756, 22953),

Gene: Optimus\_79 Start: 51901, Stop: 53130, Start Num: 128

Candidate Starts for Optimus\_79:

(Start: 128 @51901 has 28 MA's), (Start: 140 @51919 has 113 MA's), (Start: 161 @51958 has 1 MA's), (266, 52195), (315, 52303), (385, 52423), (386, 52426), (391, 52435), (396, 52450), (410, 52489), (450, 52567), (510, 52672), (519, 52684), (530, 52687), (536, 52696), (562, 52747), (563, 52750), (569, 52768), (628, 52864), (668, 52921), (711, 53041), (712, 53044), (720, 53068), (729, 53092), (730, 53095),

Gene: Orcanus\_34 Start: 24639, Stop: 23455, Start Num: 122

Candidate Starts for Orcanus\_34:

(Start: 122 @24639 has 50 MA's), (241, 24420), (253, 24402), (309, 24285), (359, 24210), (365, 24198), (529, 23880), (579, 23787), (586, 23775), (597, 23757), (682, 23640), (692, 23604),

Gene: Oregano\_39 Start: 29184, Stop: 30311, Start Num: 157

Candidate Starts for Oregano\_39:

(52, 28965), (61, 29001), (Start: 157 @29184 has 270 MA's), (179, 29238), (230, 29361), (248, 29394), (298, 29484), (311, 29517), (431, 29712), (432, 29715), (452, 29757), (472, 29793), (658, 30090), (706, 30210), (714, 30237), (739, 30300),

Gene: Oscar\_45 Start: 33597, Stop: 34682, Start Num: 157

Candidate Starts for Oscar\_45:

(17, 32994), (18, 33012), (21, 33090), (29, 33261), (41, 33336), (50, 33375), (64, 33429), (Start: 157 @33597 has 270 MA's), (221, 33732), (235, 33759), (306, 33897), (326, 33939), (334, 33951), (396, 34035), (431, 34104), (432, 34107), (452, 34149), (520, 34257), (577, 34362), (646, 34449), (683, 34497), (716, 34605), (734, 34653),

Gene: Ovechkin\_41 Start: 32949, Stop: 34067, Start Num: 157

Candidate Starts for Ovechkin\_41:

(Start: 157 @32949 has 270 MA's), (159, 32958), (231, 33120), (315, 33285), (334, 33321), (344, 33330), (402, 33435), (434, 33504), (460, 33561), (464, 33564), (471, 33576), (472, 33579), (476, 33591), (494, 33630), (526, 33657), (554, 33693), (556, 33696), (570, 33732), (573, 33738), (579, 33753), (587, 33768), (646, 33837), (652, 33852), (685, 33894), (698, 33939), (701, 33948), (714, 33987), (720, 34005), (729, 34026), (734, 34041), (739, 34050), (741, 34053),

Gene: P28Green\_36 Start: 26792, Stop: 25647, Start Num: 140

Candidate Starts for P28Green\_36:

(Start: 140 @26792 has 113 MA's), (Start: 165 @26753 has 10 MA's), (189, 26705), (Start: 204 @26669 has 6 MA's), (227, 26624), (306, 26468), (319, 26441), (360, 26405), (392, 26348), (431, 26270), (444, 26246), (460, 26207), (496, 26135), (515, 26123), (520, 26117), (531, 26105), (570, 26030), (573, 26024), (583, 26003), (591, 25988), (608, 25970), (621, 25946), (687, 25832), (701, 25787), (702, 25784), (706, 25775), (712, 25754), (714, 25748), (718, 25736), (733, 25697),

Gene: PFR1\_26 Start: 22175, Stop: 21039, Start Num: 167

Candidate Starts for PFR1\_26:

(117, 22253), (167, 22175), (172, 22166), (236, 22031), (239, 22025), (257, 21998), (263, 21986), (264, 21983), (272, 21965), (301, 21902), (352, 21818), (366, 21797), (394, 21728), (433, 21638), (446, 21614), (470, 21566), (494, 21509), (522, 21482), (533, 21464), (557, 21437), (572, 21398), (608, 21350), (657, 21263), (664, 21251), (677, 21233), (689, 21191), (693, 21179), (696, 21167), (699, 21155), (705, 21140),

Gene: PFR2\_28 Start: 23744, Stop: 22608, Start Num: 167

Candidate Starts for PFR2\_28:

(117, 23822), (167, 23744), (172, 23735), (236, 23600), (239, 23594), (257, 23567), (263, 23555), (264, 23552), (272, 23534), (301, 23471), (352, 23387), (366, 23366), (394, 23297), (433, 23207), (446, 23183), (470, 23135), (494, 23078), (522, 23051), (533, 23033), (557, 23006), (572, 22967), (608, 22919), (657, 22832), (664, 22820), (677, 22802), (689, 22760), (693, 22748), (696, 22736), (699, 22724), (705, 22709),

Gene: PGHhamlin\_38 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for PGHhamlin\_38:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Padfoot\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for Padfoot\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Padpat\_42 Start: 32470, Stop: 33558, Start Num: 157

Candidate Starts for Padpat\_42:

(Start: 157 @32470 has 270 MA's), (179, 32521), (Start: 204 @32572 has 6 MA's), (Start: 217 @32596 has 1 MA's), (235, 32632), (306, 32770), (334, 32824), (396, 32908), (431, 32977), (432, 32980), (520, 33130), (565, 33208), (577, 33235), (646, 33322), (683, 33370),

Gene: PantheRoc\_36 Start: 30354, Stop: 29092, Start Num: 122

Candidate Starts for PantheRoc\_36:

(Start: 122 @30354 has 50 MA's), (205, 30198), (297, 30015), (313, 29979), (359, 29919), (365, 29907), (385, 29862), (398, 29829), (414, 29787), (522, 29619), (524, 29616), (570, 29541), (577, 29523), (579, 29520), (613, 29463), (678, 29346), (682, 29334), (698, 29277), (718, 29217), (723, 29202), (730, 29190), (733, 29181), (751, 29142),

Gene: Parada\_39 Start: 31322, Stop: 30051, Start Num: 122

Candidate Starts for Parada\_39:

(Start: 122 @31322 has 50 MA's), (133, 31307), (186, 31205), (207, 31163), (215, 31151), (253, 31076), (287, 31001), (293, 30992), (300, 30974), (365, 30875), (367, 30872), (404, 30782), (470, 30677), (517, 30581), (522, 30575), (613, 30413), (684, 30272), (698, 30227), (715, 30176), (718, 30167), (723, 30152), (730, 30140), (734, 30128), (758, 30089),

Gene: Pawn\_36 Start: 26590, Stop: 25499, Start Num: 173

Candidate Starts for Pawn\_36:

(Start: 98 @26707 has 1 MA's), (Start: 140 @26644 has 113 MA's), (Start: 173 @26590 has 14 MA's), (Start: 204 @26521 has 6 MA's), (315, 26302), (319, 26293), (360, 26257), (392, 26200), (431, 26122), (448, 26089), (496, 25987), (520, 25969), (531, 25957), (570, 25882), (573, 25876), (583, 25855), (591, 25840), (608, 25822), (621, 25798), (701, 25639), (702, 25636), (712, 25606), (714, 25600), (718, 25588), (733, 25549),

Gene: Peanam\_43 Start: 33014, Stop: 34105, Start Num: 157

Candidate Starts for Peanam\_43:

(13, 32333), (20, 32477), (32, 32681), (48, 32780), (49, 32789), (55, 32816), (70, 32864), (Start: 157 @33014 has 270 MA's), (Start: 217 @33140 has 1 MA's), (235, 33176), (296, 33290), (306, 33314), (334, 33368), (396, 33452), (408, 33485), (431, 33521), (432, 33524), (452, 33566), (494, 33653), (520, 33674), (577, 33782), (629, 33842), (671, 33905), (683, 33917), (716, 34025), (730, 34061),

Gene: Peas\_35 Start: 27040, Stop: 28182, Start Num: 157

Candidate Starts for Peas\_35:

(Start: 157 @27040 has 270 MA's), (329, 27394), (334, 27400), (348, 27415), (381, 27469), (402, 27526), (431, 27586), (447, 27616), (476, 27679), (556, 27799), (574, 27847), (652, 27973), (660, 27985), (701, 28081), (727, 28156),

Gene: Peel\_41 Start: 32597, Stop: 33685, Start Num: 157

Candidate Starts for Peel\_41:

(16, 31994), (23, 32171), (40, 32336), (50, 32375), (Start: 157 @32597 has 270 MA's), (179, 32648), (Start: 204 @32699 has 6 MA's), (Start: 217 @32723 has 1 MA's), (235, 32759), (306, 32897), (396, 33035), (431, 33104), (432, 33107), (520, 33257), (577, 33362), (683, 33497),

Gene: Pembroke\_36 Start: 26791, Stop: 25646, Start Num: 140

Candidate Starts for Pembroke\_36:

(Start: 140 @26791 has 113 MA's), (Start: 165 @26752 has 10 MA's), (Start: 204 @26668 has 6 MA's), (227, 26623), (306, 26467), (319, 26440), (360, 26404), (392, 26347), (431, 26269), (444, 26245), (460, 26206), (496, 26134), (515, 26122), (520, 26116), (531, 26104), (570, 26029), (573, 26023), (583, 26002), (591, 25987), (608, 25969), (621, 25945), (687, 25831), (701, 25786), (702, 25783), (706, 25774), (712, 25753), (714, 25747), (718, 25735), (733, 25696),

Gene: Penny1\_36 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for Penny1\_36:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701,

25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: Pepperoni\_31 Start: 25939, Stop: 27021, Start Num: 153

Candidate Starts for Pepperoni\_31:

(Start: 153 @25939 has 52 MA's), (179, 25993), (236, 26113), (402, 26398), (432, 26458), (466, 26524), (476, 26548), (554, 26653), (583, 26719), (693, 26878), (700, 26905), (716, 26953), (739, 27010),

Gene: Periwinkle\_57 Start: 34837, Stop: 35922, Start Num: 157

Candidate Starts for Periwinkle\_57:

(90, 34750), (Start: 108 @34786 has 1 MA's), (Start: 157 @34837 has 270 MA's), (179, 34888), (203, 34936), (218, 34966), (230, 34993), (283, 35080), (315, 35152), (342, 35188), (360, 35197), (396, 35272), (403, 35290), (452, 35389), (471, 35422), (472, 35425), (476, 35437), (516, 35488), (556, 35539), (584, 35605), (655, 35704), (693, 35764), (700, 35791), (714, 35833), (741, 35899),

Gene: Persistence\_35 Start: 26237, Stop: 25068, Start Num: 157

Candidate Starts for Persistence\_35:

(84, 26342), (102, 26303), (Start: 157 @26237 has 270 MA's), (179, 26186), (267, 26018), (277, 26000), (319, 25904), (344, 25868), (392, 25790), (431, 25703), (436, 25694), (466, 25634), (520, 25544), (579, 25439), (583, 25433), (613, 25391), (685, 25274), (692, 25253), (693, 25250), (697, 25235), (714, 25181), (758, 25085),

Gene: Ph8s\_35 Start: 25309, Stop: 24314, Start Num: 204

Candidate Starts for Ph8s\_35:

(Start: 144 @25426 has 6 MA's), (189, 25345), (Start: 204 @25309 has 6 MA's), (227, 25264), (311, 25096), (319, 25081), (360, 25045), (385, 25003), (391, 24991), (392, 24988), (399, 24964), (447, 24880), (496, 24775), (520, 24757), (531, 24745), (546, 24724), (570, 24670), (583, 24643), (591, 24628), (608, 24610), (624, 24583), (687, 24472), (702, 24424), (712, 24394), (714, 24388), (718, 24376), (733, 24337),

Gene: Phabuloso\_48 Start: 32389, Stop: 33486, Start Num: 157

Candidate Starts for Phabuloso\_48:

(Start: 157 @32389 has 270 MA's), (179, 32440), (218, 32518), (230, 32545), (283, 32632), (315, 32704), (342, 32740), (360, 32749), (396, 32824), (403, 32842), (416, 32869), (452, 32941), (471, 32974), (472, 32977), (476, 32989), (655, 33256), (693, 33316), (700, 33343), (716, 33391), (720, 33403), (741, 33451),

Gene: Phaded\_37 Start: 28341, Stop: 27214, Start Num: 140

Candidate Starts for Phaded\_37:

(Start: 140 @28341 has 113 MA's), (Start: 165 @28305 has 10 MA's), (Start: 204 @28221 has 6 MA's), (227, 28176), (295, 28047), (311, 28008), (360, 27957), (413, 27846), (431, 27822), (448, 27789), (452, 27777), (520, 27669), (522, 27666), (570, 27582), (573, 27576), (583, 27555), (591, 27540), (608, 27522), (702, 27336), (712, 27306), (714, 27300), (718, 27288), (733, 27249), (744, 27225),

Gene: Phalconet\_41 Start: 31939, Stop: 33057, Start Num: 157

Candidate Starts for Phalconet\_41:

(Start: 157 @31939 has 270 MA's), (159, 31948), (231, 32110), (315, 32275), (334, 32311), (344, 32320), (434, 32494), (452, 32533), (464, 32554), (471, 32566), (472, 32569), (476, 32581), (494, 32620), (503, 32626), (526, 32647), (554, 32683), (556, 32686), (570, 32722), (573, 32728), (579, 32743), (646, 32827), (652, 32842), (669, 32860), (698, 32929), (701, 32938), (714, 32977), (720, 32995), (729, 33016), (734, 33031), (739, 33040), (741, 33043),

Gene: Phanphagia\_37 Start: 31053, Stop: 32171, Start Num: 157

Candidate Starts for Phanphagia\_37:

(Start: 157 @31053 has 270 MA's), (159, 31062), (231, 31224), (315, 31389), (334, 31425), (344, 31434), (402, 31539), (434, 31608), (452, 31647), (460, 31665), (464, 31668), (471, 31680), (472, 31683), (476, 31695), (483, 31710), (494, 31734), (503, 31740), (526, 31761), (554, 31797), (556, 31800), (570, 31836), (573, 31842), (579, 31857), (587, 31872), (646, 31941), (652, 31956), (685, 31998), (698, 32043), (701, 32052), (706, 32064), (714, 32091), (720, 32109), (729, 32130), (734, 32145), (739, 32154), (741, 32157),

Gene: Phantastic\_33 Start: 26109, Stop: 24964, Start Num: 121

Candidate Starts for Phantastic\_33:

(Start: 121 @26109 has 2 MA's), (Start: 129 @26100 has 3 MA's), (Start: 204 @25965 has 6 MA's), (227, 25920), (316, 25743), (319, 25737), (327, 25722), (360, 25701), (392, 25644), (431, 25566), (460, 25503), (520, 25413), (531, 25401), (570, 25326), (583, 25299), (591, 25284), (608, 25266), (621, 25242), (687, 25128), (702, 25080), (712, 25050), (714, 25044), (718, 25032), (726, 25011), (733, 24993),

Gene: Pharaoh\_32 Start: 27018, Stop: 25882, Start Num: 127

Candidate Starts for Pharaoh\_32:

(104, 27054), (Start: 105 @27051 has 1 MA's), (Start: 127 @27018 has 7 MA's), (Start: 180 @26937 has 8 MA's), (Start: 204 @26883 has 6 MA's), (227, 26838), (319, 26655), (360, 26619), (391, 26565), (392, 26562), (396, 26550), (431, 26484), (447, 26454), (452, 26439), (496, 26349), (520, 26331), (531, 26319), (570, 26244), (573, 26238), (583, 26217), (591, 26202), (608, 26184), (618, 26163), (624, 26157), (687, 26046), (702, 25998), (712, 25968), (714, 25962), (718, 25950), (733, 25911),

Gene: Phelipe\_33 Start: 26296, Stop: 25130, Start Num: 107

Candidate Starts for Phelipe\_33:

(Start: 107 @26296 has 13 MA's), (Start: 124 @26269 has 2 MA's), (Start: 140 @26251 has 113 MA's), (Start: 180 @26182 has 8 MA's), (185, 26173), (Start: 204 @26128 has 6 MA's), (315, 25909), (319, 25900), (360, 25864), (385, 25822), (391, 25810), (392, 25807), (431, 25729), (496, 25594), (520, 25576), (570, 25489), (583, 25462), (591, 25447), (608, 25429), (687, 25291), (702, 25243), (712, 25213), (714, 25207), (718, 25195), (733, 25156),

Gene: PhesterPhotato\_44 Start: 32894, Stop: 34012, Start Num: 157

Candidate Starts for PhesterPhotato\_44:

(Start: 157 @32894 has 270 MA's), (159, 32903), (231, 33065), (315, 33230), (334, 33266), (344, 33275), (434, 33449), (452, 33488), (464, 33509), (471, 33521), (472, 33524), (476, 33536), (494, 33575), (503, 33581), (526, 33602), (554, 33638), (556, 33641), (570, 33677), (573, 33683), (579, 33698), (646, 33782), (652, 33797), (669, 33815), (698, 33884), (701, 33893), (714, 33932), (720, 33950), (729, 33971), (734, 33986), (739, 33995), (741, 33998),

Gene: Philus\_43 Start: 31979, Stop: 33097, Start Num: 157

Candidate Starts for Philus\_43:

(Start: 157 @31979 has 270 MA's), (218, 32117), (231, 32150), (263, 32198), (315, 32315), (334, 32351), (344, 32360), (402, 32465), (434, 32534), (464, 32594), (471, 32606), (472, 32609), (476, 32621), (483, 32636), (494, 32660), (503, 32666), (526, 32687), (554, 32723), (556, 32726), (570, 32762), (573, 32768), (577, 32780), (579, 32783), (646, 32867), (652, 32882), (685, 32924), (698, 32969), (701, 32978), (714, 33017), (720, 33035), (729, 33056), (734, 33071), (739, 33080), (741, 33083),

Gene: PhinkBoden\_83 Start: 51724, Stop: 53022, Start Num: 168

Candidate Starts for PhinkBoden\_83:



(Start: 168 @51724 has 12 MA's), (200, 51790), (250, 51892), (264, 51919), (269, 51931), (282, 51961), (303, 52000), (310, 52018), (352, 52084), (358, 52093), (396, 52177), (438, 52267), (527, 52426), (531, 52432), (533, 52435), (592, 52561), (629, 52630), (675, 52708), (686, 52759), (695, 52786), (707, 52822), (708, 52825), (709, 52828), (710, 52834), (715, 52846), (717, 52852), (718, 52855), (719, 52858), (730, 52888), (751, 52936), (757, 52945), (766, 52975),

Gene: PhishRPhriends\_34 Start: 25821, Stop: 24682, Start Num: 140

Candidate Starts for PhishRPhriends\_34:

(Start: 98 @25884 has 1 MA's), (Start: 140 @25821 has 113 MA's), (Start: 173 @25767 has 14 MA's), (Start: 204 @25698 has 6 MA's), (315, 25479), (319, 25470), (360, 25434), (392, 25377), (431, 25299), (448, 25266), (496, 25164), (520, 25146), (531, 25134), (570, 25059), (573, 25053), (583, 25032), (591, 25017), (608, 24999), (621, 24975), (701, 24816), (702, 24813), (712, 24783), (714, 24777), (718, 24765), (733, 24726),

