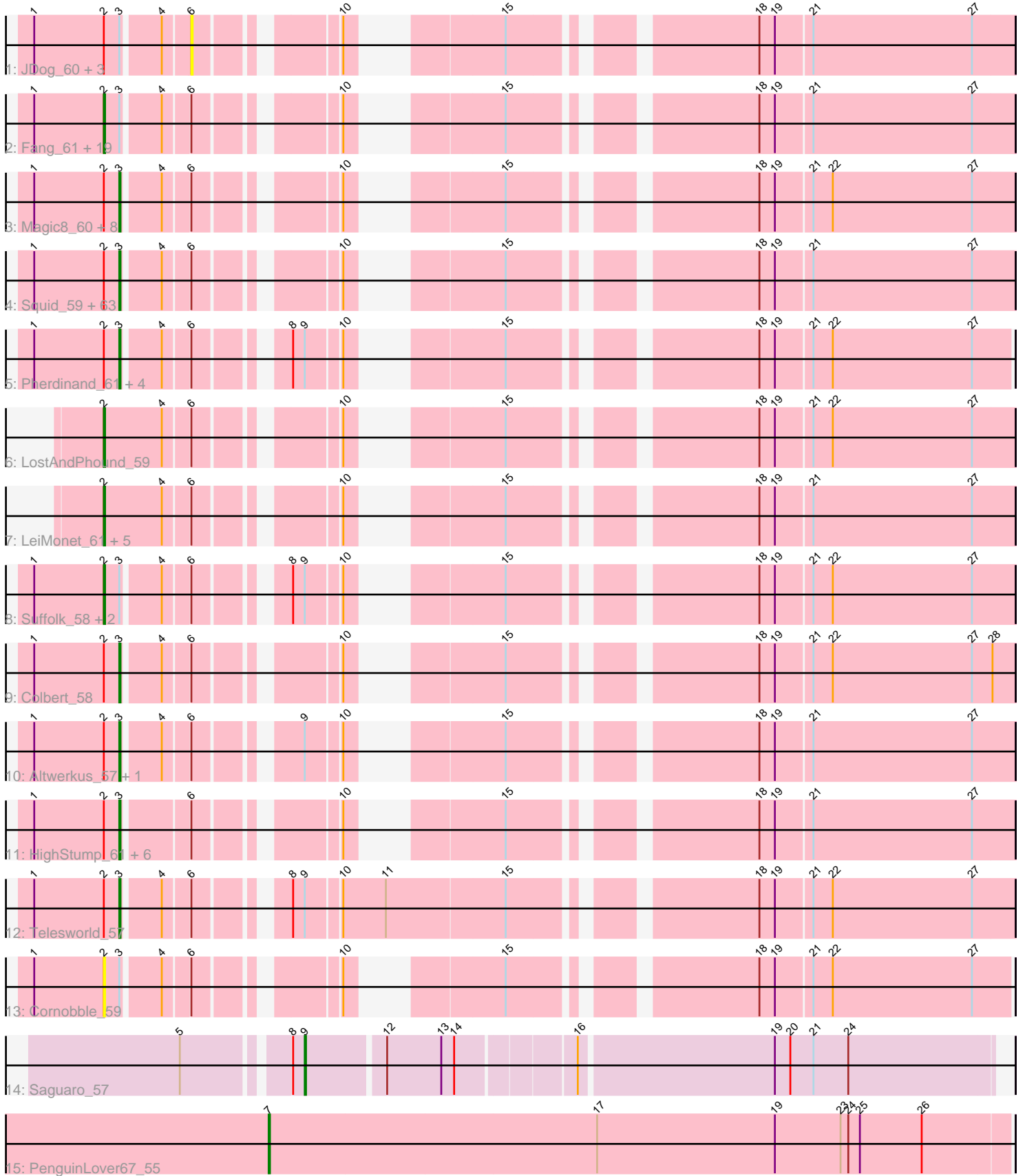


Pham 156215



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 156215 Report

This analysis was run 04/22/24 on database version 561.

Pham number 156215 has 126 members, 13 are drafts.

Phages represented in each track:

- Track 1 : JDog_60, Quisquilliae_60, LasagnaCat_60, Megamind20_60
- Track 2 : Fang_61, Piglet_0059, Andre_62, Orwigg_60, Serpentine_0059, Megatron_60, Potter_58, SassyCat97_58, IsaacEli_61, PhrodoBaggins_60, PG1_60, Katniss_60, Gareth_59, Durga_62, Charles1_60, ABU_60, Harvey_58, Phipps_59, Chorkpop_59, DonSanchon_57
- Track 3 : Magic8_60, OSmaximus_61, Weher20_59, Dati_59, UAch1_59, Apizium_59, Hetaeria_59, Melc17_59, Fozzie_60
- Track 4 : Squid_59, Zelda_60, Thora_59, Puhltonio_59, Daffy_59, Orion_61, UncleHowie_58, Childish_59, Scoot17C_60, Inchworm_61, CampRoach_60, Mosaic_58, Emiris_62, Morgushi_59, Grand2040_59, Mcshane_58, Mulan_59, Fringe_63, Vortex_59, LeeLot_60, Sophia_58, Mana_58, Timmi_58, Kahve_59, DelRivs_58, Usavi_59, Anderson_60, Solosis_58, MitKao_59, Kikipoo_61, Cher_59, Murdoc_58, Skippy_60, Maru_59, Slatt_60, Lulwa_57, Vista_59, Serendipity_59, Xavier_58, Chah_61, Held_59, HenryJackson_59, Oosterbaan_59, Badfish_60, Brilliant_62, TomBombadil_59, Lasso_60, Cosmolli16_60, TallGrassMM_59, Giraffe_60, DaddyDaniels_61, Hertubise_59, PhatCats2014_60, Waterdiva_59, ThreeOh3D2_61, Soile_60, Surely_59, Morty_60, PinheadLarry_60, Scrick_60, Burr_59, Hocus_59, Beaglebox_59, Kwadwo_58
- Track 5 : Pherdinand_61, Swish_61, Vivaldi_61, FluffyNinja_61, Yoshand_61
- Track 6 : LostAndPhound_59
- Track 7 : LeiMonet_61, Coletti_61, KingTut_51, Placalicious_59, Matalotodo_58, FugateOSU_59
- Track 8 : Suffolk_58, Manad_59, BlackStallion_61
- Track 9 : Colbert_58
- Track 10 : Altwerkus_57, Jillium_59
- Track 11 : HighStump_61, Mutante_59, Squiggle_60, Craff_62, MrPhizzler_60, Rimu_62, Longacauda_60
- Track 12 : Telesworld_57
- Track 13 : Cornobble_59
- Track 14 : Saguaro_57
- Track 15 : PenguinLover67_55

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

The start number called the most often in the published annotations is 3, it was called in 86 of the 113 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altwerkus_57, Anderson_60, Apizium_59, Badfish_60, Beaglebox_59, Brilliant_62, Burr_59, CampRoach_60, Chah_61, Cher_59, Childish_59, Colbert_58, Cosmolli16_60, Craff_62, DaddyDaniels_61, Daffy_59, Dati_59, DelRivs_58, Emiris_62, FluffyNinja_61, Fozzie_60, Fringe_63, Giraffe_60, Grand2040_59, Held_59, HenryJackson_59, Hertubise_59, Hetaeria_59, HighStump_61, Hocus_59, Inchworm_61, Jillium_59, Kahve_59, Kikipoo_61, Kwadwo_58, Lasso_60, LeeLot_60, Longacauda_60, Lulwa_57, Magic8_60, Mana_58, Maru_59, Mcshane_58, Melc17_59, MitKao_59, Morgushi_59, Morty_60, Mosaic_58, MrPhizzler_60, Mulan_59, Murdoc_58, Mutante_59, OSmaximus_61, Oosterbaan_59, Orion_61, PhatCats2014_60, Pherdinand_61, PinheadLarry_60, Puhltonio_59, Rimu_62, Scoot17C_60, Scrick_60, Serendipity_59, Skippy_60, Slatt_60, Soile_60, Solosis_58, Sophia_58, Squid_59, Squiggle_60, Surely_59, Swish_61, TallGrassMM_59, Telesworld_57, Thora_59, ThreeOh3D2_61, Timmi_58, TomBombadil_59, UAch1_59, UncleHowie_58, Usavi_59, Vista_59, Vivaldi_61, Vortex_59, Waterdiva_59, Weher20_59, Xavier_58, Yoshand_61, Zelda_60,

