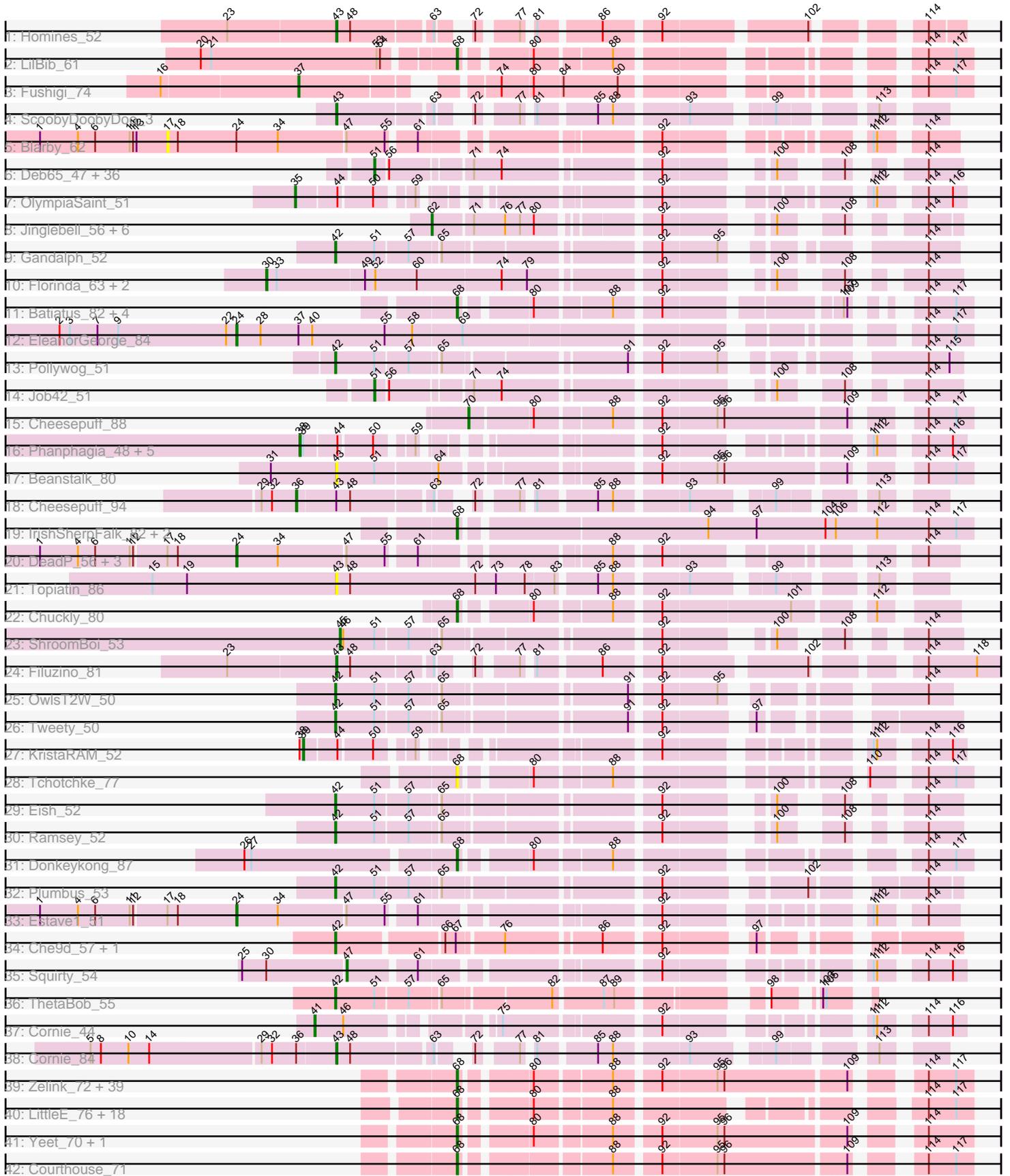


Pham 290901



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 290901 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290901 has 159 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Homines_52
- Track 2 : LilBib_61
- Track 3 : Fushigi_74
- Track 4 : ScoobyDoobyDoo_3
- Track 5 : Blarby_62
- Track 6 : Deb65_47, Poenanya_50, Sandalphon_53, RockyHorror_51, EmiMonkey_48, Vivum_53, OldBen_49, DaWorst_52, Spoonbill_49, Blexus_49, Leperchaun_44, Geralt_47, Daenerys_46, JoeyJr_47, Phasih_48, BodEinwohner17_52, PHappiness_47, BlueCrab_48, Stap_50, Radiance_51, Boomer_53, Zerg_50, RitaG_47, Oksu_55, Nimbo_46, Polka14_48, IbOuu_51, Spikelee_57, Doug_53, PhilipPhlop_50, Pacc40_46, Doomphist_50, PMC_45, Rockne_49, Empress_50, KingMidas_51, Scottish_50
- Track 7 : OlympiaSaint_51
- Track 8 : Jinglebell_56, Ochi17_54, Llama_56, Modragons_55, AlpineSix_56, Seabastian_56, OfUltron_56
- Track 9 : Gandalph_52
- Track 10 : Florinda_63, Topiatin_56, Quico_60
- Track 11 : Batiatus_82, Ms6_83, MilanaBonita_78, Kumao_60, Akhila_79
- Track 12 : EleanorGeorge_84
- Track 13 : Pollywog_51
- Track 14 : Job42_51
- Track 15 : Cheesepuff_88
- Track 16 : Phanphagia_48, Shauna1_48, Bipolar_50, SuperGrey_53, JalFarm20_61, Donkeykong_54
- Track 17 : Beanstalk_80
- Track 18 : Cheesepuff_94
- Track 19 : IrishSherpFalk_82, WillSterrel_81, Spartacus_88
- Track 20 : DeadP_56, Renaud18_56, Taj_54, Wee_53
- Track 21 : Topiatin_86
- Track 22 : Chuckly_80
- Track 23 : ShroomBoi_53
- Track 24 : Filuzino_81
- Track 25 : OwlsT2W_50
- Track 26 : Tweety_50
- Track 27 : KristaRAM_52
- Track 28 : Tchotchke_77
- Track 29 : Eish_52

- Track 30 : Ramsey_52
- Track 31 : Donkeykong_87
- Track 32 : Plumbus_53
- Track 33 : Estave1_51
- Track 34 : Che9d_57, Demsculpinboyz_60
- Track 35 : Squirty_54
- Track 36 : ThetaBob_55
- Track 37 : Cornie_44
- Track 38 : Cornie_84
- Track 39 : Zelink_72, Superphikiman_72, Bagrid_73, BronnyJames_69, Schatzie_69, Daikon_43, Kalah2_69, Redno2_71, DmpstrDiver_74, Phoebus_77, Squint_75, Beem_74, JuicyJay_73, Cali_18, Sprinklers_17, NihilNomen_75, Traaww1_39, Flypotenuse_37, Ejimix_74, Che8_87, Glexan_40, Jant_83, BadAgartude_18, Dallas_73, HokkenD_67, Odette_73, ThreeRngTarjay_72, Shaboozey_68, Mwanjiwa_85, Porcelain_74, Balomoji_41, Gator_40, EricMillard_73, Hughesyang_73, MiaZeal_75, Lucky2013_72, Halley_76, Ariel_74, Rearden_67, Harella_42
- Track 40 : LittleE_76, Mozy_89, MadMen_88, LunaBlu_85, Velveteen_76, KristaRAM_80, Brookers_77, Coco12_79, Sarma624_81, Cerasum_76, BigPhil_75, Soul22_83, Enzomatic_92, Kingsley_86, SeaLumen_88, NewHope4_85, Ogopogo_88, Bipolar_85, Polo2Bam_91
- Track 41 : Yeet_70, Marker_88
- Track 42 : Courthouse_71

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

The start number called the most often in the published annotations is 68, it was called in 61 of the 140 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila_79, Ariel_74, BadAgartude_18, Bagrid_73, Balomoji_41, Batiatus_82, Beem_74, BigPhil_75, Bipolar_85, BronnyJames_69, Brookers_77, Cali_18, Cerasum_76, Che8_87, Chuckly_80, Coco12_79, Courthouse_71, Daikon_43, Dallas_73, DmpstrDiver_74, Donkeykong_87, Ejimix_74, Enzomatic_92, EricMillard_73, Flypotenuse_37, Gator_40, Glexan_40, Halley_76, Harella_42, HokkenD_67, Hughesyang_73, IrishSherpFalk_82, Jant_83, JuicyJay_73, Kalah2_69, Kingsley_86, KristaRAM_80, Kumao_60, LilBib_61, LittleE_76, Lucky2013_72, LunaBlu_85, MadMen_88, Marker_88, MiaZeal_75, MilanaBonita_78, Mozy_89, Ms6_83, Mwanjiwa_85, NewHope4_85, NihilNomen_75, Odette_73, Ogopogo_88, Phoebus_77, Polo2Bam_91, Porcelain_74, Rearden_67, Redno2_71, Sarma624_81, Schatzie_69, SeaLumen_88, Shaboozey_68, Soul22_83, Spartacus_88, Sprinklers_17, Squint_75, Superphikiman_72, Tchotchke_77, ThreeRngTarjay_72, Traaww1_39, Velveteen_76, WillSterrel_81, Yeet_70, Zelink_72,

