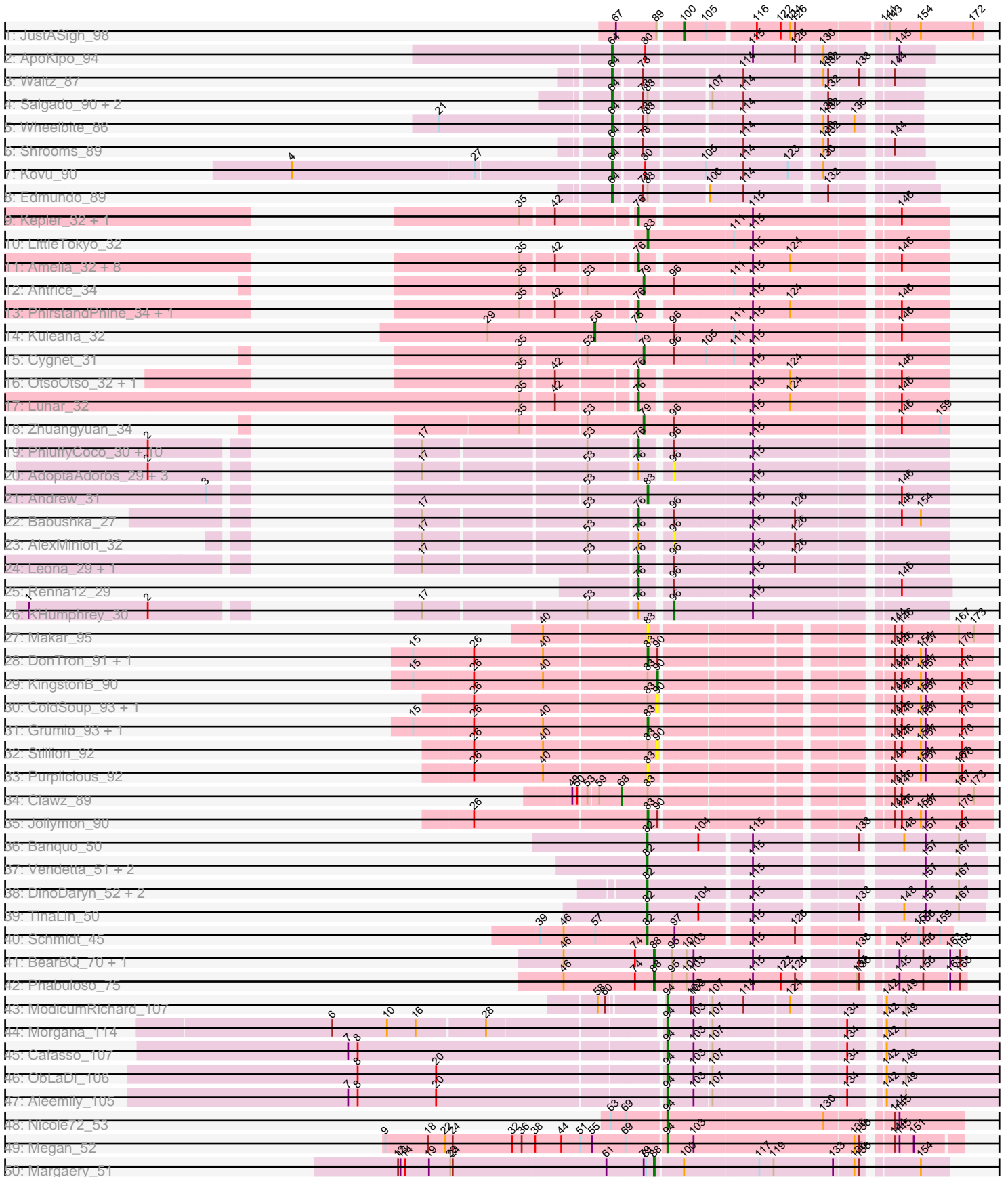
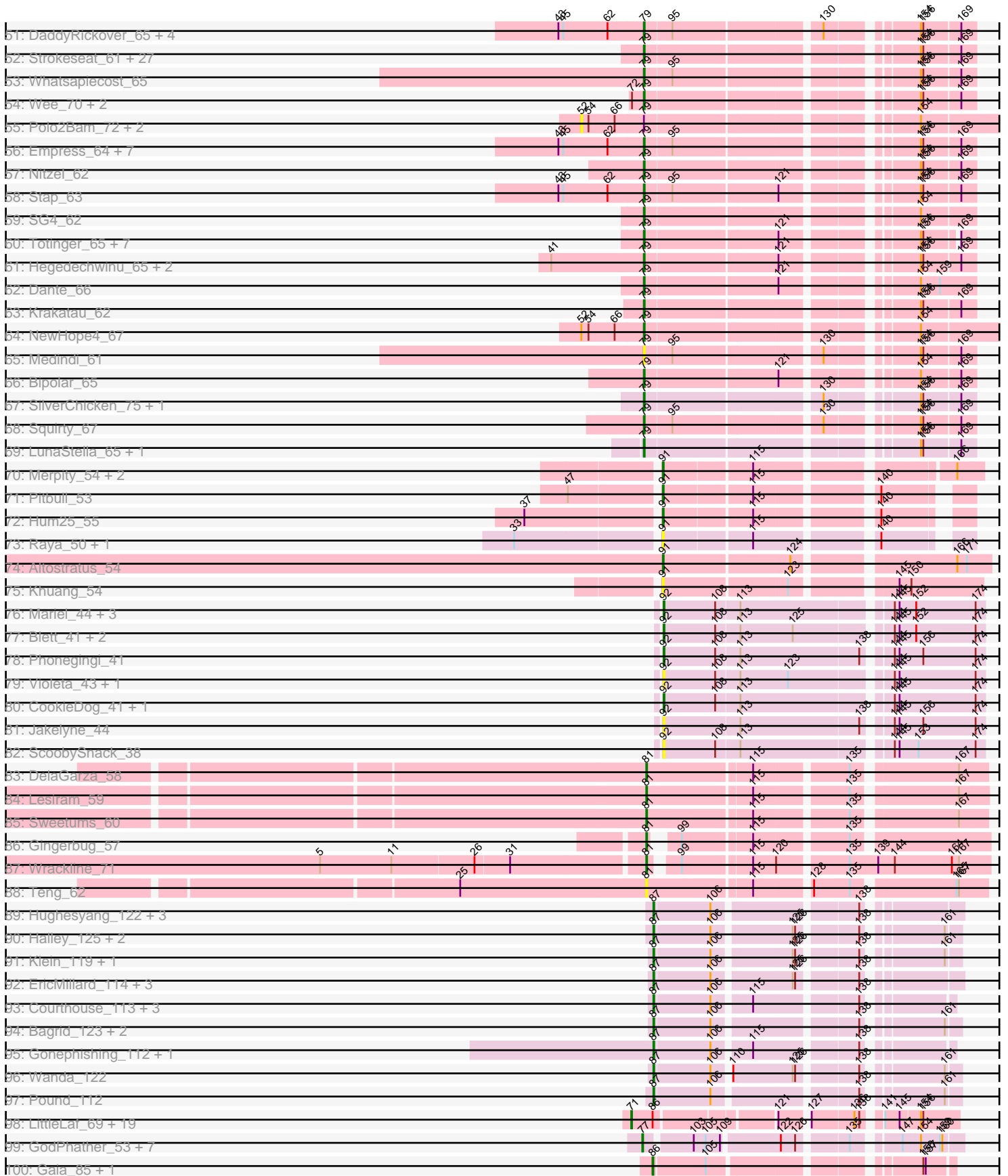


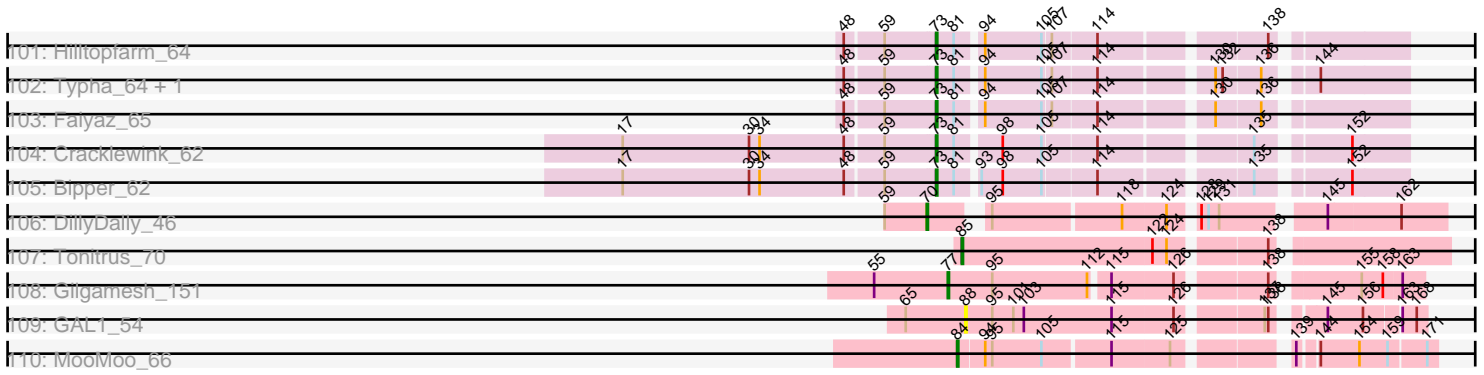
Pham 311190



Pham 311190



Pham 311190



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 311190 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311190 has 251 members, 37 are drafts.

Phages represented in each track:

- Track 1 : JustASigh_98
- Track 2 : ApoKipo_94
- Track 3 : Waltz_87
- Track 4 : Salgado_90, Laroye_90, LiSara_87
- Track 5 : Wheelbite_86
- Track 6 : Shrooms_89
- Track 7 : Kovu_90
- Track 8 : Edmundo_89
- Track 9 : Kepler_32, Daob_33
- Track 10 : LittleTokyo_32
- Track 11 : Amelia_32, HannahPhantana_32, Cote_33, Bedetta_34, Pineda_33, Coral_31, Colusalem_32, Jerole_32, GramZayde_32
- Track 12 : Antrice_34
- Track 13 : PhirstandPhine_34, Melons_32
- Track 14 : Kuleana_32
- Track 15 : Cygnet_31
- Track 16 : OtsoOtso_32, Polka_31
- Track 17 : Lunar_32
- Track 18 : Zhuangyuan_34
- Track 19 : PhluffyCoco_30, Atlantica_30, RedFox_30, HamCheese_30, Glotell_31, Laphuphu24k_28, Juno112_29, Amphitrite_30, Fingolfin_30, AmiCi24_29, DanHam62_30
- Track 20 : AdoptaAdorbs_29, Camara_30, Oppalora_29, Rattail_30
- Track 21 : Andrew_31
- Track 22 : Babushka_27
- Track 23 : AlexMinion_32
- Track 24 : Leona_29, Azaz_30
- Track 25 : Renna12_29
- Track 26 : KHumphrey_30
- Track 27 : Makar_95
- Track 28 : DonTron_91, Sting_90
- Track 29 : KingstonB_90
- Track 30 : ColdSoup_93, Amo99_93
- Track 31 : Grumio_93, Soos_87
- Track 32 : Stillion_92
- Track 33 : Purplicious_92
- Track 34 : Clawz_89

- Track 35 : Jollymon_90
- Track 36 : Banquo_50
- Track 37 : Vendetta_51, Goib_52, Splinter_51
- Track 38 : DinoDaryn_52, TZGordon_53, Huffy_52
- Track 39 : TinaLin_50
- Track 40 : Schmidt_45
- Track 41 : BearBQ_70, BotCity_75
- Track 42 : Phabuloso_75
- Track 43 : ModicumRichard_107
- Track 44 : Morgana_114
- Track 45 : Cafasso_107
- Track 46 : ObLaDi_106
- Track 47 : Aleemily_105
- Track 48 : Nicole72_53
- Track 49 : Megan_52
- Track 50 : Margaery_51
- Track 51 : DaddyRickover_65, KingMidas_65, Sassafras_64, RedBird_64, Dorothy_64
- Track 52 : Strokeseat_61, Melissauen88_63, SassyB_59, Plumbus_68, Ovechkin_65, DotProduct_60, Donkeykong_68, Hlubikazi_61, Florinda_76, Girafales_73, Filuzino_63, Ms6_62, PopTart_59, IrishSherpFalk_66, Flathead_66, Phalconet_63, Seagreen_64, Emmaloid_67, Spartacus_67, Slim_67, Shauna1_63, Phanphagia_61, DLane_60, StAnnes_63, Mandlovu_61, Rialto_70, Quico_73, WillSterrel_66
- Track 53 : Whatsapiecost_65
- Track 54 : Wee_70, DeadP_72, Taj_70
- Track 55 : Polo2Bam_72, SeaLumen_70, Enzomatic_73
- Track 56 : Empress_64, IbOuu_65, BodEinwohner17_66, Geralt_60, Deb65_60, Scottish_64, Nimbo_59, OldBen_63
- Track 57 : Nitzel_62
- Track 58 : Stap_63
- Track 59 : SG4_62
- Track 60 : Totinger_65, UncleRicky_64, Llij_61, Lorde_65, DirtMcgirt_64, Phatniss_63, Enby_66, Drago_62
- Track 61 : Hegedechwinu_65, Doomslug_74, Gandalph_68
- Track 62 : Dante_66
- Track 63 : Krakatau_62
- Track 64 : NewHope4_67
- Track 65 : Medindi_61
- Track 66 : Bipolar_65
- Track 67 : SilverChicken_75, Veteran_62
- Track 68 : Squirty_67
- Track 69 : LunaStella_65, TChen_67
- Track 70 : Merpity_54, Skitty_47, MrSmee_53
- Track 71 : Pitbull_53
- Track 72 : Hum25_55
- Track 73 : Raya_50, Skyerus_45
- Track 74 : Altostratus_54
- Track 75 : Khuang_54
- Track 76 : Mariel_44, Antuna_42, Warren_41, MenE_42
- Track 77 : Blett_41, Bush_42, NCRodriguez_42
- Track 78 : Phonegingi_41
- Track 79 : Violeta_43, Carrillo_43