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

- ABU_60, Andre_62, BlackStallion_61, Charles1_60, Chorkpop_59, Cornobble_59, DonSanchon_57, Durga_62, Fang_61, Gareth_59, Harvey_58, IsaacEli_61, JDog_60, Katniss_60, LasagnaCat_60, Manad_59, Megamind20_60, Megatron_60, Orwigg_60, PG1_60, Phipps_59, PhrodoBaggins_60, Piglet_0059, Potter_58, Quisquilliae_60, SassyCat97_58, Serpentine_0059, Suffolk_58,

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

- Coletti_61, FugateOSU_59, KingTut_51, LeiMonet_61, LostAndPhound_59, Matalotodo_58, PenguinLover67_55, Placalicious_59, Saguario_57,

Summary by start number:

Start 2:

- Found in 124 of 126 (98.4%) of genes in pham
- Manual Annotations of this start: 25 of 113
- Called 25.0% of time when present
- Phage (with cluster) where this start called: ABU_60 (B1), Andre_62 (B1), BlackStallion_61 (B1), Charles1_60 (B1), Chorkpop_59 (B1), Coletti_61 (B1), Cornobble_59 (B1), DonSanchon_57 (B1), Durga_62 (B1), Fang_61 (B1), FugateOSU_59 (B1), Gareth_59 (B1), Harvey_58 (B1), IsaacEli_61 (B1), Katniss_60 (B1), KingTut_51 (B1), LeiMonet_61 (B1), LostAndPhound_59 (B1), Manad_59 (B1), Matalotodo_58 (B1), Megatron_60 (B1), Orwigg_60 (B1), PG1_60 (B1), Phipps_59 (B1), PhrodoBaggins_60 (B1), Piglet_0059 (B1), Placalicious_59 (B1), Potter_58 (B1), SassyCat97_58 (B1), Serpentine_0059 (B1), Suffolk_58 (B1),

Start 3:

- Found in 117 of 126 (92.9%) of genes in pham
- Manual Annotations of this start: 86 of 113
- Called 76.1% of time when present
- Phage (with cluster) where this start called: Altwerkus_57 (B1), Anderson_60 (B1), Apizium_59 (B1), Badfish_60 (B1), Beaglebox_59 (B1), Brilliant_62 (B1), Burr_59 (B1), CampRoach_60 (B1), Chah_61 (B1), Cher_59 (B1), Childish_59 (B1),

Colbert_58 (B1), Cosmolli16_60 (B1), Craff_62 (B1), DaddyDaniels_61 (B1), Daffy_59 (B1), Dati_59 (B1), DelRivs_58 (B1), Emiris_62 (B1), FluffyNinja_61 (B1), Fozzie_60 (B1), Fringe_63 (B1), Giraffe_60 (B1), Grand2040_59 (B1), Held_59 (B1), HenryJackson_59 (B1), Hertubise_59 (B1), Hetaeria_59 (B1), HighStump_61 (B1), Hocus_59 (B1), Inchworm_61 (B1), Jillium_59 (B1), Kahve_59 (B1), Kikipoo_61 (B1), Kwadwo_58 (B1), Lasso_60 (B1), LeeLot_60 (B1), Longacauda_60 (B1), Lulwa_57 (B1), Magic8_60 (B1), Mana_58 (B1), Maru_59 (B1), Mcshane_58 (B1), Melc17_59 (B1), MitKao_59 (B1), Morgushi_59 (B1), Morty_60 (B1), Mosaic_58 (B1), MrPhizzler_60 (B1), Mulan_59 (B1), Murdoc_58 (B1), Mutante_59 (B1), OSmaximus_61 (B1), Oosterbaan_59 (B1), Orion_61 (B1), PhatCats2014_60 (B1), Pherdinand_61 (B1), PinheadLarry_60 (B1), Puhltonio_59 (B1), Rimu_62 (B1), Scoot17C_60 (B1), Scrick_60 (B1), Serendipity_59 (B1), Skippy_60 (B1), Slatt_60 (B1), Soile_60 (B1), Solosis_58 (B1), Sophia_58 (B1), Squid_59 (B1), Squiggle_60 (B1), Surely_59 (B1), Swish_61 (B1), TallGrassMM_59 (B1), Telesworld_57 (B1), Thora_59 (B1), ThreeOh3D2_61 (B1), Timmi_58 (B1), TomBombadil_59 (B1), UAch1_59 (B1), UncleHowie_58 (B1), Usavi_59 (B1), Vista_59 (B1), Vivaldi_61 (B1), Vortex_59 (B1), Waterdiva_59 (B1), Weher20_59 (B1), Xavier_58 (B1), Yoshand_61 (B1), Zelda_60 (B1),

Start 6:

- Found in 124 of 126 (98.4%) of genes in pham
- No Manual Annotations of this start.
- Called 3.2% of time when present
- Phage (with cluster) where this start called: JDog_60 (B1), LasagnaCat_60 (B1), Megamind20_60 (B1), Quisquiliae_60 (B1),

Start 7:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67_55 (B9),

Start 9:

- Found in 12 of 126 (9.5%) of genes in pham
- Manual Annotations of this start: 1 of 113
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Saguaro_57 (B7),

Summary by clusters:

There are 3 clusters represented in this pham: B7, B1, B9,

Info for manual annotations of cluster B1:

- Start number 2 was manually annotated 25 times for cluster B1.
- Start number 3 was manually annotated 86 times for cluster B1.

Info for manual annotations of cluster B7:

- Start number 9 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 7 was manually annotated 1 time for cluster B9.

Gene Information:

Gene: ABU_60 Start: 52688, Stop: 52107, Start Num: 2

Candidate Starts for ABU_60:

(1, 52742), (Start: 2 @52688 has 25 MA's), (Start: 3 @52676 has 86 MA's), (4, 52649), (6, 52631), (10, 52544), (15, 52463), (18, 52301), (19, 52289), (21, 52262), (27, 52139),

Gene: Altwerkus_57 Start: 51840, Stop: 51271, Start Num: 3

Candidate Starts for Altwerkus_57:

(1, 51906), (Start: 2 @51852 has 25 MA's), (Start: 3 @51840 has 86 MA's), (4, 51813), (6, 51795), (Start: 9 @51732 has 1 MA's), (10, 51708), (15, 51627), (18, 51465), (19, 51453), (21, 51426), (27, 51303),

Gene: Anderson_60 Start: 52412, Stop: 51843, Start Num: 3

Candidate Starts for Anderson_60:

(1, 52478), (Start: 2 @52424 has 25 MA's), (Start: 3 @52412 has 86 MA's), (4, 52385), (6, 52367), (10, 52280), (15, 52199), (18, 52037), (19, 52025), (21, 51998), (27, 51875),

Gene: Andre_62 Start: 52600, Stop: 52019, Start Num: 2

Candidate Starts for Andre_62:

(1, 52654), (Start: 2 @52600 has 25 MA's), (Start: 3 @52588 has 86 MA's), (4, 52561), (6, 52543), (10, 52456), (15, 52375), (18, 52213), (19, 52201), (21, 52174), (27, 52051),