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

-

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

- AlpineSix_56, Beanstalk_80, Bipolar_50, Blarby_62, Blexus_49, BlueCrab_48, BodEinwohner17_52, Boomer_53, Che9d_57, CheesePuff_88, CheesePuff_94, Cornie_44, Cornie_84, DaWorst_52, Daenerys_46, DeadP_56, Deb65_47, Demsculpinboyz_60, Donkeykong_54, Doomphist_50, Doug_53, Eish_52, EleanorGeorge_84, EmiMonkey_48, Empress_50, Estave1_51, Filuzino_81, Florinda_63, Fushigi_74, Gandolph_52, Geralt_47, Homines_52, IbOuu_51, JalFarm20_61, Jinglebell_56, Job42_51, JoeyJr_47, KingMidas_51, KristaRAM_52, Leperchaun_44, Llama_56, Modragons_55, Nimbo_46, Ochi17_54, OfUltron_56, Oksu_55, OldBen_49, OlympiaSaint_51, OwlsT2W_50, PHappiness_47, PMC_45, Pacc40_46, Phanphagia_48, Phasih_48, PhlipPhlop_50, Plumbus_53, Poenanya_50, Polka14_48, Pollywog_51, Quico_60, Radiance_51, Ramsey_52, Renaud18_56, RitaG_47, Rockne_49, RockyHorror_51, Sandalphon_53, ScoobyDoobyDoo_3, Scottish_50, Sebastian_56, Shauna1_48, ShroomBoi_53, Spikelee_57, Spoonbill_49, Squirty_54, Stap_50, SuperGrey_53, Taj_54, ThetaBob_55, Topiatin_56, Topiatin_86, Tweety_50, Vivum_53, Wee_53, Zerg_50,

Summary by start number:

Start 17:

- Found in 6 of 159 (3.8%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Blarby_62 (F),

Start 24:

- Found in 7 of 159 (4.4%) of genes in pham
- Manual Annotations of this start: 6 of 140
- Called 85.7% of time when present
- Phage (with cluster) where this start called: DeadP_56 (F1), EleanorGeorge_84 (F1), Estave1_51 (F1), Renaud18_56 (F4), Taj_54 (F1), Wee_53 (F1),

Start 30:

- Found in 4 of 159 (2.5%) of genes in pham
- Manual Annotations of this start: 2 of 140
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Florinda_63 (F1), Quico_60 (F1), Topiatin_56 (F1),

Start 35:

- Found in 1 of 159 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OlympiaSaint_51 (F1),

Start 36:

- Found in 2 of 159 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 50.0% of time when present
- Phage (with cluster) where this start called: CheesePuff_94 (F1),

Start 37:

- Found in 2 of 159 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 140

- Called 50.0% of time when present
- Phage (with cluster) where this start called: Fushigi_74 (A1),

Start 38:

- Found in 7 of 159 (4.4%) of genes in pham
- Manual Annotations of this start: 6 of 140
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Bipolar_50 (F1), Donkeykong_54 (F1), JalFarm20_61 (F1), Phanphagia_48 (F1), Shauna1_48 (F1), SuperGrey_53 (F1),

Start 39:

- Found in 7 of 159 (4.4%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 14.3% of time when present
- Phage (with cluster) where this start called: KristaRAM_52 (F1),

Start 41:

- Found in 1 of 159 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie_44 (F5),

Start 42:

- Found in 10 of 159 (6.3%) of genes in pham
- Manual Annotations of this start: 10 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9d_57 (F2), Demsculpinboyz_60 (F2), Eish_52 (F1), Gandalph_52 (F1), OwlsT2W_50 (F1), Plumbus_53 (F1), Pollywog_51 (F1), Ramsey_52 (F1), ThetaBob_55 (F4), Tweety_50 (F1),

Start 43:

- Found in 7 of 159 (4.4%) of genes in pham
- Manual Annotations of this start: 4 of 140
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Beanstalk_80 (F1), Cornie_84 (F5), Filuzino_81 (F1), Homines_52 (A1), ScoobyDoobyDoo_3 (C2), Topiatin_86 (F1),

Start 45:

- Found in 1 of 159 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ShroomBoi_53 (F1),

Start 47:

- Found in 7 of 159 (4.4%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Squirty_54 (F3),

Start 51:

- Found in 48 of 159 (30.2%) of genes in pham
- Manual Annotations of this start: 36 of 140
- Called 79.2% of time when present

- Phage (with cluster) where this start called: Blexus_49 (F1), BlueCrab_48 (F1), BodEinwohner17_52 (F1), Boomer_53 (F1), DaWorst_52 (F1), Daenerys_46 (F1), Deb65_47 (F1), Doomphist_50 (F1), Doug_53 (F1), EmiMonkey_48 (F1), Empress_50 (F1), Geralt_47 (F1), IbOuu_51 (F1), Job42_51 (F1), JoeyJr_47 (F1), KingMidas_51 (F1), Leperchaun_44 (F1), Nimbo_46 (F1), Oksu_55 (F1), OldBen_49 (F1), PHappiness_47 (F1), PMC_45 (F1), Pacc40_46 (F1), Phasih_48 (F1), PhilipPhlop_50 (F1), Poenanya_50 (F1), Polka14_48 (F1), Radiance_51 (F1), RitaG_47 (F1), Rockne_49 (F1), RockyHorror_51 (F1), Sandalphon_53 (F1), Scottish_50 (F1), Spikelee_57 (F1), Spoonbill_49 (F1), Stap_50 (F1), Vivum_53 (F1), Zerg_50 (F1),

Start 62:

- Found in 7 of 159 (4.4%) of genes in pham
- Manual Annotations of this start: 7 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlpineSix_56 (F1), Jinglebell_56 (F1), Llama_56 (F1), Modragons_55 (F1), Ochi17_54 (F1), OfUltron_56 (F1), Seabastian_56 (F1),

Start 68:

- Found in 74 of 159 (46.5%) of genes in pham
- Manual Annotations of this start: 61 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akhila_79 (F1), Ariel_74 (J), BadAgartude_18 (C1), Bagrid_73 (J), Balomoji_41 (E), Batiatus_82 (F1), Beem_74 (J), BigPhil_75 (F1), Bipolar_85 (F1), BronnyJames_69 (J), Brookers_77 (F1), Cali_18 (C1), Cerasum_76 (F1), Che8_87 (F1), Chuckly_80 (F1), Coco12_79 (F1), Courthouse_71 (J), Daikon_43 (E), Dallas_73 (J), DmpstrDiver_74 (J), Donkeykong_87 (F1), Ejimix_74 (J), Enzomatic_92 (F1), EricMillard_73 (J), Flypotenuse_37 (E), Gator_40 (E), Glexan_40 (E), Halley_76 (J), Harella_42 (E), HokkenD_67 (J), Hughesyang_73 (J), IrishSherpFalk_82 (F1), Jant_83 (F1), JuicyJay_73 (J), Kalah2_69 (J), Kingsley_86 (F1), KristaRAM_80 (F1), Kumao_60 (singleton), LilBib_61 (A1), LittleE_76 (J), Lucky2013_72 (J), LunaBlu_85 (F1), MadMen_88 (F1), Marker_88 (F1), MiaZeal_75 (J), MilanaBonita_78 (F1), Mozy_89 (F1), Ms6_83 (F1), Mwanjiwa_85 (F1), NewHope4_85 (F1), NihilNomen_75 (J), Odette_73 (J), Ogopogo_88 (F1), Phoebus_77 (J), Polo2Bam_91 (F1), Porcelain_74 (J), Rearden_67 (J), Redno2_71 (J), Sarma624_81 (F1), Schatzie_69 (J), SeaLumen_88 (F1), Shaboozey_68 (J), Soul22_83 (F2), Spartacus_88 (F1), Sprinklers_17 (C1), Squint_75 (J), Superphikiman_72 (J), Tchotchke_77 (F1), ThreeRngTarjay_72 (J), Traaww1_39 (E), Velveteen_76 (F1), WillSterrel_81 (F1), Yeet_70 (J), Zelink_72 (J),