Gene: Phistory\_51 Start: 33096, Stop: 34193, Start Num: 157

Candidate Starts for Phistory\_51:

(90, 33009), (Start: 108 @33045 has 1 MA's), (Start: 157 @33096 has 270 MA's), (179, 33147), (218, 33225), (230, 33252), (263, 33297), (283, 33339), (396, 33531), (403, 33549), (416, 33576), (452, 33648), (464, 33669), (468, 33675), (476, 33696), (526, 33768), (573, 33852), (655, 33975), (690, 34026), (693, 34035), (700, 34062), (741, 34170), (750, 34185),

Gene: PhluffyCoco\_36 Start: 23912, Stop: 22719, Start Num: 122

Candidate Starts for PhluffyCoco\_36:

(Start: 122 @23912 has 50 MA's), (359, 23483), (385, 23426), (515, 23174), (586, 23048), (594, 23036), (692, 22877), (718, 22796), (739, 22748),

Gene: Phoebe\_36 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for Phoebe\_36:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (189, 26695), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Phoebus\_84 Start: 54332, Stop: 55561, Start Num: 128

Candidate Starts for Phoebus\_84:

(Start: 128 @54332 has 28 MA's), (Start: 140 @54350 has 113 MA's), (Start: 161 @54389 has 1 MA's), (266, 54626), (315, 54734), (385, 54854), (386, 54857), (391, 54866), (396, 54881), (410, 54920), (450, 54998), (510, 55103), (519, 55115), (530, 55118), (536, 55127), (562, 55178), (563, 55181), (569, 55199), (628, 55295), (668, 55352), (711, 55472), (712, 55475), (720, 55499), (729, 55523), (730, 55526),

Gene: PhorbesPhlower\_33 Start: 25600, Stop: 26682, Start Num: 153

Candidate Starts for PhorbesPhlower\_33:

(Start: 85 @25489 has 6 MA's), (Start: 153 @25600 has 52 MA's), (179, 25654), (236, 25774), (315, 25921), (432, 26119), (466, 26185), (476, 26209), (693, 26539), (700, 26566), (739, 26671), (741, 26674),

Gene: Phrank15\_40 Start: 27192, Stop: 26020, Start Num: 157

Candidate Starts for Phrank15\_40:

(Start: 108 @27249 has 1 MA's), (Start: 157 @27192 has 270 MA's), (179, 27141), (267, 26973), (277, 26955), (344, 26823), (392, 26745), (396, 26733), (397, 26727), (431, 26658), (436, 26649), (466, 26589), (520, 26499), (579, 26394), (591, 26373), (613, 26346), (685, 26223), (693, 26199), (697,

26184), (742, 26064), (758, 26037),

Gene: Phranny\_36 Start: 26629, Stop: 25490, Start Num: 140

Candidate Starts for Phranny\_36:

(Start: 98 @26692 has 1 MA's), (Start: 140 @26629 has 113 MA's), (Start: 173 @26575 has 14 MA's), (Start: 204 @26506 has 6 MA's), (315, 26287), (319, 26278), (360, 26242), (392, 26185), (431, 26107), (448, 26074), (496, 25972), (520, 25954), (531, 25942), (570, 25867), (573, 25861), (583, 25840), (591, 25825), (608, 25807), (621, 25783), (701, 25624), (702, 25621), (712, 25591), (714, 25585), (718, 25573), (733, 25534),

Gene: Phrappuccino\_38 Start: 20588, Stop: 21727, Start Num: 157

Candidate Starts for Phrappuccino\_38:

(Start: 157 @20588 has 270 MA's), (Start: 180 @20642 has 8 MA's), (211, 20714), (334, 20966), (344, 20975), (391, 21065), (396, 21080), (431, 21158), (466, 21227), (472, 21239), (520, 21311), (559, 21362), (560, 21365), (573, 21401), (615, 21452), (646, 21500), (648, 21506), (652, 21515), (697, 21596), (728, 21689), (733, 21701), (739, 21713),

Gene: PhriskyACE\_36 Start: 30974, Stop: 29805, Start Num: 122

Candidate Starts for PhriskyACE\_36:

(Start: 122 @30974 has 50 MA's), (210, 30812), (293, 30650), (300, 30632), (345, 30566), (356, 30548), (359, 30545), (365, 30533), (385, 30488), (400, 30449), (404, 30440), (413, 30419), (414, 30416), (471, 30332), (472, 30329), (503, 30272), (591, 30137), (613, 30101), (632, 30071), (682, 30014), (684, 30002), (688, 29987), (718, 29897), (723, 29882), (733, 29861), (751, 29822), (757, 29813),

Gene: Piatt\_41 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for Piatt\_41:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Pickett\_32 Start: 24860, Stop: 25942, Start Num: 153

Candidate Starts for Pickett\_32:

(Start: 153 @24860 has 52 MA's), (179, 24914), (236, 25034), (402, 25319), (432, 25379), (466, 25445), (476, 25469), (693, 25799), (700, 25826), (739, 25931),

Gene: Pimento\_40 Start: 30980, Stop: 29709, Start Num: 122

Candidate Starts for Pimento\_40:

(106, 31004), (Start: 122 @30980 has 50 MA's), (133, 30965), (186, 30863), (207, 30821), (215, 30809), (253, 30734), (287, 30659), (293, 30650), (300, 30632), (365, 30533), (367, 30530), (404, 30440), (464, 30344), (470, 30335), (517, 30239), (533, 30215), (613, 30071), (684, 29930), (698, 29885), (715, 29834), (718, 29825), (723, 29810), (730, 29798), (734, 29786), (758, 29747),

Gene: Pippy\_38 Start: 29161, Stop: 30279, Start Num: 157

Candidate Starts for Pippy\_38:

(Start: 157 @29161 has 270 MA's), (159, 29170), (231, 29332), (315, 29497), (334, 29533), (344, 29542), (392, 29623), (402, 29647), (434, 29716), (452, 29755), (460, 29773), (464, 29776), (471, 29788), (472, 29791), (476, 29803), (483, 29818), (494, 29842), (503, 29848), (526, 29869), (554, 29905), (556, 29908), (570, 29944), (573, 29950), (579, 29965), (587, 29980), (646, 30049), (652, 30064), (685, 30106), (698, 30151), (701, 30160), (714, 30199), (720, 30217), (729, 30238), (734, 30253), (739, 30262), (741, 30265),

Gene: Piro94\_34 Start: 26723, Stop: 25590, Start Num: 140

Candidate Starts for Piro94\_34:

(Start: 128 @26741 has 28 MA's), (Start: 140 @26723 has 113 MA's), (Start: 165 @26684 has 10 MA's), (Start: 173 @26669 has 14 MA's), (Start: 204 @26600 has 6 MA's), (227, 26555), (256, 26501), (316, 26378), (360, 26336), (383, 26300), (391, 26282), (444, 26177), (496, 26066), (520, 26048), (531, 26036), (570, 25961), (583, 25934), (591, 25919), (608, 25901), (624, 25874), (687, 25763), (701, 25718), (702, 25715), (712, 25685), (714, 25679), (718, 25667), (733, 25628),

Gene: Pistachio\_34 Start: 25844, Stop: 24717, Start Num: 140

Candidate Starts for Pistachio\_34:

(Start: 140 @25844 has 113 MA's), (189, 25757), (Start: 204 @25721 has 6 MA's), (227, 25676), (306, 25520), (311, 25508), (315, 25502), (360, 25457), (391, 25403), (392, 25400), (431, 25322), (520, 25169), (531, 25157), (556, 25118), (570, 25082), (573, 25076), (583, 25055), (591, 25040), (608, 25022), (624, 24995), (687, 24884), (702, 24836), (712, 24806), (714, 24800), (718, 24788), (733, 24749),

Gene: Pitbull\_34 Start: 24636, Stop: 23518, Start Num: 118

Candidate Starts for Pitbull\_34:

(100, 24666), (116, 24639), (118, 24636), (138, 24612), (229, 24441), (240, 24414), (300, 24306), (309, 24285), (315, 24276), (345, 24237), (356, 24219), (364, 24207), (365, 24204), (375, 24183), (399, 24123), (409, 24099), (459, 24033), (470, 24018), (487, 23976), (548, 23898), (571, 23850), (577, 23835), (589, 23814), (594, 23808), (611, 23787), (712, 23601), (733, 23547),

Gene: Pokerus\_40 Start: 32516, Stop: 33604, Start Num: 157

Candidate Starts for Pokerus\_40:

(Start: 157 @32516 has 270 MA's), (Start: 204 @32618 has 6 MA's), (Start: 217 @32642 has 1 MA's), (235, 32678), (306, 32816), (334, 32870), (396, 32954), (431, 33023), (432, 33026), (520, 33176), (577, 33281), (646, 33368), (683, 33416), (730, 33560),

Gene: Polka\_36 Start: 23869, Stop: 22682, Start Num: 122

Candidate Starts for Polka\_36:

(75, 23959), (Start: 122 @23869 has 50 MA's), (359, 23440), (586, 23005), (682, 22870),

Gene: Pollux\_38 Start: 32103, Stop: 33209, Start Num: 157

Candidate Starts for Pollux\_38:

(110, 32046), (Start: 157 @32103 has 270 MA's), (179, 32154), (230, 32259), (256, 32298), (396, 32538), (431, 32607), (432, 32610), (448, 32640), (472, 32691), (476, 32703), (620, 32931), (661, 32991), (693, 33066), (701, 33096), (739, 33198),

Gene: Polly\_36 Start: 30006, Stop: 31088, Start Num: 153

Candidate Starts for Polly\_36:

(Start: 85 @29895 has 6 MA's), (Start: 153 @30006 has 52 MA's), (179, 30060), (236, 30180), (391, 30435), (402, 30465), (432, 30525), (466, 30591), (476, 30615), (693, 30945), (700, 30972), (739, 31077),

Gene: Polymorphads\_33 Start: 26248, Stop: 25127, Start Num: 140

Candidate Starts for Polymorphads\_33:

(Start: 107 @26293 has 13 MA's), (Start: 124 @26266 has 2 MA's), (Start: 140 @26248 has 113 MA's), (Start: 180 @26179 has 8 MA's), (Start: 204 @26125 has 6 MA's), (315, 25906), (319, 25897), (360, 25861), (385, 25819), (391, 25807), (392, 25804), (431, 25726), (496, 25591), (520, 25573), (570, 25486), (573, 25480), (583, 25459), (591, 25444), (608, 25426), (687, 25288), (702, 25240), (712, 25210), (714, 25204), (718, 25192), (733, 25153),

Gene: Pomar16\_37 Start: 26461, Stop: 25391, Start Num: 173

Candidate Starts for Pomar16\_37:

(Start: 140 @26515 has 113 MA's), (Start: 173 @26461 has 14 MA's), (Start: 204 @26392 has 6 MA's), (306, 26191), (319, 26164), (360, 26128), (392, 26071), (400, 26044), (431, 25993), (448, 25960), (452, 25948), (460, 25930), (520, 25840), (531, 25828), (556, 25789), (570, 25753), (573, 25747), (583, 25726), (591, 25711), (608, 25693), (624, 25666), (687, 25555), (702, 25507), (703, 25504), (712, 25477), (714, 25471), (718, 25459), (733, 25420),

Gene: Porcelain\_86 Start: 50735, Stop: 52009, Start Num: 107

Candidate Starts for Porcelain\_86:

(80, 50678), (Start: 99 @50720 has 1 MA's), (Start: 107 @50735 has 13 MA's), (Start: 108 @50738 has 1 MA's), (Start: 140 @50783 has 113 MA's), (Start: 161 @50822 has 1 MA's), (334, 51203), (385, 51287), (391, 51299), (392, 51302), (450, 51431), (530, 51551), (563, 51614), (569, 51632), (582, 51656), (628, 51728), (711, 51905), (712, 51908), (714, 51914), (720, 51932), (725, 51947), (729, 51956), (730, 51959), (750, 52004),

Gene: Posh\_42 Start: 32975, Stop: 34057, Start Num: 153

Candidate Starts for Posh\_42:

(Start: 85 @32864 has 6 MA's), (Start: 153 @32975 has 52 MA's), (179, 33029), (236, 33149), (432, 33494), (476, 33584), (554, 33689), (693, 33914), (700, 33941), (739, 34046),

Gene: PotatoSplit\_37 Start: 26790, Stop: 25645, Start Num: 140

Candidate Starts for PotatoSplit\_37:

(Start: 140 @26790 has 113 MA's), (Start: 165 @26751 has 10 MA's), (189, 26703), (Start: 204 @26667 has 6 MA's), (227, 26622), (306, 26466), (319, 26439), (360, 26403), (392, 26346), (431, 26268), (444, 26244), (460, 26205), (496, 26133), (515, 26121), (520, 26115), (531, 26103), (570, 26028), (573, 26022), (583, 26001), (591, 25986), (608, 25968), (621, 25944), (687, 25830), (701, 25785), (702, 25782), (706, 25773), (712, 25752), (714, 25746), (718, 25734), (733, 25695),

Gene: Pound\_82 Start: 54468, Stop: 55697, Start Num: 128

Candidate Starts for Pound\_82:

(Start: 128 @54468 has 28 MA's), (Start: 140 @54486 has 113 MA's), (Start: 161 @54525 has 1 MA's), (266, 54762), (315, 54870), (385, 54990), (386, 54993), (391, 55002), (396, 55017), (410, 55056), (450, 55134), (510, 55239), (519, 55251), (530, 55254), (536, 55263), (562, 55314), (563, 55317), (569, 55335), (628, 55431), (668, 55488), (711, 55608), (712, 55611), (720, 55635), (729, 55659), (730, 55662),

Gene: Poushou\_32 Start: 29943, Stop: 28732, Start Num: 87

Candidate Starts for Poushou\_32:

(Start: 87 @29943 has 4 MA's), (189, 29769), (260, 29628), (357, 29469), (432, 29319), (476, 29229), (642, 28965), (661, 28929), (665, 28923), (730, 28758), (736, 28743), (738, 28740),

Gene: Power\_33 Start: 26423, Stop: 25227, Start Num: 123

Candidate Starts for Power\_33:

(Start: 105 @26453 has 1 MA's), (Start: 123 @26423 has 8 MA's), (Start: 204 @26303 has 6 MA's), (227, 26258), (306, 26102), (319, 26075), (360, 26039), (385, 25997), (392, 25982), (431, 25904), (448, 25871), (452, 25859), (460, 25841), (520, 25751), (531, 25739), (570, 25664), (573, 25658), (583, 25637), (591, 25622), (608, 25604), (624, 25577), (687, 25466), (702, 25418), (703, 25415), (712, 25388), (714, 25382), (718, 25370), (733, 25331), (761, 25277),

Gene: Powerball\_37 Start: 30563, Stop: 29394, Start Num: 122

Candidate Starts for Powerball\_37:

(Start: 122 @30563 has 50 MA's), (253, 30320), (307, 30203), (347, 30149), (350, 30143), (359, 30131), (365, 30119), (404, 30026), (405, 30020), (422, 29990), (470, 29921), (471, 29918), (483,

29888), (520, 29837), (570, 29765), (682, 29603), (684, 29591), (712, 29504), (715, 29495), (733, 29450), (751, 29411),

Gene: Prithvi\_42 Start: 32665, Stop: 33753, Start Num: 157

Candidate Starts for Prithvi\_42:

(71, 32518), (Start: 157 @32665 has 270 MA's), (Start: 204 @32767 has 6 MA's), (Start: 217 @32791 has 1 MA's), (235, 32827), (306, 32965), (334, 33019), (396, 33103), (431, 33172), (432, 33175), (520, 33325), (577, 33430), (646, 33517), (683, 33565), (730, 33709),

Gene: Pukovnik\_35 Start: 27554, Stop: 26421, Start Num: 129

Candidate Starts for Pukovnik\_35:

(Start: 129 @27554 has 3 MA's), (Start: 204 @27419 has 6 MA's), (227, 27374), (228, 27368), (250, 27329), (306, 27218), (319, 27191), (360, 27155), (385, 27113), (391, 27101), (392, 27098), (520, 26867), (531, 26855), (570, 26780), (573, 26774), (583, 26753), (591, 26738), (608, 26720), (638, 26669), (687, 26582), (702, 26534), (712, 26504), (714, 26498), (718, 26486), (726, 26465), (733, 26447),

Gene: Puppy\_34 Start: 25914, Stop: 24787, Start Num: 140

Candidate Starts for Puppy\_34:

(Start: 140 @25914 has 113 MA's), (189, 25827), (Start: 204 @25791 has 6 MA's), (227, 25746), (306, 25590), (311, 25578), (315, 25572), (360, 25527), (391, 25473), (392, 25470), (399, 25446), (496, 25257), (520, 25239), (531, 25227), (556, 25188), (570, 25152), (573, 25146), (583, 25125), (591, 25110), (608, 25092), (687, 24954), (702, 24906), (712, 24876), (714, 24870), (718, 24858), (733, 24819),

Gene: PurpleHaze\_35 Start: 26642, Stop: 25497, Start Num: 140

Candidate Starts for PurpleHaze\_35:

(Start: 98 @26705 has 1 MA's), (Start: 140 @26642 has 113 MA's), (Start: 173 @26588 has 14 MA's), (Start: 204 @26519 has 6 MA's), (315, 26300), (319, 26291), (360, 26255), (392, 26198), (431, 26120), (448, 26087), (496, 25985), (520, 25967), (531, 25955), (570, 25880), (573, 25874), (583, 25853), (591, 25838), (608, 25820), (621, 25796), (701, 25637), (702, 25634), (712, 25604), (714, 25598), (718, 25586), (733, 25547),

Gene: Pytheas\_39 Start: 31310, Stop: 32392, Start Num: 153

Candidate Starts for Pytheas\_39:

(Start: 85 @31199 has 6 MA's), (Start: 153 @31310 has 52 MA's), (179, 31364), (236, 31484), (402, 31769), (432, 31829), (466, 31895), (476, 31919), (693, 32249), (700, 32276), (739, 32381),

Gene: QueenB2\_34 Start: 26488, Stop: 25370, Start Num: 140

Candidate Starts for QueenB2\_34:

(Start: 98 @26551 has 1 MA's), (Start: 140 @26488 has 113 MA's), (Start: 173 @26434 has 14 MA's), (Start: 204 @26365 has 6 MA's), (227, 26320), (306, 26164), (308, 26161), (319, 26137), (360, 26101), (392, 26044), (431, 25966), (448, 25933), (452, 25921), (460, 25903), (520, 25813), (531, 25801), (573, 25720), (583, 25699), (591, 25684), (608, 25666), (624, 25639), (687, 25528), (702, 25480), (703, 25477), (712, 25450), (714, 25444), (718, 25432), (733, 25393),

Gene: QueenBeesly\_34 Start: 26370, Stop: 25255, Start Num: 123

Candidate Starts for QueenBeesly\_34:

(Start: 105 @26400 has 1 MA's), (Start: 123 @26370 has 8 MA's), (Start: 204 @26250 has 6 MA's), (227, 26205), (306, 26049), (319, 26022), (360, 25986), (385, 25944), (392, 25929), (448, 25818), (452, 25806), (460, 25788), (520, 25698), (531, 25686), (570, 25611), (573, 25605), (583, 25584), (591, 25569), (608, 25551), (624, 25524), (630, 25515), (687, 25413), (701, 25368), (702, 25365), (703, 25362), (712, 25335), (714, 25329), (718, 25317), (733, 25278),

Gene: QuincyRose\_40 Start: 32781, Stop: 33869, Start Num: 157

Candidate Starts for QuincyRose\_40:

(Start: 157 @32781 has 270 MA's), (Start: 204 @32883 has 6 MA's), (Start: 217 @32907 has 1 MA's), (235, 32943), (306, 33081), (334, 33135), (396, 33219), (431, 33288), (432, 33291), (520, 33441), (577, 33546), (646, 33633), (668, 33663), (683, 33681), (730, 33825),

Gene: REQ2\_38 Start: 31529, Stop: 30324, Start Num: 137

Candidate Starts for REQ2\_38:

(132, 31535), (Start: 137 @31529 has 7 MA's), (Start: 178 @31454 has 14 MA's), (214, 31382), (261, 31292), (295, 31220), (315, 31178), (338, 31139), (380, 31070), (382, 31061), (385, 31052), (396, 31025), (401, 31007), (408, 30986), (431, 30950), (487, 30833), (529, 30776), (562, 30716), (564, 30710), (569, 30695), (613, 30614), (693, 30485), (706, 30443), (741, 30353), (748, 30335),

Gene: REQ3\_01 Start: 1320, Stop: 82, Start Num: 122

Candidate Starts for REQ3\_01:

(83, 1395), (Start: 122 @1320 has 50 MA's), (186, 1203), (210, 1137), (238, 1083), (240, 1074), (244, 1068), (283, 1002), (320, 927), (365, 861), (379, 831), (385, 816), (389, 807), (404, 765), (411, 747), (435, 702), (437, 699), (451, 669), (463, 642), (469, 633), (486, 591), (487, 588), (502, 555), (541, 492), (553, 465), (570, 423), (573, 417), (579, 402), (583, 396), (597, 378), (611, 360), (613, 357), (620, 342), (637, 315), (649, 294), (688, 240), (710, 171), (712, 165), (734, 108), (741, 96),

Gene: Rabbitrun\_10 Start: 3920, Stop: 2817, Start Num: 178

Candidate Starts for Rabbitrun\_10:

(Start: 178 @3920 has 14 MA's), (184, 3908), (213, 3854), (220, 3845), (223, 3839), (233, 3815), (315, 3662), (363, 3590), (383, 3548), (392, 3527), (396, 3515), (409, 3482), (455, 3392), (469, 3371), (522, 3284), (542, 3257), (568, 3203), (636, 3083), (682, 2987), (685, 2972), (697, 2933), (710, 2891),

Gene: RadFad\_40 Start: 27831, Stop: 26659, Start Num: 157

Candidate Starts for RadFad\_40:

(Start: 157 @27831 has 270 MA's), (179, 27780), (236, 27666), (267, 27612), (277, 27594), (308, 27522), (327, 27480), (344, 27462), (392, 27384), (396, 27372), (431, 27297), (436, 27288), (466, 27228), (520, 27138), (579, 27033), (591, 27012), (610, 26988), (613, 26985), (653, 26916), (685, 26862), (693, 26838), (697, 26823), (742, 26703), (758, 26676),

Gene: Ramen\_41 Start: 32481, Stop: 33569, Start Num: 157

Candidate Starts for Ramen\_41:

(Start: 157 @32481 has 270 MA's), (Start: 204 @32583 has 6 MA's), (Start: 217 @32607 has 1 MA's), (235, 32643), (306, 32781), (334, 32835), (396, 32919), (431, 32988), (432, 32991), (520, 33141), (565, 33219), (577, 33246), (646, 33333), (683, 33381),

Gene: Raphaella\_40 Start: 27703, Stop: 26564, Start Num: 157

Candidate Starts for Raphaella\_40:

(Start: 157 @27703 has 270 MA's), (179, 27652), (267, 27484), (277, 27466), (344, 27334), (392, 27256), (396, 27244), (397, 27238), (431, 27169), (436, 27160), (466, 27100), (520, 27010), (579, 26905), (591, 26884), (613, 26857), (685, 26734), (693, 26710), (697, 26695), (721, 26620), (733, 26590),

Gene: Rapunzel97\_41 Start: 32477, Stop: 33565, Start Num: 157

Candidate Starts for Rapunzel97\_41:

(Start: 157 @32477 has 270 MA's), (179, 32528), (Start: 204 @32579 has 6 MA's), (Start: 217 @32603 has 1 MA's), (235, 32639), (306, 32777), (334, 32831), (396, 32915), (431, 32984), (432, 32987), (520, 33137), (565, 33215), (577, 33242), (646, 33329), (683, 33377),

Gene: Raqqa\_32 Start: 24809, Stop: 23658, Start Num: 170

Candidate Starts for Raqqa\_32:

(Start: 157 @24836 has 270 MA's), (Start: 170 @24809 has 2 MA's), (179, 24785), (277, 24599), (319, 24503), (344, 24467), (392, 24389), (431, 24302), (436, 24293), (466, 24233), (520, 24143), (579, 24038), (583, 24032), (652, 23924), (685, 23873), (693, 23849), (697, 23834), (721, 23759), (741, 23714),

Gene: RavenCo17\_41 Start: 31793, Stop: 32899, Start Num: 157

Candidate Starts for RavenCo17\_41:

(110, 31736), (Start: 157 @31793 has 270 MA's), (179, 31844), (230, 31949), (256, 31988), (396, 32228), (431, 32297), (432, 32300), (448, 32330), (472, 32381), (476, 32393), (620, 32621), (661, 32681), (663, 32684), (693, 32756), (701, 32786), (739, 32888),

Gene: Reba\_36 Start: 26302, Stop: 25163, Start Num: 140

Candidate Starts for Reba\_36:

(Start: 98 @26365 has 1 MA's), (Start: 140 @26302 has 113 MA's), (Start: 173 @26248 has 14 MA's), (Start: 204 @26179 has 6 MA's), (315, 25960), (319, 25951), (360, 25915), (392, 25858), (431, 25780), (448, 25747), (496, 25645), (520, 25627), (531, 25615), (570, 25540), (573, 25534), (583, 25513), (591, 25498), (608, 25480), (621, 25456), (701, 25297), (702, 25294), (712, 25264), (714, 25258), (718, 25246), (733, 25207),

Gene: RedFox\_36 Start: 23911, Stop: 22718, Start Num: 122

Candidate Starts for RedFox\_36:

(Start: 122 @23911 has 50 MA's), (359, 23482), (385, 23425), (395, 23401), (515, 23173), (586, 23047), (594, 23035), (609, 23014), (692, 22876), (718, 22795), (739, 22747),

Gene: Redno2\_78 Start: 49946, Stop: 51175, Start Num: 128

Candidate Starts for Redno2\_78:

(Start: 128 @49946 has 28 MA's), (Start: 140 @49964 has 113 MA's), (Start: 161 @50003 has 1 MA's), (266, 50240), (315, 50348), (385, 50468), (386, 50471), (391, 50480), (396, 50495), (410, 50534), (450, 50612), (510, 50717), (519, 50729), (530, 50732), (536, 50741), (562, 50792), (563, 50795), (569, 50813), (628, 50909), (668, 50966), (711, 51086), (712, 51089), (720, 51113), (729, 51137), (730, 51140),

Gene: Renaud18\_46 Start: 32683, Stop: 33786, Start Num: 157

Candidate Starts for Renaud18\_46:

(Start: 157 @32683 has 270 MA's), (179, 32731), (218, 32812), (230, 32839), (334, 33052), (363, 33076), (392, 33124), (431, 33205), (466, 33274), (471, 33283), (483, 33313), (494, 33337), (520, 33358), (565, 33436), (573, 33451), (620, 33511), (646, 33550), (652, 33565), (677, 33589), (685, 33616), (693, 33640), (698, 33661), (701, 33670), (716, 33715), (720, 33727),

Gene: Renna12\_35 Start: 23953, Stop: 22760, Start Num: 122

Candidate Starts for Renna12\_35:

(Start: 122 @23953 has 50 MA's), (256, 23710), (359, 23524), (385, 23467), (395, 23443), (515, 23215), (586, 23089), (594, 23077), (739, 22789),

Gene: Retro23\_35 Start: 26753, Stop: 25632, Start Num: 140

Candidate Starts for Retro23\_35:

(Start: 98 @26816 has 1 MA's), (Start: 140 @26753 has 113 MA's), (Start: 173 @26699 has 14 MA's), (Start: 204 @26630 has 6 MA's), (227, 26585), (306, 26429), (360, 26366), (396, 26297), (413, 26255), (431, 26231), (460, 26168), (520, 26078), (531, 26066), (570, 25991), (573, 25985), (583, 25964), (591, 25949), (608, 25931), (624, 25904), (687, 25793), (701, 25748), (702, 25745), (703,

25742), (712, 25715), (714, 25709), (718, 25697), (733, 25658),

Gene: Rialto\_46 Start: 34385, Stop: 35503, Start Num: 157

Candidate Starts for Rialto\_46:

(Start: 157 @34385 has 270 MA's), (231, 34556), (315, 34721), (334, 34757), (344, 34766), (402, 34871), (434, 34940), (452, 34979), (464, 35000), (471, 35012), (472, 35015), (476, 35027), (494, 35066), (503, 35072), (526, 35093), (554, 35129), (556, 35132), (570, 35168), (573, 35174), (579, 35189), (587, 35204), (646, 35273), (652, 35288), (698, 35375), (701, 35384), (714, 35423), (720, 35441), (729, 35462), (734, 35477), (739, 35486), (741, 35489),

Gene: Richie\_40 Start: 27784, Stop: 26645, Start Num: 157

Candidate Starts for Richie\_40:

(Start: 157 @27784 has 270 MA's), (179, 27733), (267, 27565), (277, 27547), (334, 27424), (344, 27415), (392, 27337), (396, 27325), (397, 27319), (431, 27250), (436, 27241), (466, 27181), (520, 27091), (579, 26986), (591, 26965), (613, 26938), (685, 26815), (693, 26791), (697, 26776), (721, 26701), (733, 26671),

Gene: Rita\_44 Start: 31945, Stop: 33063, Start Num: 157

Candidate Starts for Rita\_44:

(Start: 157 @31945 has 270 MA's), (218, 32083), (231, 32116), (263, 32164), (334, 32317), (344, 32326), (392, 32407), (434, 32500), (464, 32560), (471, 32572), (472, 32575), (483, 32602), (494, 32626), (526, 32653), (554, 32689), (556, 32692), (570, 32728), (587, 32764), (646, 32833), (652, 32848), (669, 32866), (698, 32935), (701, 32944), (706, 32956), (714, 32983), (720, 33001), (729, 33022), (734, 33037), (739, 33046), (741, 33049),

Gene: Rockstar\_33 Start: 26058, Stop: 24934, Start Num: 140

Candidate Starts for Rockstar\_33:

(Start: 108 @26100 has 1 MA's), (Start: 140 @26058 has 113 MA's), (Start: 165 @26019 has 10 MA's), (189, 25971), (Start: 204 @25935 has 6 MA's), (227, 25890), (315, 25716), (360, 25671), (385, 25629), (396, 25602), (431, 25536), (452, 25491), (520, 25383), (531, 25371), (546, 25350), (570, 25296), (573, 25290), (583, 25269), (591, 25254), (608, 25236), (624, 25209), (687, 25098), (702, 25050), (703, 25047), (712, 25020), (714, 25014), (718, 25002), (726, 24981), (733, 24963),

Gene: RootBeer\_31 Start: 22941, Stop: 24083, Start Num: 157

Candidate Starts for RootBeer\_31:

(Start: 157 @22941 has 270 MA's), (179, 22992), (192, 23019), (329, 23295), (334, 23301), (349, 23319), (402, 23427), (431, 23487), (476, 23580), (556, 23700), (574, 23748), (591, 23778), (652, 23874), (701, 23982), (727, 24057),

Gene: Rosmarinus\_41 Start: 32583, Stop: 33671, Start Num: 157

Candidate Starts for Rosmarinus\_41:

(16, 31980), (23, 32157), (40, 32322), (50, 32361), (Start: 157 @32583 has 270 MA's), (179, 32634), (Start: 204 @32685 has 6 MA's), (Start: 217 @32709 has 1 MA's), (235, 32745), (306, 32883), (396, 33021), (431, 33090), (432, 33093), (520, 33243), (577, 33348), (683, 33483),

Gene: Ruchi\_33 Start: 24704, Stop: 23520, Start Num: 122

Candidate Starts for Ruchi\_33:

(Start: 122 @24704 has 50 MA's), (241, 24485), (309, 24350), (359, 24275), (367, 24260), (459, 24059), (579, 23852), (586, 23840), (597, 23822), (609, 23807), (682, 23705), (688, 23678), (692, 23669),

Gene: Ruthy\_39 Start: 33142, Stop: 31883, Start Num: 122

Candidate Starts for Ruthy\_39:



(Start: 122 @33142 has 50 MA's), (287, 32821), (359, 32707), (365, 32695), (404, 32602), (414, 32578), (522, 32410), (524, 32407), (577, 32314), (579, 32311), (613, 32254), (678, 32137), (682, 32125), (698, 32068), (723, 31993), (730, 31981), (751, 31933),

Gene: SG4\_40 Start: 31653, Stop: 32771, Start Num: 157

Candidate Starts for SG4\_40:

(Start: 157 @31653 has 270 MA's), (159, 31662), (231, 31824), (315, 31989), (334, 32025), (344, 32034), (392, 32115), (402, 32139), (434, 32208), (452, 32247), (460, 32265), (464, 32268), (471, 32280), (472, 32283), (476, 32295), (494, 32334), (503, 32340), (526, 32361), (554, 32397), (556, 32400), (570, 32436), (573, 32442), (579, 32457), (646, 32541), (652, 32556), (669, 32574), (698, 32643), (701, 32652), (714, 32691), (720, 32709), (729, 32730), (734, 32745), (739, 32754), (741, 32757),

Gene: SPB78\_39 Start: 30658, Stop: 29387, Start Num: 66

Candidate Starts for SPB78\_39:

(Start: 66 @30658 has 1 MA's), (96, 30592), (Start: 204 @30403 has 6 MA's), (277, 30268), (290, 30244), (301, 30220), (314, 30190), (318, 30181), (321, 30175), (326, 30172), (423, 30025), (434, 30007), (477, 29917), (481, 29908), (561, 29800), (573, 29770), (604, 29722), (637, 29665), (657, 29629), (683, 29587), (687, 29569), (706, 29512), (713, 29488), (734, 29431), (747, 29404),

Gene: Saal\_43 Start: 31957, Stop: 33075, Start Num: 157

Candidate Starts for Saal\_43:

(Start: 157 @31957 has 270 MA's), (218, 32095), (231, 32128), (263, 32176), (315, 32293), (334, 32329), (344, 32338), (402, 32443), (434, 32512), (464, 32572), (471, 32584), (472, 32587), (476, 32599), (483, 32614), (494, 32638), (503, 32644), (526, 32665), (554, 32701), (556, 32704), (570, 32740), (573, 32746), (577, 32758), (579, 32761), (646, 32845), (652, 32860), (685, 32902), (698, 32947), (701, 32956), (714, 32995), (720, 33013), (729, 33034), (734, 33049), (739, 33058), (741, 33061),

Gene: Sabia\_36 Start: 26783, Stop: 25638, Start Num: 140

Candidate Starts for Sabia\_36:

(Start: 140 @26783 has 113 MA's), (Start: 165 @26744 has 10 MA's), (189, 26696), (Start: 204 @26660 has 6 MA's), (227, 26615), (306, 26459), (319, 26432), (360, 26396), (392, 26339), (431, 26261), (444, 26237), (460, 26198), (496, 26126), (515, 26114), (520, 26108), (531, 26096), (570, 26021), (573, 26015), (583, 25994), (591, 25979), (608, 25961), (621, 25937), (687, 25823), (701, 25778), (702, 25775), (706, 25766), (712, 25745), (714, 25739), (718, 25727), (733, 25688),

Gene: Sabinator\_36 Start: 26788, Stop: 25643, Start Num: 140

Candidate Starts for Sabinator\_36:

(Start: 140 @26788 has 113 MA's), (Start: 165 @26749 has 10 MA's), (189, 26701), (Start: 204 @26665 has 6 MA's), (227, 26620), (306, 26464), (319, 26437), (360, 26401), (392, 26344), (431, 26266), (444, 26242), (460, 26203), (496, 26131), (515, 26119), (520, 26113), (531, 26101), (570, 26026), (573, 26020), (583, 25999), (591, 25984), (608, 25966), (621, 25942), (687, 25828), (701, 25783), (702, 25780), (706, 25771), (712, 25750), (714, 25744), (718, 25732), (733, 25693),

Gene: Sahara\_36 Start: 27505, Stop: 28704, Start Num: 82

Candidate Starts for Sahara\_36:

(Start: 82 @27505 has 2 MA's), (Start: 85 @27511 has 6 MA's), (Start: 153 @27622 has 52 MA's), (179, 27676), (236, 27796), (391, 28051), (402, 28081), (432, 28141), (466, 28207), (476, 28231), (554, 28336), (693, 28561), (700, 28588), (739, 28693),

Gene: Sakai\_40 Start: 27712, Stop: 26573, Start Num: 157

Candidate Starts for Sakai\_40:

(Start: 157 @27712 has 270 MA's), (179, 27661), (267, 27493), (277, 27475), (344, 27343), (392, 27265), (396, 27253), (397, 27247), (431, 27178), (436, 27169), (466, 27109), (520, 27019), (579, 26914), (591, 26893), (613, 26866), (685, 26743), (693, 26719), (697, 26704), (721, 26629), (733, 26599),

Gene: SamW\_27 Start: 25228, Stop: 23900, Start Num: 115

Candidate Starts for SamW\_27:

(Start: 115 @25228 has 3 MA's), (141, 25192), (147, 25183), (Start: 175 @25126 has 3 MA's), (285, 24916), (286, 24913), (333, 24814), (345, 24796), (384, 24730), (386, 24724), (392, 24712), (462, 24547), (482, 24502), (492, 24481), (499, 24469), (516, 24445), (534, 24421), (538, 24415), (558, 24379), (601, 24283), (633, 24226), (656, 24181), (672, 24157), (682, 24142), (700, 24076), (701, 24073), (710, 24046), (716, 24028), (740, 23968), (764, 23914),

Gene: Samman98\_40 Start: 29099, Stop: 30226, Start Num: 157

Candidate Starts for Samman98\_40:

(126, 29060), (Start: 157 @29099 has 270 MA's), (179, 29153), (230, 29276), (248, 29309), (298, 29399), (311, 29432), (431, 29627), (432, 29630), (452, 29672), (472, 29708), (658, 30005), (693, 30083), (700, 30110), (706, 30125), (714, 30152), (739, 30215),