Gene: Apizium_59 Start: 51855, Stop: 51289, Start Num: 3

Candidate Starts for Apizium_59:

(1, 51921), (Start: 2 @51867 has 25 MA's), (Start: 3 @51855 has 86 MA's), (4, 51828), (6, 51810), (10, 51723), (15, 51642), (18, 51480), (19, 51468), (21, 51441), (22, 51426), (27, 51318),

Gene: Badfish_60 Start: 52698, Stop: 52129, Start Num: 3

Candidate Starts for Badfish_60:

(1, 52764), (Start: 2 @52710 has 25 MA's), (Start: 3 @52698 has 86 MA's), (4, 52671), (6, 52653), (10, 52566), (15, 52485), (18, 52323), (19, 52311), (21, 52284), (27, 52161),

Gene: Beaglebox_59 Start: 52251, Stop: 51682, Start Num: 3

Candidate Starts for Beaglebox_59:

(1, 52317), (Start: 2 @52263 has 25 MA's), (Start: 3 @52251 has 86 MA's), (4, 52224), (6, 52206), (10, 52119), (15, 52038), (18, 51876), (19, 51864), (21, 51837), (27, 51714),

Gene: BlackStallion_61 Start: 52467, Stop: 51889, Start Num: 2

Candidate Starts for BlackStallion_61:

(1, 52521), (Start: 2 @52467 has 25 MA's), (Start: 3 @52455 has 86 MA's), (4, 52428), (6, 52410), (8, 52356), (Start: 9 @52347 has 1 MA's), (10, 52323), (15, 52242), (18, 52080), (19, 52068), (21, 52041), (22, 52026), (27, 51918),

Gene: Brilliant_62 Start: 52688, Stop: 52119, Start Num: 3

Candidate Starts for Brilliant_62:

(1, 52754), (Start: 2 @52700 has 25 MA's), (Start: 3 @52688 has 86 MA's), (4, 52661), (6, 52643), (10, 52556), (15, 52475), (18, 52313), (19, 52301), (21, 52274), (27, 52151),

Gene: Burr_59 Start: 52162, Stop: 51593, Start Num: 3

Candidate Starts for Burr_59:

(1, 52228), (Start: 2 @52174 has 25 MA's), (Start: 3 @52162 has 86 MA's), (4, 52135), (6, 52117), (10, 52030), (15, 51949), (18, 51787), (19, 51775), (21, 51748), (27, 51625),

Gene: CampRoach_60 Start: 52592, Stop: 52023, Start Num: 3

Candidate Starts for CampRoach_60:

(1, 52658), (Start: 2 @52604 has 25 MA's), (Start: 3 @52592 has 86 MA's), (4, 52565), (6, 52547), (10, 52460), (15, 52379), (18, 52217), (19, 52205), (21, 52178), (27, 52055),

Gene: Chah_61 Start: 52139, Stop: 51570, Start Num: 3

Candidate Starts for Chah_61:

(1, 52205), (Start: 2 @52151 has 25 MA's), (Start: 3 @52139 has 86 MA's), (4, 52112), (6, 52094), (10, 52007), (15, 51926), (18, 51764), (19, 51752), (21, 51725), (27, 51602),

Gene: Charles1_60 Start: 52460, Stop: 51879, Start Num: 2

Candidate Starts for Charles1_60:

(1, 52514), (Start: 2 @52460 has 25 MA's), (Start: 3 @52448 has 86 MA's), (4, 52421), (6, 52403), (10, 52316), (15, 52235), (18, 52073), (19, 52061), (21, 52034), (27, 51911),

Gene: Cher_59 Start: 52704, Stop: 52135, Start Num: 3

Candidate Starts for Cher_59:

(1, 52770), (Start: 2 @52716 has 25 MA's), (Start: 3 @52704 has 86 MA's), (4, 52677), (6, 52659), (10, 52572), (15, 52491), (18, 52329), (19, 52317), (21, 52290), (27, 52167),

Gene: Childish_59 Start: 52715, Stop: 52149, Start Num: 3

Candidate Starts for Childish_59:

(1, 52781), (Start: 2 @52727 has 25 MA's), (Start: 3 @52715 has 86 MA's), (4, 52688), (6, 52670), (10, 52583), (15, 52502), (18, 52340), (19, 52328), (21, 52301), (27, 52178),

Gene: Chorkpop_59 Start: 52203, Stop: 51622, Start Num: 2

Candidate Starts for Chorkpop_59:

(1, 52257), (Start: 2 @52203 has 25 MA's), (Start: 3 @52191 has 86 MA's), (4, 52164), (6, 52146), (10, 52059), (15, 51978), (18, 51816), (19, 51804), (21, 51777), (27, 51654),

Gene: Colbert_58 Start: 51750, Stop: 51181, Start Num: 3

Candidate Starts for Colbert_58:

(1, 51816), (Start: 2 @51762 has 25 MA's), (Start: 3 @51750 has 86 MA's), (4, 51723), (6, 51705), (10, 51618), (15, 51537), (18, 51375), (19, 51363), (21, 51336), (22, 51321), (27, 51213), (28, 51198),

Gene: Coletti_61 Start: 52728, Stop: 52141, Start Num: 2

Candidate Starts for Coletti_61:

(Start: 2 @52728 has 25 MA's), (4, 52683), (6, 52665), (10, 52578), (15, 52497), (18, 52335), (19, 52323), (21, 52296), (27, 52173),

Gene: Cornobble_59 Start: 52196, Stop: 51618, Start Num: 2

Candidate Starts for Cornobble_59:

(1, 52250), (Start: 2 @52196 has 25 MA's), (Start: 3 @52184 has 86 MA's), (4, 52157), (6, 52139), (10, 52052), (15, 51971), (18, 51809), (19, 51797), (21, 51770), (22, 51755), (27, 51647),

Gene: Cosmolli16_60 Start: 52894, Stop: 52325, Start Num: 3

Candidate Starts for Cosmolli16_60:

(1, 52960), (Start: 2 @52906 has 25 MA's), (Start: 3 @52894 has 86 MA's), (4, 52867), (6, 52849), (10, 52762), (15, 52681), (18, 52519), (19, 52507), (21, 52480), (27, 52357),

Gene: Craff_62 Start: 53139, Stop: 52570, Start Num: 3

Candidate Starts for Craff_62:

(1, 53205), (Start: 2 @53151 has 25 MA's), (Start: 3 @53139 has 86 MA's), (6, 53094), (10, 53007), (15, 52926), (18, 52764), (19, 52752), (21, 52725), (27, 52602),

Gene: DaddyDaniels_61 Start: 52672, Stop: 52103, Start Num: 3

Candidate Starts for DaddyDaniels_61:

(1, 52738), (Start: 2 @52684 has 25 MA's), (Start: 3 @52672 has 86 MA's), (4, 52645), (6, 52627), (10, 52540), (15, 52459), (18, 52297), (19, 52285), (21, 52258), (27, 52135),

Gene: Daffy_59 Start: 52177, Stop: 51608, Start Num: 3

Candidate Starts for Daffy_59:

(1, 52243), (Start: 2 @52189 has 25 MA's), (Start: 3 @52177 has 86 MA's), (4, 52150), (6, 52132), (10, 52045), (15, 51964), (18, 51802), (19, 51790), (21, 51763), (27, 51640),

Gene: Dati_59 Start: 52708, Stop: 52139, Start Num: 3

Candidate Starts for Dati_59:

(1, 52774), (Start: 2 @52720 has 25 MA's), (Start: 3 @52708 has 86 MA's), (4, 52681), (6, 52663), (10, 52576), (15, 52495), (18, 52333), (19, 52321), (21, 52294), (22, 52279), (27, 52171),

Gene: DelRivs_58 Start: 52155, Stop: 51586, Start Num: 3

Candidate Starts for DelRivs_58:

(1, 52221), (Start: 2 @52167 has 25 MA's), (Start: 3 @52155 has 86 MA's), (4, 52128), (6, 52110), (10, 52023), (15, 51942), (18, 51780), (19, 51768), (21, 51741), (27, 51618),

Gene: DonSanchon_57 Start: 51886, Stop: 51305, Start Num: 2

Candidate Starts for DonSanchon_57:

(1, 51940), (Start: 2 @51886 has 25 MA's), (Start: 3 @51874 has 86 MA's), (4, 51847), (6, 51829), (10, 51742), (15, 51661), (18, 51499), (19, 51487), (21, 51460), (27, 51337),

Gene: Durga_62 Start: 52936, Stop: 52358, Start Num: 2

Candidate Starts for Durga_62:

(1, 52990), (Start: 2 @52936 has 25 MA's), (Start: 3 @52924 has 86 MA's), (4, 52897), (6, 52879), (10, 52792), (15, 52711), (18, 52549), (19, 52537), (21, 52510), (27, 52387),

Gene: Emiris_62 Start: 52891, Stop: 52322, Start Num: 3

Candidate Starts for Emiris_62:

(1, 52957), (Start: 2 @52903 has 25 MA's), (Start: 3 @52891 has 86 MA's), (4, 52864), (6, 52846), (10, 52759), (15, 52678), (18, 52516), (19, 52504), (21, 52477), (27, 52354),

Gene: Fang_61 Start: 52448, Stop: 51867, Start Num: 2

Candidate Starts for Fang_61:

(1, 52502), (Start: 2 @52448 has 25 MA's), (Start: 3 @52436 has 86 MA's), (4, 52409), (6, 52391), (10, 52304), (15, 52223), (18, 52061), (19, 52049), (21, 52022), (27, 51899),

Gene: FluffyNinja_61 Start: 52456, Stop: 51890, Start Num: 3

Candidate Starts for FluffyNinja_61:

(1, 52522), (Start: 2 @52468 has 25 MA's), (Start: 3 @52456 has 86 MA's), (4, 52429), (6, 52411), (8, 52357), (Start: 9 @52348 has 1 MA's), (10, 52324), (15, 52243), (18, 52081), (19, 52069), (21, 52042), (22, 52027), (27, 51919),

Gene: Fozzie_60 Start: 52681, Stop: 52112, Start Num: 3

Candidate Starts for Fozzie_60:

(1, 52747), (Start: 2 @52693 has 25 MA's), (Start: 3 @52681 has 86 MA's), (4, 52654), (6, 52636), (10, 52549), (15, 52468), (18, 52306), (19, 52294), (21, 52267), (22, 52252), (27, 52144),

Gene: Fringe_63 Start: 53058, Stop: 52489, Start Num: 3

Candidate Starts for Fringe_63:

(1, 53124), (Start: 2 @53070 has 25 MA's), (Start: 3 @53058 has 86 MA's), (4, 53031), (6, 53013), (10, 52926), (15, 52845), (18, 52683), (19, 52671), (21, 52644), (27, 52521),

Gene: FugateOSU_59 Start: 52703, Stop: 52116, Start Num: 2

Candidate Starts for FugateOSU_59:

(Start: 2 @52703 has 25 MA's), (4, 52658), (6, 52640), (10, 52553), (15, 52472), (18, 52310), (19, 52298), (21, 52271), (27, 52148),

Gene: Gareth_59 Start: 52692, Stop: 52111, Start Num: 2

Candidate Starts for Gareth_59:

(1, 52746), (Start: 2 @52692 has 25 MA's), (Start: 3 @52680 has 86 MA's), (4, 52653), (6, 52635), (10, 52548), (15, 52467), (18, 52305), (19, 52293), (21, 52266), (27, 52143),

Gene: Giraffe_60 Start: 52675, Stop: 52106, Start Num: 3

Candidate Starts for Giraffe_60:

(1, 52741), (Start: 2 @52687 has 25 MA's), (Start: 3 @52675 has 86 MA's), (4, 52648), (6, 52630), (10, 52543), (15, 52462), (18, 52300), (19, 52288), (21, 52261), (27, 52138),

Gene: Grand2040_59 Start: 52669, Stop: 52100, Start Num: 3

Candidate Starts for Grand2040_59:

(1, 52735), (Start: 2 @52681 has 25 MA's), (Start: 3 @52669 has 86 MA's), (4, 52642), (6, 52624), (10, 52537), (15, 52456), (18, 52294), (19, 52282), (21, 52255), (27, 52132),

Gene: Harvey_58 Start: 52216, Stop: 51635, Start Num: 2

Candidate Starts for Harvey_58:

(1, 52270), (Start: 2 @52216 has 25 MA's), (Start: 3 @52204 has 86 MA's), (4, 52177), (6, 52159), (10, 52072), (15, 51991), (18, 51829), (19, 51817), (21, 51790), (27, 51667),

Gene: Held_59 Start: 52178, Stop: 51609, Start Num: 3

Candidate Starts for Held_59:

(1, 52244), (Start: 2 @52190 has 25 MA's), (Start: 3 @52178 has 86 MA's), (4, 52151), (6, 52133), (10, 52046), (15, 51965), (18, 51803), (19, 51791), (21, 51764), (27, 51641),

Gene: HenryJackson_59 Start: 52704, Stop: 52138, Start Num: 3

Candidate Starts for HenryJackson_59:

(1, 52770), (Start: 2 @52716 has 25 MA's), (Start: 3 @52704 has 86 MA's), (4, 52677), (6, 52659), (10, 52572), (15, 52491), (18, 52329), (19, 52317), (21, 52290), (27, 52167),

Gene: Hertubise_59 Start: 52470, Stop: 51901, Start Num: 3

Candidate Starts for Hertubise_59:

(1, 52536), (Start: 2 @52482 has 25 MA's), (Start: 3 @52470 has 86 MA's), (4, 52443), (6, 52425), (10, 52338), (15, 52257), (18, 52095), (19, 52083), (21, 52056), (27, 51933),

Gene: Hetaeria_59 Start: 52409, Stop: 51843, Start Num: 3

Candidate Starts for Hetaeria_59:

(1, 52475), (Start: 2 @52421 has 25 MA's), (Start: 3 @52409 has 86 MA's), (4, 52382), (6, 52364), (10, 52277), (15, 52196), (18, 52034), (19, 52022), (21, 51995), (22, 51980), (27, 51872),

Gene: HighStump_61 Start: 52681, Stop: 52112, Start Num: 3

Candidate Starts for HighStump_61:

(1, 52747), (Start: 2 @52693 has 25 MA's), (Start: 3 @52681 has 86 MA's), (6, 52636), (10, 52549), (15, 52468), (18, 52306), (19, 52294), (21, 52267), (27, 52144),

Gene: Hocus_59 Start: 52165, Stop: 51596, Start Num: 3

Candidate Starts for Hocus_59:

(1, 52231), (Start: 2 @52177 has 25 MA's), (Start: 3 @52165 has 86 MA's), (4, 52138), (6, 52120), (10, 52033), (15, 51952), (18, 51790), (19, 51778), (21, 51751), (27, 51628),

Gene: Inchworm_61 Start: 52552, Stop: 51983, Start Num: 3

Candidate Starts for Inchworm_61:

(1, 52618), (Start: 2 @52564 has 25 MA's), (Start: 3 @52552 has 86 MA's), (4, 52525), (6, 52507), (10, 52420), (15, 52339), (18, 52177), (19, 52165), (21, 52138), (27, 52015),

Gene: IsaacEli_61 Start: 52703, Stop: 52122, Start Num: 2

Candidate Starts for IsaacEli_61:

(1, 52757), (Start: 2 @52703 has 25 MA's), (Start: 3 @52691 has 86 MA's), (4, 52664), (6, 52646), (10, 52559), (15, 52478), (18, 52316), (19, 52304), (21, 52277), (27, 52154),