- Track 80 : CookieDog_41, Phingu_44
- Track 81 : Jakelyne_44
- Track 82 : ScoobySnack_38
- Track 83 : DelaGarza_58
- Track 84 : Lesiram_59
- Track 85 : Sweetums_60
- Track 86 : Gingerbug_57
- Track 87 : Wrackline_71
- Track 88 : Teng_62
- Track 89 : Hughesyang_122, Zelink_117, Minerva_120, ThreeRngTarjay_118
- Track 90 : Halley_125, Redno2_116, Ejimix_117
- Track 91 : Klein_119, Bobby_115
- Track 92 : EricMillard_114, BAKA_122, Duke13_117, Optimus_113
- Track 93 : Courthouse_113, Ariel_118, Superphikiman_115, Squint_116
- Track 94 : Bagrid_123, Kalah2_114, DmpstrDiver_123
- Track 95 : Gonephishing_112, LittleE_122
- Track 96 : Wanda_122
- Track 97 : Pound_112
- Track 98 : LittleLaf_69, Pringar_68, VasuNzinga_68, JoieB_70, Huphlepuuff_71, Corazon_67, Marvin_65, FeliMaine_71, Beelzebub_73, MosMoris_66, Blackbeetle_69, Caprice_64, GoongGoong_68, Clarkson_70, Poise_69, Lilbit_67, Gattaca_67, Raela_69, Tesla_66, RedRaider77_68
- Track 99 : GodPhather_53, Cepens_52, D12_51, Megabear_52, PR_52, Argie_53, Jeon_52, Taptic_52
- Track 100 : Gaia_85, Nebkiss_84
- Track 101 : Hilltopfarm_64
- Track 102 : Typha_64, AuntGwenStacy_65
- Track 103 : Faiyaz_65
- Track 104 : Cracklewink_62
- Track 105 : Bipper_62
- Track 106 : DillyDally_46
- Track 107 : Tonitrus_70
- Track 108 : Gilgamesh_151
- Track 109 : GAL1_54
- Track 110 : MooMoo_66

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

The start number called the most often in the published annotations is 79, it was called in 68 of the 214 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antrice_34, Bipolar_65, BodEinwohner17_66, Cygnet_31, DLane_60, DaddyRickover_65, Dante_66, DeadP_72, Deb65_60, DirtMcgirt_64, Donkeykong_68, Doomslug_74, Dorothy_64, DotProduct_60, Drago_62, Emmaloid_67, Empress_64, Enby_66, Filuzino_63, Flathead_66, Florinda_76, Gandolph_68, Geralt_60, Girafales_73, Hegedechwinu_65, Hlubikazi_61, IbOuu_65, IrishSherpFalk_66, KingMidas_65, Krakatau_62, Llij_61, Lorde_65, LunaStella_65, Mandlovu_61, Medindi_61, Melissauren88_63, Ms6_62, NewHope4_67, Nimbo_59, Nitzel_62, OldBen_63, Ovechkin_65, Phalconet_63, Phanphagia_61, Phatniss_63,

Plumbus_68, PopTart_59, Quico_73, RedBird_64, Rialto_70, SG4_62, Sassafras_64, SassyB_59, Scottish_64, Seagreen_64, Shauna1_63, SilverChicken_75, Slim_67, Spartacus_67, Squirty_67, StAnnes_63, Stap_63, Strokeseat_61, TChen_67, Taj_70, Totinger_65, UncleRicky_64, Veteran_62, Wee_70, Whatsapiecost_65, WillSterrel_66, Zhuangyuan_34,

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

- Enzomatic_73, Margaery_51, Polo2Bam_72, SeaLumen_70,

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

- AdoptaAdorbs_29, Aleemily_105, AlexMinion_32, Altostratus_54, Amelia_32, AmiCi24_29, Amo99_93, Amphitrite_30, Andrew_31, Antuna_42, ApoKipo_94, Argie_53, Ariel_118, Atlantica_30, AuntGwenStacy_65, Azaz_30, BAKA_122, Babushka_27, Bagrid_123, Banquo_50, BearBQ_70, Bedetta_34, Beelzebub_73, Bipper_62, Blackbeetle_69, Blett_41, Bobby_115, BotCity_75, Bush_42, Cafasso_107, Camara_30, Caprice_64, Carrillo_43, Cepens_52, Clarkson_70, Clawz_89, ColdSoup_93, Colusalem_32, CookieDog_41, Coral_31, Corazon_67, Cote_33, Courthouse_113, Cracklewink_62, D12_51, DanHam62_30, Daob_33, DelaGarza_58, DillyDally_46, DinoDaryn_52, DmpstrDiver_123, DonTron_91, Duke13_117, Edmundo_89, Ejimix_117, EricMillard_114, Faiyaz_65, FeliMaine_71, Fingolfin_30, GAL1_54, Gaia_85, Gattaca_67, Gilgamesh_151, Gingerbug_57, Glotell_31, GodPhather_53, Goib_52, Gonephishing_112, GoongGoong_68, GramZayde_32, Grumio_93, Halley_125, HamCheese_30, HannahPhantana_32, Hilltopfarm_64, Huffy_52, Hughesyang_122, Hum25_55, Huphlepuff_71, Jakelyne_44, Jeon_52, Jerole_32, JoieB_70, Jollymon_90, Juno112_29, JustASigh_98, KHumphrey_30, Kalah2_114, Kepler_32, Khuang_54, KingstonB_90, Klein_119, Kovu_90, Kuleana_32, Laphuphu24k_28, Laroye_90, Leona_29, Lesiram_59, LiSara_87, Lilbit_67, LittleE_122, LittleLaf_69, LittleTokyo_32, Lunar_32, Makar_95, Mariel_44, Marvin_65, Megabear_52, Megan_52, Melons_32, MenE_42, Merpity_54, Minerva_120, ModicumRichard_107, MooMoo_66, Morgana_114, MosMoris_66, MrSmee_53, NCRodriguez_42, Nebkiss_84, Nicole72_53, ObLaDi_106, Oppalora_29, Optimus_113, OtsoOtso_32, PR_52, Phabuloso_75, Phingu_44, PhirstandPhine_34, PhluffyCoco_30, Phonegingi_41, Pineda_33, Pitbull_53, Poise_69, Polka_31, Pound_112, Pringar_68, Purplicious_92, Raela_69, Rattail_30, Raya_50, RedFox_30, RedRaider77_68, Redno2_116, Renna12_29, Salgado_90, Schmidt_45, ScoobySnack_38, Shrooms_89, Skitty_47, Skyerus_45, Soos_87, Splinter_51, Squint_116, Stillion_92, Sting_90, Superphikiman_115, Sweetums_60, TZGordon_53, Taptic_52, Teng_62, Tesla_66, ThreeRngTarjay_118, TinaLin_50, Tonitrus_70, Typha_64, VasuNzinga_68, Vendetta_51, Violeta_43, Waltz_87, Wanda_122, Warren_41, Wheelbite_86, Wrackline_71, Zelink_117,

Summary by start number:

Start 52:

- Found in 4 of 251 (1.6%) of genes in pham
- No Manual Annotations of this start.
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Enzomatic_73 (F1), Polo2Bam_72 (F1), SeaLumen_70 (F1),

Start 56:

- Found in 1 of 251 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 214

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kuleana_32 (AS2),

Start 64:

- Found in 9 of 251 (3.6%) of genes in pham
- Manual Annotations of this start: 9 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ApoKipo_94 (AL), Edmundo_89 (AL), Kovu_90 (AL), Laroye_90 (AL), LiSara_87 (AL), Salgado_90 (AL), Shrooms_89 (AL), Waltz_87 (AL), Wheelbite_86 (AL),

Start 68:

- Found in 1 of 251 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clawz_89 (CP),

Start 70:

- Found in 1 of 251 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DillyDally_46 (singleton),

Start 71:

- Found in 20 of 251 (8.0%) of genes in pham
- Manual Annotations of this start: 19 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub_73 (S), Blackbeetle_69 (S), Caprice_64 (S), Clarkson_70 (S), Corazon_67 (S), FeliMaine_71 (S), Gattaca_67 (S), GoongGoong_68 (S), Huphlepufl_71 (S), JoieB_70 (S), Lilbit_67 (S), LittleLaf_69 (S), Marvin_65 (S), MosMoris_66 (S), Poise_69 (S), Pringar_68 (S), Raela_69 (S), RedRaider77_68 (S), Tesla_66 (S), VasuNzinga_68 (S),

Start 73:

- Found in 6 of 251 (2.4%) of genes in pham
- Manual Annotations of this start: 6 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy_65 (Y), Bipper_62 (Y), Cracklewink_62 (Y), Faiyaz_65 (Y), Hilltopfarm_64 (Y), Typha_64 (Y),

Start 76:

- Found in 37 of 251 (14.7%) of genes in pham
- Manual Annotations of this start: 28 of 214
- Called 83.8% of time when present
- Phage (with cluster) where this start called: Amelia_32 (AS2), AmiCi24_29 (AS3), Amphitrite_30 (AS3), Atlantica_30 (AS3), Azaz_30 (AS3), Babushka_27 (AS3), Bedetta_34 (AS2), Colusalem_32 (AS2), Coral_31 (AS2), Cote_33 (AS2), DanHam62_30 (AS3), Daob_33 (AS2), Fingolfin_30 (AS3), Glotell_31 (AS3), GramZayde_32 (AS2), HamCheese_30 (AS3), HannahPhantana_32 (AS2), Jerole_32 (AS2), Juno112_29 (AS3), Kepler_32 (AS2), Laphuphu24k_28 (AS3), Leona_29 (AS3), Lunar_32 (AS2), Melons_32 (AS2), OtsoOtso_32 (AS2), PhirstandPhine_34 (AS2), PhluffyCoco_30 (AS3), Pineda_33 (AS2), Polka_31 (AS2), RedFox_30 (AS3), Renn12_29 (AS3),

Start 77:

- Found in 9 of 251 (3.6%) of genes in pham
- Manual Annotations of this start: 9 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argie_53 (W), Cepens_52 (W), D12_51 (W), Gilgamesh_151 (singleton), GodPhather_53 (W), Jeon_52 (W), Megabear_52 (W), PR_52 (W), Taptic_52 (W),

Start 79:

- Found in 76 of 251 (30.3%) of genes in pham
- Manual Annotations of this start: 68 of 214
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Antrice_34 (AS2), Bipolar_65 (F1), BodEinwohner17_66 (F1), Cygnet_31 (AS2), DLane_60 (F1), DaddyRickover_65 (F1), Dante_66 (F1), DeadP_72 (F1), Deb65_60 (F1), DirtMcgirt_64 (F1), Donkeykong_68 (F1), Doomslug_74 (F), Dorothy_64 (F1), DotProduct_60 (F1), Drago_62 (F1), Emmaloid_67 (F1), Empress_64 (F1), Enby_66 (F1), Filuzino_63 (F1), Flathead_66 (F1), Florinda_76 (F1), Gandalph_68 (F1), Geralt_60 (F1), Girafales_73 (F1), Hegedechwinu_65 (F1), Hlubikazi_61 (F1), IbOuu_65 (F1), IrishSherpFalk_66 (F1), KingMidas_65 (F1), Krakatau_62 (F1), Llij_61 (F1), Lorde_65 (F1), LunaStella_65 (F4), Mandlovu_61 (F1), Medindi_61 (F1), Melissauren88_63 (F1), Ms6_62 (F1), NewHope4_67 (F1), Nimbo_59 (F1), Nitzel_62 (F1), OldBen_63 (F1), Ovechkin_65 (F1), Phalconet_63 (F1), Phanphagia_61 (F1), Phatniss_63 (F1), Plumbus_68 (F1), PopTart_59 (F1), Quico_73 (F1), RedBird_64 (F1), Rialto_70 (F1), SG4_62 (F1), Sassafras_64 (F1), SassyB_59 (F1), Scottish_64 (F1), Seagreen_64 (F1), Shauna1_63 (F1), SilverChicken_75 (F2), Slim_67 (F1), Spartacus_67 (F1), Squirty_67 (F3), StAnnes_63 (F1), Stap_63 (F1), Strokeseat_61 (F1), TChen_67 (F4), Taj_70 (F1), Totinger_65 (F1), UncleRicky_64 (F1), Veteran_62 (F1), Wee_70 (F1), Whatsapiecost_65 (F1), WillSterrel_66 (F1), Zhuangyuan_34 (AS2),

