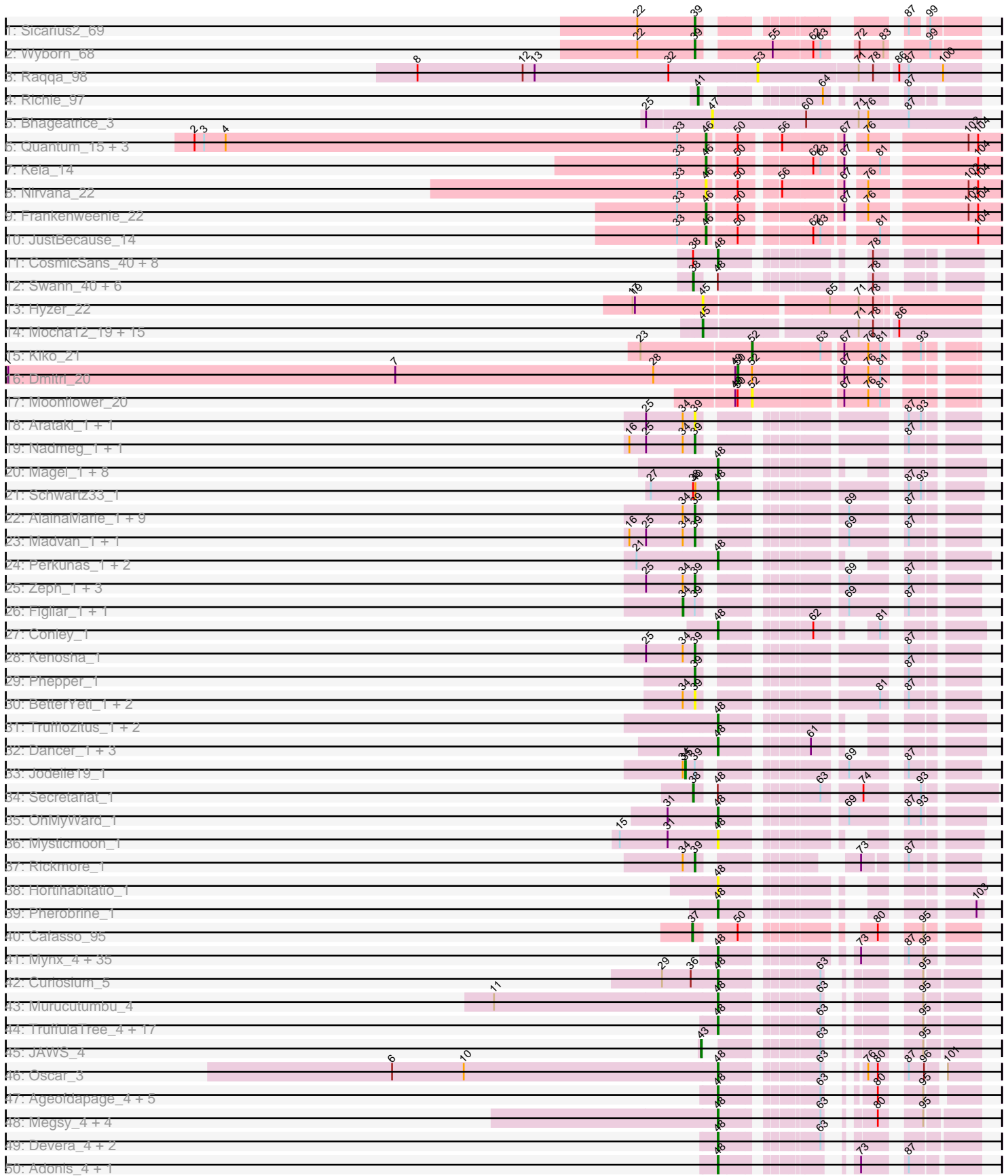
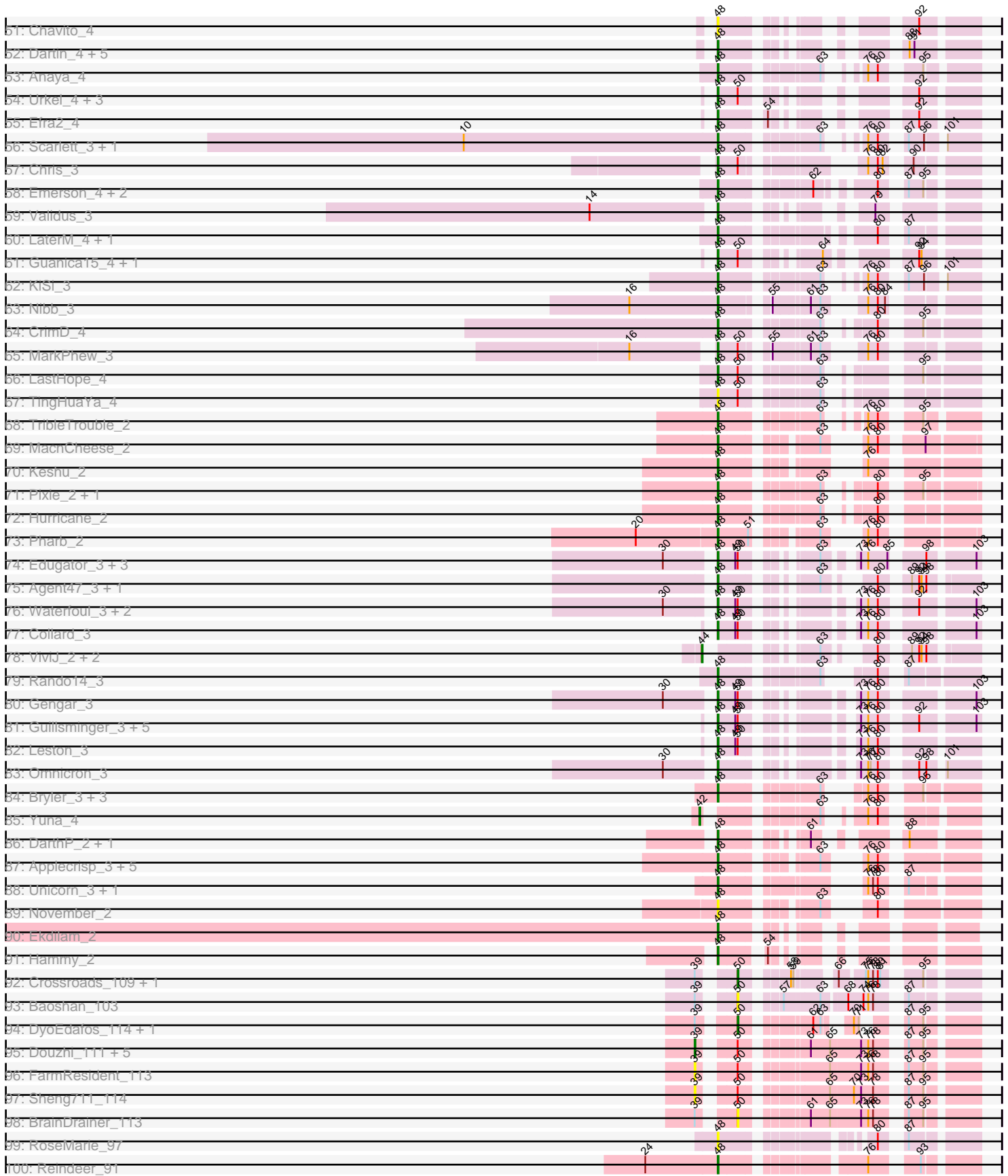


Pham 224238



Pham 224238



Pham 224238



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 224238 Report

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

Pham number 224238 has 281 members, 45 are drafts.