Start 70:

- Found in 1 of 159 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 140
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cheese puff_88 (F1),

Summary by clusters:

There are 12 clusters represented in this pham: F1, singleton, F3, E, F5, F, J, F2, A1, C2, F4, C1,

Info for manual annotations of cluster A1:

- Start number 37 was manually annotated 1 time for cluster A1.
- Start number 43 was manually annotated 1 time for cluster A1.
- Start number 68 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster C1:

- Start number 68 was manually annotated 3 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 43 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster E:

- Start number 68 was manually annotated 6 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 24 was manually annotated 5 times for cluster F1.
- Start number 30 was manually annotated 2 times for cluster F1.
- Start number 35 was manually annotated 1 time for cluster F1.
- Start number 36 was manually annotated 1 time for cluster F1.
- Start number 38 was manually annotated 6 times for cluster F1.
- Start number 39 was manually annotated 1 time for cluster F1.
- Start number 42 was manually annotated 7 times for cluster F1.
- Start number 43 was manually annotated 1 time for cluster F1.
- Start number 45 was manually annotated 1 time for cluster F1.
- Start number 51 was manually annotated 36 times for cluster F1.
- Start number 62 was manually annotated 7 times for cluster F1.
- Start number 68 was manually annotated 24 times for cluster F1.
- Start number 70 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 42 was manually annotated 2 times for cluster F2.
- Start number 68 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F3:

- Start number 47 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 24 was manually annotated 1 time for cluster F4.
- Start number 42 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 41 was manually annotated 1 time for cluster F5.
- Start number 43 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 68 was manually annotated 25 times for cluster J.

Gene Information:

Gene: Akhila_79 Start: 48285, Stop: 48626, Start Num: 68

Candidate Starts for Akhila_79:

(Start: 68 @48285 has 61 MA's), (80, 48333), (88, 48393), (92, 48426), (107, 48555), (109, 48558), (114, 48588), (117, 48612),

Gene: AlpineSix_56 Start: 38900, Stop: 39235, Start Num: 62

Candidate Starts for AlpineSix_56:

(Start: 62 @38900 has 7 MA's), (71, 38933), (76, 38960), (77, 38972), (80, 38984), (92, 39068), (100, 39134), (108, 39170), (114, 39209),

Gene: Ariel_74 Start: 47072, Stop: 46704, Start Num: 68

Candidate Starts for Ariel_74:

(Start: 68 @47072 has 61 MA's), (80, 47024), (88, 46964), (92, 46931), (95, 46886), (96, 46880), (109, 46781), (114, 46742), (117, 46718),

Gene: BadAgartude_18 Start: 5785, Stop: 6153, Start Num: 68

Candidate Starts for BadAgartude_18:

(Start: 68 @5785 has 61 MA's), (80, 5833), (88, 5893), (92, 5926), (95, 5971), (96, 5977), (109, 6076), (114, 6115), (117, 6139),

Gene: Bagrid_73 Start: 50489, Stop: 50121, Start Num: 68

Candidate Starts for Bagrid_73:

(Start: 68 @50489 has 61 MA's), (80, 50441), (88, 50381), (92, 50348), (95, 50303), (96, 50297), (109, 50198), (114, 50159), (117, 50135),

Gene: Balomoji_41 Start: 35435, Stop: 35067, Start Num: 68

Candidate Starts for Balomoji_41:

(Start: 68 @35435 has 61 MA's), (80, 35387), (88, 35327), (92, 35294), (95, 35249), (96, 35243), (109, 35144), (114, 35105), (117, 35081),

Gene: Batiatus_82 Start: 49370, Stop: 49711, Start Num: 68

Candidate Starts for Batiatus_82:

(Start: 68 @49370 has 61 MA's), (80, 49418), (88, 49478), (92, 49511), (107, 49640), (109, 49643), (114, 49673), (117, 49697),

Gene: Beanstalk_80 Start: 48314, Stop: 48784, Start Num: 43

Candidate Starts for Beanstalk_80:

(31, 48257), (Start: 43 @48314 has 4 MA's), (Start: 51 @48347 has 36 MA's), (64, 48398), (92, 48557), (95, 48602), (96, 48608), (109, 48707), (114, 48746), (117, 48770),

Gene: Beem_74 Start: 51349, Stop: 50981, Start Num: 68

Candidate Starts for Beem_74:

(Start: 68 @51349 has 61 MA's), (80, 51301), (88, 51241), (92, 51208), (95, 51163), (96, 51157), (109, 51058), (114, 51019), (117, 50995),

Gene: BigPhil_75 Start: 45204, Stop: 45548, Start Num: 68

Candidate Starts for BigPhil_75:

(Start: 68 @45204 has 61 MA's), (80, 45252), (88, 45312), (114, 45510), (117, 45534),

Gene: Bipolar_50 Start: 37100, Stop: 37534, Start Num: 38

Candidate Starts for Bipolar_50:

(Start: 38 @37100 has 6 MA's), (Start: 39 @37103 has 1 MA's), (44, 37130), (50, 37157), (59, 37181), (92, 37340), (111, 37469), (112, 37472), (114, 37502), (116, 37523),

Gene: Bipolar_85 Start: 50898, Stop: 51242, Start Num: 68

Candidate Starts for Bipolar_85:

(Start: 68 @50898 has 61 MA's), (80, 50946), (88, 51006), (114, 51204), (117, 51228),

Gene: Blarby_62 Start: 37522, Stop: 38091, Start Num: 17

Candidate Starts for Blarby_62:

(1, 37411), (4, 37444), (6, 37459), (11, 37489), (12, 37492), (13, 37495), (17, 37522), (18, 37531),
(Start: 24 @37582 has 6 MA's), (34, 37618), (Start: 47 @37675 has 1 MA's), (55, 37708), (61, 37729),
(92, 37903), (111, 38032), (112, 38035), (114, 38065),

Gene: Blexus_49 Start: 36674, Stop: 37057, Start Num: 51

Candidate Starts for Blexus_49:

(Start: 51 @36674 has 36 MA's), (56, 36683), (71, 36746), (74, 36770), (92, 36887), (100, 36953),
(108, 36989), (114, 37028),

Gene: BlueCrab_48 Start: 36400, Stop: 36783, Start Num: 51

Candidate Starts for BlueCrab_48:

(Start: 51 @36400 has 36 MA's), (56, 36409), (71, 36472), (74, 36496), (92, 36613), (100, 36679),
(108, 36715), (114, 36754),

Gene: BodEinwohner17_52 Start: 36616, Stop: 36999, Start Num: 51

Candidate Starts for BodEinwohner17_52:

(Start: 51 @36616 has 36 MA's), (56, 36625), (71, 36688), (74, 36712), (92, 36829), (100, 36895),
(108, 36931), (114, 36970),

Gene: Boomer_53 Start: 37849, Stop: 38232, Start Num: 51

Candidate Starts for Boomer_53:

(Start: 51 @37849 has 36 MA's), (56, 37858), (71, 37921), (74, 37945), (92, 38062), (100, 38128),
(108, 38164), (114, 38203),

Gene: BronnyJames_69 Start: 45688, Stop: 45320, Start Num: 68

Candidate Starts for BronnyJames_69:

(Start: 68 @45688 has 61 MA's), (80, 45640), (88, 45580), (92, 45547), (95, 45502), (96, 45496), (109,
45397), (114, 45358), (117, 45334),

Gene: Brookers_77 Start: 48155, Stop: 48499, Start Num: 68

Candidate Starts for Brookers_77:

(Start: 68 @48155 has 61 MA's), (80, 48203), (88, 48263), (114, 48461), (117, 48485),

Gene: Cali_18 Start: 6761, Stop: 7129, Start Num: 68

Candidate Starts for Cali_18:

(Start: 68 @6761 has 61 MA's), (80, 6809), (88, 6869), (92, 6902), (95, 6947), (96, 6953), (109, 7052),
(114, 7091), (117, 7115),

Gene: Cerasum_76 Start: 45222, Stop: 45566, Start Num: 68

Candidate Starts for Cerasum_76:

(Start: 68 @45222 has 61 MA's), (80, 45270), (88, 45330), (114, 45528), (117, 45552),

Gene: Che8_87 Start: 50151, Stop: 50519, Start Num: 68

Candidate Starts for Che8_87:

(Start: 68 @50151 has 61 MA's), (80, 50199), (88, 50259), (92, 50292), (95, 50337), (96, 50343), (109,
50442), (114, 50481), (117, 50505),

Gene: Che9d_57 Start: 36146, Stop: 36583, Start Num: 42

Candidate Starts for Che9d_57:

(Start: 42 @36146 has 10 MA's), (66, 36230), (67, 36239), (76, 36275), (86, 36347), (92, 36389), (97, 36449),

Gene: Cheesepuff_88 Start: 48668, Stop: 49036, Start Num: 70

Candidate Starts for Cheesepuff_88:

(Start: 70 @48668 has 1 MA's), (80, 48716), (88, 48776), (92, 48809), (95, 48854), (96, 48860), (109, 48959), (114, 48998), (117, 49022),

Gene: Cheesepuff_94 Start: 50399, Stop: 50833, Start Num: 36

Candidate Starts for Cheesepuff_94:

(29, 50369), (32, 50378), (Start: 36 @50399 has 1 MA's), (Start: 43 @50432 has 4 MA's), (48, 50444), (63, 50507), (72, 50522), (77, 50549), (81, 50555), (85, 50600), (88, 50612), (93, 50666), (99, 50723), (113, 50789),

Gene: Chuckly_80 Start: 46634, Stop: 46984, Start Num: 68

Candidate Starts for Chuckly_80:

(Start: 68 @46634 has 61 MA's), (80, 46682), (88, 46742), (92, 46775), (101, 46880), (112, 46931),

Gene: Coco12_79 Start: 49279, Stop: 49623, Start Num: 68

Candidate Starts for Coco12_79:

(Start: 68 @49279 has 61 MA's), (80, 49327), (88, 49387), (114, 49585), (117, 49609),

Gene: Cornie_44 Start: 34732, Stop: 35169, Start Num: 41

Candidate Starts for Cornie_44:

(Start: 41 @34732 has 1 MA's), (46, 34756), (75, 34858), (92, 34975), (111, 35104), (112, 35107), (114, 35137), (116, 35158),

Gene: Cornie_84 Start: 49125, Stop: 49526, Start Num: 43

Candidate Starts for Cornie_84:

(5, 48918), (8, 48927), (10, 48951), (14, 48969), (29, 49062), (32, 49071), (Start: 36 @49092 has 1 MA's), (Start: 43 @49125 has 4 MA's), (48, 49137), (63, 49200), (72, 49215), (77, 49242), (81, 49248), (85, 49293), (88, 49305), (93, 49359), (99, 49416), (113, 49482),

Gene: Courthouse_71 Start: 46710, Stop: 46342, Start Num: 68

Candidate Starts for Courthouse_71:

(Start: 68 @46710 has 61 MA's), (88, 46602), (92, 46569), (95, 46524), (96, 46518), (109, 46419), (114, 46380), (117, 46356),

Gene: DaWorst_52 Start: 37475, Stop: 37858, Start Num: 51

Candidate Starts for DaWorst_52:

(Start: 51 @37475 has 36 MA's), (56, 37484), (71, 37547), (74, 37571), (92, 37688), (100, 37754), (108, 37790), (114, 37829),

Gene: Daenerys_46 Start: 35343, Stop: 35726, Start Num: 51

Candidate Starts for Daenerys_46:

(Start: 51 @35343 has 36 MA's), (56, 35352), (71, 35415), (74, 35439), (92, 35556), (100, 35622), (108, 35658), (114, 35697),

Gene: Daikon_43 Start: 35456, Stop: 35088, Start Num: 68

Candidate Starts for Daikon_43:

(Start: 68 @35456 has 61 MA's), (80, 35408), (88, 35348), (92, 35315), (95, 35270), (96, 35264), (109, 35165), (114, 35126), (117, 35102),

Gene: Dallas_73 Start: 50270, Stop: 49902, Start Num: 68

Candidate Starts for Dallas_73:

(Start: 68 @50270 has 61 MA's), (80, 50222), (88, 50162), (92, 50129), (95, 50084), (96, 50078), (109, 49979), (114, 49940), (117, 49916),

Gene: DeadP_56 Start: 38235, Stop: 38747, Start Num: 24

Candidate Starts for DeadP_56:

(1, 38067), (4, 38100), (6, 38115), (11, 38145), (12, 38148), (17, 38175), (18, 38184), (Start: 24 @38235 has 6 MA's), (34, 38271), (Start: 47 @38328 has 1 MA's), (55, 38361), (61, 38382), (88, 38523), (92, 38556), (114, 38721),

Gene: Deb65_47 Start: 35312, Stop: 35695, Start Num: 51

Candidate Starts for Deb65_47:

(Start: 51 @35312 has 36 MA's), (56, 35321), (71, 35384), (74, 35408), (92, 35525), (100, 35591), (108, 35627), (114, 35666),

Gene: Demsculpinboyz_60 Start: 36255, Stop: 36692, Start Num: 42

Candidate Starts for Demsculpinboyz_60:

(Start: 42 @36255 has 10 MA's), (66, 36339), (67, 36348), (76, 36384), (86, 36456), (92, 36498), (97, 36558),

Gene: DmpstrDiver_74 Start: 50697, Stop: 50329, Start Num: 68

Candidate Starts for DmpstrDiver_74:

(Start: 68 @50697 has 61 MA's), (80, 50649), (88, 50589), (92, 50556), (95, 50511), (96, 50505), (109, 50406), (114, 50367), (117, 50343),

Gene: Donkeykong_54 Start: 39346, Stop: 39780, Start Num: 38

Candidate Starts for Donkeykong_54:

(Start: 38 @39346 has 6 MA's), (Start: 39 @39349 has 1 MA's), (44, 39376), (50, 39403), (59, 39427), (92, 39586), (111, 39715), (112, 39718), (114, 39748), (116, 39769),

Gene: Donkeykong_87 Start: 51001, Stop: 51345, Start Num: 68

Candidate Starts for Donkeykong_87:

(26, 50827), (27, 50833), (Start: 68 @51001 has 61 MA's), (80, 51049), (88, 51109), (114, 51307), (117, 51331),

Gene: Doomphist_50 Start: 37614, Stop: 37997, Start Num: 51

Candidate Starts for Doomphist_50:

(Start: 51 @37614 has 36 MA's), (56, 37623), (71, 37686), (74, 37710), (92, 37827), (100, 37893), (108, 37929), (114, 37968),

Gene: Doug_53 Start: 37732, Stop: 38115, Start Num: 51

Candidate Starts for Doug_53:

(Start: 51 @37732 has 36 MA's), (56, 37741), (71, 37804), (74, 37828), (92, 37945), (100, 38011), (108, 38047), (114, 38086),

Gene: Eish_52 Start: 37152, Stop: 37565, Start Num: 42

Candidate Starts for Eish_52:

(Start: 42 @37152 has 10 MA's), (Start: 51 @37185 has 36 MA's), (57, 37212), (65, 37236), (92, 37395), (100, 37461), (108, 37497), (114, 37536),

Gene: Ejimix_74 Start: 52138, Stop: 51770, Start Num: 68

Candidate Starts for Ejimix_74:

(Start: 68 @52138 has 61 MA's), (80, 52090), (88, 52030), (92, 51997), (95, 51952), (96, 51946), (109, 51847), (114, 51808), (117, 51784),

Gene: EleanorGeorge_84 Start: 49979, Stop: 50533, Start Num: 24

Candidate Starts for EleanorGeorge_84:

(2, 49826), (3, 49835), (7, 49859), (9, 49877), (22, 49970), (Start: 24 @49979 has 6 MA's), (28, 50000), (Start: 37 @50033 has 1 MA's), (40, 50045), (55, 50108), (58, 50132), (69, 50174), (114, 50495), (117, 50519),

Gene: EmiMonkey_48 Start: 37891, Stop: 38274, Start Num: 51

Candidate Starts for EmiMonkey_48:

(Start: 51 @37891 has 36 MA's), (56, 37900), (71, 37963), (74, 37987), (92, 38104), (100, 38170), (108, 38206), (114, 38245),

Gene: Empress_50 Start: 36757, Stop: 37140, Start Num: 51

Candidate Starts for Empress_50:

(Start: 51 @36757 has 36 MA's), (56, 36766), (71, 36829), (74, 36853), (92, 36970), (100, 37036), (108, 37072), (114, 37111),

Gene: Enzomatic_92 Start: 47700, Stop: 48044, Start Num: 68

Candidate Starts for Enzomatic_92:

(Start: 68 @47700 has 61 MA's), (80, 47748), (88, 47808), (114, 48006), (117, 48030),

Gene: EricMillard_73 Start: 51342, Stop: 50974, Start Num: 68

Candidate Starts for EricMillard_73:

(Start: 68 @51342 has 61 MA's), (80, 51294), (88, 51234), (92, 51201), (95, 51156), (96, 51150), (109, 51051), (114, 51012), (117, 50988),