Gene: JDog_60 Start: 52662, Stop: 52138, Start Num: 6

Candidate Starts for JDog_60:

(1, 52773), (Start: 2 @52719 has 25 MA's), (Start: 3 @52707 has 86 MA's), (4, 52680), (6, 52662), (10, 52575), (15, 52494), (18, 52332), (19, 52320), (21, 52293), (27, 52170),

Gene: Jillium_59 Start: 52699, Stop: 52130, Start Num: 3

Candidate Starts for Jillium_59:

(1, 52765), (Start: 2 @52711 has 25 MA's), (Start: 3 @52699 has 86 MA's), (4, 52672), (6, 52654), (Start: 9 @52591 has 1 MA's), (10, 52567), (15, 52486), (18, 52324), (19, 52312), (21, 52285), (27, 52162),

Gene: Kahve_59 Start: 52701, Stop: 52135, Start Num: 3

Candidate Starts for Kahve_59:

(1, 52767), (Start: 2 @52713 has 25 MA's), (Start: 3 @52701 has 86 MA's), (4, 52674), (6, 52656), (10, 52569), (15, 52488), (18, 52326), (19, 52314), (21, 52287), (27, 52164),

Gene: Katniss_60 Start: 52151, Stop: 51570, Start Num: 2

Candidate Starts for Katniss_60:

(1, 52205), (Start: 2 @52151 has 25 MA's), (Start: 3 @52139 has 86 MA's), (4, 52112), (6, 52094), (10, 52007), (15, 51926), (18, 51764), (19, 51752), (21, 51725), (27, 51602),

Gene: Kikipoo_61 Start: 52691, Stop: 52122, Start Num: 3

Candidate Starts for Kikipoo_61:

(1, 52757), (Start: 2 @52703 has 25 MA's), (Start: 3 @52691 has 86 MA's), (4, 52664), (6, 52646), (10, 52559), (15, 52478), (18, 52316), (19, 52304), (21, 52277), (27, 52154),

Gene: KingTut_51 Start: 48382, Stop: 47795, Start Num: 2

Candidate Starts for KingTut_51:

(Start: 2 @48382 has 25 MA's), (4, 48337), (6, 48319), (10, 48232), (15, 48151), (18, 47989), (19, 47977), (21, 47950), (27, 47827),

Gene: Kwadwo_58 Start: 52152, Stop: 51583, Start Num: 3

Candidate Starts for Kwadwo_58:

(1, 52218), (Start: 2 @52164 has 25 MA's), (Start: 3 @52152 has 86 MA's), (4, 52125), (6, 52107), (10, 52020), (15, 51939), (18, 51777), (19, 51765), (21, 51738), (27, 51615),

Gene: LasagnaCat_60 Start: 52519, Stop: 51995, Start Num: 6

Candidate Starts for LasagnaCat_60:

(1, 52630), (Start: 2 @52576 has 25 MA's), (Start: 3 @52564 has 86 MA's), (4, 52537), (6, 52519), (10, 52432), (15, 52351), (18, 52189), (19, 52177), (21, 52150), (27, 52027),

Gene: Lasso_60 Start: 52427, Stop: 51858, Start Num: 3

Candidate Starts for Lasso_60:

(1, 52493), (Start: 2 @52439 has 25 MA's), (Start: 3 @52427 has 86 MA's), (4, 52400), (6, 52382), (10, 52295), (15, 52214), (18, 52052), (19, 52040), (21, 52013), (27, 51890),

Gene: LeeLot_60 Start: 52782, Stop: 52213, Start Num: 3

Candidate Starts for LeeLot_60:

(1, 52848), (Start: 2 @52794 has 25 MA's), (Start: 3 @52782 has 86 MA's), (4, 52755), (6, 52737), (10, 52650), (15, 52569), (18, 52407), (19, 52395), (21, 52368), (27, 52245),

Gene: LeiMonet_61 Start: 52114, Stop: 51527, Start Num: 2

Candidate Starts for LeiMonet_61:

(Start: 2 @52114 has 25 MA's), (4, 52069), (6, 52051), (10, 51964), (15, 51883), (18, 51721), (19, 51709), (21, 51682), (27, 51559),

Gene: Longacauda_60 Start: 52541, Stop: 51972, Start Num: 3

Candidate Starts for Longacauda_60:

(1, 52607), (Start: 2 @52553 has 25 MA's), (Start: 3 @52541 has 86 MA's), (6, 52496), (10, 52409), (15, 52328), (18, 52166), (19, 52154), (21, 52127), (27, 52004),

Gene: LostAndPhound_59 Start: 52202, Stop: 51615, Start Num: 2

Candidate Starts for LostAndPhound_59:

(Start: 2 @52202 has 25 MA's), (4, 52157), (6, 52139), (10, 52052), (15, 51971), (18, 51809), (19, 51797), (21, 51770), (22, 51755), (27, 51647),

Gene: Lulwa_57 Start: 51484, Stop: 50915, Start Num: 3

Candidate Starts for Lulwa_57:

(1, 51550), (Start: 2 @51496 has 25 MA's), (Start: 3 @51484 has 86 MA's), (4, 51457), (6, 51439), (10, 51352), (15, 51271), (18, 51109), (19, 51097), (21, 51070), (27, 50947),

Gene: Magic8_60 Start: 52483, Stop: 51914, Start Num: 3

Candidate Starts for Magic8_60:

(1, 52549), (Start: 2 @52495 has 25 MA's), (Start: 3 @52483 has 86 MA's), (4, 52456), (6, 52438), (10, 52351), (15, 52270), (18, 52108), (19, 52096), (21, 52069), (22, 52054), (27, 51946),

Gene: Mana_58 Start: 52167, Stop: 51598, Start Num: 3

Candidate Starts for Mana_58:

(1, 52233), (Start: 2 @52179 has 25 MA's), (Start: 3 @52167 has 86 MA's), (4, 52140), (6, 52122), (10, 52035), (15, 51954), (18, 51792), (19, 51780), (21, 51753), (27, 51630),

Gene: Manad_59 Start: 52463, Stop: 51885, Start Num: 2

Candidate Starts for Manad_59:

(1, 52517), (Start: 2 @52463 has 25 MA's), (Start: 3 @52451 has 86 MA's), (4, 52424), (6, 52406), (8, 52352), (Start: 9 @52343 has 1 MA's), (10, 52319), (15, 52238), (18, 52076), (19, 52064), (21, 52037), (22, 52022), (27, 51914),

Gene: Maru_59 Start: 52606, Stop: 52037, Start Num: 3

Candidate Starts for Maru_59:

(1, 52672), (Start: 2 @52618 has 25 MA's), (Start: 3 @52606 has 86 MA's), (4, 52579), (6, 52561), (10, 52474), (15, 52393), (18, 52231), (19, 52219), (21, 52192), (27, 52069),

Gene: Matalotodo_58 Start: 52195, Stop: 51608, Start Num: 2

Candidate Starts for Matalotodo_58:

(Start: 2 @52195 has 25 MA's), (4, 52150), (6, 52132), (10, 52045), (15, 51964), (18, 51802), (19, 51790), (21, 51763), (27, 51640),

Gene: Mcshane_58 Start: 52165, Stop: 51596, Start Num: 3

Candidate Starts for Mcshane_58:

(1, 52231), (Start: 2 @52177 has 25 MA's), (Start: 3 @52165 has 86 MA's), (4, 52138), (6, 52120), (10, 52033), (15, 51952), (18, 51790), (19, 51778), (21, 51751), (27, 51628),

Gene: Megamind20_60 Start: 52108, Stop: 51584, Start Num: 6

Candidate Starts for Megamind20_60:

(1, 52219), (Start: 2 @52165 has 25 MA's), (Start: 3 @52153 has 86 MA's), (4, 52126), (6, 52108), (10, 52021), (15, 51940), (18, 51778), (19, 51766), (21, 51739), (27, 51616),

Gene: Megatron_60 Start: 52691, Stop: 52110, Start Num: 2

Candidate Starts for Megatron_60:

(1, 52745), (Start: 2 @52691 has 25 MA's), (Start: 3 @52679 has 86 MA's), (4, 52652), (6, 52634), (10, 52547), (15, 52466), (18, 52304), (19, 52292), (21, 52265), (27, 52142),

Gene: Melc17_59 Start: 52996, Stop: 52427, Start Num: 3

Candidate Starts for Melc17_59:

(1, 53062), (Start: 2 @53008 has 25 MA's), (Start: 3 @52996 has 86 MA's), (4, 52969), (6, 52951), (10, 52864), (15, 52783), (18, 52621), (19, 52609), (21, 52582), (22, 52567), (27, 52459),

Gene: MitKao_59 Start: 52177, Stop: 51608, Start Num: 3

Candidate Starts for MitKao_59:

(1, 52243), (Start: 2 @52189 has 25 MA's), (Start: 3 @52177 has 86 MA's), (4, 52150), (6, 52132), (10, 52045), (15, 51964), (18, 51802), (19, 51790), (21, 51763), (27, 51640),

Gene: Morgushi_59 Start: 52166, Stop: 51597, Start Num: 3

Candidate Starts for Morgushi_59:

(1, 52232), (Start: 2 @52178 has 25 MA's), (Start: 3 @52166 has 86 MA's), (4, 52139), (6, 52121), (10, 52034), (15, 51953), (18, 51791), (19, 51779), (21, 51752), (27, 51629),

Gene: Morty_60 Start: 52688, Stop: 52119, Start Num: 3

Candidate Starts for Morty_60:

(1, 52754), (Start: 2 @52700 has 25 MA's), (Start: 3 @52688 has 86 MA's), (4, 52661), (6, 52643), (10, 52556), (15, 52475), (18, 52313), (19, 52301), (21, 52274), (27, 52151),

Gene: Mosaic_58 Start: 52171, Stop: 51602, Start Num: 3

Candidate Starts for Mosaic_58:

(1, 52237), (Start: 2 @52183 has 25 MA's), (Start: 3 @52171 has 86 MA's), (4, 52144), (6, 52126), (10, 52039), (15, 51958), (18, 51796), (19, 51784), (21, 51757), (27, 51634),

Gene: MrPhizzler_60 Start: 52634, Stop: 52065, Start Num: 3

Candidate Starts for MrPhizzler_60:

(1, 52700), (Start: 2 @52646 has 25 MA's), (Start: 3 @52634 has 86 MA's), (6, 52589), (10, 52502), (15, 52421), (18, 52259), (19, 52247), (21, 52220), (27, 52097),

Gene: Mulan_59 Start: 52405, Stop: 51836, Start Num: 3

Candidate Starts for Mulan_59:

(1, 52471), (Start: 2 @52417 has 25 MA's), (Start: 3 @52405 has 86 MA's), (4, 52378), (6, 52360), (10, 52273), (15, 52192), (18, 52030), (19, 52018), (21, 51991), (27, 51868),

Gene: Murdoc_58 Start: 52167, Stop: 51598, Start Num: 3

Candidate Starts for Murdoc_58:

(1, 52233), (Start: 2 @52179 has 25 MA's), (Start: 3 @52167 has 86 MA's), (4, 52140), (6, 52122), (10, 52035), (15, 51954), (18, 51792), (19, 51780), (21, 51753), (27, 51630),

Gene: Mutante_59 Start: 52177, Stop: 51608, Start Num: 3

Candidate Starts for Mutante_59:

(1, 52243), (Start: 2 @52189 has 25 MA's), (Start: 3 @52177 has 86 MA's), (6, 52132), (10, 52045), (15, 51964), (18, 51802), (19, 51790), (21, 51763), (27, 51640),

Gene: OSmaximus_61 Start: 52921, Stop: 52352, Start Num: 3

Candidate Starts for OSmaximus_61:

(1, 52987), (Start: 2 @52933 has 25 MA's), (Start: 3 @52921 has 86 MA's), (4, 52894), (6, 52876), (10, 52789), (15, 52708), (18, 52546), (19, 52534), (21, 52507), (22, 52492), (27, 52384),

Gene: Oosterbaan_59 Start: 52457, Stop: 51888, Start Num: 3

Candidate Starts for Oosterbaan_59:

(1, 52523), (Start: 2 @52469 has 25 MA's), (Start: 3 @52457 has 86 MA's), (4, 52430), (6, 52412), (10, 52325), (15, 52244), (18, 52082), (19, 52070), (21, 52043), (27, 51920),

Gene: Orion_61 Start: 52119, Stop: 51550, Start Num: 3

Candidate Starts for Orion_61:

(1, 52185), (Start: 2 @52131 has 25 MA's), (Start: 3 @52119 has 86 MA's), (4, 52092), (6, 52074), (10, 51987), (15, 51906), (18, 51744), (19, 51732), (21, 51705), (27, 51582),

Gene: Orwigg_60 Start: 52111, Stop: 51530, Start Num: 2

Candidate Starts for Orwigg_60:

(1, 52165), (Start: 2 @52111 has 25 MA's), (Start: 3 @52099 has 86 MA's), (4, 52072), (6, 52054), (10, 51967), (15, 51886), (18, 51724), (19, 51712), (21, 51685), (27, 51562),

Gene: PG1_60 Start: 52702, Stop: 52121, Start Num: 2

Candidate Starts for PG1_60:

(1, 52756), (Start: 2 @52702 has 25 MA's), (Start: 3 @52690 has 86 MA's), (4, 52663), (6, 52645), (10, 52558), (15, 52477), (18, 52315), (19, 52303), (21, 52276), (27, 52153),

Gene: PenguinLover67_55 Start: 52752, Stop: 52183, Start Num: 7

Candidate Starts for PenguinLover67_55:

(Start: 7 @52752 has 1 MA's), (17, 52500), (19, 52362), (23, 52311), (24, 52305), (25, 52296), (26, 52248),

Gene: PhatCats2014_60 Start: 52695, Stop: 52129, Start Num: 3

Candidate Starts for PhatCats2014_60:

(1, 52761), (Start: 2 @52707 has 25 MA's), (Start: 3 @52695 has 86 MA's), (4, 52668), (6, 52650), (10, 52563), (15, 52482), (18, 52320), (19, 52308), (21, 52281), (27, 52158),

Gene: Pherdinand_61 Start: 52458, Stop: 51892, Start Num: 3

Candidate Starts for Pherdinand_61:

(1, 52524), (Start: 2 @52470 has 25 MA's), (Start: 3 @52458 has 86 MA's), (4, 52431), (6, 52413), (8, 52359), (Start: 9 @52350 has 1 MA's), (10, 52326), (15, 52245), (18, 52083), (19, 52071), (21, 52044), (22, 52029), (27, 51921),

Gene: Phipps_59 Start: 51979, Stop: 51398, Start Num: 2

Candidate Starts for Phipps_59:

(1, 52033), (Start: 2 @51979 has 25 MA's), (Start: 3 @51967 has 86 MA's), (4, 51940), (6, 51922), (10, 51835), (15, 51754), (18, 51592), (19, 51580), (21, 51553), (27, 51430),

Gene: PhrodoBaggins_60 Start: 52567, Stop: 51986, Start Num: 2

Candidate Starts for PhrodoBaggins_60:

(1, 52621), (Start: 2 @52567 has 25 MA's), (Start: 3 @52555 has 86 MA's), (4, 52528), (6, 52510), (10, 52423), (15, 52342), (18, 52180), (19, 52168), (21, 52141), (27, 52018),