Start 81:

- Found in 13 of 251 (5.2%) of genes in pham
- Manual Annotations of this start: 5 of 214
- Called 46.2% of time when present
- Phage (with cluster) where this start called: DelaGarza_58 (GF), Gingerbug_57 (GF), Lesiram_59 (GF), Sweetums_60 (GF), Teng_62 (GF), Wrackline_71 (GF),

Start 82:

- Found in 9 of 251 (3.6%) of genes in pham
- Manual Annotations of this start: 9 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo_50 (CU1), DinoDaryn_52 (CU1), Goib_52 (CU1), Huffy_52 (CU1), Schmidt_45 (CU4), Splinter_51 (CU1), TZGordon_53 (CU1), TinaLin_50 (CU1), Vendetta_51 (CU1),

Start 83:

- Found in 19 of 251 (7.6%) of genes in pham
- Manual Annotations of this start: 6 of 214
- Called 47.4% of time when present
- Phage (with cluster) where this start called: Andrew_31 (AS3), DonTron_91 (CP), Grumio_93 (CP), Jollymon_90 (CP), LittleTokyo_32 (AS2), Makar_95 (CP), Purplicious_92 (CP), Soos_87 (CP), Sting_90 (CP),

Start 84:

- Found in 1 of 251 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MooMoo_66 (singleton),

Start 85:

- Found in 1 of 251 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonitrus_70 (singleton),

Start 86:

- Found in 22 of 251 (8.8%) of genes in pham
- Manual Annotations of this start: 2 of 214
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Gaia_85 (X), Nebkiss_84 (X),

Start 87:

- Found in 24 of 251 (9.6%) of genes in pham
- Manual Annotations of this start: 22 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel_118 (J), BAKA_122 (J), Bagrid_123 (J), Bobby_115 (J), Courthouse_113 (J), DmpstrDiver_123 (J), Duke13_117 (J), Ejimix_117 (J), EricMillard_114 (J), Gonephishing_112 (J), Halley_125 (J), Hughesyang_122 (J), Kalah2_114 (J), Klein_119 (J), LittleE_122 (J), Minerva_120 (J), Optimus_113 (J), Pound_112 (J), Redno2_116 (J), Squint_116 (J), Superphikiman_115 (J), ThreeRngTarjay_118 (J), Wanda_122 (J), Zelink_117 (J),

Start 88:

- Found in 5 of 251 (2.0%) of genes in pham
- Manual Annotations of this start: 4 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ_70 (DN), BotCity_75 (DN), GAL1_54 (singleton), Margaery_51 (EI), Phabuloso_75 (DN1),

Start 90:

- Found in 7 of 251 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Amo99_93 (CP), ColdSoup_93 (CP), KingstonB_90 (CP), Stillion_92 (CP),

Start 91:

- Found in 9 of 251 (3.6%) of genes in pham
- Manual Annotations of this start: 5 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altostratus_54 (FS), Hum25_55 (FQ1), Khuang_54 (FS), Merpity_54 (FQ1), MrSmees_53 (FQ1), Pitbull_53 (FQ1), Raya_50 (FQ2), Skitty_47 (FQ1), Skyerus_45 (FQ2),

Start 92:

- Found in 14 of 251 (5.6%) of genes in pham
- Manual Annotations of this start: 7 of 214
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna_42 (GA), Blett_41 (GA), Bush_42 (GA), Carrillo_43 (GA), CookieDog_41 (GA), Jakelyne_44 (GA), Mariel_44 (GA), MenE_42 (GA), NCRodriguez_42 (GA), Phingu_44 (GA), Phonegingi_41 (GA), ScoobySnack_38 (GA), Violeta_43 (GA), Warren_41 (GA),

Start 94:

- Found in 12 of 251 (4.8%) of genes in pham
- Manual Annotations of this start: 7 of 214
- Called 58.3% of time when present
- Phage (with cluster) where this start called: Aleemily_105 (DZ), Cafasso_107 (DZ), Megan_52 (EC), ModicumRichard_107 (DZ), Morgana_114 (DZ), Nicole72_53 (EC), ObLaDi_106 (DZ),

Start 96:

- Found in 25 of 251 (10.0%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 24.0% of time when present
- Phage (with cluster) where this start called: AdoptaAdorbs_29 (AS3), AlexMinion_32 (AS3), Camara_30 (AS3), KHumphrey_30 (AS3), Oppalora_29 (AS3), Rattail_30 (AS3),

Start 100:

- Found in 2 of 251 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 214
- Called 50.0% of time when present
- Phage (with cluster) where this start called: JustASigh_98 (AH),

Summary by clusters:

There are 28 clusters represented in this pham: DN, singleton, FS, GA, DZ, CU4, CU1, DN1, AS3, AS2, EI, F, AH, J, AL, EC, GF, S, W, Y, X, CP, F1, F2, F3, F4, FQ2, FQ1,

Info for manual annotations of cluster AH:

- Start number 100 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster AL:

- Start number 64 was manually annotated 9 times for cluster AL.

Info for manual annotations of cluster AS2:

- Start number 56 was manually annotated 1 time for cluster AS2.
- Start number 76 was manually annotated 13 times for cluster AS2.
- Start number 79 was manually annotated 3 times for cluster AS2.
- Start number 83 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 76 was manually annotated 15 times for cluster AS3.
- Start number 83 was manually annotated 1 time for cluster AS3.
- Start number 96 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster CP:

- Start number 68 was manually annotated 1 time for cluster CP.
- Start number 83 was manually annotated 4 times for cluster CP.
- Start number 90 was manually annotated 1 time for cluster CP.

Info for manual annotations of cluster CU1:

- Start number 82 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU4:

- Start number 82 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster DN:

- Start number 88 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 88 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DZ:

- Start number 94 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster EC:

- Start number 94 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 88 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster F1:

- Start number 79 was manually annotated 62 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 79 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 79 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster FQ1:

- Start number 91 was manually annotated 4 times for cluster FQ1.

Info for manual annotations of cluster FS:

- Start number 91 was manually annotated 1 time for cluster FS.

Info for manual annotations of cluster GA:

- Start number 92 was manually annotated 7 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 81 was manually annotated 5 times for cluster GF.

Info for manual annotations of cluster J:

- Start number 87 was manually annotated 22 times for cluster J.

Info for manual annotations of cluster S:

- Start number 71 was manually annotated 19 times for cluster S.

Info for manual annotations of cluster W:

- Start number 77 was manually annotated 8 times for cluster W.

Info for manual annotations of cluster X:

- Start number 86 was manually annotated 2 times for cluster X.

Info for manual annotations of cluster Y:

- Start number 73 was manually annotated 6 times for cluster Y.

Gene Information:

Gene: AdoptaAdorbs_29 Start: 20838, Stop: 20518, Start Num: 96

Candidate Starts for AdoptaAdorbs_29:

(2, 21273), (17, 21123), (53, 20928), (Start: 76 @20871 has 28 MA's), (Start: 96 @20838 has 1 MA's), (115, 20742),

Gene: Aleemily_105 Start: 59933, Stop: 60322, Start Num: 94

Candidate Starts for Aleemily_105:

(7, 59546), (8, 59558), (20, 59657), (Start: 94 @59933 has 7 MA's), (103, 59966), (107, 59987), (134, 60134), (142, 60164), (149, 60188),

Gene: AlexMinion_32 Start: 21027, Stop: 20707, Start Num: 96

Candidate Starts for AlexMinion_32:

(17, 21312), (53, 21117), (Start: 76 @21060 has 28 MA's), (Start: 96 @21027 has 1 MA's), (115, 20931), (126, 20880),

Gene: Altostratus_54 Start: 31416, Stop: 31790, Start Num: 91

Candidate Starts for Altostratus_54:

(Start: 91 @31416 has 5 MA's), (124, 31569), (166, 31749), (171, 31761),

Gene: Amelia_32 Start: 21518, Stop: 21165, Start Num: 76

Candidate Starts for Amelia_32:

(35, 21644), (42, 21605), (Start: 76 @21518 has 28 MA's), (115, 21389), (124, 21344), (146, 21224),

Gene: AmiCi24_29 Start: 20870, Stop: 20517, Start Num: 76

Candidate Starts for AmiCi24_29:

(2, 21272), (17, 21122), (53, 20927), (Start: 76 @20870 has 28 MA's), (Start: 96 @20837 has 1 MA's), (115, 20741),

Gene: Amo99_93 Start: 57523, Stop: 57891, Start Num: 90

Candidate Starts for Amo99_93:

(26, 57298), (Start: 83 @57511 has 6 MA's), (Start: 90 @57523 has 1 MA's), (144, 57772), (146, 57781), (154, 57805), (157, 57811), (170, 57853),

Gene: Amphitrite_30 Start: 20869, Stop: 20516, Start Num: 76

Candidate Starts for Amphitrite_30:

(2, 21271), (17, 21121), (53, 20926), (Start: 76 @20869 has 28 MA's), (Start: 96 @20836 has 1 MA's), (115, 20740),

Gene: Andrew_31 Start: 20815, Stop: 20462, Start Num: 83

Candidate Starts for Andrew_31:

(3, 21166), (53, 20890), (Start: 83 @20815 has 6 MA's), (115, 20686), (146, 20521),

Gene: Antrice_34 Start: 22599, Stop: 22243, Start Num: 79

Candidate Starts for Antrice_34:

(35, 22743), (53, 22668), (Start: 79 @22599 has 68 MA's), (Start: 96 @22563 has 1 MA's), (111, 22491), (115, 22467),

Gene: Antuna_42 Start: 25698, Stop: 26075, Start Num: 92

Candidate Starts for Antuna_42:

(Start: 92 @25698 has 7 MA's), (108, 25761), (113, 25788), (144, 25962), (145, 25968), (152, 25989), (174, 26064),

Gene: ApoKipo_94 Start: 54798, Stop: 55154, Start Num: 64

Candidate Starts for ApoKipo_94:

(Start: 64 @54798 has 9 MA's), (80, 54840), (115, 54966), (126, 55017), (130, 55041), (145, 55113),

Gene: Argie_53 Start: 44207, Stop: 44548, Start Num: 77

Candidate Starts for Argie_53:

(Start: 77 @44207 has 9 MA's), (103, 44261), (105, 44276), (109, 44294), (122, 44360), (126, 44378), (135, 44432), (147, 44477), (154, 44498), (159, 44522), (160, 44525),

Gene: Ariel_118 Start: 64179, Stop: 64499, Start Num: 87

Candidate Starts for Ariel_118:

(Start: 87 @64179 has 22 MA's), (106, 64248), (115, 64290), (138, 64407),

Gene: Atlantica_30 Start: 20871, Stop: 20518, Start Num: 76

Candidate Starts for Atlantica_30:

(2, 21273), (17, 21123), (53, 20928), (Start: 76 @20871 has 28 MA's), (Start: 96 @20838 has 1 MA's), (115, 20742),

Gene: AuntGwenStacy_65 Start: 45161, Stop: 45511, Start Num: 73

Candidate Starts for AuntGwenStacy_65:

(48, 45089), (59, 45119), (Start: 73 @45161 has 6 MA's), (Start: 81 @45176 has 5 MA's), (Start: 94 @45194 has 7 MA's), (105, 45242), (107, 45248), (114, 45284), (130, 45368), (132, 45374), (136, 45404), (144, 45437),

Gene: Azaz_30 Start: 20943, Stop: 20590, Start Num: 76

Candidate Starts for Azaz_30:

(17, 21195), (53, 21000), (Start: 76 @20943 has 28 MA's), (Start: 96 @20910 has 1 MA's), (115, 20814), (126, 20763),

Gene: BAKA_122 Start: 67774, Stop: 68106, Start Num: 87

Candidate Starts for BAKA_122:

(Start: 87 @67774 has 22 MA's), (106, 67843), (125, 67933), (126, 67936), (138, 68002),

Gene: Babushka_27 Start: 20785, Stop: 20432, Start Num: 76

Candidate Starts for Babushka_27:

(17, 21037), (53, 20842), (Start: 76 @20785 has 28 MA's), (Start: 96 @20752 has 1 MA's), (115, 20656), (126, 20605), (146, 20491), (154, 20467),

Gene: Bagrid_123 Start: 67735, Stop: 68064, Start Num: 87
Candidate Starts for Bagrid_123:
(Start: 87 @67735 has 22 MA's), (106, 67804), (138, 67963), (161, 68047),