Gene: Estave1_51 Start: 36423, Stop: 36932, Start Num: 24

Candidate Starts for Estave1_51:

(1, 36255), (4, 36288), (6, 36303), (11, 36333), (12, 36336), (17, 36363), (18, 36372), (Start: 24 @36423 has 6 MA's), (34, 36459), (Start: 47 @36516 has 1 MA's), (55, 36549), (61, 36570), (92, 36744), (111, 36873), (112, 36876), (114, 36906),

Gene: Filuzino_81 Start: 50456, Stop: 50911, Start Num: 43

Candidate Starts for Filuzino_81:

(23, 50363), (Start: 43 @50456 has 4 MA's), (48, 50468), (63, 50531), (72, 50546), (77, 50573), (81, 50579), (86, 50627), (92, 50669), (102, 50780), (114, 50849), (118, 50891),

Gene: Florinda_63 Start: 39217, Stop: 39705, Start Num: 30

Candidate Starts for Florinda_63:

(Start: 30 @39217 has 2 MA's), (33, 39226), (49, 39301), (52, 39310), (60, 39346), (74, 39418), (79, 39439), (92, 39535), (100, 39601), (108, 39637), (114, 39676),

Gene: Flypotenuse_37 Start: 34187, Stop: 33819, Start Num: 68

Candidate Starts for Flypotenuse_37:

(Start: 68 @34187 has 61 MA's), (80, 34139), (88, 34079), (92, 34046), (95, 34001), (96, 33995), (109, 33896), (114, 33857), (117, 33833),

Gene: Fushigi_74 Start: 44956, Stop: 44495, Start Num: 37

Candidate Starts for Fushigi_74:

(16, 45070), (Start: 37 @44956 has 1 MA's), (74, 44821), (80, 44797), (84, 44773), (90, 44728), (114, 44533), (117, 44509),

Gene: Gandalph_52 Start: 36543, Stop: 36980, Start Num: 42

Candidate Starts for Gandalph_52:

(Start: 42 @36543 has 10 MA's), (Start: 51 @36576 has 36 MA's), (57, 36603), (65, 36627), (92, 36786), (95, 36831), (114, 36954),

Gene: Gator_40 Start: 35326, Stop: 34958, Start Num: 68

Candidate Starts for Gator_40:

(Start: 68 @35326 has 61 MA's), (80, 35278), (88, 35218), (92, 35185), (95, 35140), (96, 35134), (109, 35035), (114, 34996), (117, 34972),

Gene: Geralt_47 Start: 35311, Stop: 35694, Start Num: 51

Candidate Starts for Geralt_47:

(Start: 51 @35311 has 36 MA's), (56, 35320), (71, 35383), (74, 35407), (92, 35524), (100, 35590), (108, 35626), (114, 35665),

Gene: Glexan_40 Start: 35314, Stop: 34946, Start Num: 68

Candidate Starts for Glexan_40:

(Start: 68 @35314 has 61 MA's), (80, 35266), (88, 35206), (92, 35173), (95, 35128), (96, 35122), (109, 35023), (114, 34984), (117, 34960),

Gene: Halley_76 Start: 51349, Stop: 50981, Start Num: 68

Candidate Starts for Halley_76:

(Start: 68 @51349 has 61 MA's), (80, 51301), (88, 51241), (92, 51208), (95, 51163), (96, 51157), (109, 51058), (114, 51019), (117, 50995),

Gene: Harella_42 Start: 35830, Stop: 35462, Start Num: 68

Candidate Starts for Harella_42:

(Start: 68 @35830 has 61 MA's), (80, 35782), (88, 35722), (92, 35689), (95, 35644), (96, 35638), (109, 35539), (114, 35500), (117, 35476),

Gene: HokkenD_67 Start: 49618, Stop: 49250, Start Num: 68

Candidate Starts for HokkenD_67:

(Start: 68 @49618 has 61 MA's), (80, 49570), (88, 49510), (92, 49477), (95, 49432), (96, 49426), (109, 49327), (114, 49288), (117, 49264),

Gene: Homines_52 Start: 36648, Stop: 36226, Start Num: 43

Candidate Starts for Homines_52:

(23, 36741), (Start: 43 @36648 has 4 MA's), (48, 36636), (63, 36573), (72, 36558), (77, 36531), (81, 36525), (86, 36477), (92, 36435), (102, 36324), (114, 36255),

Gene: Hughesyang_73 Start: 51308, Stop: 50940, Start Num: 68

Candidate Starts for Hughesyang_73:

(Start: 68 @51308 has 61 MA's), (80, 51260), (88, 51200), (92, 51167), (95, 51122), (96, 51116), (109, 51017), (114, 50978), (117, 50954),

Gene: lbOuu_51 Start: 37593, Stop: 37976, Start Num: 51

Candidate Starts for lbOuu_51:

(Start: 51 @37593 has 36 MA's), (56, 37602), (71, 37665), (74, 37689), (92, 37806), (100, 37872), (108, 37908), (114, 37947),

Gene: IrishSherpFalk_82 Start: 49608, Stop: 50033, Start Num: 68

Candidate Starts for IrishSherpFalk_82:

(Start: 68 @49608 has 61 MA's), (94, 49803), (97, 49845), (104, 49905), (106, 49914), (112, 49950), (114, 49995), (117, 50019),

Gene: JalFarm20_61 Start: 39841, Stop: 40275, Start Num: 38

Candidate Starts for JalFarm20_61:

(Start: 38 @39841 has 6 MA's), (Start: 39 @39844 has 1 MA's), (44, 39871), (50, 39898), (59, 39922), (92, 40081), (111, 40210), (112, 40213), (114, 40243), (116, 40264),

Gene: Jant_83 Start: 47663, Stop: 48031, Start Num: 68

Candidate Starts for Jant_83:

(Start: 68 @47663 has 61 MA's), (80, 47711), (88, 47771), (92, 47804), (95, 47849), (96, 47855), (109, 47954), (114, 47993), (117, 48017),

Gene: Jinglebell_56 Start: 38899, Stop: 39234, Start Num: 62

Candidate Starts for Jinglebell_56:

(Start: 62 @38899 has 7 MA's), (71, 38932), (76, 38959), (77, 38971), (80, 38983), (92, 39067), (100, 39133), (108, 39169), (114, 39208),

Gene: Job42_51 Start: 38265, Stop: 38648, Start Num: 51

Candidate Starts for Job42_51:

(Start: 51 @38265 has 36 MA's), (56, 38274), (71, 38337), (74, 38361), (100, 38544), (108, 38580), (114, 38619),

Gene: JoeyJr_47 Start: 35511, Stop: 35894, Start Num: 51

Candidate Starts for JoeyJr_47:

(Start: 51 @35511 has 36 MA's), (56, 35520), (71, 35583), (74, 35607), (92, 35724), (100, 35790), (108, 35826), (114, 35865),

Gene: JuicyJay_73 Start: 52483, Stop: 52115, Start Num: 68

Candidate Starts for JuicyJay_73:

(Start: 68 @52483 has 61 MA's), (80, 52435), (88, 52375), (92, 52342), (95, 52297), (96, 52291), (109, 52192), (114, 52153), (117, 52129),

Gene: Kalah2_69 Start: 50642, Stop: 50274, Start Num: 68

Candidate Starts for Kalah2_69:

(Start: 68 @50642 has 61 MA's), (80, 50594), (88, 50534), (92, 50501), (95, 50456), (96, 50450), (109, 50351), (114, 50312), (117, 50288),

Gene: KingMidas_51 Start: 37173, Stop: 37556, Start Num: 51

Candidate Starts for KingMidas_51:

(Start: 51 @37173 has 36 MA's), (56, 37182), (71, 37245), (74, 37269), (92, 37386), (100, 37452), (108, 37488), (114, 37527),

Gene: Kingsley_86 Start: 51886, Stop: 52230, Start Num: 68

Candidate Starts for Kingsley_86:

(Start: 68 @51886 has 61 MA's), (80, 51934), (88, 51994), (114, 52192), (117, 52216),

Gene: KristaRAM_80 Start: 48204, Stop: 48548, Start Num: 68

Candidate Starts for KristaRAM_80:

(Start: 68 @48204 has 61 MA's), (80, 48252), (88, 48312), (114, 48510), (117, 48534),

Gene: KristaRAM_52 Start: 38472, Stop: 38903, Start Num: 39
Candidate Starts for KristaRAM_52:
(Start: 38 @38469 has 6 MA's), (Start: 39 @38472 has 1 MA's), (44, 38499), (50, 38526), (59, 38550),
(92, 38709), (111, 38838), (112, 38841), (114, 38871), (116, 38892),