Gene: SamuelLPlaqson\_42 Start: 33376, Stop: 34464, Start Num: 157

Candidate Starts for SamuelLPlaqson\_42:

(50, 33154), (Start: 157 @33376 has 270 MA's), (179, 33427), (Start: 204 @33478 has 6 MA's), (Start: 217 @33502 has 1 MA's), (235, 33538), (296, 33652), (334, 33730), (396, 33814), (431, 33883), (432, 33886), (520, 34036), (577, 34141), (683, 34276), (730, 34420),

Gene: Sarge\_28 Start: 22501, Stop: 21347, Start Num: 157

Candidate Starts for Sarge\_28:

(112, 22564), (Start: 157 @22501 has 270 MA's), (179, 22450), (Start: 180 @22447 has 8 MA's), (192, 22423), (296, 22198), (315, 22153), (324, 22132), (326, 22129), (346, 22105), (396, 22006), (402, 21991), (444, 21910), (487, 21817), (540, 21748), (570, 21694), (581, 21670), (591, 21652), (613, 21625), (646, 21571), (652, 21556), (658, 21547), (697, 21463), (698, 21457), (701, 21448), (716, 21403), (727, 21373),

Gene: Sarma624\_38 Start: 27903, Stop: 29021, Start Num: 157

Candidate Starts for Sarma624\_38:

(Start: 157 @27903 has 270 MA's), (231, 28074), (315, 28239), (334, 28275), (344, 28284), (392, 28365), (402, 28389), (434, 28458), (452, 28497), (460, 28515), (464, 28518), (471, 28530), (472, 28533), (476, 28545), (483, 28560), (494, 28584), (503, 28590), (526, 28611), (554, 28647), (556, 28650), (570, 28686), (573, 28692), (577, 28704), (579, 28707), (587, 28722), (646, 28791), (652, 28806), (685, 28848), (698, 28893), (701, 28902), (714, 28941), (720, 28959), (729, 28980), (734, 28995), (739, 29004), (741, 29007),

Gene: Sashimi\_39 Start: 28789, Stop: 27602, Start Num: 157

Candidate Starts for Sashimi\_39:

(Start: 157 @28789 has 270 MA's), (179, 28738), (216, 28672), (277, 28552), (311, 28471), (319, 28456), (344, 28420), (392, 28342), (431, 28255), (436, 28246), (450, 28216), (466, 28186), (520, 28096), (579, 27991), (685, 27820), (693, 27796), (697, 27781), (741, 27661),

Gene: SaturnRing\_33 Start: 26297, Stop: 25170, Start Num: 140

Candidate Starts for SaturnRing\_33:

(Start: 140 @26297 has 113 MA's), (189, 26210), (Start: 204 @26174 has 6 MA's), (227, 26129), (306, 25973), (311, 25961), (315, 25955), (360, 25910), (391, 25856), (392, 25853), (431, 25775), (520, 25622), (531, 25610), (556, 25571), (570, 25535), (573, 25529), (583, 25508), (591, 25493), (608,

25475), (624, 25448), (687, 25337), (702, 25289), (712, 25259), (714, 25253), (718, 25241), (733, 25202),

Gene: Savage\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for Savage\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Sbash\_40 Start: 34462, Stop: 33260, Start Num: 137

Candidate Starts for Sbash\_40:

(Start: 137 @34462 has 7 MA's), (Start: 178 @34387 has 14 MA's), (196, 34357), (197, 34354), (300, 34141), (302, 34138), (334, 34075), (387, 33979), (401, 33940), (408, 33919), (444, 33865), (520, 33730), (613, 33553), (614, 33550), (615, 33547), (629, 33526), (693, 33424), (697, 33409), (718, 33343), (726, 33322),

Gene: Scarlett\_45 Start: 33589, Stop: 34674, Start Num: 157

Candidate Starts for Scarlett\_45:

(17, 32986), (18, 33004), (21, 33082), (29, 33253), (41, 33328), (50, 33367), (64, 33421), (Start: 157 @33589 has 270 MA's), (221, 33724), (235, 33751), (306, 33889), (326, 33931), (334, 33943), (396, 34027), (431, 34096), (432, 34099), (452, 34141), (520, 34249), (577, 34354), (646, 34441), (683, 34489), (716, 34597), (734, 34645),

Gene: Schatzie\_77 Start: 51939, Stop: 53168, Start Num: 128

Candidate Starts for Schatzie\_77:

(Start: 128 @51939 has 28 MA's), (Start: 140 @51957 has 113 MA's), (Start: 161 @51996 has 1 MA's), (266, 52233), (315, 52341), (385, 52461), (386, 52464), (391, 52473), (396, 52488), (410, 52527), (450, 52605), (510, 52710), (519, 52722), (530, 52725), (536, 52734), (562, 52785), (563, 52788), (569, 52806), (628, 52902), (668, 52959), (711, 53079), (712, 53082), (720, 53106), (729, 53130), (730, 53133),

Gene: Schmidt\_32 Start: 24660, Stop: 23548, Start Num: 178

Candidate Starts for Schmidt\_32:

(Start: 178 @24660 has 14 MA's), (198, 24615), (318, 24354), (331, 24330), (394, 24249), (396, 24243), (437, 24150), (467, 24108), (469, 24105), (483, 24069), (526, 23997), (557, 23946), (559, 23940), (565, 23919), (682, 23772), (693, 23733), (701, 23703), (712, 23670), (735, 23610), (754, 23571), (761, 23556),

Gene: Scout\_33 Start: 25604, Stop: 24477, Start Num: 140

Candidate Starts for Scout\_33:

(Start: 140 @25604 has 113 MA's), (189, 25517), (Start: 204 @25481 has 6 MA's), (227, 25436), (263, 25376), (306, 25280), (311, 25268), (315, 25262), (360, 25217), (391, 25163), (392, 25160), (399, 25136), (496, 24947), (520, 24929), (531, 24917), (556, 24878), (570, 24842), (573, 24836), (583, 24815), (591, 24800), (608, 24782), (687, 24644), (702, 24596), (712, 24566), (714, 24560), (718, 24548), (733, 24509),

Gene: Seahorse\_41 Start: 29287, Stop: 28109, Start Num: 157

Candidate Starts for Seahorse\_41:

(Start: 157 @29287 has 270 MA's), (216, 29170), (277, 29050), (344, 28918), (392, 28840), (431, 28753), (436, 28744), (466, 28684), (520, 28594), (579, 28489), (583, 28483), (613, 28441), (685, 28324), (692, 28303), (693, 28300), (697, 28285), (741, 28165),

Gene: Sejanus\_42 Start: 40492, Stop: 39290, Start Num: 137

Candidate Starts for Sejanus\_42:

(Start: 137 @40492 has 7 MA's), (Start: 178 @40417 has 14 MA's), (193, 40393), (196, 40387), (250, 40282), (300, 40171), (302, 40168), (334, 40105), (401, 39970), (408, 39949), (444, 39895), (515, 39766), (520, 39760), (614, 39580), (615, 39577), (629, 39556), (650, 39520), (693, 39454), (697, 39439), (718, 39373), (727, 39349), (741, 39319),

Gene: Sekhmet\_40 Start: 29999, Stop: 31126, Start Num: 157

Candidate Starts for Sekhmet\_40:

(126, 29960), (Start: 157 @29999 has 270 MA's), (179, 30053), (230, 30176), (248, 30209), (298, 30299), (311, 30332), (431, 30527), (432, 30530), (452, 30572), (472, 30608), (658, 30905), (693, 30983), (700, 31010), (706, 31025), (714, 31052), (739, 31115),

Gene: SemperFi\_35 Start: 26638, Stop: 25517, Start Num: 123

Candidate Starts for SemperFi\_35:

(Start: 105 @26668 has 1 MA's), (Start: 123 @26638 has 8 MA's), (Start: 204 @26518 has 6 MA's), (227, 26473), (306, 26317), (319, 26290), (360, 26254), (392, 26197), (396, 26185), (431, 26119), (452, 26074), (460, 26056), (520, 25966), (531, 25954), (563, 25897), (570, 25879), (573, 25873), (583, 25852), (591, 25837), (608, 25819), (624, 25792), (687, 25681), (702, 25633), (703, 25630), (712, 25603), (714, 25597), (718, 25585), (733, 25546),

Gene: Sephiroth\_7 Start: 2692, Stop: 1604, Start Num: 194

Candidate Starts for Sephiroth\_7:

(143, 2797), (183, 2713), (Start: 194 @2692 has 4 MA's), (274, 2521), (311, 2431), (323, 2407), (336, 2386), (456, 2155), (480, 2122), (503, 2080), (516, 2065), (532, 2044), (538, 2035), (543, 2029), (582, 1945), (594, 1930), (644, 1843), (662, 1810), (698, 1723), (700, 1717), (711, 1684), (714, 1675), (716, 1669),

Gene: Serenity\_34 Start: 25724, Stop: 24600, Start Num: 140

Candidate Starts for Serenity\_34:

(Start: 140 @25724 has 113 MA's), (185, 25646), (Start: 204 @25601 has 6 MA's), (227, 25556), (248, 25514), (263, 25496), (319, 25373), (360, 25337), (391, 25283), (392, 25280), (431, 25202), (452, 25157), (453, 25154), (460, 25139), (515, 25055), (520, 25049), (546, 25016), (570, 24962), (583, 24935), (591, 24920), (608, 24902), (624, 24875), (687, 24764), (702, 24716), (703, 24713), (706, 24707), (712, 24686), (714, 24680), (718, 24668), (733, 24629),

Gene: Settecandela\_38 Start: 20588, Stop: 21727, Start Num: 157

Candidate Starts for Settecandela\_38:

(Start: 157 @20588 has 270 MA's), (Start: 180 @20642 has 8 MA's), (211, 20714), (334, 20966), (344, 20975), (391, 21065), (396, 21080), (431, 21158), (466, 21227), (472, 21239), (520, 21311), (559, 21362), (560, 21365), (573, 21401), (615, 21452), (646, 21500), (648, 21506), (652, 21515), (697, 21596), (728, 21689), (733, 21701), (739, 21713),

Gene: SgtBeansprout\_36 Start: 31976, Stop: 33070, Start Num: 157

Candidate Starts for SgtBeansprout\_36:

(28, 31625), (Start: 30 @31640 has 1 MA's), (46, 31733), (50, 31754), (79, 31847), (Start: 157 @31976 has 270 MA's), (179, 32027), (Start: 217 @32102 has 1 MA's), (235, 32138), (288, 32234), (296, 32252), (306, 32276), (329, 32324), (334, 32330), (416, 32462), (431, 32495), (452, 32540), (520, 32648), (577, 32753), (629, 32813), (683, 32888), (716, 32996), (730, 33032),

Gene: Shaobing\_43 Start: 33037, Stop: 34128, Start Num: 157

Candidate Starts for Shaobing\_43:

(32, 32704), (48, 32803), (49, 32812), (55, 32839), (70, 32887), (Start: 157 @33037 has 270 MA's), (Start: 176 @33082 has 3 MA's), (179, 33088), (Start: 217 @33163 has 1 MA's), (235, 33199), (296,

33313), (306, 33337), (334, 33391), (396, 33475), (408, 33508), (431, 33544), (432, 33547), (452, 33589), (494, 33676), (520, 33697), (577, 33805), (629, 33865), (671, 33928), (683, 33940), (716, 34048), (730, 34084),

Gene: Shauna1\_38 Start: 31056, Stop: 32174, Start Num: 157

Candidate Starts for Shauna1\_38:

(Start: 157 @31056 has 270 MA's), (231, 31227), (315, 31392), (334, 31428), (344, 31437), (392, 31518), (434, 31611), (464, 31671), (471, 31683), (472, 31686), (483, 31713), (494, 31737), (526, 31764), (554, 31800), (556, 31803), (570, 31839), (587, 31875), (646, 31944), (652, 31959), (669, 31977), (698, 32046), (701, 32055), (706, 32067), (714, 32094), (720, 32112), (729, 32133), (734, 32148), (739, 32157), (741, 32160),

Gene: SheldonCooper\_34 Start: 26519, Stop: 25467, Start Num: 180

Candidate Starts for SheldonCooper\_34:

(Start: 107 @26633 has 13 MA's), (Start: 124 @26606 has 2 MA's), (Start: 140 @26588 has 113 MA's), (Start: 180 @26519 has 8 MA's), (Start: 204 @26465 has 6 MA's), (315, 26246), (319, 26237), (360, 26201), (385, 26159), (391, 26147), (392, 26144), (496, 25931), (520, 25913), (570, 25826), (573, 25820), (583, 25799), (591, 25784), (608, 25766), (687, 25628), (702, 25580), (712, 25550), (714, 25544), (718, 25532), (733, 25493),

Gene: ShiaSurprise\_42 Start: 32792, Stop: 33880, Start Num: 157

Candidate Starts for ShiaSurprise\_42:

(Start: 157 @32792 has 270 MA's), (Start: 204 @32894 has 6 MA's), (Start: 217 @32918 has 1 MA's), (235, 32954), (306, 33092), (396, 33230), (431, 33299), (432, 33302), (520, 33452), (577, 33557), (683, 33692),

Gene: Shlim410\_38 Start: 32549, Stop: 33676, Start Num: 157

Candidate Starts for Shlim410\_38:

(126, 32510), (Start: 157 @32549 has 270 MA's), (179, 32603), (230, 32726), (248, 32759), (298, 32849), (311, 32882), (431, 33077), (432, 33080), (452, 33122), (472, 33158), (658, 33455), (693, 33533), (700, 33560), (706, 33575), (714, 33602), (739, 33665),

Gene: Shoya\_35 Start: 24881, Stop: 23751, Start Num: 157

Candidate Starts for Shoya\_35:

(Start: 157 @24881 has 270 MA's), (179, 24830), (Start: 180 @24827 has 8 MA's), (296, 24602), (315, 24557), (324, 24536), (326, 24533), (343, 24512), (346, 24509), (402, 24395), (445, 24311), (570, 24098), (581, 24074), (591, 24056), (613, 24029), (629, 24002), (646, 23975), (652, 23960), (658, 23951), (698, 23861), (716, 23807), (727, 23777),

Gene: ShroomBoi\_42 Start: 32032, Stop: 33150, Start Num: 157

Candidate Starts for ShroomBoi\_42:

(Start: 157 @32032 has 270 MA's), (159, 32041), (218, 32170), (231, 32203), (263, 32251), (315, 32368), (334, 32404), (344, 32413), (392, 32494), (402, 32518), (434, 32587), (452, 32626), (460, 32644), (464, 32647), (471, 32659), (472, 32662), (476, 32674), (483, 32689), (494, 32713), (503, 32719), (526, 32740), (554, 32776), (556, 32779), (570, 32815), (573, 32821), (579, 32836), (587, 32851), (646, 32920), (652, 32935), (685, 32977), (698, 33022), (701, 33031), (714, 33070), (720, 33088), (729, 33109), (734, 33124), (739, 33133), (741, 33136),

Gene: Sidious\_37 Start: 31771, Stop: 30602, Start Num: 122

Candidate Starts for Sidious\_37:

(Start: 122 @31771 has 50 MA's), (292, 31447), (307, 31411), (347, 31357), (350, 31351), (359, 31339), (365, 31327), (404, 31234), (405, 31228), (422, 31198), (470, 31129), (471, 31126), (483, 31096), (520, 31045), (570, 30973), (613, 30898), (682, 30811), (684, 30799), (712, 30712), (715,

30703), (733, 30658), (751, 30619),

Gene: SimranZ1\_43 Start: 31600, Stop: 32718, Start Num: 157

Candidate Starts for SimranZ1\_43:

(Start: 157 @31600 has 270 MA's), (218, 31738), (231, 31771), (263, 31819), (334, 31972), (344, 31981), (392, 32062), (434, 32155), (464, 32215), (471, 32227), (472, 32230), (483, 32257), (494, 32281), (526, 32308), (554, 32344), (556, 32347), (570, 32383), (587, 32419), (646, 32488), (652, 32503), (669, 32521), (698, 32590), (701, 32599), (714, 32638), (720, 32656), (729, 32677), (734, 32692), (739, 32701), (741, 32704),

Gene: Sleepyhead\_38 Start: 29423, Stop: 28182, Start Num: 175

Candidate Starts for Sleepyhead\_38:

(154, 29465), (Start: 175 @29423 has 3 MA's), (252, 29285), (285, 29213), (380, 29036), (394, 28997), (399, 28979), (480, 28808), (495, 28781), (523, 28742), (543, 28715), (567, 28667), (582, 28634), (599, 28610), (617, 28568), (641, 28538), (650, 28520), (662, 28499), (682, 28469), (698, 28409), (701, 28400), (733, 28307), (767, 28229), (769, 28205),

Gene: Slimphazie\_41 Start: 32477, Stop: 33565, Start Num: 157

Candidate Starts for Slimphazie\_41:

(Start: 157 @32477 has 270 MA's), (179, 32528), (Start: 204 @32579 has 6 MA's), (Start: 217 @32603 has 1 MA's), (235, 32639), (306, 32777), (334, 32831), (396, 32915), (431, 32984), (432, 32987), (520, 33137), (565, 33215), (577, 33242), (646, 33329), (683, 33377),

Gene: Smeagan\_36 Start: 26880, Stop: 25771, Start Num: 140

Candidate Starts for Smeagan\_36:

(Start: 113 @26913 has 7 MA's), (Start: 127 @26895 has 7 MA's), (Start: 140 @26880 has 113 MA's), (Start: 180 @26814 has 8 MA's), (Start: 204 @26766 has 6 MA's), (227, 26721), (306, 26565), (315, 26547), (319, 26538), (360, 26502), (392, 26445), (431, 26367), (444, 26343), (448, 26334), (452, 26322), (460, 26304), (520, 26214), (531, 26202), (563, 26145), (570, 26127), (583, 26100), (591, 26085), (608, 26067), (624, 26040), (630, 26031), (687, 25929), (702, 25881), (703, 25878), (712, 25851), (714, 25845), (718, 25833), (733, 25794),

Gene: Smoothie\_85 Start: 51934, Stop: 53232, Start Num: 168

Candidate Starts for Smoothie\_85:

(Start: 168 @51934 has 12 MA's), (200, 52000), (250, 52102), (264, 52129), (269, 52141), (282, 52171), (303, 52210), (310, 52228), (352, 52294), (358, 52303), (396, 52387), (438, 52477), (527, 52636), (531, 52642), (533, 52645), (592, 52771), (629, 52840), (675, 52918), (686, 52969), (695, 52996), (707, 53032), (708, 53035), (709, 53038), (710, 53044), (715, 53056), (717, 53062), (718, 53065), (719, 53068), (730, 53098), (751, 53146), (757, 53155), (766, 53185),

Gene: SnapTap\_34 Start: 26396, Stop: 25329, Start Num: 173

Candidate Starts for SnapTap\_34:

(Start: 98 @26513 has 1 MA's), (Start: 140 @26450 has 113 MA's), (Start: 173 @26396 has 14 MA's), (Start: 204 @26327 has 6 MA's), (227, 26282), (294, 26156), (315, 26108), (319, 26099), (360, 26063), (391, 26009), (392, 26006), (452, 25883), (460, 25865), (476, 25835), (515, 25781), (520, 25775), (531, 25763), (570, 25688), (573, 25682), (583, 25661), (591, 25646), (608, 25628), (624, 25601), (687, 25490), (702, 25442), (712, 25412), (714, 25406), (718, 25394), (733, 25355),

Gene: Snickers\_36 Start: 26724, Stop: 25618, Start Num: 165

Candidate Starts for Snickers\_36:

(Start: 140 @26763 has 113 MA's), (Start: 165 @26724 has 10 MA's), (189, 26676), (Start: 204 @26640 has 6 MA's), (227, 26595), (306, 26439), (319, 26412), (360, 26376), (392, 26319), (431, 26241), (444, 26217), (460, 26178), (496, 26106), (515, 26094), (520, 26088), (531, 26076), (570,

26001), (573, 25995), (583, 25974), (591, 25959), (608, 25941), (621, 25917), (687, 25803), (701, 25758), (702, 25755), (706, 25746), (712, 25725), (714, 25719), (718, 25707), (733, 25668),

Gene: SoYo\_36 Start: 26701, Stop: 25556, Start Num: 140

Candidate Starts for SoYo\_36:

(Start: 140 @26701 has 113 MA's), (Start: 165 @26662 has 10 MA's), (189, 26614), (Start: 204 @26578 has 6 MA's), (227, 26533), (306, 26377), (319, 26350), (360, 26314), (392, 26257), (431, 26179), (444, 26155), (460, 26116), (496, 26044), (515, 26032), (520, 26026), (531, 26014), (570, 25939), (573, 25933), (583, 25912), (591, 25897), (608, 25879), (621, 25855), (687, 25741), (701, 25696), (702, 25693), (706, 25684), (712, 25663), (714, 25657), (718, 25645), (733, 25606),

Gene: SoilAssassin\_34 Start: 27695, Stop: 28777, Start Num: 153

Candidate Starts for SoilAssassin\_34:

(Start: 85 @27584 has 6 MA's), (Start: 153 @27695 has 52 MA's), (179, 27749), (236, 27869), (391, 28124), (402, 28154), (432, 28214), (466, 28280), (476, 28304), (693, 28634), (700, 28661), (739, 28766),

Gene: SoilDragon\_35 Start: 26236, Stop: 25091, Start Num: 140

Candidate Starts for SoilDragon\_35:

(Start: 140 @26236 has 113 MA's), (Start: 165 @26197 has 10 MA's), (189, 26149), (Start: 204 @26113 has 6 MA's), (227, 26068), (306, 25912), (319, 25885), (360, 25849), (392, 25792), (431, 25714), (444, 25690), (460, 25651), (496, 25579), (515, 25567), (520, 25561), (531, 25549), (570, 25474), (573, 25468), (583, 25447), (591, 25432), (608, 25414), (687, 25276), (701, 25231), (702, 25228), (706, 25219), (712, 25198), (714, 25192), (718, 25180), (733, 25141),

Gene: Sonali\_29 Start: 28564, Stop: 29715, Start Num: 157

Candidate Starts for Sonali\_29:

(125, 28522), (Start: 157 @28564 has 270 MA's), (159, 28573), (245, 28741), (357, 28918), (392, 28990), (483, 29185), (660, 29473), (697, 29569), (700, 29581), (701, 29584),

Gene: Soul22\_46 Start: 32314, Stop: 33432, Start Num: 157

Candidate Starts for Soul22\_46:

(Start: 157 @32314 has 270 MA's), (231, 32485), (334, 32686), (344, 32695), (392, 32776), (434, 32869), (464, 32929), (471, 32941), (472, 32944), (483, 32971), (494, 32995), (526, 33022), (554, 33058), (556, 33061), (570, 33097), (587, 33133), (646, 33202), (652, 33217), (669, 33235), (698, 33304), (701, 33313), (714, 33352), (720, 33370), (729, 33391), (734, 33406), (739, 33415), (741, 33418),

Gene: Sparky\_45 Start: 33811, Stop: 34989, Start Num: 158

Candidate Starts for Sparky\_45:

(Start: 158 @33811 has 2 MA's), (179, 33859), (212, 33925), (231, 33970), (311, 34120), (334, 34162), (396, 34276), (404, 34303), (431, 34351), (432, 34354), (472, 34435), (476, 34447), (552, 34552), (570, 34594), (576, 34609), (584, 34624), (613, 34648), (683, 34759), (700, 34819), (729, 34900), (733, 34912), (751, 34951),

Gene: Spartacus\_41 Start: 31407, Stop: 32525, Start Num: 157

Candidate Starts for Spartacus\_41:

(Start: 157 @31407 has 270 MA's), (159, 31416), (231, 31578), (344, 31788), (392, 31869), (434, 31962), (452, 32001), (464, 32022), (471, 32034), (472, 32037), (487, 32073), (494, 32088), (503, 32094), (526, 32115), (554, 32151), (556, 32154), (570, 32190), (573, 32196), (587, 32226), (615, 32247), (646, 32295), (652, 32310), (685, 32352), (698, 32397), (701, 32406), (714, 32445), (720, 32463), (729, 32484), (734, 32499), (739, 32508), (741, 32511),

Gene: Spartoi\_37 Start: 25898, Stop: 24921, Start Num: 217

Candidate Starts for Spartoi\_37:

(Start: 157 @26012 has 270 MA's), (174, 25973), (179, 25961), (Start: 217 @25898 has 1 MA's), (224, 25883), (305, 25718), (326, 25670), (327, 25667), (370, 25643), (396, 25583), (447, 25481), (466, 25442), (573, 25262), (584, 25238), (591, 25226), (635, 25166), (650, 25139), (659, 25124), (664, 25115), (683, 25085), (685, 25076), (698, 25031), (700, 25025), (720, 24965), (727, 24947),

Gene: Sparxx\_33 Start: 26249, Stop: 25128, Start Num: 140

Candidate Starts for Sparxx\_33:

(Start: 107 @26294 has 13 MA's), (Start: 124 @26267 has 2 MA's), (Start: 140 @26249 has 113 MA's), (Start: 180 @26180 has 8 MA's), (Start: 204 @26126 has 6 MA's), (315, 25907), (319, 25898), (360, 25862), (385, 25820), (391, 25808), (392, 25805), (431, 25727), (496, 25592), (520, 25574), (570, 25487), (573, 25481), (583, 25460), (591, 25445), (608, 25427), (687, 25289), (702, 25241), (712, 25211), (714, 25205), (718, 25193), (733, 25154),

Gene: Splinter\_37 Start: 27965, Stop: 26850, Start Num: 178

Candidate Starts for Splinter\_37:

(145, 28034), (Start: 178 @27965 has 14 MA's), (358, 27626), (380, 27593), (535, 27299), (545, 27287), (562, 27254), (639, 27107), (706, 26936), (715, 26909),

Gene: Spock\_41 Start: 32596, Stop: 33684, Start Num: 157

Candidate Starts for Spock\_41:

(26, 32212), (35, 32299), (50, 32374), (Start: 157 @32596 has 270 MA's), (179, 32647), (Start: 204 @32698 has 6 MA's), (Start: 217 @32722 has 1 MA's), (235, 32758), (306, 32896), (396, 33034), (431, 33103), (432, 33106), (520, 33256), (577, 33361), (683, 33496),

Gene: Sproutie\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for Sproutie\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Squint\_87 Start: 50854, Stop: 52128, Start Num: 107

Candidate Starts for Squint\_87:

(80, 50797), (Start: 99 @50839 has 1 MA's), (Start: 107 @50854 has 13 MA's), (Start: 108 @50857 has 1 MA's), (Start: 140 @50902 has 113 MA's), (Start: 161 @50941 has 1 MA's), (334, 51322), (385, 51406), (391, 51418), (392, 51421), (450, 51550), (530, 51670), (563, 51733), (569, 51751), (582, 51775), (628, 51847), (711, 52024), (712, 52027), (714, 52033), (720, 52051), (725, 52066), (729, 52075), (730, 52078), (750, 52123),

Gene: Squirty\_35 Start: 28972, Stop: 30078, Start Num: 157

Candidate Starts for Squirty\_35:

(Start: 142 @28951 has 1 MA's), (Start: 157 @28972 has 270 MA's), (230, 29131), (247, 29167), (326, 29332), (396, 29428), (399, 29440), (416, 29473), (431, 29497), (466, 29566), (471, 29575), (472, 29578), (494, 29629), (520, 29650), (565, 29728), (573, 29743), (620, 29803), (646, 29842), (652, 29857), (677, 29881), (685, 29908), (693, 29932), (698, 29953), (701, 29962), (720, 30019),

Gene: StAB\_26 Start: 25588, Stop: 24371, Start Num: 175

Candidate Starts for StAB\_26:

(143, 25651), (Start: 175 @25588 has 3 MA's), (255, 25408), (271, 25375), (330, 25243), (383, 25153), (391, 25135), (396, 25120), (399, 25108), (409, 25081), (421, 25054), (439, 25021), (447, 25012), (480, 24949), (492, 24931), (500, 24916), (516, 24895), (557, 24829), (591, 24751), (604, 24730), (610, 24718), (611, 24715), (631, 24685), (670, 24616), (675, 24610), (682, 24598), (685,



24583), (693, 24559), (694, 24556), (697, 24544), (701, 24529), (706, 24517), (712, 24496), (716, 24484), (727, 24451), (740, 24424), (752, 24406), (762, 24385), (764, 24376),

Gene: StAnnes\_42 Start: 33543, Stop: 34661, Start Num: 157

Candidate Starts for StAnnes\_42:

(Start: 157 @33543 has 270 MA's), (159, 33552), (231, 33714), (315, 33879), (334, 33915), (344, 33924), (402, 34029), (434, 34098), (452, 34137), (464, 34158), (471, 34170), (472, 34173), (476, 34185), (494, 34224), (503, 34230), (526, 34251), (554, 34287), (556, 34290), (570, 34326), (573, 34332), (579, 34347), (646, 34431), (652, 34446), (685, 34488), (698, 34533), (701, 34542), (714, 34581), (720, 34599), (729, 34620), (734, 34635), (739, 34644), (741, 34647),

Gene: Stagni\_36 Start: 26792, Stop: 25647, Start Num: 140

Candidate Starts for Stagni\_36:

(Start: 140 @26792 has 113 MA's), (Start: 165 @26753 has 10 MA's), (189, 26705), (Start: 204 @26669 has 6 MA's), (227, 26624), (306, 26468), (319, 26441), (360, 26405), (392, 26348), (431, 26270), (444, 26246), (460, 26207), (496, 26135), (515, 26123), (520, 26117), (531, 26105), (570, 26030), (573, 26024), (583, 26003), (591, 25988), (608, 25970), (621, 25946), (687, 25832), (701, 25787), (702, 25784), (706, 25775), (712, 25754), (714, 25748), (718, 25736), (733, 25697),

Gene: StarStuff\_37 Start: 26423, Stop: 25353, Start Num: 173

Candidate Starts for StarStuff\_37:

(Start: 140 @26477 has 113 MA's), (Start: 173 @26423 has 14 MA's), (Start: 204 @26354 has 6 MA's), (306, 26153), (319, 26126), (360, 26090), (392, 26033), (400, 26006), (431, 25955), (448, 25922), (452, 25910), (460, 25892), (496, 25820), (520, 25802), (531, 25790), (556, 25751), (570, 25715), (573, 25709), (583, 25688), (591, 25673), (608, 25655), (624, 25628), (687, 25517), (702, 25469), (703, 25466), (712, 25439), (714, 25433), (718, 25421), (733, 25382),

Gene: StepMih\_36 Start: 26783, Stop: 25638, Start Num: 140

Candidate Starts for StepMih\_36:

(Start: 140 @26783 has 113 MA's), (Start: 165 @26744 has 10 MA's), (189, 26696), (Start: 204 @26660 has 6 MA's), (227, 26615), (306, 26459), (319, 26432), (360, 26396), (392, 26339), (431, 26261), (444, 26237), (460, 26198), (496, 26126), (515, 26114), (520, 26108), (531, 26096), (570, 26021), (573, 26015), (583, 25994), (591, 25979), (608, 25961), (621, 25937), (687, 25823), (701, 25778), (702, 25775), (706, 25766), (712, 25745), (714, 25739), (718, 25727), (733, 25688),

Gene: Stiles\_27 Start: 25121, Stop: 23991, Start Num: 176

Candidate Starts for Stiles\_27:

(Start: 176 @25121 has 3 MA's), (187, 25106), (198, 25082), (262, 24968), (280, 24929), (299, 24887), (311, 24854), (316, 24845), (330, 24818), (342, 24800), (388, 24716), (394, 24701), (409, 24656), (448, 24596), (475, 24554), (480, 24542), (485, 24536), (495, 24515), (528, 24470), (534, 24461), (536, 24458), (538, 24455), (550, 24434), (588, 24350), (595, 24344), (606, 24326), (619, 24296), (665, 24239), (687, 24197), (693, 24182), (697, 24167), (698, 24161), (701, 24152), (704, 24143), (714, 24113), (729, 24071), (738, 24050), (740, 24047), (744, 24038), (760, 24011), (764, 23996),

Gene: Stinson\_42 Start: 32990, Stop: 34078, Start Num: 157

Candidate Starts for Stinson\_42:

(Start: 157 @32990 has 270 MA's), (Start: 204 @33092 has 6 MA's), (Start: 217 @33116 has 1 MA's), (235, 33152), (267, 33203), (296, 33266), (306, 33290), (334, 33344), (338, 33347), (396, 33428), (431, 33497), (432, 33500), (520, 33650), (565, 33728), (577, 33755), (683, 33890),

Gene: Strobilo\_43 Start: 34292, Stop: 35392, Start Num: 157

Candidate Starts for Strobilo\_43:

(Start: 157 @34292 has 270 MA's), (164, 34310), (179, 34343), (Start: 217 @34418 has 1 MA's), (235, 34454), (296, 34568), (306, 34592), (334, 34646), (418, 34787), (431, 34811), (432, 34814), (452, 34856), (520, 34964), (577, 35069), (617, 35114), (629, 35129), (716, 35321),

Gene: Strokeseat\_41 Start: 31786, Stop: 32904, Start Num: 157

Candidate Starts for Strokeseat\_41:

(Start: 157 @31786 has 270 MA's), (231, 31957), (315, 32122), (334, 32158), (344, 32167), (402, 32272), (434, 32341), (452, 32380), (464, 32401), (471, 32413), (472, 32416), (476, 32428), (494, 32467), (503, 32473), (526, 32494), (554, 32530), (556, 32533), (570, 32569), (573, 32575), (577, 32587), (579, 32590), (587, 32605), (646, 32674), (652, 32689), (669, 32707), (698, 32776), (701, 32785), (714, 32824), (720, 32842), (729, 32863), (734, 32878), (739, 32887), (741, 32890),

Gene: Success\_11 Start: 8095, Stop: 6848, Start Num: 162

Candidate Starts for Success\_11:

(Start: 162 @8095 has 1 MA's), (216, 7975), (424, 7570), (440, 7537), (444, 7528), (471, 7474), (494, 7420), (513, 7402), (527, 7381), (551, 7336), (573, 7285), (648, 7162), (725, 6976), (733, 6955), (757, 6907),

Gene: Suerte\_34 Start: 29564, Stop: 28395, Start Num: 122

Candidate Starts for Suerte\_34:

(Start: 122 @29564 has 50 MA's), (210, 29402), (293, 29240), (300, 29222), (345, 29156), (356, 29138), (365, 29123), (385, 29078), (400, 29039), (404, 29030), (413, 29009), (414, 29006), (471, 28922), (584, 28739), (591, 28727), (613, 28691), (632, 28661), (682, 28604), (684, 28592), (688, 28577), (718, 28487), (733, 28451), (751, 28412), (757, 28403),

Gene: Sulley\_41 Start: 32725, Stop: 33810, Start Num: 157

Candidate Starts for Sulley\_41:

(Start: 157 @32725 has 270 MA's), (Start: 204 @32827 has 6 MA's), (209, 32836), (Start: 217 @32851 has 1 MA's), (235, 32887), (306, 33025), (334, 33079), (396, 33163), (431, 33232), (432, 33235), (520, 33385), (577, 33490), (646, 33577), (683, 33625), (730, 33769),

Gene: SuperGrey\_42 Start: 32615, Stop: 33742, Start Num: 157

Candidate Starts for SuperGrey\_42:

(89, 32513), (Start: 121 @32570 has 2 MA's), (Start: 157 @32615 has 270 MA's), (159, 32624), (231, 32786), (258, 32837), (267, 32855), (288, 32900), (334, 32996), (344, 33005), (392, 33086), (402, 33110), (434, 33179), (452, 33218), (464, 33239), (471, 33251), (472, 33254), (483, 33281), (494, 33305), (503, 33311), (526, 33332), (554, 33368), (556, 33371), (570, 33407), (573, 33413), (577, 33425), (579, 33428), (587, 33443), (646, 33512), (652, 33527), (685, 33569), (698, 33614), (701, 33623), (714, 33662), (720, 33680), (729, 33701), (734, 33716), (739, 33725), (741, 33728),

Gene: Superchunk\_33 Start: 24997, Stop: 23882, Start Num: 144

Candidate Starts for Superchunk\_33:

(Start: 144 @24997 has 6 MA's), (Start: 173 @24949 has 14 MA's), (189, 24916), (Start: 204 @24880 has 6 MA's), (227, 24835), (311, 24667), (319, 24652), (360, 24616), (385, 24574), (391, 24562), (392, 24559), (436, 24472), (444, 24457), (520, 24328), (531, 24316), (546, 24295), (556, 24277), (570, 24241), (583, 24214), (591, 24199), (608, 24181), (624, 24154), (687, 24043), (702, 23995), (712, 23965), (714, 23959), (718, 23947), (733, 23908),

Gene: Superphikiman\_84 Start: 49930, Stop: 51219, Start Num: 99

Candidate Starts for Superphikiman\_84:

(80, 49888), (Start: 99 @49930 has 1 MA's), (Start: 107 @49945 has 13 MA's), (Start: 108 @49948 has 1 MA's), (Start: 140 @49993 has 113 MA's), (Start: 161 @50032 has 1 MA's), (334, 50413), (385, 50497), (391, 50509), (392, 50512), (450, 50641), (530, 50761), (563, 50824), (569, 50842), (582,

50866), (628, 50938), (711, 51115), (712, 51118), (714, 51124), (720, 51142), (725, 51157), (729, 51166), (730, 51169), (750, 51214),

Gene: Susceptit\_39 Start: 30564, Stop: 31646, Start Num: 153

Candidate Starts for Susceptit\_39:

(Start: 85 @30453 has 6 MA's), (Start: 153 @30564 has 52 MA's), (179, 30618), (236, 30738), (391, 30993), (402, 31023), (432, 31083), (466, 31149), (476, 31173), (693, 31503), (700, 31530), (739, 31635),

Gene: SwagPigglett\_45 Start: 33012, Stop: 34130, Start Num: 157

Candidate Starts for SwagPigglett\_45:

(Start: 157 @33012 has 270 MA's), (218, 33150), (231, 33183), (263, 33231), (315, 33348), (334, 33384), (344, 33393), (402, 33498), (434, 33567), (464, 33627), (471, 33639), (472, 33642), (476, 33654), (483, 33669), (494, 33693), (503, 33699), (526, 33720), (554, 33756), (556, 33759), (570, 33795), (573, 33801), (577, 33813), (579, 33816), (646, 33900), (652, 33915), (685, 33957), (698, 34002), (701, 34011), (714, 34050), (720, 34068), (729, 34089), (734, 34104), (739, 34113), (741, 34116),

Gene: SweetiePie\_34 Start: 26396, Stop: 25329, Start Num: 173

Candidate Starts for SweetiePie\_34:

(Start: 98 @26513 has 1 MA's), (Start: 140 @26450 has 113 MA's), (Start: 173 @26396 has 14 MA's), (Start: 204 @26327 has 6 MA's), (227, 26282), (294, 26156), (315, 26108), (319, 26099), (360, 26063), (391, 26009), (392, 26006), (452, 25883), (460, 25865), (476, 25835), (515, 25781), (520, 25775), (531, 25763), (570, 25688), (573, 25682), (583, 25661), (591, 25646), (608, 25628), (624, 25601), (687, 25490), (702, 25442), (712, 25412), (714, 25406), (718, 25394), (733, 25355),

Gene: SwirlSquare\_35 Start: 25021, Stop: 23906, Start Num: 144

Candidate Starts for SwirlSquare\_35:

(Start: 144 @25021 has 6 MA's), (189, 24940), (Start: 204 @24904 has 6 MA's), (227, 24859), (276, 24772), (306, 24703), (311, 24691), (315, 24685), (360, 24640), (376, 24622), (385, 24598), (391, 24586), (392, 24583), (520, 24352), (531, 24340), (570, 24265), (583, 24238), (591, 24223), (608, 24205), (624, 24178), (702, 24019), (712, 23989), (714, 23983), (718, 23971), (733, 23932),

Gene: Syleon\_7 Start: 2611, Stop: 1523, Start Num: 194

Candidate Starts for Syleon\_7:

(143, 2716), (183, 2632), (Start: 194 @2611 has 4 MA's), (274, 2440), (311, 2350), (323, 2326), (336, 2305), (456, 2074), (480, 2041), (503, 1999), (516, 1984), (532, 1963), (538, 1954), (543, 1948), (582, 1864), (594, 1849), (644, 1762), (662, 1729), (700, 1636), (711, 1603), (714, 1594), (716, 1588),

Gene: TChen\_44 Start: 33582, Stop: 34700, Start Num: 157

Candidate Starts for TChen\_44:

(Start: 157 @33582 has 270 MA's), (159, 33591), (218, 33720), (231, 33753), (263, 33801), (334, 33954), (344, 33963), (392, 34044), (434, 34137), (464, 34197), (471, 34209), (472, 34212), (483, 34239), (494, 34263), (526, 34290), (554, 34326), (556, 34329), (570, 34365), (587, 34401), (646, 34470), (652, 34485), (669, 34503), (698, 34572), (701, 34581), (714, 34620), (720, 34638), (729, 34659), (734, 34674),

Gene: TClif\_46 Start: 33489, Stop: 34589, Start Num: 157

Candidate Starts for TClif\_46:

(Start: 157 @33489 has 270 MA's), (Start: 217 @33615 has 1 MA's), (235, 33651), (306, 33789), (334, 33843), (396, 33927), (418, 33984), (431, 34008), (432, 34011), (452, 34053), (520, 34161), (556, 34212), (576, 34263), (577, 34266), (617, 34311), (629, 34326), (683, 34401), (697, 34449), (730, 34545),

Gene: TNguyen7\_33 Start: 26286, Stop: 25138, Start Num: 121

Candidate Starts for TNguyen7\_33:

(Start: 121 @26286 has 2 MA's), (Start: 129 @26277 has 3 MA's), (Start: 204 @26142 has 6 MA's), (227, 26097), (306, 25941), (316, 25920), (319, 25914), (360, 25878), (392, 25821), (431, 25743), (496, 25608), (520, 25590), (531, 25578), (556, 25539), (570, 25503), (573, 25497), (583, 25476), (591, 25461), (608, 25443), (624, 25416), (687, 25305), (702, 25257), (712, 25227), (714, 25221), (718, 25209), (733, 25170),

Gene: TPA4\_37 Start: 32608, Stop: 31376, Start Num: 122

Candidate Starts for TPA4\_37:

(116, 32614), (Start: 122 @32608 has 50 MA's), (365, 32161), (385, 32116), (443, 32005), (471, 31960), (509, 31879), (524, 31855), (528, 31849), (541, 31831), (586, 31741), (637, 31654), (670, 31603), (678, 31582), (682, 31570), (712, 31471), (718, 31453), (730, 31426),

Gene: TZGordon\_39 Start: 27285, Stop: 26170, Start Num: 178

Candidate Starts for TZGordon\_39:

(Start: 178 @27285 has 14 MA's), (358, 26946), (380, 26913), (535, 26619), (545, 26607), (639, 26427), (706, 26256), (715, 26229),

Gene: Tachez\_41 Start: 32439, Stop: 33527, Start Num: 157

Candidate Starts for Tachez\_41:

(Start: 157 @32439 has 270 MA's), (179, 32490), (Start: 204 @32541 has 6 MA's), (Start: 217 @32565 has 1 MA's), (235, 32601), (306, 32739), (334, 32793), (396, 32877), (431, 32946), (432, 32949), (520, 33099), (565, 33177), (577, 33204), (646, 33291), (683, 33339),

Gene: TaiwanKao\_43 Start: 32721, Stop: 33809, Start Num: 157

Candidate Starts for TaiwanKao\_43:

(Start: 157 @32721 has 270 MA's), (Start: 204 @32823 has 6 MA's), (Start: 217 @32847 has 1 MA's), (235, 32883), (334, 33075), (396, 33159), (431, 33228), (432, 33231), (520, 33381), (565, 33459), (577, 33486), (683, 33621), (730, 33765),

Gene: Taj\_45 Start: 32606, Stop: 33709, Start Num: 157

Candidate Starts for Taj\_45:

(Start: 157 @32606 has 270 MA's), (179, 32654), (218, 32735), (230, 32762), (334, 32975), (363, 32999), (392, 33047), (431, 33128), (466, 33197), (471, 33206), (483, 33236), (494, 33260), (520, 33281), (565, 33359), (573, 33374), (620, 33434), (646, 33473), (652, 33488), (677, 33512), (685, 33539), (693, 33563), (698, 33584), (701, 33593), (716, 33638), (720, 33650),

Gene: TarsusIV\_33 Start: 26409, Stop: 25285, Start Num: 140

Candidate Starts for TarsusIV\_33:

(Start: 99 @26469 has 1 MA's), (Start: 108 @26451 has 1 MA's), (Start: 140 @26409 has 113 MA's), (Start: 204 @26286 has 6 MA's), (227, 26241), (306, 26085), (319, 26058), (360, 26022), (392, 25965), (431, 25887), (448, 25854), (452, 25842), (460, 25824), (520, 25734), (522, 25731), (531, 25722), (570, 25647), (583, 25620), (591, 25605), (608, 25587), (687, 25449), (702, 25401), (703, 25398), (712, 25371), (714, 25365), (718, 25353), (733, 25314),

Gene: Taurus\_36 Start: 26750, Stop: 25644, Start Num: 165

Candidate Starts for Taurus\_36:

(Start: 140 @26789 has 113 MA's), (Start: 165 @26750 has 10 MA's), (189, 26702), (Start: 204 @26666 has 6 MA's), (227, 26621), (306, 26465), (319, 26438), (360, 26402), (392, 26345), (431, 26267), (444, 26243), (460, 26204), (496, 26132), (515, 26120), (520, 26114), (531, 26102), (570, 26027), (573, 26021), (583, 26000), (591, 25985), (608, 25967), (621, 25943), (687, 25829), (701,

25784), (702, 25781), (706, 25772), (712, 25751), (714, 25745), (718, 25733), (733, 25694),

Gene: TaylorSipt\_34 Start: 24061, Stop: 22877, Start Num: 122

Candidate Starts for TaylorSipt\_34:

(Start: 122 @24061 has 50 MA's), (309, 23707), (350, 23644), (359, 23632), (367, 23617), (438, 23464), (515, 23323), (529, 23302), (579, 23209), (586, 23197), (688, 23035), (692, 23026),

Gene: Tayonia\_39 Start: 30563, Stop: 31645, Start Num: 153

Candidate Starts for Tayonia\_39:

(Start: 85 @30452 has 6 MA's), (Start: 153 @30563 has 52 MA's), (179, 30617), (236, 30737), (391, 30992), (402, 31022), (432, 31082), (466, 31148), (476, 31172), (693, 31502), (700, 31529), (739, 31634),

Gene: ThankyouJordi\_38 Start: 31428, Stop: 32621, Start Num: 85

Candidate Starts for ThankyouJordi\_38:

(Start: 85 @31428 has 6 MA's), (Start: 153 @31539 has 52 MA's), (179, 31593), (236, 31713), (402, 31998), (432, 32058), (466, 32124), (476, 32148), (693, 32478), (700, 32505), (739, 32610),

Gene: Thibault\_69 Start: 48145, Stop: 49374, Start Num: 128

Candidate Starts for Thibault\_69:

(Start: 128 @48145 has 28 MA's), (Start: 140 @48163 has 113 MA's), (Start: 161 @48202 has 1 MA's), (266, 48439), (315, 48547), (385, 48667), (386, 48670), (391, 48679), (396, 48694), (410, 48733), (450, 48811), (519, 48928), (530, 48931), (536, 48940), (562, 48991), (563, 48994), (569, 49012), (628, 49108), (668, 49165), (711, 49285), (712, 49288), (720, 49312), (729, 49336), (730, 49339),

Gene: Thimann\_36 Start: 28027, Stop: 29154, Start Num: 157

Candidate Starts for Thimann\_36:

(52, 27808), (61, 27844), (Start: 157 @28027 has 270 MA's), (179, 28081), (248, 28237), (298, 28327), (311, 28360), (431, 28555), (432, 28558), (452, 28600), (472, 28636), (658, 28933), (693, 29011), (706, 29053), (714, 29080), (739, 29143),

Gene: ThreeRngTarjay\_79 Start: 53224, Stop: 54453, Start Num: 128

Candidate Starts for ThreeRngTarjay\_79:

(Start: 128 @53224 has 28 MA's), (Start: 140 @53242 has 113 MA's), (Start: 161 @53281 has 1 MA's), (266, 53518), (315, 53626), (385, 53746), (386, 53749), (391, 53758), (396, 53773), (410, 53812), (450, 53890), (510, 53995), (519, 54007), (530, 54010), (536, 54019), (562, 54070), (563, 54073), (569, 54091), (628, 54187), (668, 54244), (711, 54364), (712, 54367), (720, 54391), (729, 54415), (730, 54418),

Gene: ThulaThula\_35 Start: 29873, Stop: 28671, Start Num: 137

Candidate Starts for ThulaThula\_35:

(Start: 137 @29873 has 7 MA's), (Start: 178 @29798 has 14 MA's), (196, 29768), (206, 29744), (250, 29663), (302, 29549), (334, 29486), (401, 29351), (447, 29270), (476, 29207), (520, 29141), (613, 28964), (614, 28961), (615, 28958), (629, 28937), (650, 28901), (651, 28898), (683, 28868), (693, 28835), (697, 28820), (718, 28754), (726, 28733),

Gene: Tiff81\_37 Start: 24880, Stop: 23702, Start Num: 157

Candidate Starts for Tiff81\_37:

(Start: 157 @24880 has 270 MA's), (216, 24763), (236, 24715), (277, 24643), (319, 24547), (344, 24511), (385, 24448), (392, 24433), (431, 24346), (436, 24337), (466, 24277), (487, 24229), (579, 24082), (583, 24076), (613, 24034), (685, 23917), (692, 23896), (693, 23893), (697, 23878), (741, 23758),

Gene: Tiffany\_36 Start: 26675, Stop: 25530, Start Num: 140

Candidate Starts for Tiffany\_36:

(Start: 140 @26675 has 113 MA's), (Start: 165 @26636 has 10 MA's), (189, 26588), (Start: 204 @26552 has 6 MA's), (227, 26507), (306, 26351), (319, 26324), (360, 26288), (392, 26231), (431, 26153), (444, 26129), (460, 26090), (496, 26018), (515, 26006), (520, 26000), (531, 25988), (570, 25913), (573, 25907), (583, 25886), (591, 25871), (608, 25853), (621, 25829), (687, 25715), (701, 25670), (702, 25667), (706, 25658), (712, 25637), (714, 25631), (718, 25619), (733, 25580),

Gene: TimTam\_39 Start: 32012, Stop: 33094, Start Num: 153

Candidate Starts for TimTam\_39:

(Start: 85 @31901 has 6 MA's), (Start: 153 @32012 has 52 MA's), (179, 32066), (236, 32186), (386, 32432), (391, 32441), (402, 32471), (432, 32531), (466, 32597), (476, 32621), (693, 32951), (700, 32978), (739, 33083),

Gene: TinaFeyge\_33 Start: 26292, Stop: 25126, Start Num: 107

Candidate Starts for TinaFeyge\_33:

(Start: 107 @26292 has 13 MA's), (Start: 124 @26265 has 2 MA's), (Start: 140 @26247 has 113 MA's), (Start: 180 @26178 has 8 MA's), (Start: 204 @26124 has 6 MA's), (315, 25905), (319, 25896), (360, 25860), (385, 25818), (391, 25806), (392, 25803), (431, 25725), (496, 25590), (520, 25572), (570, 25485), (583, 25458), (591, 25443), (608, 25425), (687, 25287), (702, 25239), (712, 25209), (714, 25203), (718, 25191), (733, 25152),

Gene: TinaLin\_36 Start: 26813, Stop: 25707, Start Num: 178

Candidate Starts for TinaLin\_36:

(Start: 178 @26813 has 14 MA's), (226, 26726), (352, 26492), (386, 26429), (392, 26417), (413, 26366), (494, 26204), (535, 26156), (605, 26027), (632, 25979), (679, 25883), (706, 25793), (715, 25766),

Gene: TiniBug\_42 Start: 33372, Stop: 34460, Start Num: 157

Candidate Starts for TiniBug\_42:

(50, 33150), (Start: 157 @33372 has 270 MA's), (179, 33423), (Start: 204 @33474 has 6 MA's), (Start: 217 @33498 has 1 MA's), (235, 33534), (296, 33648), (334, 33726), (396, 33810), (431, 33879), (432, 33882), (520, 34032), (577, 34137), (683, 34272), (730, 34416),

Gene: TipsytheTRex\_33 Start: 25948, Stop: 24836, Start Num: 140

Candidate Starts for TipsytheTRex\_33:

(Start: 140 @25948 has 113 MA's), (185, 25870), (Start: 204 @25825 has 6 MA's), (227, 25780), (263, 25720), (319, 25597), (360, 25561), (391, 25507), (392, 25504), (452, 25381), (453, 25378), (460, 25363), (515, 25279), (520, 25273), (570, 25198), (583, 25171), (591, 25156), (608, 25138), (624, 25111), (687, 25000), (702, 24952), (703, 24949), (706, 24943), (712, 24922), (714, 24916), (718, 24904), (733, 24865), (737, 24856),

Gene: Tiri\_42 Start: 32775, Stop: 33863, Start Num: 157

Candidate Starts for Tiri\_42:

(Start: 157 @32775 has 270 MA's), (Start: 204 @32877 has 6 MA's), (Start: 217 @32901 has 1 MA's), (235, 32937), (306, 33075), (334, 33129), (396, 33213), (431, 33282), (432, 33285), (520, 33435), (577, 33540), (646, 33627), (683, 33675), (730, 33819),

Gene: Tomathan\_37 Start: 26420, Stop: 25350, Start Num: 173

Candidate Starts for Tomathan\_37:

(Start: 140 @26474 has 113 MA's), (Start: 173 @26420 has 14 MA's), (Start: 204 @26351 has 6 MA's), (306, 26150), (319, 26123), (360, 26087), (391, 26033), (392, 26030), (400, 26003), (431,

25952), (448, 25919), (452, 25907), (460, 25889), (520, 25799), (531, 25787), (556, 25748), (570, 25712), (573, 25706), (583, 25685), (591, 25670), (608, 25652), (624, 25625), (687, 25514), (702, 25466), (703, 25463), (712, 25436), (714, 25430), (718, 25418), (733, 25379),

Gene: Toniann\_84 Start: 51286, Stop: 52584, Start Num: 168

Candidate Starts for Toniann\_84:

(Start: 168 @51286 has 12 MA's), (200, 51352), (250, 51454), (264, 51481), (269, 51493), (282, 51523), (303, 51562), (310, 51580), (352, 51646), (358, 51655), (396, 51739), (438, 51829), (527, 51988), (531, 51994), (533, 51997), (592, 52123), (629, 52192), (675, 52270), (686, 52321), (695, 52348), (707, 52384), (708, 52387), (709, 52390), (710, 52396), (715, 52408), (717, 52414), (718, 52417), (719, 52420), (730, 52450), (751, 52498), (757, 52507), (766, 52537),

Gene: Topper\_41 Start: 32595, Stop: 33683, Start Num: 157

Candidate Starts for Topper\_41:

(16, 31992), (23, 32169), (40, 32334), (50, 32373), (Start: 157 @32595 has 270 MA's), (179, 32646), (Start: 204 @32697 has 6 MA's), (Start: 217 @32721 has 1 MA's), (235, 32757), (306, 32895), (396, 33033), (431, 33102), (432, 33105), (520, 33255), (577, 33360), (683, 33495),

Gene: Tortellini\_32 Start: 30878, Stop: 29682, Start Num: 131

Candidate Starts for Tortellini\_32:

(Start: 131 @30878 has 2 MA's), (253, 30632), (267, 30599), (339, 30461), (345, 30455), (355, 30446), (365, 30434), (379, 30404), (422, 30305), (457, 30233), (470, 30212), (483, 30179), (514, 30128), (518, 30122), (571, 30029), (615, 29954), (629, 29933), (679, 29876), (682, 29867), (688, 29840), (693, 29828), (706, 29789), (723, 29735), (733, 29714),

Gene: TouchMeNot\_32 Start: 30114, Stop: 28903, Start Num: 87

Candidate Starts for TouchMeNot\_32:

(Start: 87 @30114 has 4 MA's), (189, 29940), (260, 29799), (357, 29640), (432, 29490), (476, 29400), (642, 29136), (661, 29100), (665, 29094), (730, 28929), (736, 28914), (738, 28911),

Gene: Trax\_8 Start: 3425, Stop: 2322, Start Num: 178

Candidate Starts for Trax\_8:

(169, 3452), (Start: 178 @3425 has 14 MA's), (184, 3413), (213, 3359), (223, 3344), (233, 3320), (249, 3293), (315, 3167), (363, 3095), (392, 3032), (396, 3020), (413, 2981), (455, 2897), (469, 2876), (522, 2789), (564, 2720), (568, 2708), (620, 2612), (636, 2588), (670, 2528), (682, 2492), (685, 2477), (697, 2438), (710, 2396),