Phages represented in each track:

- Track 1 : Sicarius2_69
- Track 2 : Wyborn_68
- Track 3 : Raqqa_98
- Track 4 : Richie_97
- Track 5 : Bhageatrice_3
- Track 6 : Quantum_15, EhyElimayoE_16, Satis_16, Kradal_16
- Track 7 : Kela_14
- Track 8 : Nirvana_22
- Track 9 : Frankenweenie_22
- Track 10 : JustBecause_14
- Track 11 : CosmicSans_40, Rhodalysa_40, BobbyDazzler_40, Krishelle_40, Lillie_40, TWAMP_40, Bonanza_40, RER2_33, Hiro_40
- Track 12 : Swann_40, Rasputin_40, Bradshaw_40, Alpacados_39, Gollum_40, Phrankenstein_40, PhailMary_39
- Track 13 : Hyzer_22
- Track 14 : Mocha12_19, Savage_19, Gizermo_19, Attis_19, Whiteclaw_19, SoilAssassin_19, Clap_19, GemG_19, TuertoX_19, Sproutie_19, Haley23_19, Bjanes7_19, Cynthia_19, Ebert_19, Yeet412_19, LordFarquaad_19
- Track 15 : Kiko_21
- Track 16 : Dmitri_20
- Track 17 : Moonflower_20
- Track 18 : Arataki_1, Demure_1
- Track 19 : Nadmeg_1, Burley_1
- Track 20 : Magel_1, Capybara_1, NoPickles_1, Gravy_1, Odesza_1, Gill_1, Roney_1, Tanis_1, Kerry_1
- Track 21 : Schwartz33_1
- Track 22 : AlainaMarie_1, Citrus_1, MajinBuu_1, Aflac_1, BluerMoon_1, EndAve_1, Chickenjars_1, Duffington_1, OlgasClover_1, TenaciousP_1
- Track 23 : Madvan_1, Runhaar_1
- Track 24 : Perkunas_1, Talon44_1, Petite_1
- Track 25 : Zeph_1, Eddiemania_1, Hydrus_1, Vardy_1
- Track 26 : Figliar_1, Nithya_1
- Track 27 : Conley_1
- Track 28 : Kenosha_1
- Track 29 : Phepper_1
- Track 30 : BetterYeti_1, ShaggyRogers_1, Gusicorn_1
- Track 31 : Trufflozitus_1, Captrips_1, Avazak_1

- Track 32 : Dancer_1, Artorias_1, JulesRay_1, FortCran_1
- Track 33 : Jodelie19_1
- Track 34 : Secretariat_1
- Track 35 : OhMyWard_1
- Track 36 : Mysticmoon_1
- Track 37 : Rickmore_1
- Track 38 : Hortihabitatio_1
- Track 39 : Pherobrine_1
- Track 40 : Cafasso_95
- Track 41 : Mynx_4, Atiba_4, Durfee_4, Boiiii_4, Blizzard_4, Homura_4, Clipper_4, CaseJules_4, BGlluviae_4, CheetoDust_4, Twitch_4, Topper_4, Ganymede_4, Piatt_4, Veliki_4, Lunahalos_4, Dalmuri_4, Belladonna_4, ShiaSurprise_4, QuincyRose_4, Jarvi_4, Llorens_4, Asayake_4, BEEST_4, Hyperbowlee_4, Jeckyll_4, Capricorn_4, Rosmarinus_4, Spock_4, Peel_4, Tachez_4, MacKat_4, CREW_4, Padfoot_4, Inky_4, Zavala_4
- Track 42 : Curiosium_5
- Track 43 : Murucutumbu_4
- Track 44 : TruffulaTree_4, BarrelRoll_4, Adephagia_4, Joy99_4, Slimphazie_4, CallaLilly_4, Apocalypse_4, Zabiza_4, BaghaKamala_4, Bern_4, Bella96_4, YoureAdopted_4, HedwigODU_4, ActinUp_4, MeaningOfLife_4, Ramen_4, Jayhawk_4, Rapunzel97_4
- Track 45 : JAWS_4
- Track 46 : Oscar_3
- Track 47 : Ageofdapage_4, Beezoo_4, Angelica_4, Pokerus_4, Deby_4, Sulley_4
- Track 48 : Megsy_4, Prithvi_4, LindNT_4, TaiwanKao_4, TreyKay_4
- Track 49 : Devera_4, Illumine_4, Dole_4
- Track 50 : Adonis_4, Tiri_4
- Track 51 : Chavito_4
- Track 52 : Dartin_4, Shaobing_4, Niklas_4, Peanam_4, Richo_4, McMater_4
- Track 53 : Anaya_4
- Track 54 : Urkel_4, DrHayes_4, TiniBug_4, SamuelLPlaqson_4
- Track 55 : Efra2_4
- Track 56 : Scarlett_3, LeMond_3
- Track 57 : Chris_3
- Track 58 : Emerson_4, Padpat_4, AlishaPH_4
- Track 59 : Validus_3
- Track 60 : LaterM_4, Stinson_4
- Track 61 : Guanica15_4, Yunkel11_4
- Track 62 : KiSi_3
- Track 63 : Nibb_3
- Track 64 : CrimD_4
- Track 65 : MarkPhew_3
- Track 66 : LastHope_4
- Track 67 : TingHuaYa_4
- Track 68 : TribbleTrouble_2
- Track 69 : MacnCheese_2
- Track 70 : Keshu_2
- Track 71 : Pixie_2, TBond007_2
- Track 72 : Hurricane_2
- Track 73 : Pharb_2
- Track 74 : Edugator_3, AlleyCat_3, Psycho_3, Dadosky_3
- Track 75 : Agent47_3, InvictusManeo_3
- Track 76 : Waterfoul_3, SoSeph_3, Heftyboy_3