Gene: Kumao_60 Start: 43284, Stop: 43625, Start Num: 68
Candidate Starts for Kumao_60:
(Start: 68 @43284 has 61 MA's), (80, 43332), (88, 43392), (92, 43425), (107, 43554), (109, 43557),
(114, 43587), (117, 43611),

Gene: Leperchaun_44 Start: 34741, Stop: 35124, Start Num: 51
Candidate Starts for Leperchaun_44:
(Start: 51 @34741 has 36 MA's), (56, 34750), (71, 34813), (74, 34837), (92, 34954), (100, 35020),
(108, 35056), (114, 35095),

Gene: LilBib_61 Start: 42376, Stop: 42032, Start Num: 68
Candidate Starts for LilBib_61:
(20, 42586), (21, 42577), (53, 42433), (54, 42430), (Start: 68 @42376 has 61 MA's), (80, 42328), (88,
42268), (114, 42070), (117, 42046),

Gene: LittleE_76 Start: 50154, Stop: 49810, Start Num: 68
Candidate Starts for LittleE_76:
(Start: 68 @50154 has 61 MA's), (80, 50106), (88, 50046), (114, 49848), (117, 49824),

Gene: Llama_56 Start: 38897, Stop: 39232, Start Num: 62
Candidate Starts for Llama_56:
(Start: 62 @38897 has 7 MA's), (71, 38930), (76, 38957), (77, 38969), (80, 38981), (92, 39065), (100,
39131), (108, 39167), (114, 39206),

Gene: Lucky2013_72 Start: 47088, Stop: 46720, Start Num: 68
Candidate Starts for Lucky2013_72:
(Start: 68 @47088 has 61 MA's), (80, 47040), (88, 46980), (92, 46947), (95, 46902), (96, 46896), (109,
46797), (114, 46758), (117, 46734),

Gene: LunaBlu_85 Start: 49751, Stop: 50095, Start Num: 68
Candidate Starts for LunaBlu_85:
(Start: 68 @49751 has 61 MA's), (80, 49799), (88, 49859), (114, 50057), (117, 50081),

Gene: MadMen_88 Start: 49877, Stop: 50221, Start Num: 68
Candidate Starts for MadMen_88:
(Start: 68 @49877 has 61 MA's), (80, 49925), (88, 49985), (114, 50183), (117, 50207),

Gene: Marker_88 Start: 49677, Stop: 50045, Start Num: 68
Candidate Starts for Marker_88:
(Start: 68 @49677 has 61 MA's), (80, 49725), (88, 49785), (92, 49818), (95, 49863), (96, 49869), (109,
49968), (114, 50007),

Gene: MiaZeal_75 Start: 47744, Stop: 47376, Start Num: 68
Candidate Starts for MiaZeal_75:
(Start: 68 @47744 has 61 MA's), (80, 47696), (88, 47636), (92, 47603), (95, 47558), (96, 47552), (109,
47453), (114, 47414), (117, 47390),

Gene: MilanaBonita_78 Start: 48285, Stop: 48626, Start Num: 68
Candidate Starts for MilanaBonita_78:
(Start: 68 @48285 has 61 MA's), (80, 48333), (88, 48393), (92, 48426), (107, 48555), (109, 48558),
(114, 48588), (117, 48612),

Gene: Modragons_55 Start: 38743, Stop: 39078, Start Num: 62
Candidate Starts for Modragons_55:
(Start: 62 @38743 has 7 MA's), (71, 38776), (76, 38803), (77, 38815), (80, 38827), (92, 38911), (100,
38977), (108, 39013), (114, 39052),

Gene: Mozy_89 Start: 48614, Stop: 48958, Start Num: 68
Candidate Starts for Mozy_89:
(Start: 68 @48614 has 61 MA's), (80, 48662), (88, 48722), (114, 48920), (117, 48944),

Gene: Ms6_83 Start: 45978, Stop: 46319, Start Num: 68
Candidate Starts for Ms6_83:
(Start: 68 @45978 has 61 MA's), (80, 46026), (88, 46086), (92, 46119), (107, 46248), (109, 46251),
(114, 46281), (117, 46305),

Gene: Mwanjiwa_85 Start: 50053, Stop: 50421, Start Num: 68
Candidate Starts for Mwanjiwa_85:
(Start: 68 @50053 has 61 MA's), (80, 50101), (88, 50161), (92, 50194), (95, 50239), (96, 50245), (109,
50344), (114, 50383), (117, 50407),

Gene: NewHope4_85 Start: 47846, Stop: 48190, Start Num: 68
Candidate Starts for NewHope4_85:
(Start: 68 @47846 has 61 MA's), (80, 47894), (88, 47954), (114, 48152), (117, 48176),

Gene: NihilNomen_75 Start: 51436, Stop: 51068, Start Num: 68
Candidate Starts for NihilNomen_75:
(Start: 68 @51436 has 61 MA's), (80, 51388), (88, 51328), (92, 51295), (95, 51250), (96, 51244), (109,
51145), (114, 51106), (117, 51082),

Gene: Nimbo_46 Start: 35314, Stop: 35697, Start Num: 51
Candidate Starts for Nimbo_46:
(Start: 51 @35314 has 36 MA's), (56, 35323), (71, 35386), (74, 35410), (92, 35527), (100, 35593),
(108, 35629), (114, 35668),

Gene: Ochi17_54 Start: 38350, Stop: 38685, Start Num: 62
Candidate Starts for Ochi17_54:
(Start: 62 @38350 has 7 MA's), (71, 38383), (76, 38410), (77, 38422), (80, 38434), (92, 38518), (100,
38584), (108, 38620), (114, 38659),

Gene: Odette_73 Start: 50479, Stop: 50111, Start Num: 68
Candidate Starts for Odette_73:
(Start: 68 @50479 has 61 MA's), (80, 50431), (88, 50371), (92, 50338), (95, 50293), (96, 50287), (109,
50188), (114, 50149), (117, 50125),

Gene: OfUltron_56 Start: 38899, Stop: 39234, Start Num: 62
Candidate Starts for OfUltron_56:
(Start: 62 @38899 has 7 MA's), (71, 38932), (76, 38959), (77, 38971), (80, 38983), (92, 39067), (100,
39133), (108, 39169), (114, 39208),

Gene: Ogotogo_88 Start: 49094, Stop: 49438, Start Num: 68

Candidate Starts for Ogotogo_88:

(Start: 68 @49094 has 61 MA's), (80, 49142), (88, 49202), (114, 49400), (117, 49424),

Gene: Oksu_55 Start: 38799, Stop: 39179, Start Num: 51

Candidate Starts for Oksu_55:

(Start: 51 @38799 has 36 MA's), (56, 38808), (71, 38871), (74, 38895), (92, 39012), (100, 39078), (108, 39114), (114, 39153),

Gene: OldBen_49 Start: 37029, Stop: 37412, Start Num: 51

Candidate Starts for OldBen_49:

(Start: 51 @37029 has 36 MA's), (56, 37038), (71, 37101), (74, 37125), (92, 37242), (100, 37308), (108, 37344), (114, 37383),

Gene: OlympiaSaint_51 Start: 36873, Stop: 37310, Start Num: 35

Candidate Starts for OlympiaSaint_51:

(Start: 35 @36873 has 1 MA's), (44, 36906), (50, 36933), (59, 36957), (92, 37116), (111, 37245), (112, 37248), (114, 37278), (116, 37299),

Gene: OwlsT2W_50 Start: 36873, Stop: 37304, Start Num: 42

Candidate Starts for OwlsT2W_50:

(Start: 42 @36873 has 10 MA's), (Start: 51 @36906 has 36 MA's), (57, 36933), (65, 36957), (91, 37095), (92, 37116), (95, 37161), (114, 37284),

Gene: PHappiness_47 Start: 35287, Stop: 35670, Start Num: 51

Candidate Starts for PHappiness_47:

(Start: 51 @35287 has 36 MA's), (56, 35296), (71, 35359), (74, 35383), (92, 35500), (100, 35566), (108, 35602), (114, 35641),

Gene: PMC_45 Start: 36085, Stop: 36468, Start Num: 51

Candidate Starts for PMC_45:

(Start: 51 @36085 has 36 MA's), (56, 36094), (71, 36157), (74, 36181), (92, 36298), (100, 36364), (108, 36400), (114, 36439),

Gene: Pacc40_46 Start: 35361, Stop: 35744, Start Num: 51

Candidate Starts for Pacc40_46:

(Start: 51 @35361 has 36 MA's), (56, 35370), (71, 35433), (74, 35457), (92, 35574), (100, 35640), (108, 35676), (114, 35715),