Gene: TreyKay\_42 Start: 32665, Stop: 33753, Start Num: 157

Candidate Starts for TreyKay\_42:

(71, 32518), (Start: 157 @32665 has 270 MA's), (Start: 204 @32767 has 6 MA's), (Start: 217 @32791 has 1 MA's), (235, 32827), (306, 32965), (334, 33019), (396, 33103), (431, 33172), (432, 33175), (520, 33325), (577, 33430), (646, 33517), (683, 33565), (730, 33709),

Gene: TripleJ\_37 Start: 28096, Stop: 26960, Start Num: 219

Candidate Starts for TripleJ\_37:

(Start: 219 @28096 has 1 MA's), (252, 28030), (285, 27955), (295, 27934), (299, 27925), (313, 27889), (323, 27868), (365, 27805), (390, 27748), (396, 27730), (407, 27694), (420, 27664), (426, 27649), (432, 27637), (448, 27616), (464, 27580), (466, 27577), (474, 27556), (492, 27514), (493, 27511), (507, 27487), (537, 27448), (549, 27430), (600, 27322), (626, 27271), (697, 27130), (699, 27121), (720, 27058), (749, 26989), (753, 26983),

Gene: Trixie\_35 Start: 27323, Stop: 26259, Start Num: 173

Candidate Starts for Trixie\_35:

(Start: 140 @27377 has 113 MA's), (Start: 173 @27323 has 14 MA's), (Start: 204 @27254 has 6 MA's), (227, 27209), (306, 27053), (311, 27041), (319, 27026), (360, 26990), (385, 26948), (391, 26936), (392, 26933), (396, 26921), (431, 26855), (448, 26822), (460, 26792), (520, 26702), (522, 26699), (531, 26690), (546, 26669), (570, 26615), (583, 26588), (591, 26573), (608, 26555), (687, 26417), (702, 26369), (703, 26366), (712, 26339), (714, 26333), (718, 26321), (733, 26282),

Gene: Trooper\_35 Start: 26605, Stop: 25538, Start Num: 173

Candidate Starts for Trooper\_35:

(Start: 98 @26722 has 1 MA's), (Start: 140 @26659 has 113 MA's), (Start: 173 @26605 has 14 MA's), (Start: 204 @26536 has 6 MA's), (227, 26491), (306, 26335), (360, 26272), (396, 26203), (413, 26161), (431, 26137), (460, 26074), (520, 25984), (531, 25972), (570, 25897), (573, 25891), (583, 25870), (591, 25855), (608, 25837), (624, 25810), (687, 25699), (701, 25654), (702, 25651), (703, 25648), (712, 25621), (714, 25615), (718, 25603), (733, 25564),

Gene: Troy\_27 Start: 25228, Stop: 23900, Start Num: 115

Candidate Starts for Troy\_27:

(Start: 115 @25228 has 3 MA's), (141, 25192), (147, 25183), (Start: 175 @25126 has 3 MA's), (285, 24916), (286, 24913), (333, 24814), (345, 24796), (384, 24730), (386, 24724), (392, 24712), (462, 24547), (482, 24502), (492, 24481), (499, 24469), (516, 24445), (534, 24421), (538, 24415), (558, 24379), (601, 24283), (633, 24226), (656, 24181), (672, 24157), (682, 24142), (700, 24076), (701, 24073), (710, 24046), (716, 24028), (740, 23968), (764, 23914),

Gene: TroyPia\_33 Start: 26250, Stop: 25129, Start Num: 140

Candidate Starts for TroyPia\_33:

(Start: 107 @26295 has 13 MA's), (Start: 124 @26268 has 2 MA's), (Start: 140 @26250 has 113 MA's), (Start: 180 @26181 has 8 MA's), (Start: 204 @26127 has 6 MA's), (315, 25908), (319, 25899), (360, 25863), (385, 25821), (391, 25809), (392, 25806), (431, 25728), (496, 25593), (520, 25575), (570, 25488), (583, 25461), (591, 25446), (608, 25428), (687, 25290), (702, 25242), (712, 25212), (714, 25206), (718, 25194), (733, 25155),

Gene: TruffulaTree\_41 Start: 32473, Stop: 33561, Start Num: 157

Candidate Starts for TruffulaTree\_41:

(Start: 157 @32473 has 270 MA's), (179, 32524), (Start: 204 @32575 has 6 MA's), (Start: 217 @32599 has 1 MA's), (235, 32635), (306, 32773), (334, 32827), (396, 32911), (431, 32980), (432, 32983), (520, 33133), (565, 33211), (577, 33238), (646, 33325), (683, 33373),

Gene: Trumpet\_39 Start: 30564, Stop: 31646, Start Num: 153

Candidate Starts for Trumpet\_39:

(Start: 85 @30453 has 6 MA's), (Start: 153 @30564 has 52 MA's), (179, 30618), (236, 30738), (391, 30993), (402, 31023), (432, 31083), (466, 31149), (476, 31173), (693, 31503), (700, 31530), (739, 31635),

Gene: TuertoX\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for TuertoX\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: Turbido\_34 Start: 26644, Stop: 25511, Start Num: 127

Candidate Starts for Turbido\_34:

(Start: 113 @26662 has 7 MA's), (Start: 127 @26644 has 7 MA's), (Start: 180 @26560 has 8 MA's), (Start: 204 @26512 has 6 MA's), (227, 26467), (319, 26284), (360, 26248), (392, 26191), (396, 26179), (400, 26164), (448, 26080), (452, 26068), (460, 26050), (520, 25960), (531, 25948), (570,



25873), (573, 25867), (583, 25846), (591, 25831), (608, 25813), (624, 25786), (687, 25675), (702, 25627), (703, 25624), (712, 25597), (714, 25591), (718, 25579), (733, 25540),

Gene: TurkishDelight\_52 Start: 44050, Stop: 45588, Start Num: 34

Candidate Starts for TurkishDelight\_52:

(12, 43657), (25, 43954), (Start: 34 @44050 has 1 MA's), (58, 44173), (Start: 128 @44323 has 28 MA's), (Start: 142 @44344 has 1 MA's), (181, 44425), (254, 44578), (269, 44611), (270, 44614), (321, 44731), (389, 44851), (400, 44884), (406, 44905), (432, 44947), (484, 45058), (520, 45106), (531, 45124), (544, 45142), (559, 45172), (637, 45325), (666, 45358), (687, 45400), (706, 45457), (724, 45514), (739, 45550), (746, 45568),

Gene: Twinkle\_39 Start: 33608, Stop: 34735, Start Num: 157

Candidate Starts for Twinkle\_39:

(126, 33569), (Start: 157 @33608 has 270 MA's), (179, 33662), (230, 33785), (248, 33818), (298, 33908), (311, 33941), (431, 34136), (432, 34139), (452, 34181), (472, 34217), (658, 34514), (693, 34592), (700, 34619), (706, 34634), (714, 34661), (739, 34724),

Gene: Twitch\_41 Start: 32597, Stop: 33685, Start Num: 157

Candidate Starts for Twitch\_41:

(16, 31994), (23, 32171), (40, 32336), (50, 32375), (Start: 157 @32597 has 270 MA's), (179, 32648), (Start: 204 @32699 has 6 MA's), (Start: 217 @32723 has 1 MA's), (235, 32759), (306, 32897), (396, 33035), (431, 33104), (432, 33107), (520, 33257), (577, 33362), (683, 33497),

Gene: Ubuntu\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Ubuntu\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Updawg\_35 Start: 26811, Stop: 25678, Start Num: 120

Candidate Starts for Updawg\_35:

(Start: 120 @26811 has 9 MA's), (Start: 173 @26757 has 14 MA's), (Start: 204 @26688 has 6 MA's), (227, 26643), (306, 26487), (319, 26460), (360, 26424), (392, 26367), (452, 26244), (460, 26226), (520, 26136), (531, 26124), (570, 26049), (573, 26043), (583, 26022), (591, 26007), (608, 25989), (624, 25962), (630, 25953), (687, 25851), (702, 25803), (712, 25773), (714, 25767), (718, 25755), (733, 25716),

Gene: Urkel\_42 Start: 33376, Stop: 34464, Start Num: 157

Candidate Starts for Urkel\_42:

(50, 33154), (Start: 157 @33376 has 270 MA's), (179, 33427), (Start: 204 @33478 has 6 MA's), (Start: 217 @33502 has 1 MA's), (235, 33538), (296, 33652), (334, 33730), (396, 33814), (431, 33883), (432, 33886), (520, 34036), (577, 34141), (683, 34276), (730, 34420),

Gene: VA6\_33 Start: 26411, Stop: 25287, Start Num: 140

Candidate Starts for VA6\_33:

(102, 26465), (Start: 140 @26411 has 113 MA's), (Start: 173 @26357 has 14 MA's), (Start: 204 @26288 has 6 MA's), (306, 26087), (319, 26060), (360, 26024), (391, 25970), (392, 25967), (400, 25940), (431, 25889), (448, 25856), (452, 25844), (460, 25826), (496, 25754), (520, 25736), (531, 25724), (556, 25685), (570, 25649), (573, 25643), (583, 25622), (591, 25607), (608, 25589), (624,

25562), (687, 25451), (702, 25403), (703, 25400), (712, 25373), (714, 25367), (718, 25355), (733, 25316),

Gene: VC3\_36 Start: 26399, Stop: 25275, Start Num: 140

Candidate Starts for VC3\_36:

(102, 26453), (Start: 140 @26399 has 113 MA's), (Start: 173 @26345 has 14 MA's), (Start: 204 @26276 has 6 MA's), (306, 26075), (319, 26048), (360, 26012), (391, 25958), (392, 25955), (400, 25928), (431, 25877), (448, 25844), (452, 25832), (460, 25814), (496, 25742), (520, 25724), (531, 25712), (556, 25673), (570, 25637), (573, 25631), (583, 25610), (591, 25595), (608, 25577), (624, 25550), (687, 25439), (702, 25391), (703, 25388), (712, 25361), (714, 25355), (718, 25343), (733, 25304),

Gene: VRedHorse\_42 Start: 32159, Stop: 33286, Start Num: 157

Candidate Starts for VRedHorse\_42:

(89, 32057), (Start: 121 @32114 has 2 MA's), (Start: 157 @32159 has 270 MA's), (159, 32168), (231, 32330), (258, 32381), (267, 32399), (288, 32444), (315, 32504), (334, 32540), (344, 32549), (402, 32654), (434, 32723), (464, 32783), (471, 32795), (472, 32798), (476, 32810), (483, 32825), (494, 32849), (503, 32855), (526, 32876), (554, 32912), (556, 32915), (570, 32951), (573, 32957), (579, 32972), (587, 32987), (646, 33056), (652, 33071), (685, 33113), (698, 33158), (701, 33167), (714, 33206), (720, 33224), (729, 33245), (734, 33260), (739, 33269), (741, 33272),

Gene: VWB\_31 Start: 27412, Stop: 26129, Start Num: 66

Candidate Starts for VWB\_31:

(Start: 66 @27412 has 1 MA's), (80, 27379), (96, 27346), (281, 27001), (301, 26962), (317, 26926), (326, 26914), (398, 26815), (423, 26767), (477, 26659), (481, 26650), (561, 26542), (604, 26464), (657, 26371), (673, 26347), (683, 26329), (687, 26311), (695, 26287), (704, 26257), (706, 26254), (713, 26230), (716, 26221), (724, 26197), (730, 26185), (734, 26173), (756, 26134),

Gene: Validus\_45 Start: 33099, Stop: 34196, Start Num: 157

Candidate Starts for Validus\_45:

(Start: 157 @33099 has 270 MA's), (Start: 217 @33225 has 1 MA's), (235, 33261), (296, 33375), (334, 33453), (396, 33537), (431, 33618), (432, 33621), (452, 33663), (494, 33750), (520, 33771), (577, 33876), (629, 33936), (671, 33999), (730, 34155),

Gene: VanLee\_32 Start: 27924, Stop: 26788, Start Num: 122

Candidate Starts for VanLee\_32:

(Start: 122 @27924 has 50 MA's), (Start: 158 @27870 has 2 MA's), (169, 27852), (241, 27702), (278, 27630), (359, 27489), (365, 27477), (367, 27474), (373, 27462), (400, 27393), (470, 27291), (471, 27288), (483, 27258), (638, 27015), (640, 27012), (680, 26976), (685, 26955), (737, 26808),

Gene: Vasanti\_37 Start: 29057, Stop: 27888, Start Num: 122

Candidate Starts for Vasanti\_37:

(Start: 122 @29057 has 50 MA's), (253, 28814), (292, 28733), (307, 28697), (313, 28685), (347, 28643), (350, 28637), (359, 28625), (365, 28613), (400, 28529), (404, 28520), (405, 28514), (422, 28484), (470, 28415), (471, 28412), (483, 28382), (520, 28331), (570, 28259), (584, 28229), (682, 28097), (684, 28085), (712, 27998), (715, 27989), (733, 27944), (751, 27905),

Gene: Veliki\_41 Start: 32513, Stop: 33601, Start Num: 157

Candidate Starts for Veliki\_41:

(Start: 157 @32513 has 270 MA's), (179, 32564), (Start: 204 @32615 has 6 MA's), (Start: 217 @32639 has 1 MA's), (235, 32675), (306, 32813), (334, 32867), (396, 32951), (431, 33020), (432, 33023), (520, 33173), (565, 33251), (577, 33278), (646, 33365), (683, 33413),

Gene: Velveteen\_37 Start: 27903, Stop: 29021, Start Num: 157

Candidate Starts for Velveteen\_37:

(Start: 157 @27903 has 270 MA's), (231, 28074), (315, 28239), (334, 28275), (344, 28284), (392, 28365), (402, 28389), (434, 28458), (452, 28497), (460, 28515), (464, 28518), (471, 28530), (472, 28533), (476, 28545), (483, 28560), (494, 28584), (503, 28590), (526, 28611), (554, 28647), (556, 28650), (570, 28686), (573, 28692), (577, 28704), (579, 28707), (587, 28722), (646, 28791), (652, 28806), (685, 28848), (698, 28893), (701, 28902), (714, 28941), (720, 28959), (729, 28980), (734, 28995), (739, 29004), (741, 29007),

Gene: Vendetta\_37 Start: 27965, Stop: 26850, Start Num: 178

Candidate Starts for Vendetta\_37:

(145, 28034), (Start: 178 @27965 has 14 MA's), (358, 27626), (380, 27593), (535, 27299), (545, 27287), (562, 27254), (639, 27107), (706, 26936), (715, 26909),

Gene: Vix\_36 Start: 26872, Stop: 25727, Start Num: 140

Candidate Starts for Vix\_36:

(Start: 140 @26872 has 113 MA's), (Start: 165 @26833 has 10 MA's), (189, 26785), (Start: 204 @26749 has 6 MA's), (227, 26704), (306, 26548), (319, 26521), (360, 26485), (392, 26428), (431, 26350), (444, 26326), (460, 26287), (496, 26215), (515, 26203), (520, 26197), (531, 26185), (570, 26110), (573, 26104), (583, 26083), (591, 26068), (608, 26050), (621, 26026), (687, 25912), (701, 25867), (702, 25864), (706, 25855), (712, 25834), (714, 25828), (718, 25816), (733, 25777),

Gene: Vulpecula\_33 Start: 24379, Stop: 23195, Start Num: 122

Candidate Starts for Vulpecula\_33:

(Start: 122 @24379 has 50 MA's), (241, 24160), (309, 24025), (359, 23950), (367, 23935), (459, 23734), (579, 23527), (586, 23515), (597, 23497), (609, 23482), (682, 23380), (688, 23353), (692, 23344),

Gene: Wachhund\_44 Start: 32077, Stop: 33195, Start Num: 157

Candidate Starts for Wachhund\_44:

(Start: 157 @32077 has 270 MA's), (159, 32086), (231, 32248), (315, 32413), (334, 32449), (344, 32458), (402, 32563), (434, 32632), (452, 32671), (464, 32692), (471, 32704), (472, 32707), (476, 32719), (494, 32758), (503, 32764), (526, 32785), (554, 32821), (556, 32824), (570, 32860), (573, 32866), (577, 32878), (579, 32881), (646, 32965), (652, 32980), (685, 33022), (698, 33067), (701, 33076), (714, 33115), (720, 33133), (729, 33154), (734, 33169), (739, 33178), (741, 33181),

Gene: Wanda\_85 Start: 52091, Stop: 53320, Start Num: 128

Candidate Starts for Wanda\_85:

(Start: 128 @52091 has 28 MA's), (Start: 140 @52109 has 113 MA's), (Start: 161 @52148 has 1 MA's), (266, 52385), (315, 52493), (385, 52613), (386, 52616), (391, 52625), (396, 52640), (410, 52679), (450, 52757), (510, 52862), (519, 52874), (530, 52877), (536, 52886), (562, 52937), (563, 52940), (569, 52958), (628, 53054), (668, 53111), (711, 53231), (712, 53234), (720, 53258), (729, 53282), (730, 53285),

Gene: Watson\_36 Start: 26782, Stop: 25637, Start Num: 140

Candidate Starts for Watson\_36:

(Start: 140 @26782 has 113 MA's), (Start: 165 @26743 has 10 MA's), (Start: 204 @26659 has 6 MA's), (227, 26614), (306, 26458), (319, 26431), (360, 26395), (392, 26338), (431, 26260), (444, 26236), (460, 26197), (496, 26125), (515, 26113), (520, 26107), (531, 26095), (570, 26020), (573, 26014), (583, 25993), (591, 25978), (608, 25960), (621, 25936), (687, 25822), (701, 25777), (702, 25774), (706, 25765), (712, 25744), (714, 25738), (718, 25726), (733, 25687),

Gene: Webster2\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Webster2\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Wee\_46 Start: 33180, Stop: 34283, Start Num: 157

Candidate Starts for Wee\_46:

(Start: 157 @33180 has 270 MA's), (179, 33228), (218, 33309), (230, 33336), (334, 33549), (363, 33573), (392, 33621), (431, 33702), (466, 33771), (471, 33780), (483, 33810), (494, 33834), (520, 33855), (565, 33933), (573, 33948), (620, 34008), (646, 34047), (652, 34062), (677, 34086), (685, 34113), (693, 34137), (698, 34158), (701, 34167), (716, 34212), (720, 34224),

Gene: WeiHuaDA\_38 Start: 28048, Stop: 26930, Start Num: 140

Candidate Starts for WeiHuaDA\_38:

(Start: 140 @28048 has 113 MA's), (Start: 204 @27925 has 6 MA's), (227, 27880), (306, 27724), (319, 27697), (360, 27661), (392, 27604), (431, 27526), (448, 27493), (460, 27463), (520, 27373), (531, 27361), (552, 27328), (570, 27286), (583, 27259), (591, 27244), (608, 27226), (687, 27088), (702, 27040), (703, 27037), (712, 27010), (714, 27004), (718, 26992), (733, 26953),