Gene: Banquo_50 Start: 32516, Stop: 32896, Start Num: 82
Candidate Starts for Banquo_50:
(Start: 82 @32516 has 9 MA's), (104, 32579), (115, 32639), (138, 32756), (148, 32795), (157, 32822),
(167, 32864),

Gene: BearBQ_70 Start: 44365, Stop: 44712, Start Num: 88
Candidate Starts for BearBQ_70:
(46, 44251), (74, 44341), (Start: 88 @44365 has 4 MA's), (95, 44386), (101, 44404), (103, 44413),
(115, 44488), (138, 44605), (145, 44635), (156, 44665), (163, 44692), (168, 44704),

Gene: Bedetta_34 Start: 21656, Stop: 21303, Start Num: 76
Candidate Starts for Bedetta_34:
(35, 21782), (42, 21743), (Start: 76 @21656 has 28 MA's), (115, 21527), (124, 21482), (146, 21362),

Gene: Beelzebub_73 Start: 40109, Stop: 40462, Start Num: 71
Candidate Starts for Beelzebub_73:
(Start: 71 @40109 has 19 MA's), (Start: 86 @40136 has 2 MA's), (121, 40271), (127, 40301), (136,
40352), (138, 40358), (141, 40373), (145, 40391), (154, 40415), (156, 40418),

Gene: Bipolar_65 Start: 42690, Stop: 43052, Start Num: 79
Candidate Starts for Bipolar_65:
(Start: 79 @42690 has 68 MA's), (121, 42849), (154, 42990), (169, 43035),

Gene: Bipper_62 Start: 43632, Stop: 43982, Start Num: 73
Candidate Starts for Bipper_62:
(17, 43371), (30, 43479), (34, 43488), (48, 43560), (59, 43590), (Start: 73 @43632 has 6 MA's), (Start:
81 @43647 has 5 MA's), (93, 43662), (98, 43680), (105, 43713), (114, 43755), (135, 43869), (152,
43935),

Gene: Blackbeetle_69 Start: 39121, Stop: 39474, Start Num: 71
Candidate Starts for Blackbeetle_69:
(Start: 71 @39121 has 19 MA's), (Start: 86 @39148 has 2 MA's), (121, 39283), (127, 39313), (136,
39364), (138, 39370), (141, 39385), (145, 39403), (154, 39427), (156, 39430),

Gene: Blett_41 Start: 25800, Stop: 26177, Start Num: 92
Candidate Starts for Blett_41:
(Start: 92 @25800 has 7 MA's), (108, 25863), (113, 25890), (125, 25956), (144, 26064), (145, 26070),
(152, 26091), (174, 26166),

Gene: Bobby_115 Start: 69193, Stop: 69522, Start Num: 87
Candidate Starts for Bobby_115:
(Start: 87 @69193 has 22 MA's), (106, 69262), (125, 69352), (126, 69355), (138, 69421), (161, 69505),

Gene: BodEinwohner17_66 Start: 42524, Stop: 42886, Start Num: 79
Candidate Starts for BodEinwohner17_66:
(43, 42419), (45, 42425), (62, 42479), (Start: 79 @42524 has 68 MA's), (95, 42557), (154, 42824),
(156, 42827), (169, 42869),

Gene: BotCity_75 Start: 44601, Stop: 44948, Start Num: 88

Candidate Starts for BotCity_75:

(46, 44487), (74, 44577), (Start: 88 @44601 has 4 MA's), (95, 44622), (101, 44640), (103, 44649), (115, 44724), (138, 44841), (145, 44871), (156, 44901), (163, 44928), (168, 44940),

Gene: Bush_42 Start: 25748, Stop: 26125, Start Num: 92

Candidate Starts for Bush_42:

(Start: 92 @25748 has 7 MA's), (108, 25811), (113, 25838), (125, 25904), (144, 26012), (145, 26018), (152, 26039), (174, 26114),

Gene: Cafasso_107 Start: 60484, Stop: 60873, Start Num: 94

Candidate Starts for Cafasso_107:

(7, 60097), (8, 60109), (Start: 94 @60484 has 7 MA's), (103, 60517), (107, 60538), (134, 60685), (142, 60715),

Gene: Camara_30 Start: 20839, Stop: 20519, Start Num: 96

Candidate Starts for Camara_30:

(2, 21274), (17, 21124), (53, 20929), (Start: 76 @20872 has 28 MA's), (Start: 96 @20839 has 1 MA's), (115, 20743),

Gene: Caprice_64 Start: 39435, Stop: 39788, Start Num: 71

Candidate Starts for Caprice_64:

(Start: 71 @39435 has 19 MA's), (Start: 86 @39462 has 2 MA's), (121, 39597), (127, 39627), (136, 39678), (138, 39684), (141, 39699), (145, 39717), (154, 39741), (156, 39744),

Gene: Carrillo_43 Start: 25721, Stop: 26098, Start Num: 92

Candidate Starts for Carrillo_43:

(Start: 92 @25721 has 7 MA's), (108, 25784), (113, 25811), (123, 25871), (144, 25985), (145, 25991), (174, 26087),

Gene: Cepens_52 Start: 43922, Stop: 44263, Start Num: 77

Candidate Starts for Cepens_52:

(Start: 77 @43922 has 9 MA's), (103, 43976), (105, 43991), (109, 44009), (122, 44075), (126, 44093), (135, 44147), (147, 44192), (154, 44213), (159, 44237), (160, 44240),

Gene: Clarkson_70 Start: 39837, Stop: 40190, Start Num: 71

Candidate Starts for Clarkson_70:

(Start: 71 @39837 has 19 MA's), (Start: 86 @39864 has 2 MA's), (121, 39999), (127, 40029), (136, 40080), (138, 40086), (141, 40101), (145, 40119), (154, 40143), (156, 40146),

Gene: Clawz_89 Start: 57153, Stop: 57563, Start Num: 68

Candidate Starts for Clawz_89:

(49, 57102), (50, 57108), (53, 57114), (59, 57126), (Start: 68 @57153 has 1 MA's), (Start: 83 @57183 has 6 MA's), (144, 57444), (146, 57453), (167, 57522), (173, 57540),

Gene: ColdSoup_93 Start: 57604, Stop: 57972, Start Num: 90

Candidate Starts for ColdSoup_93:

(26, 57379), (Start: 83 @57592 has 6 MA's), (Start: 90 @57604 has 1 MA's), (144, 57853), (146, 57862), (154, 57886), (157, 57892), (170, 57934),

Gene: Colusalem_32 Start: 21495, Stop: 21142, Start Num: 76

Candidate Starts for Colusalem_32:

(35, 21621), (42, 21582), (Start: 76 @21495 has 28 MA's), (115, 21366), (124, 21321), (146, 21201),

Gene: CookieDog_41 Start: 25721, Stop: 26098, Start Num: 92
Candidate Starts for CookieDog_41:
(Start: 92 @25721 has 7 MA's), (108, 25784), (113, 25811), (144, 25985), (145, 25991), (174, 26087),

Gene: Coral_31 Start: 21357, Stop: 21004, Start Num: 76
Candidate Starts for Coral_31:
(35, 21483), (42, 21444), (Start: 76 @21357 has 28 MA's), (115, 21228), (124, 21183), (146, 21063),

Gene: Corazon_67 Start: 40031, Stop: 40384, Start Num: 71
Candidate Starts for Corazon_67:
(Start: 71 @40031 has 19 MA's), (Start: 86 @40058 has 2 MA's), (121, 40193), (127, 40223), (136, 40274), (138, 40280), (141, 40295), (145, 40313), (154, 40337), (156, 40340),

Gene: Cote_33 Start: 21834, Stop: 21481, Start Num: 76
Candidate Starts for Cote_33:
(35, 21960), (42, 21921), (Start: 76 @21834 has 28 MA's), (115, 21705), (124, 21660), (146, 21540),

Gene: Courthouse_113 Start: 63779, Stop: 64099, Start Num: 87
Candidate Starts for Courthouse_113:
(Start: 87 @63779 has 22 MA's), (106, 63848), (115, 63890), (138, 64007),

Gene: Cracklewink_62 Start: 43613, Stop: 43963, Start Num: 73
Candidate Starts for Cracklewink_62:
(17, 43352), (30, 43460), (34, 43469), (48, 43541), (59, 43571), (Start: 73 @43613 has 6 MA's), (Start: 81 @43628 has 5 MA's), (98, 43661), (105, 43694), (114, 43736), (135, 43850), (152, 43916),

Gene: Cygnet_31 Start: 22172, Stop: 21816, Start Num: 79
Candidate Starts for Cygnet_31:
(35, 22316), (53, 22241), (Start: 79 @22172 has 68 MA's), (Start: 96 @22136 has 1 MA's), (105, 22097), (111, 22064), (115, 22040),

Gene: D12_51 Start: 44470, Stop: 44811, Start Num: 77
Candidate Starts for D12_51:
(Start: 77 @44470 has 9 MA's), (103, 44524), (105, 44539), (109, 44557), (122, 44623), (126, 44641), (135, 44695), (147, 44740), (154, 44761), (159, 44785), (160, 44788),

Gene: DLane_60 Start: 40555, Stop: 40917, Start Num: 79
Candidate Starts for DLane_60:
(Start: 79 @40555 has 68 MA's), (154, 40855), (156, 40858), (169, 40900),

Gene: DaddyRickover_65 Start: 43087, Stop: 43449, Start Num: 79
Candidate Starts for DaddyRickover_65:
(43, 42982), (45, 42988), (62, 43042), (Start: 79 @43087 has 68 MA's), (95, 43120), (130, 43291), (154, 43387), (156, 43390), (169, 43432),

Gene: DanHam62_30 Start: 20871, Stop: 20518, Start Num: 76
Candidate Starts for DanHam62_30:
(2, 21273), (17, 21123), (53, 20928), (Start: 76 @20871 has 28 MA's), (Start: 96 @20838 has 1 MA's), (115, 20742),

Gene: Dante_66 Start: 41796, Stop: 42161, Start Num: 79
Candidate Starts for Dante_66:
(Start: 79 @41796 has 68 MA's), (121, 41955), (154, 42096), (159, 42120),

Gene: Daob_33 Start: 21852, Stop: 21499, Start Num: 76

Candidate Starts for Daob_33:

(35, 21978), (42, 21939), (Start: 76 @21852 has 28 MA's), (115, 21723), (146, 21558),

Gene: DeadP_72 Start: 44907, Stop: 45269, Start Num: 79

Candidate Starts for DeadP_72:

(72, 44892), (Start: 79 @44907 has 68 MA's), (154, 45207), (156, 45210), (169, 45252),

Gene: Deb65_60 Start: 41299, Stop: 41661, Start Num: 79

Candidate Starts for Deb65_60:

(43, 41194), (45, 41200), (62, 41254), (Start: 79 @41299 has 68 MA's), (95, 41332), (154, 41599), (156, 41602), (169, 41644),

Gene: DelaGarza_58 Start: 33298, Stop: 33687, Start Num: 81

Candidate Starts for DelaGarza_58:

(Start: 81 @33298 has 5 MA's), (115, 33424), (135, 33532), (167, 33652),

Gene: DillyDally_46 Start: 29839, Stop: 30222, Start Num: 70

Candidate Starts for DillyDally_46:

(59, 29803), (Start: 70 @29839 has 1 MA's), (95, 29875), (118, 29980), (124, 30016), (128, 30034), (129, 30040), (131, 30049), (145, 30124), (162, 30184),

Gene: DinoDaryn_52 Start: 33048, Stop: 33431, Start Num: 82

Candidate Starts for DinoDaryn_52:

(Start: 82 @33048 has 9 MA's), (115, 33171), (157, 33354), (167, 33396),

Gene: DirtMcgirt_64 Start: 40554, Stop: 40916, Start Num: 79

Candidate Starts for DirtMcgirt_64:

(Start: 79 @40554 has 68 MA's), (121, 40713), (154, 40854), (156, 40857), (169, 40899),

Gene: DmpstrDiver_123 Start: 68024, Stop: 68353, Start Num: 87

Candidate Starts for DmpstrDiver_123:

(Start: 87 @68024 has 22 MA's), (106, 68093), (138, 68252), (161, 68336),

Gene: DonTron_91 Start: 57708, Stop: 58088, Start Num: 83

Candidate Starts for DonTron_91:

(15, 57420), (26, 57495), (40, 57582), (Start: 83 @57708 has 6 MA's), (Start: 90 @57720 has 1 MA's), (144, 57969), (146, 57978), (154, 58002), (157, 58008), (170, 58050),

Gene: Donkeykong_68 Start: 44468, Stop: 44830, Start Num: 79

Candidate Starts for Donkeykong_68:

(Start: 79 @44468 has 68 MA's), (154, 44768), (156, 44771), (169, 44813),

Gene: Doomslug_74 Start: 42992, Stop: 43354, Start Num: 79

Candidate Starts for Doomslug_74:

(41, 42875), (Start: 79 @42992 has 68 MA's), (121, 43151), (154, 43292), (156, 43295), (169, 43337),