Gene: Piglet_0059 Start: 52679, Stop: 52098, Start Num: 2

Candidate Starts for Piglet_0059:

(1, 52733), (Start: 2 @52679 has 25 MA's), (Start: 3 @52667 has 86 MA's), (4, 52640), (6, 52622), (10, 52535), (15, 52454), (18, 52292), (19, 52280), (21, 52253), (27, 52130),

Gene: PinheadLarry_60 Start: 52692, Stop: 52123, Start Num: 3

Candidate Starts for PinheadLarry_60:

(1, 52758), (Start: 2 @52704 has 25 MA's), (Start: 3 @52692 has 86 MA's), (4, 52665), (6, 52647), (10, 52560), (15, 52479), (18, 52317), (19, 52305), (21, 52278), (27, 52155),

Gene: Placalicious_59 Start: 52700, Stop: 52113, Start Num: 2

Candidate Starts for Placalicious_59:

(Start: 2 @52700 has 25 MA's), (4, 52655), (6, 52637), (10, 52550), (15, 52469), (18, 52307), (19, 52295), (21, 52268), (27, 52145),

Gene: Potter_58 Start: 52200, Stop: 51619, Start Num: 2

Candidate Starts for Potter_58:

(1, 52254), (Start: 2 @52200 has 25 MA's), (Start: 3 @52188 has 86 MA's), (4, 52161), (6, 52143), (10, 52056), (15, 51975), (18, 51813), (19, 51801), (21, 51774), (27, 51651),

Gene: Puhltonio_59 Start: 52462, Stop: 51893, Start Num: 3

Candidate Starts for Puhltonio_59:

(1, 52528), (Start: 2 @52474 has 25 MA's), (Start: 3 @52462 has 86 MA's), (4, 52435), (6, 52417), (10, 52330), (15, 52249), (18, 52087), (19, 52075), (21, 52048), (27, 51925),

Gene: Quisquilliae_60 Start: 52410, Stop: 51886, Start Num: 6

Candidate Starts for Quisquilliae_60:

(1, 52521), (Start: 2 @52467 has 25 MA's), (Start: 3 @52455 has 86 MA's), (4, 52428), (6, 52410), (10, 52323), (15, 52242), (18, 52080), (19, 52068), (21, 52041), (27, 51918),

Gene: Rimu_62 Start: 52655, Stop: 52086, Start Num: 3

Candidate Starts for Rimu_62:

(1, 52721), (Start: 2 @52667 has 25 MA's), (Start: 3 @52655 has 86 MA's), (6, 52610), (10, 52523), (15, 52442), (18, 52280), (19, 52268), (21, 52241), (27, 52118),

Gene: Saguaro_57 Start: 52820, Stop: 52314, Start Num: 9

Candidate Starts for Saguaro_57:

(5, 52901), (8, 52829), (Start: 9 @52820 has 1 MA's), (12, 52763), (13, 52721), (14, 52712), (16, 52628), (19, 52481), (20, 52469), (21, 52451), (24, 52424),

Gene: SassyCat97_58 Start: 52191, Stop: 51610, Start Num: 2

Candidate Starts for SassyCat97_58:

(1, 52245), (Start: 2 @52191 has 25 MA's), (Start: 3 @52179 has 86 MA's), (4, 52152), (6, 52134), (10, 52047), (15, 51966), (18, 51804), (19, 51792), (21, 51765), (27, 51642),

Gene: Scoot17C_60 Start: 52121, Stop: 51552, Start Num: 3

Candidate Starts for Scoot17C_60:

(1, 52187), (Start: 2 @52133 has 25 MA's), (Start: 3 @52121 has 86 MA's), (4, 52094), (6, 52076), (10, 51989), (15, 51908), (18, 51746), (19, 51734), (21, 51707), (27, 51584),

Gene: Scrick_60 Start: 52193, Stop: 51624, Start Num: 3

Candidate Starts for Scrick_60:

(1, 52259), (Start: 2 @52205 has 25 MA's), (Start: 3 @52193 has 86 MA's), (4, 52166), (6, 52148), (10, 52061), (15, 51980), (18, 51818), (19, 51806), (21, 51779), (27, 51656),

Gene: Serendipity_59 Start: 52476, Stop: 51907, Start Num: 3

Candidate Starts for Serendipity_59:

(1, 52542), (Start: 2 @52488 has 25 MA's), (Start: 3 @52476 has 86 MA's), (4, 52449), (6, 52431), (10, 52344), (15, 52263), (18, 52101), (19, 52089), (21, 52062), (27, 51939),

Gene: Serpentine_0059 Start: 52571, Stop: 51990, Start Num: 2

Candidate Starts for Serpentine_0059:

(1, 52625), (Start: 2 @52571 has 25 MA's), (Start: 3 @52559 has 86 MA's), (4, 52532), (6, 52514), (10, 52427), (15, 52346), (18, 52184), (19, 52172), (21, 52145), (27, 52022),

Gene: Skippy_60 Start: 52412, Stop: 51843, Start Num: 3

Candidate Starts for Skippy_60:

(1, 52478), (Start: 2 @52424 has 25 MA's), (Start: 3 @52412 has 86 MA's), (4, 52385), (6, 52367), (10, 52280), (15, 52199), (18, 52037), (19, 52025), (21, 51998), (27, 51875),

Gene: Slatt_60 Start: 52477, Stop: 51908, Start Num: 3

Candidate Starts for Slatt_60:

(1, 52543), (Start: 2 @52489 has 25 MA's), (Start: 3 @52477 has 86 MA's), (4, 52450), (6, 52432), (10, 52345), (15, 52264), (18, 52102), (19, 52090), (21, 52063), (27, 51940),

Gene: Soile_60 Start: 52701, Stop: 52132, Start Num: 3

Candidate Starts for Soile_60:

(1, 52767), (Start: 2 @52713 has 25 MA's), (Start: 3 @52701 has 86 MA's), (4, 52674), (6, 52656), (10, 52569), (15, 52488), (18, 52326), (19, 52314), (21, 52287), (27, 52164),

Gene: Solosis_58 Start: 52173, Stop: 51604, Start Num: 3

Candidate Starts for Solosis_58:

(1, 52239), (Start: 2 @52185 has 25 MA's), (Start: 3 @52173 has 86 MA's), (4, 52146), (6, 52128), (10, 52041), (15, 51960), (18, 51798), (19, 51786), (21, 51759), (27, 51636),

Gene: Sophia_58 Start: 52167, Stop: 51598, Start Num: 3

Candidate Starts for Sophia_58:

(1, 52233), (Start: 2 @52179 has 25 MA's), (Start: 3 @52167 has 86 MA's), (4, 52140), (6, 52122), (10, 52035), (15, 51954), (18, 51792), (19, 51780), (21, 51753), (27, 51630),

Gene: Squid_59 Start: 52179, Stop: 51610, Start Num: 3

Candidate Starts for Squid_59:

(1, 52245), (Start: 2 @52191 has 25 MA's), (Start: 3 @52179 has 86 MA's), (4, 52152), (6, 52134), (10, 52047), (15, 51966), (18, 51804), (19, 51792), (21, 51765), (27, 51642),

Gene: Squiggle_60 Start: 52187, Stop: 51618, Start Num: 3

Candidate Starts for Squiggle_60:

(1, 52253), (Start: 2 @52199 has 25 MA's), (Start: 3 @52187 has 86 MA's), (6, 52142), (10, 52055), (15, 51974), (18, 51812), (19, 51800), (21, 51773), (27, 51650),

Gene: Suffolk_58 Start: 51694, Stop: 51113, Start Num: 2

Candidate Starts for Suffolk_58:

(1, 51748), (Start: 2 @51694 has 25 MA's), (Start: 3 @51682 has 86 MA's), (4, 51655), (6, 51637), (8, 51583), (Start: 9 @51574 has 1 MA's), (10, 51550), (15, 51469), (18, 51307), (19, 51295), (21, 51268), (22, 51253), (27, 51145),

Gene: Surely_59 Start: 52469, Stop: 51900, Start Num: 3

Candidate Starts for Surely_59:

(1, 52535), (Start: 2 @52481 has 25 MA's), (Start: 3 @52469 has 86 MA's), (4, 52442), (6, 52424), (10, 52337), (15, 52256), (18, 52094), (19, 52082), (21, 52055), (27, 51932),

Gene: Swish_61 Start: 52443, Stop: 51877, Start Num: 3

Candidate Starts for Swish_61:

(1, 52509), (Start: 2 @52455 has 25 MA's), (Start: 3 @52443 has 86 MA's), (4, 52416), (6, 52398), (8, 52344), (Start: 9 @52335 has 1 MA's), (10, 52311), (15, 52230), (18, 52068), (19, 52056), (21, 52029), (22, 52014), (27, 51906),

Gene: TallGrassMM_59 Start: 52083, Stop: 51514, Start Num: 3

Candidate Starts for TallGrassMM_59:

(1, 52149), (Start: 2 @52095 has 25 MA's), (Start: 3 @52083 has 86 MA's), (4, 52056), (6, 52038), (10, 51951), (15, 51870), (18, 51708), (19, 51696), (21, 51669), (27, 51546),

Gene: Telesworld_57 Start: 52288, Stop: 51677, Start Num: 3

Candidate Starts for Telesworld_57:

(1, 52354), (Start: 2 @52300 has 25 MA's), (Start: 3 @52288 has 86 MA's), (4, 52261), (6, 52243), (8, 52189), (Start: 9 @52180 has 1 MA's), (10, 52156), (11, 52123), (15, 52033), (18, 51871), (19, 51859), (21, 51832), (22, 51817), (27, 51709),

Gene: Thora_59 Start: 52465, Stop: 51896, Start Num: 3

Candidate Starts for Thora_59:

(1, 52531), (Start: 2 @52477 has 25 MA's), (Start: 3 @52465 has 86 MA's), (4, 52438), (6, 52420), (10, 52333), (15, 52252), (18, 52090), (19, 52078), (21, 52051), (27, 51928),

Gene: ThreeOh3D2_61 Start: 52686, Stop: 52120, Start Num: 3

Candidate Starts for ThreeOh3D2_61:

(1, 52752), (Start: 2 @52698 has 25 MA's), (Start: 3 @52686 has 86 MA's), (4, 52659), (6, 52641), (10, 52554), (15, 52473), (18, 52311), (19, 52299), (21, 52272), (27, 52149),

Gene: Timmi_58 Start: 52168, Stop: 51599, Start Num: 3

Candidate Starts for Timmi_58:

(1, 52234), (Start: 2 @52180 has 25 MA's), (Start: 3 @52168 has 86 MA's), (4, 52141), (6, 52123), (10, 52036), (15, 51955), (18, 51793), (19, 51781), (21, 51754), (27, 51631),

Gene: TomBombadil_59 Start: 52453, Stop: 51884, Start Num: 3

Candidate Starts for TomBombadil_59:

(1, 52519), (Start: 2 @52465 has 25 MA's), (Start: 3 @52453 has 86 MA's), (4, 52426), (6, 52408), (10, 52321), (15, 52240), (18, 52078), (19, 52066), (21, 52039), (27, 51916),

Gene: UAch1_59 Start: 52409, Stop: 51843, Start Num: 3

Candidate Starts for UAch1_59:

(1, 52475), (Start: 2 @52421 has 25 MA's), (Start: 3 @52409 has 86 MA's), (4, 52382), (6, 52364), (10, 52277), (15, 52196), (18, 52034), (19, 52022), (21, 51995), (22, 51980), (27, 51872),

Gene: UncleHowie_58 Start: 51880, Stop: 51311, Start Num: 3

Candidate Starts for UncleHowie_58:

(1, 51946), (Start: 2 @51892 has 25 MA's), (Start: 3 @51880 has 86 MA's), (4, 51853), (6, 51835), (10, 51748), (15, 51667), (18, 51505), (19, 51493), (21, 51466), (27, 51343),

Gene: Usavi_59 Start: 52548, Stop: 51979, Start Num: 3

Candidate Starts for Usavi_59:

(1, 52614), (Start: 2 @52560 has 25 MA's), (Start: 3 @52548 has 86 MA's), (4, 52521), (6, 52503), (10, 52416), (15, 52335), (18, 52173), (19, 52161), (21, 52134), (27, 52011),

Gene: Vista_59 Start: 52181, Stop: 51612, Start Num: 3

Candidate Starts for Vista_59:

(1, 52247), (Start: 2 @52193 has 25 MA's), (Start: 3 @52181 has 86 MA's), (4, 52154), (6, 52136), (10, 52049), (15, 51968), (18, 51806), (19, 51794), (21, 51767), (27, 51644),

Gene: Vivaldi_61 Start: 52639, Stop: 52073, Start Num: 3

Candidate Starts for Vivaldi_61:

(1, 52705), (Start: 2 @52651 has 25 MA's), (Start: 3 @52639 has 86 MA's), (4, 52612), (6, 52594), (8, 52540), (Start: 9 @52531 has 1 MA's), (10, 52507), (15, 52426), (18, 52264), (19, 52252), (21, 52225), (22, 52210), (27, 52102),

Gene: Vortex_59 Start: 52163, Stop: 51594, Start Num: 3

Candidate Starts for Vortex_59:

(1, 52229), (Start: 2 @52175 has 25 MA's), (Start: 3 @52163 has 86 MA's), (4, 52136), (6, 52118), (10, 52031), (15, 51950), (18, 51788), (19, 51776), (21, 51749), (27, 51626),

Gene: Waterdiva_59 Start: 52542, Stop: 51973, Start Num: 3

Candidate Starts for Waterdiva_59:

(1, 52608), (Start: 2 @52554 has 25 MA's), (Start: 3 @52542 has 86 MA's), (4, 52515), (6, 52497), (10, 52410), (15, 52329), (18, 52167), (19, 52155), (21, 52128), (27, 52005),

Gene: Weher20_59 Start: 52985, Stop: 52416, Start Num: 3

Candidate Starts for Weher20_59:

(1, 53051), (Start: 2 @52997 has 25 MA's), (Start: 3 @52985 has 86 MA's), (4, 52958), (6, 52940), (10, 52853), (15, 52772), (18, 52610), (19, 52598), (21, 52571), (22, 52556), (27, 52448),

Gene: Xavier_58 Start: 52170, Stop: 51601, Start Num: 3

Candidate Starts for Xavier_58:

(1, 52236), (Start: 2 @52182 has 25 MA's), (Start: 3 @52170 has 86 MA's), (4, 52143), (6, 52125), (10, 52038), (15, 51957), (18, 51795), (19, 51783), (21, 51756), (27, 51633),

Gene: Yoshand_61 Start: 52456, Stop: 51890, Start Num: 3

Candidate Starts for Yoshand_61:

(1, 52522), (Start: 2 @52468 has 25 MA's), (Start: 3 @52456 has 86 MA's), (4, 52429), (6, 52411), (8, 52357), (Start: 9 @52348 has 1 MA's), (10, 52324), (15, 52243), (18, 52081), (19, 52069), (21, 52042),

(22, 52027), (27, 51919),

Gene: Zelda_60 Start: 52810, Stop: 52241, Start Num: 3

Candidate Starts for Zelda_60:

(1, 52876), (Start: 2 @52822 has 25 MA's), (Start: 3 @52810 has 86 MA's), (4, 52783), (6, 52765),
(10, 52678), (15, 52597), (18, 52435), (19, 52423), (21, 52396), (27, 52273),