- Track 77 : Collard_3
- Track 78 : ViviJ_2, Neighly_3, Kratio_2
- Track 79 : Rando14_3
- Track 80 : Gengar_3
- Track 81 : Guillsminger_3, Thyatira_3, Miryou_3, OkiRoe_3, Feyre_3, Paola_3
- Track 82 : Leston_3
- Track 83 : Omnicron_3
- Track 84 : Bryler_3, Phrank_3, Tierra_3, Cain_3
- Track 85 : Yuna_4
- Track 86 : DarthP_2, Amohnition_2
- Track 87 : Applecrisp_3, Ellie_2, ShedlockHolmes_2, Fefferhead_2, Lea83_2, Amgine_2
- Track 88 : Unicorn_3, PhelpsODU_3
- Track 89 : November_2
- Track 90 : Ekdilam_2
- Track 91 : Hammy_2
- Track 92 : Crossroads_109, MkaliMitinis3_109
- Track 93 : Baoshan_103
- Track 94 : DyoEdafos_114, Kropertea_105
- Track 95 : Douzhi_111, PYPDinur_112, Chaser_110, Bromden_112, Quby_111, Douge_111
- Track 96 : FarmResident_113
- Track 97 : Sheng711_114
- Track 98 : BrainDrainer_113
- Track 99 : RoseMarie_97
- Track 100 : Reindeer_91
- Track 101 : KleverKiS_90, SlimJimmy_90
- Track 102 : Estes_101
- Track 103 : Rey_102
- Track 104 : GardenSalsa_101, MrMagoo_102
- Track 105 : Nanosmite_96
- Track 106 : VanLee_69

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

The start number called the most often in the published annotations is 48, it was called in 163 of the 236 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_4, Adephagia_4, Adonis_4, Agent47_3, Ageofdapage_4, AlishaPH_4, AlleyCat_3, Amgine_2, Amohnition_2, Anaya_4, Angelica_4, Apocalypse_4, Applecrisp_3, Artorias_1, Asayake_4, Atiba_4, Avazak_1, BEEST_4, BGlluviae_4, BaghaKamala_4, BarrelRoll_4, Beezoo_4, Bella96_4, Belladonna_4, Bern_4, Blizzard_4, BobbyDazzler_40, Boiiii_4, Bonanza_40, Bryler_3, CREW_4, Cain_3, CallaLilly_4, Capricorn_4, Captrips_1, Copybara_1, CaseJules_4, Chavito_4, CheetoDust_4, Chris_3, Clipper_4, Collard_3, Conley_1, CosmicSans_40, CrimD_4, Curiosium_5, Dadosky_3, Dalmuri_4, Dancer_1, DarthP_2, Dartin_4, Deby_4, Devera_4, Dole_4, DrHayes_4, Durfee_4, Edugator_3, Efra2_4, Ekdilam_2, Ellie_2, Emerson_4, Fefferhead_2, Feyre_3, FortCran_1, Ganymede_4, Gengar_3, Gill_1, Gravy_1, Guanica15_4, Guillsminger_3, Hammy_2, HedwigODU_4, Heftyboy_3,

Hiro_40, Homura_4, Hortihabitatio_1, Hurricane_2, Hyperbowlee_4, Illumine_4, Inky_4, InvictusManeo_3, Jarvi_4, Jayhawk_4, Jeckyll_4, Joy99_4, JulesRay_1, Kerry_1, Keshu_2, KiSi_3, KleverKiS_90, Krishelle_40, LastHope_4, LaterM_4, LeMond_3, Lea83_2, Leston_3, Lillie_40, LindNT_4, Llorens_4, Lunahalos_4, MacKat_4, MacnCheese_2, Magel_1, MarkPhew_3, McMater_4, MeaningOfLife_4, Megsy_4, Miryou_3, Murucutumbu_4, Mynx_4, Mysticmoon_1, Nanosmite_96, Nibb_3, Niklas_4, NoPickles_1, November_2, Odesza_1, OhMyWard_1, OkiRoe_3, Omnicon_3, Oscar_3, Padfoot_4, Padpat_4, Paola_3, Peanam_4, Peel_4, Perunas_1, Petito_1, Pharb_2, PhelpsODU_3, Pherobrine_1, Phrank_3, Piatt_4, Pixie_2, Pokerus_4, Prithvi_4, Psycho_3, QuincyRose_4, RER2_33, Ramen_4, Rando14_3, Rapunzel97_4, Reindeer_91, Rhodalysa_40, Richo_4, Roney_1, RoseMarie_97, Rosmarinus_4, SamuelLPlaqson_4, Scarlett_3, Schwartz33_1, Shaobing_4, ShedlockHolmes_2, ShiaSurprise_4, SlimJimmy_90, Slimphazie_4, SoSeph_3, Spock_4, Stinson_4, Sulley_4, TBond007_2, TWAMP_40, Tachez_4, TaiwanKao_4, Talon44_1, Tanis_1, Thyatira_3, Tierra_3, TingHuaYa_4, TiniBug_4, Tiri_4, Topper_4, TreyKay_4, TribbleTrouble_2, Trufflozitus_1, TruffulaTree_4, Twitch_4, Unicorn_3, Urkel_4, Validus_3, Veliki_4, Waterfoul_3, YoureAdopted_4, Yunkel11_4, Zabiza_4, Zavala_4,

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

- Alpacados_39, Bradshaw_40, Gollum_40, PhailMary_39, Phrankenstein_40, Rasputin_40, Secretariat_1, Swann_40,

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

- Aflac_1, AlainaMarie_1, Arataki_1, Attis_19, Baoshan_103, BetterYeti_1, Bhageatrice_3, Bjaner7_19, BluerMoon_1, BrainDrainer_113, Bromden_112, Burley_1, Cafasso_95, Chaser_110, Chikenjars_1, Citrus_1, Clap_19, Crossroads_109, Cynthia_19, Demure_1, Dmitri_20, Douge_111, Douzhi_111, Duffington_1, DyoEdafos_114, Ebert_19, Eddiemania_1, EhyElimayoE_16, EndAve_1, Estes_101, FarmResident_113, Figliar_1, Frankenweenie_22, GardenSalsa_101, GemG_19, Gizermo_19, Gusicorn_1, Haley23_19, Hydrus_1, Hyzer_22, JAWS_4, Jodelie19_1, JustBecause_14, Kela_14, Kenosha_1, Kiko_21, Kradal_16, Kratio_2, Kropertea_105, LordFarquaad_19, Madvan_1, MajinBuu_1, MkaliMinitis3_109, Mocha12_19, Moonflower_20, MrMagoo_102, Nadmeg_1, Neighly_3, Nirvana_22, Nithya_1, OlgasClover_1, PYPDinur_112, Phepper_1, Quantum_15, Quby_111, Raqqa_98, Rey_102, Richie_97, Rickmore_1, Runhaar_1, Satis_16, Savage_19, ShaggyRogers_1, Sheng711_114, Sicarius2_69, SoilAssassin_19, Sproutie_19, TenaciousP_1, TuertoX_19, VanLee_69, Vardy_1, ViviJ_2, Whiteclaw_19, Wyborn_68, Yeet412_19, Yuna_4, Zeph_1,