Gene: Dorothy_64 Start: 42261, Stop: 42623, Start Num: 79

Candidate Starts for Dorothy_64:

(43, 42156), (45, 42162), (62, 42216), (Start: 79 @42261 has 68 MA's), (95, 42294), (130, 42465), (154, 42561), (156, 42564), (169, 42606),

Gene: DotProduct_60 Start: 40802, Stop: 41164, Start Num: 79
Candidate Starts for DotProduct_60:
(Start: 79 @40802 has 68 MA's), (154, 41102), (156, 41105), (169, 41147),

Gene: Drago_62 Start: 40557, Stop: 40919, Start Num: 79
Candidate Starts for Drago_62:
(Start: 79 @40557 has 68 MA's), (121, 40716), (154, 40857), (156, 40860), (169, 40902),

Gene: Duke13_117 Start: 65442, Stop: 65774, Start Num: 87
Candidate Starts for Duke13_117:
(Start: 87 @65442 has 22 MA's), (106, 65511), (125, 65601), (126, 65604), (138, 65670),

Gene: Edmundo_89 Start: 53428, Stop: 53775, Start Num: 64
Candidate Starts for Edmundo_89:
(Start: 64 @53428 has 9 MA's), (78, 53458), (Start: 83 @53464 has 6 MA's), (106, 53530), (114, 53569), (132, 53662),

Gene: Ejimix_117 Start: 69176, Stop: 69505, Start Num: 87
Candidate Starts for Ejimix_117:
(Start: 87 @69176 has 22 MA's), (106, 69245), (125, 69335), (126, 69338), (138, 69404), (161, 69488),

Gene: Emmaloid_67 Start: 43062, Stop: 43424, Start Num: 79
Candidate Starts for Emmaloid_67:
(Start: 79 @43062 has 68 MA's), (154, 43362), (156, 43365), (169, 43407),

Gene: Empress_64 Start: 42743, Stop: 43105, Start Num: 79
Candidate Starts for Empress_64:
(43, 42638), (45, 42644), (62, 42698), (Start: 79 @42743 has 68 MA's), (95, 42776), (154, 43043), (156, 43046), (169, 43088),

Gene: Enby_66 Start: 40833, Stop: 41195, Start Num: 79
Candidate Starts for Enby_66:
(Start: 79 @40833 has 68 MA's), (121, 40992), (154, 41133), (156, 41136), (169, 41178),

Gene: Enzomatic_73 Start: 42241, Stop: 42768, Start Num: 52
Candidate Starts for Enzomatic_73:
(52, 42241), (54, 42250), (66, 42283), (Start: 79 @42319 has 68 MA's), (154, 42619),

Gene: EricMillard_114 Start: 67411, Stop: 67743, Start Num: 87
Candidate Starts for EricMillard_114:
(Start: 87 @67411 has 22 MA's), (106, 67480), (125, 67570), (126, 67573), (138, 67639),

Gene: Faiyaz_65 Start: 45151, Stop: 45501, Start Num: 73
Candidate Starts for Faiyaz_65:
(48, 45079), (59, 45109), (Start: 73 @45151 has 6 MA's), (Start: 81 @45166 has 5 MA's), (Start: 94 @45184 has 7 MA's), (105, 45232), (107, 45238), (114, 45274), (130, 45358), (136, 45394),

Gene: FeliMaine_71 Start: 40079, Stop: 40432, Start Num: 71
Candidate Starts for FeliMaine_71:
(Start: 71 @40079 has 19 MA's), (Start: 86 @40106 has 2 MA's), (121, 40241), (127, 40271), (136, 40322), (138, 40328), (141, 40343), (145, 40361), (154, 40385), (156, 40388),

Gene: Filuzino_63 Start: 40860, Stop: 41222, Start Num: 79

Candidate Starts for Filuzino_63:

(Start: 79 @40860 has 68 MA's), (154, 41160), (156, 41163), (169, 41205),

Gene: Fingolfin_30 Start: 20872, Stop: 20519, Start Num: 76

Candidate Starts for Fingolfin_30:

(2, 21274), (17, 21124), (53, 20929), (Start: 76 @20872 has 28 MA's), (Start: 96 @20839 has 1 MA's), (115, 20743),

Gene: Flathead_66 Start: 42514, Stop: 42876, Start Num: 79

Candidate Starts for Flathead_66:

(Start: 79 @42514 has 68 MA's), (154, 42814), (156, 42817), (169, 42859),

Gene: Florinda_76 Start: 43974, Stop: 44336, Start Num: 79

Candidate Starts for Florinda_76:

(Start: 79 @43974 has 68 MA's), (154, 44274), (156, 44277), (169, 44319),

Gene: GAL1_54 Start: 37553, Stop: 37900, Start Num: 88

Candidate Starts for GAL1_54:

(65, 37502), (Start: 88 @37553 has 4 MA's), (95, 37574), (101, 37592), (103, 37601), (115, 37676), (126, 37727), (137, 37790), (138, 37793), (145, 37823), (156, 37853), (163, 37880), (168, 37892),

Gene: Gaia_85 Start: 50308, Stop: 50631, Start Num: 86

Candidate Starts for Gaia_85:

(Start: 86 @50308 has 2 MA's), (105, 50371), (156, 50596), (157, 50599),

Gene: Gandalph_68 Start: 42720, Stop: 43082, Start Num: 79

Candidate Starts for Gandalph_68:

(41, 42603), (Start: 79 @42720 has 68 MA's), (121, 42879), (154, 43020), (156, 43023), (169, 43065),

Gene: Gattaca_67 Start: 39225, Stop: 39578, Start Num: 71

Candidate Starts for Gattaca_67:

(Start: 71 @39225 has 19 MA's), (Start: 86 @39252 has 2 MA's), (121, 39387), (127, 39417), (136, 39468), (138, 39474), (141, 39489), (145, 39507), (154, 39531), (156, 39534),

Gene: Geralt_60 Start: 41298, Stop: 41660, Start Num: 79

Candidate Starts for Geralt_60:

(43, 41193), (45, 41199), (62, 41253), (Start: 79 @41298 has 68 MA's), (95, 41331), (154, 41598), (156, 41601), (169, 41643),

Gene: Gilgamesh_151 Start: 125936, Stop: 126292, Start Num: 77

Candidate Starts for Gilgamesh_151:

(55, 125873), (Start: 77 @125936 has 9 MA's), (95, 125972), (112, 126053), (115, 126065), (126, 126116), (138, 126182), (155, 126242), (158, 126260), (163, 126275),

Gene: Gingerbug_57 Start: 33770, Stop: 34138, Start Num: 81

Candidate Starts for Gingerbug_57:

(Start: 81 @33770 has 5 MA's), (99, 33791), (115, 33872), (135, 33980),

Gene: Girafales_73 Start: 43765, Stop: 44127, Start Num: 79

Candidate Starts for Girafales_73:

(Start: 79 @43765 has 68 MA's), (154, 44065), (156, 44068), (169, 44110),

Gene: Glotell_31 Start: 21028, Stop: 20675, Start Num: 76

Candidate Starts for Glotell_31:

(2, 21430), (17, 21280), (53, 21085), (Start: 76 @21028 has 28 MA's), (Start: 96 @20995 has 1 MA's), (115, 20899),

Gene: GodPhather_53 Start: 44710, Stop: 45051, Start Num: 77

Candidate Starts for GodPhather_53:

(Start: 77 @44710 has 9 MA's), (103, 44764), (105, 44779), (109, 44797), (122, 44863), (126, 44881), (135, 44935), (147, 44980), (154, 45001), (159, 45025), (160, 45028),

Gene: Goib_52 Start: 33585, Stop: 33968, Start Num: 82

Candidate Starts for Goib_52:

(Start: 82 @33585 has 9 MA's), (115, 33708), (157, 33891), (167, 33933),

Gene: Gonephishing_112 Start: 63185, Stop: 63505, Start Num: 87

Candidate Starts for Gonephishing_112:

(Start: 87 @63185 has 22 MA's), (106, 63254), (115, 63296), (138, 63413),

Gene: GoongGoong_68 Start: 39024, Stop: 39377, Start Num: 71

Candidate Starts for GoongGoong_68:

(Start: 71 @39024 has 19 MA's), (Start: 86 @39051 has 2 MA's), (121, 39186), (127, 39216), (136, 39267), (138, 39273), (141, 39288), (145, 39306), (154, 39330), (156, 39333),

Gene: GramZayde_32 Start: 21670, Stop: 21317, Start Num: 76

Candidate Starts for GramZayde_32:

(35, 21796), (42, 21757), (Start: 76 @21670 has 28 MA's), (115, 21541), (124, 21496), (146, 21376),

Gene: Grumio_93 Start: 57321, Stop: 57701, Start Num: 83

Candidate Starts for Grumio_93:

(15, 57033), (26, 57108), (40, 57195), (Start: 83 @57321 has 6 MA's), (144, 57582), (146, 57591), (154, 57615), (157, 57621), (170, 57663),

Gene: Halley_125 Start: 69492, Stop: 69821, Start Num: 87

Candidate Starts for Halley_125:

(Start: 87 @69492 has 22 MA's), (106, 69561), (125, 69651), (126, 69654), (138, 69720), (161, 69804),

Gene: HamCheese_30 Start: 20856, Stop: 20503, Start Num: 76

Candidate Starts for HamCheese_30:

(2, 21258), (17, 21108), (53, 20913), (Start: 76 @20856 has 28 MA's), (Start: 96 @20823 has 1 MA's), (115, 20727),

Gene: HannahPhantana_32 Start: 21514, Stop: 21161, Start Num: 76

Candidate Starts for HannahPhantana_32:

(35, 21640), (42, 21601), (Start: 76 @21514 has 28 MA's), (115, 21385), (124, 21340), (146, 21220),

Gene: Hegedechwinu_65 Start: 41510, Stop: 41872, Start Num: 79

Candidate Starts for Hegedechwinu_65:

(41, 41393), (Start: 79 @41510 has 68 MA's), (121, 41669), (154, 41810), (156, 41813), (169, 41855),

Gene: Hilltopfarm_64 Start: 44853, Stop: 45203, Start Num: 73

Candidate Starts for Hilltopfarm_64:

(48, 44781), (59, 44811), (Start: 73 @44853 has 6 MA's), (Start: 81 @44868 has 5 MA's), (Start: 94 @44886 has 7 MA's), (105, 44934), (107, 44940), (114, 44976), (138, 45102),

Gene: Hlubikazi_61 Start: 39912, Stop: 40274, Start Num: 79
Candidate Starts for Hlubikazi_61:
(Start: 79 @39912 has 68 MA's), (154, 40212), (156, 40215), (169, 40257),

Gene: Huffy_52 Start: 33048, Stop: 33431, Start Num: 82
Candidate Starts for Huffy_52:
(Start: 82 @33048 has 9 MA's), (115, 33171), (157, 33354), (167, 33396),

Gene: Hughesyang_122 Start: 68948, Stop: 69280, Start Num: 87
Candidate Starts for Hughesyang_122:
(Start: 87 @68948 has 22 MA's), (106, 69017), (138, 69176),

Gene: Hum25_55 Start: 30658, Stop: 30984, Start Num: 91
Candidate Starts for Hum25_55:
(37, 30499), (Start: 91 @30658 has 5 MA's), (115, 30763), (140, 30895),

Gene: Huphlepuuff_71 Start: 39642, Stop: 39995, Start Num: 71
Candidate Starts for Huphlepuuff_71:
(Start: 71 @39642 has 19 MA's), (Start: 86 @39669 has 2 MA's), (121, 39804), (127, 39834), (136, 39885), (138, 39891), (141, 39906), (145, 39924), (154, 39948), (156, 39951),

Gene: lbOuu_65 Start: 43348, Stop: 43710, Start Num: 79
Candidate Starts for lbOuu_65:
(43, 43243), (45, 43249), (62, 43303), (Start: 79 @43348 has 68 MA's), (95, 43381), (154, 43648), (156, 43651), (169, 43693),

Gene: IrishSherpFalk_66 Start: 43547, Stop: 43909, Start Num: 79
Candidate Starts for IrishSherpFalk_66:
(Start: 79 @43547 has 68 MA's), (154, 43847), (156, 43850), (169, 43892),

Gene: Jakelyne_44 Start: 25830, Stop: 26207, Start Num: 92
Candidate Starts for Jakelyne_44:
(Start: 92 @25830 has 7 MA's), (113, 25920), (138, 26067), (144, 26094), (145, 26100), (156, 26130), (174, 26196),

Gene: Jeon_52 Start: 44452, Stop: 44793, Start Num: 77
Candidate Starts for Jeon_52:
(Start: 77 @44452 has 9 MA's), (103, 44506), (105, 44521), (109, 44539), (122, 44605), (126, 44623), (135, 44677), (147, 44722), (154, 44743), (159, 44767), (160, 44770),