Gene: Phanphagia_48 Start: 36801, Stop: 37235, Start Num: 38

Candidate Starts for Phanphagia_48:

(Start: 38 @36801 has 6 MA's), (Start: 39 @36804 has 1 MA's), (44, 36831), (50, 36858), (59, 36882), (92, 37041), (111, 37170), (112, 37173), (114, 37203), (116, 37224),

Gene: Phasih_48 Start: 36631, Stop: 37014, Start Num: 51

Candidate Starts for Phasih_48:

(Start: 51 @36631 has 36 MA's), (56, 36640), (71, 36703), (74, 36727), (92, 36844), (100, 36910), (108, 36946), (114, 36985),

Gene: PhlipPhlop_50 Start: 37891, Stop: 38274, Start Num: 51

Candidate Starts for PhlipPhlop_50:

(Start: 51 @37891 has 36 MA's), (56, 37900), (71, 37963), (74, 37987), (92, 38104), (100, 38170), (108, 38206), (114, 38245),

Gene: Phoebus_77 Start: 52618, Stop: 52250, Start Num: 68

Candidate Starts for Phoebus_77:

(Start: 68 @52618 has 61 MA's), (80, 52570), (88, 52510), (92, 52477), (95, 52432), (96, 52426), (109, 52327), (114, 52288), (117, 52264),

Gene: Plumbus_53 Start: 37073, Stop: 37519, Start Num: 42

Candidate Starts for Plumbus_53:

(Start: 42 @37073 has 10 MA's), (Start: 51 @37106 has 36 MA's), (57, 37133), (65, 37157), (92, 37316), (102, 37415), (114, 37493),

Gene: Poenanya_50 Start: 37614, Stop: 37997, Start Num: 51

Candidate Starts for Poenanya_50:

(Start: 51 @37614 has 36 MA's), (56, 37623), (71, 37686), (74, 37710), (92, 37827), (100, 37893), (108, 37929), (114, 37968),

Gene: Polka14_48 Start: 35964, Stop: 36347, Start Num: 51

Candidate Starts for Polka14_48:

(Start: 51 @35964 has 36 MA's), (56, 35973), (71, 36036), (74, 36060), (92, 36177), (100, 36243), (108, 36279), (114, 36318),

Gene: Pollywog_51 Start: 37317, Stop: 37757, Start Num: 42

Candidate Starts for Pollywog_51:

(Start: 42 @37317 has 10 MA's), (Start: 51 @37350 has 36 MA's), (57, 37377), (65, 37401), (91, 37539), (92, 37560), (95, 37605), (114, 37728), (115, 37746),

Gene: Polo2Bam_91 Start: 47700, Stop: 48044, Start Num: 68

Candidate Starts for Polo2Bam_91:

(Start: 68 @47700 has 61 MA's), (80, 47748), (88, 47808), (114, 48006), (117, 48030),

Gene: Porcelain_74 Start: 47744, Stop: 47376, Start Num: 68

Candidate Starts for Porcelain_74:

(Start: 68 @47744 has 61 MA's), (80, 47696), (88, 47636), (92, 47603), (95, 47558), (96, 47552), (109, 47453), (114, 47414), (117, 47390),

Gene: Quico_60 Start: 39037, Stop: 39525, Start Num: 30

Candidate Starts for Quico_60:

(Start: 30 @39037 has 2 MA's), (33, 39046), (49, 39121), (52, 39130), (60, 39166), (74, 39238), (79, 39259), (92, 39355), (100, 39421), (108, 39457), (114, 39496),

Gene: Radiance_51 Start: 37201, Stop: 37584, Start Num: 51

Candidate Starts for Radiance_51:

(Start: 51 @37201 has 36 MA's), (56, 37210), (71, 37273), (74, 37297), (92, 37414), (100, 37480), (108, 37516), (114, 37555),

Gene: Ramsey_52 Start: 37825, Stop: 38238, Start Num: 42

Candidate Starts for Ramsey_52:

(Start: 42 @37825 has 10 MA's), (Start: 51 @37858 has 36 MA's), (57, 37885), (65, 37909), (92, 38068), (100, 38134), (108, 38170), (114, 38209),

Gene: Rearden_67 Start: 46500, Stop: 46132, Start Num: 68

Candidate Starts for Rearden_67:

(Start: 68 @46500 has 61 MA's), (80, 46452), (88, 46392), (92, 46359), (95, 46314), (96, 46308), (109, 46209), (114, 46170), (117, 46146),

Gene: Redno2_71 Start: 48232, Stop: 47864, Start Num: 68

Candidate Starts for Redno2_71:

(Start: 68 @48232 has 61 MA's), (80, 48184), (88, 48124), (92, 48091), (95, 48046), (96, 48040), (109, 47941), (114, 47902), (117, 47878),

Gene: Renaud18_56 Start: 37524, Stop: 38036, Start Num: 24

Candidate Starts for Renaud18_56:

(1, 37356), (4, 37389), (6, 37404), (11, 37434), (12, 37437), (17, 37464), (18, 37473), (Start: 24 @37524 has 6 MA's), (34, 37560), (Start: 47 @37617 has 1 MA's), (55, 37650), (61, 37671), (88, 37812), (92, 37845), (114, 38010),

Gene: RitaG_47 Start: 35632, Stop: 36015, Start Num: 51

Candidate Starts for RitaG_47:

(Start: 51 @35632 has 36 MA's), (56, 35641), (71, 35704), (74, 35728), (92, 35845), (100, 35911), (108, 35947), (114, 35986),

Gene: Rockne_49 Start: 36085, Stop: 36468, Start Num: 51

Candidate Starts for Rockne_49:

(Start: 51 @36085 has 36 MA's), (56, 36094), (71, 36157), (74, 36181), (92, 36298), (100, 36364), (108, 36400), (114, 36439),

Gene: RockyHorror_51 Start: 36489, Stop: 36872, Start Num: 51

Candidate Starts for RockyHorror_51:

(Start: 51 @36489 has 36 MA's), (56, 36498), (71, 36561), (74, 36585), (92, 36702), (100, 36768), (108, 36804), (114, 36843),

Gene: Sandalphon_53 Start: 37808, Stop: 38191, Start Num: 51

Candidate Starts for Sandalphon_53:

(Start: 51 @37808 has 36 MA's), (56, 37817), (71, 37880), (74, 37904), (92, 38021), (100, 38087), (108, 38123), (114, 38162),

Gene: Sarma624_81 Start: 45898, Stop: 46242, Start Num: 68

Candidate Starts for Sarma624_81:

(Start: 68 @45898 has 61 MA's), (80, 45946), (88, 46006), (114, 46204), (117, 46228),

Gene: Schatzie_69 Start: 50226, Stop: 49858, Start Num: 68

Candidate Starts for Schatzie_69:

(Start: 68 @50226 has 61 MA's), (80, 50178), (88, 50118), (92, 50085), (95, 50040), (96, 50034), (109, 49935), (114, 49896), (117, 49872),

Gene: ScoobyDoobyDoo_3 Start: 606, Stop: 1007, Start Num: 43

Candidate Starts for ScoobyDoobyDoo_3:

(Start: 43 @606 has 4 MA's), (63, 681), (72, 696), (77, 723), (81, 729), (85, 774), (88, 786), (93, 840), (99, 897), (113, 963),

Gene: Scottish_50 Start: 36644, Stop: 37027, Start Num: 51

Candidate Starts for Scottish_50:

(Start: 51 @36644 has 36 MA's), (56, 36653), (71, 36716), (74, 36740), (92, 36857), (100, 36923), (108, 36959), (114, 36998),

Gene: SeaLumen_88 Start: 47700, Stop: 48044, Start Num: 68
Candidate Starts for SeaLumen_88:
(Start: 68 @47700 has 61 MA's), (80, 47748), (88, 47808), (114, 48006), (117, 48030),

Gene: Seabastian_56 Start: 38900, Stop: 39235, Start Num: 62
Candidate Starts for Seabastian_56:
(Start: 62 @38900 has 7 MA's), (71, 38933), (76, 38960), (77, 38972), (80, 38984), (92, 39068), (100, 39134), (108, 39170), (114, 39209),

Gene: Shaboozey_68 Start: 45709, Stop: 45341, Start Num: 68
Candidate Starts for Shaboozey_68:
(Start: 68 @45709 has 61 MA's), (80, 45661), (88, 45601), (92, 45568), (95, 45523), (96, 45517), (109, 45418), (114, 45379), (117, 45355),