Gene: WelcomeAyanna\_38 Start: 31686, Stop: 32768, Start Num: 153

Candidate Starts for WelcomeAyanna\_38:

(Start: 85 @31575 has 6 MA's), (Start: 153 @31686 has 52 MA's), (179, 31740), (236, 31860), (402, 32145), (432, 32205), (466, 32271), (476, 32295), (693, 32625), (700, 32652), (739, 32757),

Gene: Whabigail7\_34 Start: 26650, Stop: 25499, Start Num: 113

Candidate Starts for Whabigail7\_34:

(Start: 113 @26650 has 7 MA's), (Start: 127 @26632 has 7 MA's), (Start: 180 @26548 has 8 MA's), (Start: 204 @26500 has 6 MA's), (227, 26455), (319, 26272), (360, 26236), (392, 26179), (396, 26167), (400, 26152), (448, 26068), (452, 26056), (460, 26038), (520, 25948), (531, 25936), (570, 25861), (573, 25855), (583, 25834), (591, 25819), (608, 25801), (624, 25774), (687, 25663), (702, 25615), (703, 25612), (712, 25585), (714, 25579), (718, 25567), (733, 25528),

Gene: Whatsapiecost\_41 Start: 31324, Stop: 32442, Start Num: 157

Candidate Starts for Whatsapiecost\_41:

(Start: 157 @31324 has 270 MA's), (218, 31462), (231, 31495), (263, 31543), (315, 31660), (334, 31696), (344, 31705), (402, 31810), (434, 31879), (464, 31939), (471, 31951), (472, 31954), (476, 31966), (483, 31981), (494, 32005), (503, 32011), (526, 32032), (554, 32068), (556, 32071), (570, 32107), (573, 32113), (577, 32125), (579, 32128), (646, 32212), (652, 32227), (685, 32269), (698, 32314), (701, 32323), (714, 32362), (720, 32380), (729, 32401), (734, 32416), (739, 32425), (741, 32428),

Gene: WheatThin\_39 Start: 31322, Stop: 30051, Start Num: 122

Candidate Starts for WheatThin\_39:

(Start: 122 @31322 has 50 MA's), (133, 31307), (186, 31205), (207, 31163), (215, 31151), (253, 31076), (287, 31001), (293, 30992), (300, 30974), (365, 30875), (367, 30872), (404, 30782), (470, 30677), (517, 30581), (522, 30575), (613, 30413), (684, 30272), (698, 30227), (715, 30176), (718, 30167), (723, 30152), (730, 30140), (734, 30128), (758, 30089),

Gene: Whiteclaw\_37 Start: 27875, Stop: 28957, Start Num: 153

Candidate Starts for Whiteclaw\_37:

(Start: 82 @27758 has 2 MA's), (Start: 85 @27764 has 6 MA's), (Start: 153 @27875 has 52 MA's), (179, 27929), (236, 28049), (391, 28304), (402, 28334), (432, 28394), (466, 28460), (476, 28484), (554, 28589), (693, 28814), (700, 28841), (739, 28946),

Gene: WideWale\_35 Start: 26811, Stop: 25678, Start Num: 120

Candidate Starts for WideWale\_35:

(Start: 120 @26811 has 9 MA's), (Start: 173 @26757 has 14 MA's), (Start: 204 @26688 has 6 MA's), (227, 26643), (306, 26487), (319, 26460), (360, 26424), (392, 26367), (452, 26244), (460, 26226), (520, 26136), (531, 26124), (570, 26049), (573, 26043), (583, 26022), (591, 26007), (608, 25989), (624, 25962), (630, 25953), (687, 25851), (702, 25803), (712, 25773), (714, 25767), (718, 25755), (733, 25716),

Gene: WillSterrel\_41 Start: 32521, Stop: 33639, Start Num: 157

Candidate Starts for WillSterrel\_41:

(Start: 157 @32521 has 270 MA's), (159, 32530), (231, 32692), (344, 32902), (392, 32983), (402, 33007), (434, 33076), (464, 33136), (471, 33148), (472, 33151), (476, 33163), (483, 33178), (494, 33202), (503, 33208), (526, 33229), (554, 33265), (556, 33268), (570, 33304), (573, 33310), (579, 33325), (646, 33409), (652, 33424), (685, 33466), (698, 33511), (701, 33520), (714, 33559), (720, 33577), (729, 33598), (734, 33613), (739, 33622), (741, 33625),

Gene: WilliamBoone\_83 Start: 50036, Stop: 51334, Start Num: 168

Candidate Starts for WilliamBoone\_83:

(Start: 168 @50036 has 12 MA's), (243, 50195), (269, 50243), (282, 50273), (303, 50312), (310, 50330), (313, 50336), (358, 50405), (438, 50579), (476, 50660), (527, 50738), (531, 50744), (533, 50747), (629, 50942), (667, 51008), (682, 51047), (686, 51071), (695, 51098), (707, 51134), (708, 51137), (709, 51140), (710, 51146), (715, 51158), (717, 51164), (718, 51167), (719, 51170), (730, 51200), (751, 51248), (757, 51257), (765, 51284), (766, 51287),

Gene: WinkNick\_41 Start: 29791, Stop: 30918, Start Num: 157

Candidate Starts for WinkNick\_41:

(126, 29752), (Start: 157 @29791 has 270 MA's), (179, 29845), (230, 29968), (248, 30001), (298, 30091), (311, 30124), (431, 30319), (432, 30322), (452, 30364), (472, 30400), (658, 30697), (693, 30775), (700, 30802), (706, 30817), (714, 30844), (739, 30907),

Gene: Wishmaker\_29 Start: 26478, Stop: 25285, Start Num: 152

Candidate Starts for Wishmaker\_29:

(Start: 124 @26520 has 2 MA's), (Start: 152 @26478 has 20 MA's), (187, 26412), (225, 26331), (241, 26292), (250, 26277), (254, 26271), (258, 26259), (273, 26232), (289, 26199), (315, 26142), (332, 26109), (334, 26106), (368, 26058), (385, 26016), (386, 26013), (396, 25989), (400, 25974), (408, 25950), (419, 25935), (444, 25896), (449, 25884), (469, 25845), (484, 25806), (520, 25758), (522, 25755), (562, 25683), (564, 25677), (568, 25665), (569, 25662), (571, 25656), (604, 25602), (612, 25584), (613, 25581), (629, 25554), (641, 25536), (644, 25530), (647, 25527), (683, 25485), (691, 25458), (693, 25452), (710, 25395), (732, 25332), (733, 25329),

Gene: Wooldri\_38 Start: 26701, Stop: 25556, Start Num: 140

Candidate Starts for Wooldri\_38:

(Start: 140 @26701 has 113 MA's), (Start: 165 @26662 has 10 MA's), (Start: 204 @26578 has 6 MA's), (227, 26533), (306, 26377), (319, 26350), (360, 26314), (392, 26257), (431, 26179), (444, 26155), (460, 26116), (496, 26044), (515, 26032), (520, 26026), (531, 26014), (570, 25939), (573, 25933), (583, 25912), (591, 25897), (608, 25879), (621, 25855), (687, 25741), (701, 25696), (702, 25693), (706, 25684), (712, 25663), (714, 25657), (718, 25645), (733, 25606),

Gene: Wrigley\_43 Start: 31922, Stop: 33004, Start Num: 153

Candidate Starts for Wrigley\_43:

(Start: 85 @31811 has 6 MA's), (Start: 91 @31826 has 1 MA's), (Start: 153 @31922 has 52 MA's), (179, 31976), (236, 32096), (402, 32381), (432, 32441), (466, 32507), (476, 32531), (554, 32636), (583, 32702), (712, 32924), (716, 32936), (739, 32993),

Gene: XFactor\_41 Start: 32278, Stop: 33396, Start Num: 157

Candidate Starts for XFactor\_41:

(Start: 157 @32278 has 270 MA's), (231, 32449), (315, 32614), (334, 32650), (344, 32659), (402, 32764), (434, 32833), (452, 32872), (460, 32890), (464, 32893), (471, 32905), (472, 32908), (476, 32920), (483, 32935), (494, 32959), (503, 32965), (526, 32986), (554, 33022), (556, 33025), (570, 33061), (573, 33067), (579, 33082), (587, 33097), (646, 33166), (652, 33181), (685, 33223), (698, 33268), (701, 33277), (714, 33316), (720, 33334), (729, 33355), (734, 33370), (739, 33379), (741, 33382),

Gene: Xavia\_34 Start: 31565, Stop: 30369, Start Num: 131

Candidate Starts for Xavia\_34:

(Start: 131 @31565 has 2 MA's), (253, 31319), (267, 31286), (339, 31148), (345, 31142), (355, 31133), (365, 31121), (379, 31091), (422, 30992), (457, 30920), (483, 30866), (514, 30815), (518, 30809), (571, 30716), (583, 30692), (615, 30641), (629, 30620), (679, 30563), (682, 30554), (688, 30527), (693, 30515), (706, 30476), (723, 30422), (733, 30401),

Gene: XianYue\_35 Start: 26639, Stop: 25515, Start Num: 142

Candidate Starts for XianYue\_35:

(111, 26681), (Start: 142 @26639 has 1 MA's), (Start: 165 @26600 has 10 MA's), (189, 26552), (Start: 204 @26516 has 6 MA's), (227, 26471), (311, 26303), (360, 26252), (431, 26117), (444, 26093), (520, 25964), (531, 25952), (570, 25877), (573, 25871), (583, 25850), (591, 25835), (608, 25817), (687, 25679), (702, 25631), (712, 25601), (714, 25595), (718, 25583), (726, 25562), (733, 25544),

Gene: Yecey3\_35 Start: 26339, Stop: 25209, Start Num: 127

Candidate Starts for Yecey3\_35:

(67, 26456), (69, 26450), (86, 26414), (104, 26375), (Start: 105 @26372 has 1 MA's), (Start: 127 @26339 has 7 MA's), (Start: 180 @26258 has 8 MA's), (Start: 204 @26204 has 6 MA's), (227, 26159), (263, 26099), (319, 25976), (391, 25886), (392, 25883), (431, 25805), (444, 25781), (452, 25760), (460, 25742), (517, 25655), (520, 25652), (531, 25640), (570, 25565), (573, 25559), (583, 25538), (591, 25523), (608, 25505), (687, 25367), (702, 25319), (712, 25289), (714, 25283), (718, 25271), (733, 25232),

Gene: Yeet\_76 Start: 51441, Stop: 52670, Start Num: 128

Candidate Starts for Yeet\_76:

(Start: 128 @51441 has 28 MA's), (Start: 140 @51459 has 113 MA's), (Start: 161 @51498 has 1 MA's), (266, 51735), (315, 51843), (385, 51963), (386, 51966), (391, 51975), (396, 51990), (410, 52029), (450, 52107), (510, 52212), (519, 52224), (530, 52227), (536, 52236), (562, 52287), (563, 52290), (569, 52308), (628, 52404), (668, 52461), (711, 52581), (712, 52584), (720, 52608), (729, 52632), (730, 52635),

Gene: Yeet412\_34 Start: 27696, Stop: 28778, Start Num: 153

Candidate Starts for Yeet412\_34:

(Start: 85 @27585 has 6 MA's), (Start: 153 @27696 has 52 MA's), (179, 27750), (236, 27870), (391, 28125), (402, 28155), (432, 28215), (466, 28281), (476, 28305), (693, 28635), (700, 28662), (739, 28767),

Gene: Yeezy\_36 Start: 30168, Stop: 28906, Start Num: 122

Candidate Starts for Yeezy\_36:

(Start: 122 @30168 has 50 MA's), (205, 30012), (297, 29829), (313, 29793), (359, 29733), (365, 29721), (385, 29676), (398, 29643), (414, 29601), (522, 29433), (524, 29430), (528, 29424), (570, 29355), (577, 29337), (579, 29334), (613, 29277), (678, 29160), (682, 29148), (698, 29091), (718, 29031), (723, 29016), (730, 29004), (733, 28995), (751, 28956), (763, 28926),

Gene: YoungHarleezy\_40 Start: 27782, Stop: 26643, Start Num: 157

Candidate Starts for YoungHarleezy\_40:

(Start: 124 @27815 has 2 MA's), (Start: 157 @27782 has 270 MA's), (179, 27731), (267, 27563), (277, 27545), (344, 27413), (392, 27335), (396, 27323), (397, 27317), (431, 27248), (436, 27239), (466, 27179), (520, 27089), (579, 26984), (591, 26963), (613, 26936), (685, 26813), (693, 26789), (697, 26774), (721, 26699), (733, 26669),

Gene: YoureAdopted\_40 Start: 32682, Stop: 33770, Start Num: 157

Candidate Starts for YoureAdopted\_40:

(Start: 157 @32682 has 270 MA's), (Start: 204 @32784 has 6 MA's), (Start: 217 @32808 has 1 MA's), (235, 32844), (306, 32982), (334, 33036), (396, 33120), (431, 33189), (432, 33192), (520, 33342), (577, 33447), (646, 33534), (683, 33582), (698, 33636), (730, 33726),

Gene: Yunkel11\_44 Start: 32525, Stop: 33625, Start Num: 157

Candidate Starts for Yunkel11\_44:

(69, 32375), (Start: 157 @32525 has 270 MA's), (179, 32576), (Start: 217 @32651 has 1 MA's), (235, 32687), (237, 32690), (296, 32801), (418, 33020), (431, 33044), (432, 33047), (494, 33176), (520, 33197), (577, 33302), (646, 33389), (683, 33437),

Gene: Yvonnetastic\_95 Start: 55831, Stop: 57078, Start Num: 170

Candidate Starts for Yvonnetastic\_95:

(94, 55705), (Start: 170 @55831 has 2 MA's), (250, 55996), (269, 56035), (295, 56086), (310, 56122), (322, 56140), (358, 56191), (377, 56227), (397, 56281), (404, 56302), (458, 56413), (473, 56437), (476, 56446), (483, 56461), (520, 56512), (569, 56596), (607, 56665), (667, 56773), (682, 56815), (695, 56866), (710, 56914), (718, 56935), (730, 56968), (739, 56989), (755, 57016), (766, 57049),

Gene: Zameen\_39 Start: 30563, Stop: 31645, Start Num: 153

Candidate Starts for Zameen\_39:

(Start: 85 @30452 has 6 MA's), (Start: 153 @30563 has 52 MA's), (179, 30617), (236, 30737), (391, 30992), (402, 31022), (432, 31082), (466, 31148), (476, 31172), (693, 31502), (700, 31529), (739, 31634),

Gene: Zavala\_42 Start: 32759, Stop: 33847, Start Num: 157

Candidate Starts for Zavala\_42:

(Start: 157 @32759 has 270 MA's), (Start: 204 @32861 has 6 MA's), (Start: 217 @32885 has 1 MA's), (235, 32921), (306, 33059), (334, 33113), (396, 33197), (431, 33266), (432, 33269), (454, 33317), (520, 33419), (577, 33524), (646, 33611), (683, 33659), (730, 33803),

Gene: Zelink\_79 Start: 53554, Stop: 54765, Start Num: 140

Candidate Starts for Zelink\_79:

(Start: 128 @53536 has 28 MA's), (Start: 140 @53554 has 113 MA's), (Start: 161 @53593 has 1 MA's), (266, 53830), (315, 53938), (385, 54058), (386, 54061), (391, 54070), (396, 54085), (410, 54124), (450, 54202), (510, 54307), (519, 54319), (530, 54322), (536, 54331), (562, 54382), (563, 54385), (569, 54403), (628, 54499), (668, 54556), (711, 54676), (712, 54679), (720, 54703), (729, 54727), (730, 54730),

Gene: Zetzy\_35 Start: 26308, Stop: 25202, Start Num: 165

Candidate Starts for Zetzy\_35:

(Start: 108 @26389 has 1 MA's), (Start: 140 @26347 has 113 MA's), (Start: 165 @26308 has 10 MA's), (189, 26260), (Start: 204 @26224 has 6 MA's), (227, 26179), (319, 25996), (360, 25960), (392, 25903), (431, 25825), (452, 25780), (520, 25672), (531, 25660), (570, 25585), (573, 25579), (583, 25558), (591, 25543), (621, 25501), (687, 25387), (701, 25342), (702, 25339), (712, 25309), (714, 25303), (718, 25291), (733, 25252),

Gene: Zimmer\_35 Start: 28186, Stop: 27065, Start Num: 139

Candidate Starts for Zimmer\_35:

(104, 28237), (Start: 105 @28234 has 1 MA's), (Start: 115 @28216 has 3 MA's), (Start: 139 @28186 has 2 MA's), (Start: 204 @28066 has 6 MA's), (227, 28021), (244, 27985), (308, 27862), (319, 27838), (327, 27823), (392, 27745), (431, 27667), (444, 27643), (452, 27622), (460, 27604), (483, 27559), (496, 27532), (520, 27514), (531, 27502), (570, 27427), (573, 27421), (583, 27400), (591, 27385), (608, 27367), (624, 27340), (687, 27229), (702, 27181), (712, 27151), (714, 27145), (718, 27133), (733, 27094),

Gene: Zirinka\_36 Start: 31303, Stop: 32385, Start Num: 153

Candidate Starts for Zirinka\_36:

(Start: 85 @31192 has 6 MA's), (Start: 153 @31303 has 52 MA's), (179, 31357), (236, 31477), (391, 31732), (402, 31762), (432, 31822), (466, 31888), (476, 31912), (693, 32242), (700, 32269), (739, 32374),

Gene: Zizzle\_44 Start: 32003, Stop: 33121, Start Num: 157

Candidate Starts for Zizzle\_44:

(Start: 157 @32003 has 270 MA's), (218, 32141), (231, 32174), (263, 32222), (315, 32339), (334, 32375), (344, 32384), (402, 32489), (434, 32558), (464, 32618), (471, 32630), (472, 32633), (476, 32645), (483, 32660), (494, 32684), (503, 32690), (526, 32711), (554, 32747), (556, 32750), (570, 32786), (573, 32792), (577, 32804), (579, 32807), (646, 32891), (652, 32906), (685, 32948), (698, 32993), (701, 33002), (714, 33041), (720, 33059), (729, 33080), (734, 33095), (739, 33104), (741, 33107),

Gene: ZoeJ\_43 Start: 33972, Stop: 35072, Start Num: 157

Candidate Starts for ZoeJ\_43:

(Start: 157 @33972 has 270 MA's), (164, 33990), (179, 34023), (Start: 217 @34098 has 1 MA's), (235, 34134), (296, 34248), (306, 34272), (334, 34326), (418, 34467), (431, 34491), (432, 34494), (452, 34536), (520, 34644), (577, 34749), (617, 34794), (629, 34809), (716, 35001),

Gene: Zucker\_31 Start: 26379, Stop: 25240, Start Num: 157

Candidate Starts for Zucker\_31:

(149, 26388), (Start: 157 @26379 has 270 MA's), (263, 26178), (315, 26058), (334, 26022), (346, 26010), (349, 26004), (396, 25911), (402, 25896), (431, 25836), (447, 25806), (476, 25743), (574, 25575), (591, 25545), (652, 25449), (698, 25350), (701, 25341), (706, 25329), (727, 25266),