Gene: Jerole_32 Start: 21637, Stop: 21284, Start Num: 76
Candidate Starts for Jerole_32:
(35, 21763), (42, 21724), (Start: 76 @21637 has 28 MA's), (115, 21508), (124, 21463), (146, 21343),

Gene: JoieB_70 Start: 40075, Stop: 40428, Start Num: 71
Candidate Starts for JoieB_70:
(Start: 71 @40075 has 19 MA's), (Start: 86 @40102 has 2 MA's), (121, 40237), (127, 40267), (136, 40318), (138, 40324), (141, 40339), (145, 40357), (154, 40381), (156, 40384),

Gene: Jollymon_90 Start: 57592, Stop: 57972, Start Num: 83
Candidate Starts for Jollymon_90:
(26, 57379), (Start: 83 @57592 has 6 MA's), (Start: 90 @57604 has 1 MA's), (144, 57853), (146, 57862), (154, 57886), (157, 57892), (170, 57934),

Gene: Juno112_29 Start: 20872, Stop: 20519, Start Num: 76

Candidate Starts for Juno112_29:

(2, 21274), (17, 21124), (53, 20929), (Start: 76 @20872 has 28 MA's), (Start: 96 @20839 has 1 MA's), (115, 20743),

Gene: JustASigh_98 Start: 55410, Stop: 55766, Start Num: 100

Candidate Starts for JustASigh_98:

(67, 55332), (89, 55383), (Start: 100 @55410 has 1 MA's), (105, 55437), (116, 55491), (122, 55521), (124, 55533), (126, 55539), (141, 55644), (143, 55650), (154, 55689), (172, 55755),

Gene: KHumphrey_30 Start: 20837, Stop: 20517, Start Num: 96

Candidate Starts for KHumphrey_30:

(1, 21422), (2, 21272), (17, 21122), (53, 20927), (Start: 76 @20870 has 28 MA's), (Start: 96 @20837 has 1 MA's), (115, 20741),

Gene: Kalah2_114 Start: 67637, Stop: 67966, Start Num: 87

Candidate Starts for Kalah2_114:

(Start: 87 @67637 has 22 MA's), (106, 67706), (138, 67865), (161, 67949),

Gene: Kepler_32 Start: 21801, Stop: 21448, Start Num: 76

Candidate Starts for Kepler_32:

(35, 21927), (42, 21888), (Start: 76 @21801 has 28 MA's), (115, 21672), (146, 21507),

Gene: Khuang_54 Start: 31611, Stop: 31976, Start Num: 91

Candidate Starts for Khuang_54:

(Start: 91 @31611 has 5 MA's), (123, 31761), (145, 31872), (150, 31887),

Gene: KingMidas_65 Start: 43159, Stop: 43521, Start Num: 79

Candidate Starts for KingMidas_65:

(43, 43054), (45, 43060), (62, 43114), (Start: 79 @43159 has 68 MA's), (95, 43192), (130, 43363), (154, 43459), (156, 43462), (169, 43504),

Gene: KingstonB_90 Start: 57137, Stop: 57505, Start Num: 90

Candidate Starts for KingstonB_90:

(15, 56837), (26, 56912), (40, 56999), (Start: 83 @57125 has 6 MA's), (Start: 90 @57137 has 1 MA's), (144, 57386), (146, 57395), (154, 57419), (157, 57425), (170, 57467),

Gene: Klein_119 Start: 65994, Stop: 66323, Start Num: 87

Candidate Starts for Klein_119:

(Start: 87 @65994 has 22 MA's), (106, 66063), (125, 66153), (126, 66156), (138, 66222), (161, 66306),

Gene: Kovu_90 Start: 54276, Stop: 54623, Start Num: 64

Candidate Starts for Kovu_90:

(4, 53886), (27, 54114), (Start: 64 @54276 has 9 MA's), (80, 54309), (105, 54378), (114, 54423), (123, 54477), (130, 54510),

Gene: Krakatau_62 Start: 41145, Stop: 41507, Start Num: 79

Candidate Starts for Krakatau_62:

(Start: 79 @41145 has 68 MA's), (154, 41445), (156, 41448), (169, 41490),

Gene: Kuleana_32 Start: 21579, Stop: 21160, Start Num: 56

Candidate Starts for Kuleana_32:

(29, 21714), (Start: 56 @21579 has 1 MA's), (75, 21528), (Start: 96 @21480 has 1 MA's), (111, 21408), (115, 21384), (146, 21219),

Gene: Laphuphu24k_28 Start: 20856, Stop: 20503, Start Num: 76

Candidate Starts for Laphuphu24k_28:

(2, 21258), (17, 21108), (53, 20913), (Start: 76 @20856 has 28 MA's), (Start: 96 @20823 has 1 MA's), (115, 20727),

Gene: Laroye_90 Start: 53231, Stop: 53557, Start Num: 64

Candidate Starts for Laroye_90:

(Start: 64 @53231 has 9 MA's), (78, 53261), (Start: 83 @53267 has 6 MA's), (107, 53336), (114, 53372), (132, 53465),

Gene: Leona_29 Start: 20943, Stop: 20590, Start Num: 76

Candidate Starts for Leona_29:

(17, 21195), (53, 21000), (Start: 76 @20943 has 28 MA's), (Start: 96 @20910 has 1 MA's), (115, 20814), (126, 20763),

Gene: Lesiram_59 Start: 33428, Stop: 33817, Start Num: 81

Candidate Starts for Lesiram_59:

(Start: 81 @33428 has 5 MA's), (115, 33554), (135, 33662), (167, 33782),

Gene: LiSara_87 Start: 53363, Stop: 53689, Start Num: 64

Candidate Starts for LiSara_87:

(Start: 64 @53363 has 9 MA's), (78, 53393), (Start: 83 @53399 has 6 MA's), (107, 53468), (114, 53504), (132, 53597),

Gene: Lilbit_67 Start: 39805, Stop: 40158, Start Num: 71

Candidate Starts for Lilbit_67:

(Start: 71 @39805 has 19 MA's), (Start: 86 @39832 has 2 MA's), (121, 39967), (127, 39997), (136, 40048), (138, 40054), (141, 40069), (145, 40087), (154, 40111), (156, 40114),

Gene: LittleE_122 Start: 67384, Stop: 67704, Start Num: 87

Candidate Starts for LittleE_122:

(Start: 87 @67384 has 22 MA's), (106, 67453), (115, 67495), (138, 67612),

Gene: LittleLaf_69 Start: 39534, Stop: 39887, Start Num: 71

Candidate Starts for LittleLaf_69:

(Start: 71 @39534 has 19 MA's), (Start: 86 @39561 has 2 MA's), (121, 39696), (127, 39726), (136, 39777), (138, 39783), (141, 39798), (145, 39816), (154, 39840), (156, 39843),

Gene: LittleTokyo_32 Start: 21633, Stop: 21280, Start Num: 83

Candidate Starts for LittleTokyo_32:

(Start: 83 @21633 has 6 MA's), (111, 21528), (115, 21504),

Gene: Llij_61 Start: 40711, Stop: 41073, Start Num: 79

Candidate Starts for Llij_61:

(Start: 79 @40711 has 68 MA's), (121, 40870), (154, 41011), (156, 41014), (169, 41056),

Gene: Lorde_65 Start: 39998, Stop: 40360, Start Num: 79

Candidate Starts for Lorde_65:

(Start: 79 @39998 has 68 MA's), (121, 40157), (154, 40298), (156, 40301), (169, 40343),

Gene: LunaStella_65 Start: 42568, Stop: 42930, Start Num: 79
Candidate Starts for LunaStella_65:
(Start: 79 @42568 has 68 MA's), (154, 42868), (156, 42871), (169, 42913),

Gene: Lunar_32 Start: 21502, Stop: 21149, Start Num: 76
Candidate Starts for Lunar_32:
(35, 21628), (42, 21589), (Start: 76 @21502 has 28 MA's), (115, 21373), (124, 21328), (146, 21208),

Gene: Makar_95 Start: 57425, Stop: 57805, Start Num: 83
Candidate Starts for Makar_95:
(40, 57299), (Start: 83 @57425 has 6 MA's), (144, 57686), (146, 57695), (167, 57764), (173, 57782),

Gene: Mandlovu_61 Start: 39854, Stop: 40216, Start Num: 79
Candidate Starts for Mandlovu_61:
(Start: 79 @39854 has 68 MA's), (154, 40154), (156, 40157), (169, 40199),

Gene: Margaery_51 Start: 36177, Stop: 36518, Start Num: 88
Candidate Starts for Margaery_51:
(12, 35859), (13, 35862), (14, 35868), (19, 35898), (23, 35925), (24, 35928), (61, 36120), (Start: 79 @36165 has 68 MA's), (Start: 81 @36168 has 5 MA's), (Start: 88 @36177 has 4 MA's), (Start: 100 @36210 has 1 MA's), (117, 36300), (119, 36318), (133, 36393), (136, 36417), (138, 36423), (154, 36483),

Gene: Mariel_44 Start: 26189, Stop: 26566, Start Num: 92
Candidate Starts for Mariel_44:
(Start: 92 @26189 has 7 MA's), (108, 26252), (113, 26279), (144, 26453), (145, 26459), (152, 26480), (174, 26555),

Gene: Marvin_65 Start: 39295, Stop: 39648, Start Num: 71
Candidate Starts for Marvin_65:
(Start: 71 @39295 has 19 MA's), (Start: 86 @39322 has 2 MA's), (121, 39457), (127, 39487), (136, 39538), (138, 39544), (141, 39559), (145, 39577), (154, 39601), (156, 39604),

Gene: Medindi_61 Start: 39515, Stop: 39877, Start Num: 79
Candidate Starts for Medindi_61:
(Start: 79 @39515 has 68 MA's), (95, 39548), (130, 39719), (154, 39815), (156, 39818), (169, 39860),

Gene: Megabear_52 Start: 43843, Stop: 44184, Start Num: 77
Candidate Starts for Megabear_52:
(Start: 77 @43843 has 9 MA's), (103, 43897), (105, 43912), (109, 43930), (122, 43996), (126, 44014), (135, 44068), (147, 44113), (154, 44134), (159, 44158), (160, 44161),

Gene: Megan_52 Start: 39265, Stop: 39606, Start Num: 94
Candidate Starts for Megan_52:
(9, 38917), (18, 38971), (22, 38992), (24, 39001), (32, 39076), (36, 39088), (38, 39103), (44, 39136), (51, 39160), (55, 39175), (69, 39217), (Start: 94 @39265 has 7 MA's), (103, 39298), (136, 39493), (138, 39499), (144, 39526), (145, 39532), (151, 39550),

Gene: Melissauren88_63 Start: 41372, Stop: 41734, Start Num: 79
Candidate Starts for Melissauren88_63:
(Start: 79 @41372 has 68 MA's), (154, 41672), (156, 41675), (169, 41717),

Gene: Melons_32 Start: 21502, Stop: 21149, Start Num: 76

Candidate Starts for Melons_32:

(35, 21628), (42, 21589), (Start: 76 @21502 has 28 MA's), (115, 21373), (124, 21328), (146, 21208),

Gene: MenE_42 Start: 25720, Stop: 26097, Start Num: 92

Candidate Starts for MenE_42:

(Start: 92 @25720 has 7 MA's), (108, 25783), (113, 25810), (144, 25984), (145, 25990), (152, 26011), (174, 26086),

Gene: Merpity_54 Start: 31317, Stop: 31670, Start Num: 91

Candidate Starts for Merpity_54:

(Start: 91 @31317 has 5 MA's), (115, 31422), (166, 31638),

Gene: Minerva_120 Start: 67549, Stop: 67881, Start Num: 87

Candidate Starts for Minerva_120:

(Start: 87 @67549 has 22 MA's), (106, 67618), (138, 67777),

Gene: ModicumRichard_107 Start: 60769, Stop: 61155, Start Num: 94

Candidate Starts for ModicumRichard_107:

(58, 60703), (60, 60712), (Start: 94 @60769 has 7 MA's), (102, 60796), (103, 60799), (107, 60820), (114, 60856), (124, 60910), (142, 60997), (149, 61021),

Gene: MooMoo_66 Start: 43589, Stop: 43945, Start Num: 84

Candidate Starts for MooMoo_66:

(Start: 84 @43589 has 1 MA's), (Start: 94 @43610 has 7 MA's), (95, 43616), (105, 43658), (115, 43712), (125, 43760), (139, 43838), (144, 43850), (154, 43883), (159, 43907), (171, 43937),

Gene: Morgana_114 Start: 62857, Stop: 63246, Start Num: 94

Candidate Starts for Morgana_114:

(6, 62464), (10, 62533), (16, 62569), (28, 62653), (Start: 94 @62857 has 7 MA's), (103, 62890), (107, 62911), (134, 63058), (142, 63088), (149, 63112),

Gene: MosMoris_66 Start: 39225, Stop: 39578, Start Num: 71

Candidate Starts for MosMoris_66:

(Start: 71 @39225 has 19 MA's), (Start: 86 @39252 has 2 MA's), (121, 39387), (127, 39417), (136, 39468), (138, 39474), (141, 39489), (145, 39507), (154, 39531), (156, 39534),