Gene: Shauna1_48 Start: 36782, Stop: 37216, Start Num: 38
Candidate Starts for Shauna1_48:
(Start: 38 @36782 has 6 MA's), (Start: 39 @36785 has 1 MA's), (44, 36812), (50, 36839), (59, 36863), (92, 37022), (111, 37151), (112, 37154), (114, 37184), (116, 37205),

Gene: ShroomBoi_53 Start: 37239, Stop: 37649, Start Num: 45
Candidate Starts for ShroomBoi_53:
(Start: 45 @37239 has 1 MA's), (46, 37242), (Start: 51 @37269 has 36 MA's), (57, 37296), (65, 37320), (92, 37479), (100, 37545), (108, 37581), (114, 37620),

Gene: Soul22_83 Start: 47464, Stop: 47808, Start Num: 68
Candidate Starts for Soul22_83:
(Start: 68 @47464 has 61 MA's), (80, 47512), (88, 47572), (114, 47770), (117, 47794),

Gene: Spartacus_88 Start: 51839, Stop: 52264, Start Num: 68
Candidate Starts for Spartacus_88:
(Start: 68 @51839 has 61 MA's), (94, 52034), (97, 52076), (104, 52136), (106, 52145), (112, 52181), (114, 52226), (117, 52250),

Gene: Spikelee_57 Start: 38384, Stop: 38767, Start Num: 51
Candidate Starts for Spikelee_57:
(Start: 51 @38384 has 36 MA's), (56, 38393), (71, 38456), (74, 38480), (92, 38597), (100, 38663), (108, 38699), (114, 38738),

Gene: Spoonbill_49 Start: 35586, Stop: 35969, Start Num: 51
Candidate Starts for Spoonbill_49:
(Start: 51 @35586 has 36 MA's), (56, 35595), (71, 35658), (74, 35682), (92, 35799), (100, 35865), (108, 35901), (114, 35940),

Gene: Sprinklers_17 Start: 5187, Stop: 5555, Start Num: 68
Candidate Starts for Sprinklers_17:
(Start: 68 @5187 has 61 MA's), (80, 5235), (88, 5295), (92, 5328), (95, 5373), (96, 5379), (109, 5478), (114, 5517), (117, 5541),

Gene: Squint_75 Start: 47863, Stop: 47495, Start Num: 68
Candidate Starts for Squint_75:
(Start: 68 @47863 has 61 MA's), (80, 47815), (88, 47755), (92, 47722), (95, 47677), (96, 47671), (109, 47572), (114, 47533), (117, 47509),

Gene: Squirty_54 Start: 37873, Stop: 38295, Start Num: 47

Candidate Starts for Squirty_54:

(25, 37786), (Start: 30 @37807 has 2 MA's), (Start: 47 @37873 has 1 MA's), (61, 37927), (92, 38101), (111, 38230), (112, 38233), (114, 38263), (116, 38284),

Gene: Stap_50 Start: 36387, Stop: 36770, Start Num: 51

Candidate Starts for Stap_50:

(Start: 51 @36387 has 36 MA's), (56, 36396), (71, 36459), (74, 36483), (92, 36600), (100, 36666), (108, 36702), (114, 36741),

Gene: SuperGrey_53 Start: 38208, Stop: 38642, Start Num: 38

Candidate Starts for SuperGrey_53:

(Start: 38 @38208 has 6 MA's), (Start: 39 @38211 has 1 MA's), (44, 38238), (50, 38265), (59, 38289), (92, 38448), (111, 38577), (112, 38580), (114, 38610), (116, 38631),

Gene: Superphikiman_72 Start: 46954, Stop: 46586, Start Num: 68

Candidate Starts for Superphikiman_72:

(Start: 68 @46954 has 61 MA's), (80, 46906), (88, 46846), (92, 46813), (95, 46768), (96, 46762), (109, 46663), (114, 46624), (117, 46600),

Gene: Taj_54 Start: 37445, Stop: 37957, Start Num: 24

Candidate Starts for Taj_54:

(1, 37277), (4, 37310), (6, 37325), (11, 37355), (12, 37358), (17, 37385), (18, 37394), (Start: 24 @37445 has 6 MA's), (34, 37481), (Start: 47 @37538 has 1 MA's), (55, 37571), (61, 37592), (88, 37733), (92, 37766), (114, 37931),

Gene: Tchotchke_77 Start: 47983, Stop: 48327, Start Num: 68

Candidate Starts for Tchotchke_77:

(Start: 68 @47983 has 61 MA's), (80, 48031), (88, 48091), (110, 48253), (114, 48289), (117, 48313),

Gene: ThetaBob_55 Start: 37062, Stop: 37427, Start Num: 42

Candidate Starts for ThetaBob_55:

(Start: 42 @37062 has 10 MA's), (Start: 51 @37095 has 36 MA's), (57, 37122), (65, 37146), (82, 37230), (87, 37269), (89, 37278), (98, 37371), (103, 37398), (105, 37401),

Gene: ThreeRngTarjay_72 Start: 51510, Stop: 51142, Start Num: 68

Candidate Starts for ThreeRngTarjay_72:

(Start: 68 @51510 has 61 MA's), (80, 51462), (88, 51402), (92, 51369), (95, 51324), (96, 51318), (109, 51219), (114, 51180), (117, 51156),

Gene: Topiatin_56 Start: 38155, Stop: 38643, Start Num: 30

Candidate Starts for Topiatin_56:

(Start: 30 @38155 has 2 MA's), (33, 38164), (49, 38239), (52, 38248), (60, 38284), (74, 38356), (79, 38377), (92, 38473), (100, 38539), (108, 38575), (114, 38614),

Gene: Topiatin_86 Start: 49943, Stop: 50392, Start Num: 43

Candidate Starts for Topiatin_86:

(15, 49784), (19, 49814), (Start: 43 @49943 has 4 MA's), (48, 49955), (72, 50063), (73, 50081), (78, 50105), (83, 50129), (85, 50159), (88, 50171), (93, 50225), (99, 50282), (113, 50348),

Gene: Traaww1_39 Start: 34655, Stop: 34287, Start Num: 68

Candidate Starts for Traaww1_39:

(Start: 68 @34655 has 61 MA's), (80, 34607), (88, 34547), (92, 34514), (95, 34469), (96, 34463), (109, 34364), (114, 34325), (117, 34301),

Gene: Tweety_50 Start: 37155, Stop: 37592, Start Num: 42

Candidate Starts for Tweety_50:

(Start: 42 @37155 has 10 MA's), (Start: 51 @37188 has 36 MA's), (57, 37215), (65, 37239), (91, 37377), (92, 37398), (97, 37458),

Gene: Velveteen_76 Start: 45898, Stop: 46242, Start Num: 68

Candidate Starts for Velveteen_76:

(Start: 68 @45898 has 61 MA's), (80, 45946), (88, 46006), (114, 46204), (117, 46228),

Gene: Vivum_53 Start: 37408, Stop: 37791, Start Num: 51

Candidate Starts for Vivum_53:

(Start: 51 @37408 has 36 MA's), (56, 37417), (71, 37480), (74, 37504), (92, 37621), (100, 37687), (108, 37723), (114, 37762),

Gene: Wee_53 Start: 37717, Stop: 38229, Start Num: 24

Candidate Starts for Wee_53:

(1, 37549), (4, 37582), (6, 37597), (11, 37627), (12, 37630), (17, 37657), (18, 37666), (Start: 24 @37717 has 6 MA's), (34, 37753), (Start: 47 @37810 has 1 MA's), (55, 37843), (61, 37864), (88, 38005), (92, 38038), (114, 38203),

Gene: WillSterrel_81 Start: 49641, Stop: 50066, Start Num: 68

Candidate Starts for WillSterrel_81:

(Start: 68 @49641 has 61 MA's), (94, 49836), (97, 49878), (104, 49938), (106, 49947), (112, 49983), (114, 50028), (117, 50052),

Gene: Yeet_70 Start: 49727, Stop: 49359, Start Num: 68

Candidate Starts for Yeet_70:

(Start: 68 @49727 has 61 MA's), (80, 49679), (88, 49619), (92, 49586), (95, 49541), (96, 49535), (109, 49436), (114, 49397),

Gene: Zelink_72 Start: 51822, Stop: 51454, Start Num: 68

Candidate Starts for Zelink_72:

(Start: 68 @51822 has 61 MA's), (80, 51774), (88, 51714), (92, 51681), (95, 51636), (96, 51630), (109, 51531), (114, 51492), (117, 51468),

Gene: Zerg_50 Start: 36598, Stop: 36981, Start Num: 51

Candidate Starts for Zerg_50:

(Start: 51 @36598 has 36 MA's), (56, 36607), (71, 36670), (74, 36694), (92, 36811), (100, 36877), (108, 36913), (114, 36952),