Summary by start number:

Start 34:

- Found in 28 of 281 (10.0%) of genes in pham
- Manual Annotations of this start: 2 of 236
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Figliar_1 (DJ), Nithya_1 (DJ),

Start 35:

- Found in 1 of 281 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jodelie19_1 (DJ),

Start 37:

- Found in 1 of 281 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cafasso_95 (DZ),

Start 38:

- Found in 18 of 281 (6.4%) of genes in pham
- Manual Annotations of this start: 8 of 236
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Alpacados_39 (CA), Bradshaw_40 (CA), Gollum_40 (CA), PhailMary_39 (CA), Phrankenstein_40 (CA), Rasputin_40 (CA), Secretariat_1 (DJ), Swann_40 (CA),

Start 39:

- Found in 45 of 281 (16.0%) of genes in pham
- Manual Annotations of this start: 24 of 236
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Aflac_1 (DJ), AlainaMarie_1 (DJ), Arataki_1 (DJ), BetterYeti_1 (DJ), BluerMoon_1 (DJ), Bromden_112 (L4), Burley_1 (DJ), Chaser_110 (L4), Chikenjars_1 (DJ), Citrus_1 (DJ), Demure_1 (DJ), Douge_111 (L4), Douzhi_111 (L4), Duffington_1 (DJ), Eddiemania_1 (DJ), EndAve_1 (DJ), FarmResident_113 (L4), Gusicorn_1 (DJ), Hydrus_1 (DJ), Kenosha_1 (DJ), Madvan_1 (DJ), MajinBuu_1 (DJ), Nadmeg_1 (DJ), OlgasClover_1 (DJ), PYPDinur_112 (L4), Phepper_1 (DJ), Quby_111 (L4), Rickmore_1 (DJ), Runhaar_1 (DJ), ShaggyRogers_1 (DJ), Sheng711_114 (L4), Sicarius2_69 (AO2), TenaciousP_1 (DJ), Vardy_1 (DJ), Wyborn_68 (AO2), Zeph_1 (DJ),

Start 41:

- Found in 2 of 281 (0.7%) of genes in pham
- Manual Annotations of this start: 2 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Richie_97 (AY), VanLee_69 (singleton),

Start 42:

- Found in 1 of 281 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yuna_4 (K6),

Start 43:

- Found in 1 of 281 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JAWS_4 (K1),

Start 44:

- Found in 7 of 281 (2.5%) of genes in pham
- Manual Annotations of this start: 5 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Estes_101 (M2), GardenSalsa_101 (M2), Kratio_2 (K5), MrMagoo_102 (M2), Neighly_3 (K3), Rey_102 (M2), ViviJ_2 (K5),

Start 45:

- Found in 17 of 281 (6.0%) of genes in pham
- Manual Annotations of this start: 16 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis_19 (CZ2), Bjanes7_19 (CZ2), Clap_19 (CZ2), Cynthia_19 (CZ2), Ebert_19 (CZ2), GemG_19 (CZ2), Gizermo_19 (CZ2), Haley23_19 (CZ2), Hyzer_22 (CZ1), LordFarquaad_19 (CZ2), Mocha12_19 (CZ2), Savage_19 (CZ2), SoilAssassin_19 (CZ2), Sproutie_19 (CZ2), TuertoX_19 (CZ2), Whiteclaw_19 (CZ2), Yeet412_19 (CZ2),

Start 46:

- Found in 8 of 281 (2.8%) of genes in pham
- Manual Annotations of this start: 7 of 236
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EhyElimayoE_16 (BM), Frankenweenie_22 (BM), JustBecause_14 (BM), Kela_14 (BM), Kradal_16 (BM), Nirvana_22 (BM), Quantum_15 (BM), Satis_16 (BM),

Start 47:

- Found in 1 of 281 (0.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bhageatrice_3 (AY),

Start 48:

- Found in 194 of 281 (69.0%) of genes in pham
- Manual Annotations of this start: 163 of 236
- Called 95.9% of time when present
- Phage (with cluster) where this start called: ActinUp_4 (K1), Adephagia_4 (K1), Adonis_4 (K1), Agent47_3 (K5), Ageofdapage_4 (K1), AlishaPH_4 (K1), AlleyCat_3 (K5), Amgine_2 (K6), Amohition_2 (K6), Anaya_4 (K1), Angelica_4 (K1), Apocalypse_4 (K1), Applecrisp_3 (K6), Artorias_1 (DJ), Asayake_4 (K1), Atiba_4 (K1), Avazak_1 (DJ), BEEST_4 (K1), BGlluviae_4 (K1), BaghaKamala_4 (K1), BarrelRoll_4 (K1), Beezoo_4 (K1), Bella96_4 (K1), Belladonna_4 (K1), Bern_4 (K1), Blizzard_4 (K1), BobbyDazzler_40 (CA), Boiiii_4 (K1), Bonanza_40 (CA), Bryler_3 (K6), CREW_4 (K1), Cain_3 (K6), CallaLilly_4 (K1), Capricorn_4 (K1), Captrips_1 (DJ), Capybara_1 (DJ), CaseJules_4 (K1), Chavito_4 (K1), CheetoDust_4 (K1), Chris_3 (K1), Clipper_4 (K1), Collard_3 (K5), Conley_1 (DJ), CosmicSans_40 (CA), CrimD_4 (K1), Curiosium_5 (K1), Dadosky_3 (K5), Dalmuri_4 (K1), Dancer_1 (DJ), DarthP_2 (K6), Dartin_4 (K1), Deby_4 (K1), Devera_4 (K1), Dole_4 (K1), DrHayes_4 (K1), Durfee_4 (K1), Edugator_3 (K5), Efra2_4 (K1), Ekdilam_2 (K6), Ellie_2 (K6), Emerson_4 (K1), Fefferhead_2 (K6), Feyre_3 (K5), FortCran_1 (DJ), Ganymede_4 (K1), Gengar_3 (K5), Gill_1 (DJ), Gravy_1 (DJ), Guanica15_4 (K1), Guillsminger_3 (K5), Hammy_2 (K6), HedwigODU_4 (K1), Heftyboy_3 (K5), Hiro_40 (CA), Homura_4 (K1), Hortihabitatio_1 (DJ), Hurricane_2 (K3), Hyperbowlee_4 (K1), Illumine_4 (K1), Inky_4 (K1), InvictusManeo_3 (K5), Jarvi_4 (K1), Jayhawk_4 (K1), Jeckyll_4 (K1), Joy99_4 (K1), JulesRay_1 (DJ), Kerry_1 (DJ), Keshu_2 (K3), KiSi_3 (K1), KleverKiS_90 (M1), Krishelle_40 (CA), LastHope_4 (K1), LaterM_4 (K1), LeMond_3 (K1), Lea83_2 (K3), Leston_3 (K5), Lillie_40 (CA), LindNT_4 (K1), Llorens_4 (K1), Lunahalos_4 (K1), MacKat_4 (K1), MacnCheese_2 (K3), Magel_1 (DJ), MarkPhew_3 (K1), McMater_4 (K1), MeaningOfLife_4 (K1), Megsy_4 (K1), Miryou_3 (K5), Murucutumbu_4 (K1), Mynx_4 (K1), Mysticmoon_1 (DJ), Nanosmite_96 (M3), Nibb_3