Gene: MrSmee_53 Start: 31291, Stop: 31644, Start Num: 91

Candidate Starts for MrSmee_53:

(Start: 91 @31291 has 5 MA's), (115, 31396), (166, 31612),

Gene: Ms6_62 Start: 37737, Stop: 38099, Start Num: 79

Candidate Starts for Ms6_62:

(Start: 79 @37737 has 68 MA's), (154, 38037), (156, 38040), (169, 38082),

Gene: NCRodriguez_42 Start: 25942, Stop: 26319, Start Num: 92

Candidate Starts for NCRodriguez_42:

(Start: 92 @25942 has 7 MA's), (108, 26005), (113, 26032), (125, 26098), (144, 26206), (145, 26212), (152, 26233), (174, 26308),

Gene: Nebkiss_84 Start: 48920, Stop: 49243, Start Num: 86

Candidate Starts for Nebkiss_84:

(Start: 86 @48920 has 2 MA's), (105, 48983), (156, 49208), (157, 49211),

Gene: NewHope4_67 Start: 42465, Stop: 42914, Start Num: 79
Candidate Starts for NewHope4_67:
(52, 42387), (54, 42396), (66, 42429), (Start: 79 @42465 has 68 MA's), (154, 42765),

Gene: Nicole72_53 Start: 39892, Stop: 40239, Start Num: 94
Candidate Starts for Nicole72_53:
(63, 39826), (69, 39844), (Start: 94 @39892 has 7 MA's), (130, 40084), (144, 40153), (145, 40159),

Gene: Nimbo_59 Start: 41301, Stop: 41663, Start Num: 79
Candidate Starts for Nimbo_59:
(43, 41196), (45, 41202), (62, 41256), (Start: 79 @41301 has 68 MA's), (95, 41334), (154, 41601),
(156, 41604), (169, 41646),

Gene: Nitzel_62 Start: 41489, Stop: 41851, Start Num: 79
Candidate Starts for Nitzel_62:
(Start: 79 @41489 has 68 MA's), (154, 41789), (156, 41792), (169, 41834),

Gene: ObLaDi_106 Start: 60168, Stop: 60557, Start Num: 94
Candidate Starts for ObLaDi_106:
(8, 59793), (20, 59892), (Start: 94 @60168 has 7 MA's), (103, 60201), (107, 60222), (134, 60369),
(142, 60399), (149, 60423),

Gene: OldBen_63 Start: 42694, Stop: 43056, Start Num: 79
Candidate Starts for OldBen_63:
(43, 42589), (45, 42595), (62, 42649), (Start: 79 @42694 has 68 MA's), (95, 42727), (154, 42994),
(156, 42997), (169, 43039),

Gene: Oppalora_29 Start: 20837, Stop: 20517, Start Num: 96
Candidate Starts for Oppalora_29:
(2, 21272), (17, 21122), (53, 20927), (Start: 76 @20870 has 28 MA's), (Start: 96 @20837 has 1 MA's),
(115, 20741),

Gene: Optimus_113 Start: 65945, Stop: 66277, Start Num: 87
Candidate Starts for Optimus_113:
(Start: 87 @65945 has 22 MA's), (106, 66014), (125, 66104), (126, 66107), (138, 66173),

Gene: OtsoOtso_32 Start: 21366, Stop: 21013, Start Num: 76
Candidate Starts for OtsoOtso_32:
(35, 21492), (42, 21453), (Start: 76 @21366 has 28 MA's), (115, 21237), (124, 21192), (146, 21072),

Gene: Ovechkin_65 Start: 42688, Stop: 43050, Start Num: 79
Candidate Starts for Ovechkin_65:
(Start: 79 @42688 has 68 MA's), (154, 42988), (156, 42991), (169, 43033),

Gene: PR_52 Start: 44447, Stop: 44788, Start Num: 77
Candidate Starts for PR_52:
(Start: 77 @44447 has 9 MA's), (103, 44501), (105, 44516), (109, 44534), (122, 44600), (126, 44618),
(135, 44672), (147, 44717), (154, 44738), (159, 44762), (160, 44765),

Gene: Phabuloso_75 Start: 43819, Stop: 44166, Start Num: 88
Candidate Starts for Phabuloso_75:
(46, 43705), (74, 43795), (Start: 88 @43819 has 4 MA's), (95, 43840), (101, 43858), (103, 43867),
(115, 43942), (122, 43975), (126, 43993), (137, 44056), (138, 44059), (145, 44089), (156, 44119),

(163, 44146), (168, 44158),

Gene: Phalconet_63 Start: 40623, Stop: 40985, Start Num: 79

Candidate Starts for Phalconet_63:

(Start: 79 @40623 has 68 MA's), (154, 40923), (156, 40926), (169, 40968),

Gene: Phanphagia_61 Start: 42234, Stop: 42596, Start Num: 79

Candidate Starts for Phanphagia_61:

(Start: 79 @42234 has 68 MA's), (154, 42534), (156, 42537), (169, 42579),

Gene: Phatniss_63 Start: 41806, Stop: 42168, Start Num: 79

Candidate Starts for Phatniss_63:

(Start: 79 @41806 has 68 MA's), (121, 41965), (154, 42106), (156, 42109), (169, 42151),

Gene: Phingu_44 Start: 25833, Stop: 26210, Start Num: 92

Candidate Starts for Phingu_44:

(Start: 92 @25833 has 7 MA's), (108, 25896), (113, 25923), (144, 26097), (145, 26103), (174, 26199),

Gene: PhirstandPhine_34 Start: 21645, Stop: 21292, Start Num: 76

Candidate Starts for PhirstandPhine_34:

(35, 21771), (42, 21732), (Start: 76 @21645 has 28 MA's), (115, 21516), (124, 21471), (146, 21351),

Gene: PhluffyCoco_30 Start: 20856, Stop: 20503, Start Num: 76

Candidate Starts for PhluffyCoco_30:

(2, 21258), (17, 21108), (53, 20913), (Start: 76 @20856 has 28 MA's), (Start: 96 @20823 has 1 MA's), (115, 20727),

Gene: Phonegingi_41 Start: 25666, Stop: 26043, Start Num: 92

Candidate Starts for Phonegingi_41:

(Start: 92 @25666 has 7 MA's), (108, 25729), (113, 25756), (138, 25903), (144, 25930), (145, 25936), (156, 25966), (174, 26032),

Gene: Pineda_33 Start: 21654, Stop: 21301, Start Num: 76

Candidate Starts for Pineda_33:

(35, 21780), (42, 21741), (Start: 76 @21654 has 28 MA's), (115, 21525), (124, 21480), (146, 21360),

Gene: Pitbull_53 Start: 29779, Stop: 30105, Start Num: 91

Candidate Starts for Pitbull_53:

(47, 29674), (Start: 91 @29779 has 5 MA's), (115, 29884), (140, 30016),

Gene: Plumbus_68 Start: 42573, Stop: 42935, Start Num: 79

Candidate Starts for Plumbus_68:

(Start: 79 @42573 has 68 MA's), (154, 42873), (156, 42876), (169, 42918),

Gene: Poise_69 Start: 39121, Stop: 39474, Start Num: 71

Candidate Starts for Poise_69:

(Start: 71 @39121 has 19 MA's), (Start: 86 @39148 has 2 MA's), (121, 39283), (127, 39313), (136, 39364), (138, 39370), (141, 39385), (145, 39403), (154, 39427), (156, 39430),

Gene: Polka_31 Start: 21366, Stop: 21013, Start Num: 76

Candidate Starts for Polka_31:

(35, 21492), (42, 21453), (Start: 76 @21366 has 28 MA's), (115, 21237), (124, 21192), (146, 21072),

Gene: Polo2Bam_72 Start: 42241, Stop: 42768, Start Num: 52
Candidate Starts for Polo2Bam_72:
(52, 42241), (54, 42250), (66, 42283), (Start: 79 @42319 has 68 MA's), (154, 42619),

Gene: PopTart_59 Start: 40248, Stop: 40610, Start Num: 79
Candidate Starts for PopTart_59:
(Start: 79 @40248 has 68 MA's), (154, 40548), (156, 40551), (169, 40593),

Gene: Pound_112 Start: 66568, Stop: 66897, Start Num: 87
Candidate Starts for Pound_112:
(Start: 87 @66568 has 22 MA's), (106, 66637), (138, 66796), (161, 66880),

Gene: Pringar_68 Start: 39443, Stop: 39796, Start Num: 71
Candidate Starts for Pringar_68:
(Start: 71 @39443 has 19 MA's), (Start: 86 @39470 has 2 MA's), (121, 39605), (127, 39635), (136, 39686), (138, 39692), (141, 39707), (145, 39725), (154, 39749), (156, 39752),

Gene: Purplicious_92 Start: 57086, Stop: 57466, Start Num: 83
Candidate Starts for Purplicious_92:
(26, 56873), (40, 56960), (Start: 83 @57086 has 6 MA's), (144, 57347), (154, 57380), (157, 57386), (167, 57425), (170, 57428),

Gene: Quico_73 Start: 43794, Stop: 44156, Start Num: 79
Candidate Starts for Quico_73:
(Start: 79 @43794 has 68 MA's), (154, 44094), (156, 44097), (169, 44139),

Gene: Raela_69 Start: 39678, Stop: 40031, Start Num: 71
Candidate Starts for Raela_69:
(Start: 71 @39678 has 19 MA's), (Start: 86 @39705 has 2 MA's), (121, 39840), (127, 39870), (136, 39921), (138, 39927), (141, 39942), (145, 39960), (154, 39984), (156, 39987),

Gene: Rattail_30 Start: 20919, Stop: 20599, Start Num: 96
Candidate Starts for Rattail_30:
(2, 21354), (17, 21204), (53, 21009), (Start: 76 @20952 has 28 MA's), (Start: 96 @20919 has 1 MA's), (115, 20823),

Gene: Raya_50 Start: 30070, Stop: 30396, Start Num: 91
Candidate Starts for Raya_50:
(33, 29899), (Start: 91 @30070 has 5 MA's), (115, 30175), (140, 30307),

Gene: RedBird_64 Start: 42140, Stop: 42502, Start Num: 79
Candidate Starts for RedBird_64:
(43, 42035), (45, 42041), (62, 42095), (Start: 79 @42140 has 68 MA's), (95, 42173), (130, 42344), (154, 42440), (156, 42443), (169, 42485),

Gene: RedFox_30 Start: 20869, Stop: 20516, Start Num: 76
Candidate Starts for RedFox_30:
(2, 21271), (17, 21121), (53, 20926), (Start: 76 @20869 has 28 MA's), (Start: 96 @20836 has 1 MA's), (115, 20740),

Gene: RedRaider77_68 Start: 39066, Stop: 39419, Start Num: 71
Candidate Starts for RedRaider77_68:

(Start: 71 @39066 has 19 MA's), (Start: 86 @39093 has 2 MA's), (121, 39228), (127, 39258), (136, 39309), (138, 39315), (141, 39330), (145, 39348), (154, 39372), (156, 39375),

Gene: Redno2_116 Start: 66004, Stop: 66333, Start Num: 87

Candidate Starts for Redno2_116:

(Start: 87 @66004 has 22 MA's), (106, 66073), (125, 66163), (126, 66166), (138, 66232), (161, 66316),

Gene: Renna12_29 Start: 20890, Stop: 20534, Start Num: 76

Candidate Starts for Renna12_29:

(Start: 76 @20890 has 28 MA's), (Start: 96 @20857 has 1 MA's), (115, 20761), (146, 20596),

Gene: Rialto_70 Start: 44435, Stop: 44797, Start Num: 79

Candidate Starts for Rialto_70:

(Start: 79 @44435 has 68 MA's), (154, 44735), (156, 44738), (169, 44780),

Gene: SG4_62 Start: 41300, Stop: 41665, Start Num: 79

Candidate Starts for SG4_62:

(Start: 79 @41300 has 68 MA's), (154, 41600),

Gene: Salgado_90 Start: 53033, Stop: 53359, Start Num: 64

Candidate Starts for Salgado_90:

(Start: 64 @53033 has 9 MA's), (78, 53063), (Start: 83 @53069 has 6 MA's), (107, 53138), (114, 53174), (132, 53267),

Gene: Sassafras_64 Start: 42458, Stop: 42820, Start Num: 79

Candidate Starts for Sassafras_64:

(43, 42353), (45, 42359), (62, 42413), (Start: 79 @42458 has 68 MA's), (95, 42491), (130, 42662), (154, 42758), (156, 42761), (169, 42803),

Gene: SassyB_59 Start: 40248, Stop: 40610, Start Num: 79

Candidate Starts for SassyB_59:

(Start: 79 @40248 has 68 MA's), (154, 40548), (156, 40551), (169, 40593),

Gene: Schmidt_45 Start: 30353, Stop: 30685, Start Num: 82

Candidate Starts for Schmidt_45:

(39, 30221), (46, 30251), (57, 30290), (Start: 82 @30353 has 9 MA's), (97, 30386), (115, 30476), (126, 30527), (153, 30644), (156, 30650), (159, 30671),

Gene: ScoobySnack_38 Start: 25435, Stop: 25812, Start Num: 92

Candidate Starts for ScoobySnack_38:

(Start: 92 @25435 has 7 MA's), (108, 25498), (113, 25525), (144, 25699), (145, 25705), (153, 25729), (174, 25801),

Gene: Scottish_64 Start: 42414, Stop: 42776, Start Num: 79

Candidate Starts for Scottish_64:

(43, 42309), (45, 42315), (62, 42369), (Start: 79 @42414 has 68 MA's), (95, 42447), (154, 42714), (156, 42717), (169, 42759),

Gene: SeaLumen_70 Start: 42241, Stop: 42768, Start Num: 52

Candidate Starts for SeaLumen_70:

(52, 42241), (54, 42250), (66, 42283), (Start: 79 @42319 has 68 MA's), (154, 42619),

Gene: Seagreen_64 Start: 41603, Stop: 41965, Start Num: 79

Candidate Starts for Seagreen_64:

(Start: 79 @41603 has 68 MA's), (154, 41903), (156, 41906), (169, 41948),

Gene: Shauna1_63 Start: 42143, Stop: 42505, Start Num: 79

Candidate Starts for Shauna1_63:

(Start: 79 @42143 has 68 MA's), (154, 42443), (156, 42446), (169, 42488),

Gene: Shrooms_89 Start: 52679, Stop: 53008, Start Num: 64

Candidate Starts for Shrooms_89:

(Start: 64 @52679 has 9 MA's), (78, 52709), (114, 52820), (130, 52907), (132, 52913), (144, 52973),

Gene: SilverChicken_75 Start: 42112, Stop: 42474, Start Num: 79

Candidate Starts for SilverChicken_75:

(Start: 79 @42112 has 68 MA's), (130, 42316), (154, 42412), (156, 42415), (169, 42457),

Gene: Skitty_47 Start: 29133, Stop: 29486, Start Num: 91

Candidate Starts for Skitty_47:

(Start: 91 @29133 has 5 MA's), (115, 29238), (166, 29454),

Gene: Skyerus_45 Start: 28188, Stop: 28514, Start Num: 91

Candidate Starts for Skyerus_45:

(33, 28017), (Start: 91 @28188 has 5 MA's), (115, 28293), (140, 28425),

Gene: Slim_67 Start: 43053, Stop: 43415, Start Num: 79

Candidate Starts for Slim_67:

(Start: 79 @43053 has 68 MA's), (154, 43353), (156, 43356), (169, 43398),

Gene: Soos_87 Start: 57034, Stop: 57414, Start Num: 83

Candidate Starts for Soos_87:

(15, 56746), (26, 56821), (40, 56908), (Start: 83 @57034 has 6 MA's), (144, 57295), (146, 57304), (154, 57328), (157, 57334), (170, 57376),

Gene: Spartacus_67 Start: 42463, Stop: 42825, Start Num: 79

Candidate Starts for Spartacus_67:

(Start: 79 @42463 has 68 MA's), (154, 42763), (156, 42766), (169, 42808),

Gene: Splinter_51 Start: 33608, Stop: 33991, Start Num: 82

Candidate Starts for Splinter_51:

(Start: 82 @33608 has 9 MA's), (115, 33731), (157, 33914), (167, 33956),

Gene: Squint_116 Start: 64970, Stop: 65290, Start Num: 87

Candidate Starts for Squint_116:

(Start: 87 @64970 has 22 MA's), (106, 65039), (115, 65081), (138, 65198),

Gene: Squirty_67 Start: 43396, Stop: 43758, Start Num: 79

Candidate Starts for Squirty_67:

(Start: 79 @43396 has 68 MA's), (95, 43429), (130, 43600), (154, 43696), (156, 43699), (169, 43741),

Gene: StAnnes_63 Start: 42321, Stop: 42683, Start Num: 79

Candidate Starts for StAnnes_63:

(Start: 79 @42321 has 68 MA's), (154, 42621), (156, 42624), (169, 42666),

Gene: Stap_63 Start: 42347, Stop: 42709, Start Num: 79

Candidate Starts for Stap_63:

(43, 42242), (45, 42248), (62, 42302), (Start: 79 @42347 has 68 MA's), (95, 42380), (121, 42506), (154, 42647), (156, 42650), (169, 42692),

Gene: Stillion_92 Start: 57704, Stop: 58072, Start Num: 90

Candidate Starts for Stillion_92:

(26, 57479), (40, 57566), (Start: 83 @57692 has 6 MA's), (Start: 90 @57704 has 1 MA's), (144, 57953), (146, 57962), (154, 57986), (157, 57992), (170, 58034),

Gene: Sting_90 Start: 57473, Stop: 57853, Start Num: 83

Candidate Starts for Sting_90:

(15, 57185), (26, 57260), (40, 57347), (Start: 83 @57473 has 6 MA's), (Start: 90 @57485 has 1 MA's), (144, 57734), (146, 57743), (154, 57767), (157, 57773), (170, 57815),

Gene: Strokeseat_61 Start: 39911, Stop: 40273, Start Num: 79

Candidate Starts for Strokeseat_61:

(Start: 79 @39911 has 68 MA's), (154, 40211), (156, 40214), (169, 40256),

Gene: Superphikiman_115 Start: 64061, Stop: 64381, Start Num: 87

Candidate Starts for Superphikiman_115:

(Start: 87 @64061 has 22 MA's), (106, 64130), (115, 64172), (138, 64289),

Gene: Sweetums_60 Start: 33367, Stop: 33756, Start Num: 81

Candidate Starts for Sweetums_60:

(Start: 81 @33367 has 5 MA's), (115, 33493), (135, 33601), (167, 33721),

Gene: TChen_67 Start: 44519, Stop: 44881, Start Num: 79

Candidate Starts for TChen_67:

(Start: 79 @44519 has 68 MA's), (154, 44819), (156, 44822), (169, 44864),

Gene: TZGordon_53 Start: 32954, Stop: 33337, Start Num: 82

Candidate Starts for TZGordon_53:

(Start: 82 @32954 has 9 MA's), (115, 33077), (157, 33260), (167, 33302),

Gene: Taj_70 Start: 44021, Stop: 44383, Start Num: 79

Candidate Starts for Taj_70:

(72, 44006), (Start: 79 @44021 has 68 MA's), (154, 44321), (156, 44324), (169, 44366),

Gene: Taptic_52 Start: 43843, Stop: 44184, Start Num: 77

Candidate Starts for Taptic_52:

(Start: 77 @43843 has 9 MA's), (103, 43897), (105, 43912), (109, 43930), (122, 43996), (126, 44014), (135, 44068), (147, 44113), (154, 44134), (159, 44158), (160, 44161),

Gene: Teng_62 Start: 33271, Stop: 33660, Start Num: 81

Candidate Starts for Teng_62:

(25, 33037), (Start: 81 @33271 has 5 MA's), (115, 33397), (128, 33460), (135, 33505), (165, 33622), (167, 33625),

Gene: Tesla_66 Start: 38915, Stop: 39268, Start Num: 71

Candidate Starts for Tesla_66:

(Start: 71 @38915 has 19 MA's), (Start: 86 @38942 has 2 MA's), (121, 39077), (127, 39107), (136, 39158), (138, 39164), (141, 39179), (145, 39197), (154, 39221), (156, 39224),

Gene: ThreeRngTarjay_118 Start: 68893, Stop: 69225, Start Num: 87

Candidate Starts for ThreeRngTarjay_118:

(Start: 87 @68893 has 22 MA's), (106, 68962), (138, 69121),

Gene: TinaLin_50 Start: 32410, Stop: 32790, Start Num: 82

Candidate Starts for TinaLin_50:

(Start: 82 @32410 has 9 MA's), (104, 32473), (115, 32533), (138, 32650), (148, 32689), (157, 32716), (167, 32758),

Gene: Tonitrus_70 Start: 51892, Stop: 52272, Start Num: 85

Candidate Starts for Tonitrus_70:

(Start: 85 @51892 has 1 MA's), (122, 52051), (124, 52063), (138, 52135),

Gene: Totinger_65 Start: 41519, Stop: 41875, Start Num: 79

Candidate Starts for Totinger_65:

(Start: 79 @41519 has 68 MA's), (121, 41678), (154, 41819), (156, 41822), (169, 41858),

Gene: Typha_64 Start: 45161, Stop: 45511, Start Num: 73

Candidate Starts for Typha_64:

(48, 45089), (59, 45119), (Start: 73 @45161 has 6 MA's), (Start: 81 @45176 has 5 MA's), (Start: 94 @45194 has 7 MA's), (105, 45242), (107, 45248), (114, 45284), (130, 45368), (132, 45374), (136, 45404), (144, 45437),

Gene: UncleRicky_64 Start: 42054, Stop: 42416, Start Num: 79

Candidate Starts for UncleRicky_64:

(Start: 79 @42054 has 68 MA's), (121, 42213), (154, 42354), (156, 42357), (169, 42399),

Gene: VasuNzinga_68 Start: 39017, Stop: 39370, Start Num: 71

Candidate Starts for VasuNzinga_68:

(Start: 71 @39017 has 19 MA's), (Start: 86 @39044 has 2 MA's), (121, 39179), (127, 39209), (136, 39260), (138, 39266), (141, 39281), (145, 39299), (154, 39323), (156, 39326),

Gene: Vendetta_51 Start: 33608, Stop: 33991, Start Num: 82

Candidate Starts for Vendetta_51:

(Start: 82 @33608 has 9 MA's), (115, 33731), (157, 33914), (167, 33956),

Gene: Veteran_62 Start: 40798, Stop: 41154, Start Num: 79

Candidate Starts for Veteran_62:

(Start: 79 @40798 has 68 MA's), (130, 41002), (154, 41098), (156, 41101), (169, 41137),

Gene: Violeta_43 Start: 25712, Stop: 26089, Start Num: 92

Candidate Starts for Violeta_43:

(Start: 92 @25712 has 7 MA's), (108, 25775), (113, 25802), (123, 25862), (144, 25976), (145, 25982), (174, 26078),

Gene: Waltz_87 Start: 51467, Stop: 51796, Start Num: 64

Candidate Starts for Waltz_87:

(Start: 64 @51467 has 9 MA's), (78, 51497), (114, 51608), (130, 51695), (132, 51701), (138, 51734), (144, 51761),

Gene: Wanda_122 Start: 66271, Stop: 66600, Start Num: 87

Candidate Starts for Wanda_122:

(Start: 87 @66271 has 22 MA's), (106, 66340), (110, 66358), (125, 66430), (126, 66433), (138, 66499), (161, 66583),

Gene: Warren_41 Start: 25673, Stop: 26050, Start Num: 92

Candidate Starts for Warren_41:

(Start: 92 @25673 has 7 MA's), (108, 25736), (113, 25763), (144, 25937), (145, 25943), (152, 25964), (174, 26039),

Gene: Wee_70 Start: 44097, Stop: 44459, Start Num: 79

Candidate Starts for Wee_70:

(72, 44082), (Start: 79 @44097 has 68 MA's), (154, 44397), (156, 44400), (169, 44442),

Gene: Whatsapiecost_65 Start: 41324, Stop: 41686, Start Num: 79

Candidate Starts for Whatsapiecost_65:

(Start: 79 @41324 has 68 MA's), (95, 41357), (154, 41624), (156, 41627), (169, 41669),

Gene: Wheelbite_86 Start: 53127, Stop: 53453, Start Num: 64

Candidate Starts for Wheelbite_86:

(21, 52917), (Start: 64 @53127 has 9 MA's), (78, 53157), (Start: 83 @53163 has 6 MA's), (114, 53268), (130, 53355), (132, 53361), (136, 53391),

Gene: WillSterrel_66 Start: 43580, Stop: 43942, Start Num: 79

Candidate Starts for WillSterrel_66:

(Start: 79 @43580 has 68 MA's), (154, 43880), (156, 43883), (169, 43925),

Gene: Wrackline_71 Start: 37367, Stop: 37759, Start Num: 81

Candidate Starts for Wrackline_71:

(5, 36971), (11, 37061), (26, 37163), (31, 37205), (Start: 81 @37367 has 5 MA's), (99, 37394), (115, 37475), (120, 37502), (135, 37583), (139, 37619), (144, 37640), (164, 37712), (167, 37721),

Gene: Zelink_117 Start: 68840, Stop: 69172, Start Num: 87

Candidate Starts for Zelink_117:

(Start: 87 @68840 has 22 MA's), (106, 68909), (138, 69068),

Gene: Zhuangyuan_34 Start: 22580, Stop: 22224, Start Num: 79

Candidate Starts for Zhuangyuan_34:

(35, 22724), (53, 22649), (Start: 79 @22580 has 68 MA's), (Start: 96 @22544 has 1 MA's), (115, 22448), (146, 22283), (159, 22235),