(K1), Niklas_4 (K1), NoPickles_1 (DJ), November_2 (K6), Odesza_1 (DJ), OhMyWard_1 (DJ), OkiRoe_3 (K5), Omnicron_3 (K5), Oscar_3 (K1), Padfoot_4 (K1), Padpat_4 (K1), Paola_3 (K5), Peanam_4 (K1), Peel_4 (K1), Perkunas_1 (DJ), Petito_1 (DJ), Pharb_2 (K3), PhelpsODU_3 (K6), Pherobrine_1 (DJ), Phrank_3 (K6), Piatt_4 (K1), Pixie_2 (K3), Pokerus_4 (K1), Prithvi_4 (K1), Psycho_3 (K5), QuincyRose_4 (K1), RER2_33 (CA), Ramen_4 (K1), Rando14_3 (K5), Rapunzel97_4 (K1), Reindeer_91 (M1), Rhodalysa_40 (CA), Richo_4 (K1), Roney_1 (DJ), RoseMarie_97 (M), Rosmarinus_4 (K1), SamuelLPlaqson_4 (K1), Scarlett_3 (K1), Schwartz33_1 (DJ), Shaobing_4 (K1), ShedlockHolmes_2 (K3), ShiaSurprise_4 (K1), SlimJimmy_90 (M1), Slimphazie_4 (K1), SoSeph_3 (K5), Spock_4 (K1), Stinson_4 (K1), Sulley_4 (K1), TBond007_2 (K3), TWAMP_40 (CA), Tachez_4 (K1), TaiwanKao_4 (K1), Talon44_1 (DJ), Tanis_1 (DJ), Thyatira_3 (K5), Tierra_3 (K6), TingHuaYa_4 (K1), TiniBug_4 (K1), Tiri_4 (K1), Topper_4 (K1), TreyKay_4 (K1), TribbleTrouble_2 (K3), Trufflozitus_1 (DJ), TruffulaTree_4 (K1), Twitch_4 (K1), Unicorn_3 (K6), Urkel_4 (K1), Validus_3 (K1), Veliki_4 (K1), Waterfoul_3 (K5), YoureAdopted_4 (K1), Yunkel11_4 (K1), Zabiza_4 (K1), Zavala_4 (K1),

Start 50:

- Found in 51 of 281 (18.1%) of genes in pham
- Manual Annotations of this start: 4 of 236
- Called 13.7% of time when present
- Phage (with cluster) where this start called: Baoshan_103 (L2), BrainDrainer_113 (L4), Crossroads_109 (L2), Dmitri_20 (DB), DyoEdafos_114 (L4), Kropertea_105 (L4), MkaliMitinis3_109 (L2),

Start 52:

- Found in 3 of 281 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 236
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Kiko_21 (DB), Moonflower_20 (DB),

Start 53:

- Found in 1 of 281 (0.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Raqqa_98 (AY),

Summary by clusters:

There are 20 clusters represented in this pham: M, singleton, DJ, K5, CZ2, BM, CA, CZ1, DB, L4, K3, K1, M1, K6, M3, M2, AY, L2, DZ, AO2,

Info for manual annotations of cluster AO2:

- Start number 39 was manually annotated 2 times for cluster AO2.

Info for manual annotations of cluster AY:

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

Info for manual annotations of cluster BM:

- Start number 46 was manually annotated 7 times for cluster BM.

Info for manual annotations of cluster CA:

- Start number 38 was manually annotated 7 times for cluster CA.

- Start number 48 was manually annotated 8 times for cluster CA.

Info for manual annotations of cluster CZ2:

- Start number 45 was manually annotated 16 times for cluster CZ2.

Info for manual annotations of cluster DB:

- Start number 50 was manually annotated 1 time for cluster DB.
- Start number 52 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DJ:

- Start number 34 was manually annotated 2 times for cluster DJ.
- Start number 35 was manually annotated 1 time for cluster DJ.
- Start number 38 was manually annotated 1 time for cluster DJ.
- Start number 39 was manually annotated 19 times for cluster DJ.
- Start number 48 was manually annotated 18 times for cluster DJ.

Info for manual annotations of cluster DZ:

- Start number 37 was manually annotated 1 time for cluster DZ.

Info for manual annotations of cluster K1:

- Start number 43 was manually annotated 1 time for cluster K1.
- Start number 48 was manually annotated 93 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 48 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K5:

- Start number 44 was manually annotated 1 time for cluster K5.
- Start number 48 was manually annotated 20 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 42 was manually annotated 1 time for cluster K6.
- Start number 48 was manually annotated 13 times for cluster K6.

Info for manual annotations of cluster L2:

- Start number 50 was manually annotated 2 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 39 was manually annotated 3 times for cluster L4.
- Start number 50 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster M1:

- Start number 48 was manually annotated 2 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 44 was manually annotated 4 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 48 was manually annotated 1 time for cluster M3.

Gene Information:

Gene: ActinUp_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for ActinUp_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Adephagia_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Adephagia_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Adonis_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for Adonis_4:

(Start: 48 @703 has 163 MA's), (73, 814), (87, 853),

Gene: Aflac_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Aflac_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Agent47_3 Start: 542, Stop: 754, Start Num: 48

Candidate Starts for Agent47_3:

(Start: 48 @542 has 163 MA's), (63, 626), (80, 659), (89, 683), (92, 692), (94, 695), (98, 701),

Gene: Ageofdapage_4 Start: 686, Stop: 904, Start Num: 48

Candidate Starts for Ageofdapage_4:

(Start: 48 @686 has 163 MA's), (63, 782), (80, 812), (95, 848),

Gene: AlainaMarie_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for AlainaMarie_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: AlishaPH_4 Start: 726, Stop: 959, Start Num: 48

Candidate Starts for AlishaPH_4:

(Start: 48 @726 has 163 MA's), (62, 813), (80, 867), (87, 885), (95, 903),

Gene: AlleyCat_3 Start: 542, Stop: 772, Start Num: 48

Candidate Starts for AlleyCat_3:

(30, 491), (Start: 48 @542 has 163 MA's), (49, 563), (Start: 50 @566 has 4 MA's), (63, 626), (73, 653), (76, 662), (85, 686), (98, 716), (103, 767),

Gene: Alpacados_39 Start: 30016, Stop: 29783, Start Num: 38

Candidate Starts for Alpacados_39:

(Start: 38 @30016 has 8 MA's), (Start: 48 @30004 has 163 MA's), (78, 29884),

Gene: Amgine_2 Start: 192, Stop: 413, Start Num: 48

Candidate Starts for Amgine_2:

(Start: 48 @192 has 163 MA's), (63, 282), (76, 300), (80, 312),

Gene: Amohnition_2 Start: 207, Stop: 419, Start Num: 48

Candidate Starts for Amohnition_2:

(Start: 48 @207 has 163 MA's), (61, 279), (88, 342),

Gene: Anaya_4 Start: 727, Stop: 945, Start Num: 48

Candidate Starts for Anaya_4:

(Start: 48 @727 has 163 MA's), (63, 823), (76, 841), (80, 853), (95, 889),

Gene: Angelica_4 Start: 727, Stop: 945, Start Num: 48

Candidate Starts for Angelica_4:

(Start: 48 @727 has 163 MA's), (63, 823), (80, 853), (95, 889),

Gene: Apocalypse_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Apocalypse_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Applecrisp_3 Start: 522, Stop: 743, Start Num: 48

Candidate Starts for Applecrisp_3:

(Start: 48 @522 has 163 MA's), (63, 612), (76, 630), (80, 642),

Gene: Arataki_1 Start: 212, Stop: 469, Start Num: 39

Candidate Starts for Arataki_1:

(25, 152), (Start: 34 @197 has 2 MA's), (Start: 39 @212 has 24 MA's), (87, 395), (93, 410),

Gene: Artorias_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Artorias_1:

(Start: 48 @221 has 163 MA's), (61, 305),

Gene: Asayake_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Asayake_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Atiba_4 Start: 703, Stop: 939, Start Num: 48

Candidate Starts for Atiba_4:

(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: Attis_19 Start: 17679, Stop: 18002, Start Num: 45

Candidate Starts for Attis_19:

(Start: 45 @17679 has 16 MA's), (71, 17859), (78, 17877), (86, 17901),

Gene: Avazak_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Avazak_1:

(Start: 48 @221 has 163 MA's),

Gene: BEEST_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for BEEST_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: BGlluviae_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for BGlluviae_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: BaghaKamala_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for BaghaKamala_4:

(Start: 48 @703 has 163 MA's), (63, 799), (95, 868),

Gene: Baoshan_103 Start: 63247, Stop: 63477, Start Num: 50

Candidate Starts for Baoshan_103:

(Start: 39 @63214 has 24 MA's), (Start: 50 @63247 has 4 MA's), (57, 63283), (63, 63322), (68, 63349), (74, 63367), (76, 63373), (78, 63379), (87, 63403),

Gene: BarrelRoll_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for BarrelRoll_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Beezoo_4 Start: 724, Stop: 942, Start Num: 48

Candidate Starts for Beezoo_4:

(Start: 48 @724 has 163 MA's), (63, 820), (80, 850), (95, 886),

Gene: Bella96_4 Start: 691, Stop: 915, Start Num: 48

Candidate Starts for Bella96_4:

(Start: 48 @691 has 163 MA's), (63, 787), (95, 853),

Gene: Belladonna_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Belladonna_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Bern_4 Start: 687, Stop: 911, Start Num: 48

Candidate Starts for Bern_4:

(Start: 48 @687 has 163 MA's), (63, 783), (95, 849),

Gene: BetterYeti_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for BetterYeti_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (81, 379), (87, 394),

Gene: Bhageatrice_3 Start: 1708, Stop: 2037, Start Num: 47

Candidate Starts for Bhageatrice_3:

(25, 1633), (47, 1708), (60, 1819), (71, 1885), (76, 1897), (87, 1948),

Gene: Bjaner7_19 Start: 17679, Stop: 18002, Start Num: 45

Candidate Starts for Bjaner7_19:

(Start: 45 @17679 has 16 MA's), (71, 17859), (78, 17877), (86, 17901),

Gene: Blizzard_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Blizzard_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: BluerMoon_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for BluerMoon_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: BobbyDazzler_40 Start: 30078, Stop: 29857, Start Num: 48

Candidate Starts for BobbyDazzler_40:

(Start: 38 @30090 has 8 MA's), (Start: 48 @30078 has 163 MA's), (78, 29958),

Gene: Boiiii_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Boiiii_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Bonanza_40 Start: 30006, Stop: 29785, Start Num: 48

Candidate Starts for Bonanza_40:

(Start: 38 @30018 has 8 MA's), (Start: 48 @30006 has 163 MA's), (78, 29886),

Gene: Bradshaw_40 Start: 30044, Stop: 29811, Start Num: 38

Candidate Starts for Bradshaw_40:

(Start: 38 @30044 has 8 MA's), (Start: 48 @30032 has 163 MA's), (78, 29912),

Gene: BrainDrainer_113 Start: 63738, Stop: 63971, Start Num: 50

Candidate Starts for BrainDrainer_113:

(Start: 39 @63705 has 24 MA's), (Start: 50 @63738 has 4 MA's), (61, 63798), (65, 63822), (73, 63858), (76, 63867), (78, 63873), (87, 63897), (95, 63915),

Gene: Bromden_112 Start: 64818, Stop: 65084, Start Num: 39

Candidate Starts for Bromden_112:

(Start: 39 @64818 has 24 MA's), (Start: 50 @64851 has 4 MA's), (61, 64911), (65, 64935), (73, 64971), (76, 64980), (78, 64986), (87, 65010), (95, 65028),

Gene: Bryler_3 Start: 658, Stop: 882, Start Num: 48

Candidate Starts for Bryler_3:

(Start: 48 @658 has 163 MA's), (63, 754), (76, 772), (80, 784), (95, 820),

Gene: Burley_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Burley_1:

(16, 130), (25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (87, 394),

Gene: CREW_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for CREW_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Cafasso_95 Start: 55818, Stop: 56057, Start Num: 37

Candidate Starts for Cafasso_95:

(Start: 37 @55818 has 1 MA's), (Start: 50 @55854 has 4 MA's), (80, 55965), (95, 56001),

Gene: Cain_3 Start: 658, Stop: 882, Start Num: 48

Candidate Starts for Cain_3:

(Start: 48 @658 has 163 MA's), (63, 754), (76, 772), (80, 784), (95, 820),

Gene: CallaLilly_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for CallaLilly_4:

(Start: 48 @703 has 163 MA's), (63, 799), (95, 868),

Gene: Capricorn_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Capricorn_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Captrips_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Captrips_1:

(Start: 48 @221 has 163 MA's),

Gene: Copybara_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Copybara_1:

(Start: 48 @221 has 163 MA's),

Gene: CaseJules_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for CaseJules_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Chaser_110 Start: 63185, Stop: 63451, Start Num: 39

Candidate Starts for Chaser_110:

(Start: 39 @63185 has 24 MA's), (Start: 50 @63218 has 4 MA's), (61, 63278), (65, 63302), (73, 63338), (76, 63347), (78, 63353), (87, 63377), (95, 63395),

Gene: Chavito_4 Start: 744, Stop: 956, Start Num: 48

Candidate Starts for Chavito_4:

(Start: 48 @744 has 163 MA's), (92, 891),

Gene: CheetoDust_4 Start: 703, Stop: 939, Start Num: 48

Candidate Starts for CheetoDust_4:

(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: Chikenjars_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Chikenjars_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Chris_3 Start: 662, Stop: 886, Start Num: 48

Candidate Starts for Chris_3:

(Start: 48 @662 has 163 MA's), (Start: 50 @686 has 4 MA's), (76, 782), (80, 794), (82, 800), (90, 818),

Gene: Citrus_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Citrus_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Clap_19 Start: 17686, Stop: 18009, Start Num: 45

Candidate Starts for Clap_19:

(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Clipper_4 Start: 703, Stop: 939, Start Num: 48

Candidate Starts for Clipper_4:

(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: Collard_3 Start: 516, Stop: 746, Start Num: 48

Candidate Starts for Collard_3:

(Start: 48 @516 has 163 MA's), (49, 537), (Start: 50 @540 has 4 MA's), (73, 627), (76, 636), (80, 648), (103, 741),

Gene: Conley_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Conley_1:

(Start: 48 @221 has 163 MA's), (62, 308), (81, 350),

Gene: CosmicSans_40 Start: 30032, Stop: 29811, Start Num: 48

Candidate Starts for CosmicSans_40:

(Start: 38 @30044 has 8 MA's), (Start: 48 @30032 has 163 MA's), (78, 29912),

Gene: CrimD_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for CrimD_4:

(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: Crossroads_109 Start: 63279, Stop: 63491, Start Num: 50
Candidate Starts for Crossroads_109:
(Start: 39 @63246 has 24 MA's), (Start: 50 @63279 has 4 MA's), (58, 63321), (59, 63324), (66, 63357),
(75, 63384), (76, 63387), (78, 63393), (80, 63399), (81, 63402), (95, 63435),

Gene: Curiosium_5 Start: 989, Stop: 1216, Start Num: 48
Candidate Starts for Curiosium_5:
(29, 938), (36, 974), (Start: 48 @989 has 163 MA's), (63, 1085), (95, 1154),

Gene: Cynthia_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for Cynthia_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Dadosky_3 Start: 542, Stop: 772, Start Num: 48
Candidate Starts for Dadosky_3:
(30, 491), (Start: 48 @542 has 163 MA's), (49, 563), (Start: 50 @566 has 4 MA's), (63, 626), (73, 653),
(76, 662), (85, 686), (98, 716), (103, 767),

Gene: Dalmuri_4 Start: 727, Stop: 963, Start Num: 48
Candidate Starts for Dalmuri_4:
(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Dancer_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Dancer_1:
(Start: 48 @221 has 163 MA's), (61, 305),

Gene: DarthP_2 Start: 207, Stop: 419, Start Num: 48
Candidate Starts for DarthP_2:
(Start: 48 @207 has 163 MA's), (61, 279), (88, 342),

Gene: Dartin_4 Start: 742, Stop: 954, Start Num: 48
Candidate Starts for Dartin_4:
(Start: 48 @742 has 163 MA's), (88, 877), (91, 883),

Gene: Deby_4 Start: 727, Stop: 945, Start Num: 48
Candidate Starts for Deby_4:
(Start: 48 @727 has 163 MA's), (63, 823), (80, 853), (95, 889),

Gene: Demure_1 Start: 212, Stop: 469, Start Num: 39
Candidate Starts for Demure_1:
(25, 152), (Start: 34 @197 has 2 MA's), (Start: 39 @212 has 24 MA's), (87, 395), (93, 410),

Gene: Devera_4 Start: 703, Stop: 930, Start Num: 48
Candidate Starts for Devera_4:
(Start: 48 @703 has 163 MA's), (63, 799),

Gene: Dmitri_20 Start: 19193, Stop: 19450, Start Num: 50
Candidate Starts for Dmitri_20:
(1, 18281), (7, 18767), (28, 19091), (49, 19190), (Start: 50 @19193 has 4 MA's), (Start: 52 @19211
has 1 MA's), (67, 19316), (76, 19346), (81, 19361),

Gene: Dole_4 Start: 703, Stop: 930, Start Num: 48
Candidate Starts for Dole_4:

(Start: 48 @703 has 163 MA's), (63, 799),

Gene: Douge_111 Start: 62989, Stop: 63255, Start Num: 39

Candidate Starts for Douge_111:

(Start: 39 @62989 has 24 MA's), (Start: 50 @63022 has 4 MA's), (61, 63082), (65, 63106), (73, 63142), (76, 63151), (78, 63157), (87, 63181), (95, 63199),

Gene: Douzhi_111 Start: 63394, Stop: 63660, Start Num: 39

Candidate Starts for Douzhi_111:

(Start: 39 @63394 has 24 MA's), (Start: 50 @63427 has 4 MA's), (61, 63487), (65, 63511), (73, 63547), (76, 63556), (78, 63562), (87, 63586), (95, 63604),

Gene: DrHayes_4 Start: 691, Stop: 903, Start Num: 48

Candidate Starts for DrHayes_4:

(Start: 48 @691 has 163 MA's), (Start: 50 @715 has 4 MA's), (92, 838),

Gene: Duffington_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Duffington_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Durfee_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Durfee_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: DyoEdafos_114 Start: 63914, Stop: 64108, Start Num: 50

Candidate Starts for DyoEdafos_114:

(Start: 39 @63878 has 24 MA's), (Start: 50 @63914 has 4 MA's), (62, 63977), (63, 63986), (70, 64004), (71, 64010), (87, 64034), (95, 64052),

Gene: Ebert_19 Start: 17686, Stop: 18009, Start Num: 45

Candidate Starts for Ebert_19:

(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Eddiemania_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Eddiemania_1:

(25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Edugator_3 Start: 542, Stop: 772, Start Num: 48

Candidate Starts for Edugator_3:

(30, 491), (Start: 48 @542 has 163 MA's), (49, 563), (Start: 50 @566 has 4 MA's), (63, 626), (73, 653), (76, 662), (85, 686), (98, 716), (103, 767),

Gene: Efra2_4 Start: 696, Stop: 908, Start Num: 48

Candidate Starts for Efra2_4:

(Start: 48 @696 has 163 MA's), (54, 741), (92, 843),

Gene: EhyElimayoE_16 Start: 8275, Stop: 8580, Start Num: 46

Candidate Starts for EhyElimayoE_16:

(2, 7633), (3, 7645), (4, 7672), (33, 8239), (Start: 46 @8275 has 7 MA's), (Start: 50 @8308 has 4 MA's), (56, 8347), (67, 8416), (76, 8431), (102, 8539), (104, 8551),

Gene: Ekdilam_2 Start: 206, Stop: 415, Start Num: 48

Candidate Starts for Ekdilam_2:

(Start: 48 @206 has 163 MA's),

Gene: Ellie_2 Start: 192, Stop: 413, Start Num: 48

Candidate Starts for Ellie_2:

(Start: 48 @192 has 163 MA's), (63, 282), (76, 300), (80, 312),

Gene: Emerson_4 Start: 727, Stop: 960, Start Num: 48

Candidate Starts for Emerson_4:

(Start: 48 @727 has 163 MA's), (62, 814), (80, 868), (87, 886), (95, 904),

Gene: EndAve_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for EndAve_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Estes_101 Start: 56269, Stop: 56514, Start Num: 44

Candidate Starts for Estes_101:

(26, 56203), (Start: 44 @56269 has 5 MA's), (76, 56410), (80, 56422), (81, 56425), (87, 56440), (95, 56458),

Gene: FarmResident_113 Start: 63407, Stop: 63673, Start Num: 39

Candidate Starts for FarmResident_113:

(Start: 39 @63407 has 24 MA's), (Start: 50 @63440 has 4 MA's), (65, 63524), (73, 63560), (76, 63569), (78, 63575), (87, 63599), (95, 63617),

Gene: Fefferhead_2 Start: 192, Stop: 413, Start Num: 48

Candidate Starts for Fefferhead_2:

(Start: 48 @192 has 163 MA's), (63, 282), (76, 300), (80, 312),

Gene: Feyre_3 Start: 517, Stop: 747, Start Num: 48

Candidate Starts for Feyre_3:

(Start: 48 @517 has 163 MA's), (49, 538), (Start: 50 @541 has 4 MA's), (73, 628), (76, 637), (80, 649), (92, 682), (103, 742),

Gene: Figliar_1 Start: 196, Stop: 468, Start Num: 34

Candidate Starts for Figliar_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: FortCran_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for FortCran_1:

(Start: 48 @221 has 163 MA's), (61, 305),

Gene: Frankenweenie_22 Start: 10117, Stop: 10422, Start Num: 46

Candidate Starts for Frankenweenie_22:

(33, 10081), (Start: 46 @10117 has 7 MA's), (Start: 50 @10150 has 4 MA's), (67, 10258), (76, 10273), (102, 10381), (104, 10393),

Gene: Ganymede_4 Start: 703, Stop: 939, Start Num: 48

Candidate Starts for Ganymede_4:

(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: GardenSalsa_101 Start: 56348, Stop: 56605, Start Num: 44

Candidate Starts for GardenSalsa_101:

(26, 56282), (Start: 44 @56348 has 5 MA's), (76, 56501), (80, 56513), (87, 56531), (95, 56549),

Gene: GemG_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for GemG_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Gengar_3 Start: 542, Stop: 772, Start Num: 48
Candidate Starts for Gengar_3:
(30, 491), (Start: 48 @542 has 163 MA's), (49, 563), (Start: 50 @566 has 4 MA's), (73, 653), (76, 662),
(80, 674), (103, 767),

Gene: Gill_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Gill_1:
(Start: 48 @221 has 163 MA's),

Gene: Gizermo_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for Gizermo_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Gollum_40 Start: 30042, Stop: 29809, Start Num: 38
Candidate Starts for Gollum_40:
(Start: 38 @30042 has 8 MA's), (Start: 48 @30030 has 163 MA's), (78, 29910),

Gene: Gravy_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Gravy_1:
(Start: 48 @221 has 163 MA's),

Gene: Guanica15_4 Start: 699, Stop: 923, Start Num: 48
Candidate Starts for Guanica15_4:
(Start: 48 @699 has 163 MA's), (Start: 50 @723 has 4 MA's), (64, 786), (92, 858), (94, 861),

Gene: Guillsminger_3 Start: 517, Stop: 747, Start Num: 48
Candidate Starts for Guillsminger_3:
(Start: 48 @517 has 163 MA's), (49, 538), (Start: 50 @541 has 4 MA's), (73, 628), (76, 637), (80, 649),
(92, 682), (103, 742),

Gene: Gusicorn_1 Start: 211, Stop: 468, Start Num: 39
Candidate Starts for Gusicorn_1:
(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (81, 379), (87, 394),

Gene: Haley23_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for Haley23_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Hammy_2 Start: 207, Stop: 416, Start Num: 48
Candidate Starts for Hammy_2:
(Start: 48 @207 has 163 MA's), (54, 249),

Gene: HedwigODU_4 Start: 727, Stop: 954, Start Num: 48
Candidate Starts for HedwigODU_4:
(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Heftyboy_3 Start: 538, Stop: 768, Start Num: 48
Candidate Starts for Heftyboy_3:

(30, 487), (Start: 48 @538 has 163 MA's), (49, 559), (Start: 50 @562 has 4 MA's), (73, 649), (76, 658), (80, 670), (92, 703), (103, 763),

Gene: Hiro_40 Start: 30292, Stop: 30071, Start Num: 48

Candidate Starts for Hiro_40:

(Start: 38 @30304 has 8 MA's), (Start: 48 @30292 has 163 MA's), (78, 30172),

Gene: Homura_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Homura_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Hortihabitatio_1 Start: 220, Stop: 444, Start Num: 48

Candidate Starts for Hortihabitatio_1:

(Start: 48 @220 has 163 MA's),

Gene: Hurricane_2 Start: 191, Stop: 418, Start Num: 48

Candidate Starts for Hurricane_2:

(Start: 48 @191 has 163 MA's), (63, 287), (80, 320),

Gene: Hydrus_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Hydrus_1:

(25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Hyperbowlee_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Hyperbowlee_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Hyzer_22 Start: 21136, Stop: 21459, Start Num: 45

Candidate Starts for Hyzer_22:

(17, 21049), (19, 21052), (Start: 45 @21136 has 16 MA's), (65, 21280), (71, 21316), (78, 21334),

Gene: Illumine_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for Illumine_4:

(Start: 48 @703 has 163 MA's), (63, 799),

Gene: Inky_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Inky_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: InvictusManeo_3 Start: 542, Stop: 754, Start Num: 48

Candidate Starts for InvictusManeo_3:

(Start: 48 @542 has 163 MA's), (63, 626), (80, 659), (89, 683), (92, 692), (94, 695), (98, 701),

Gene: JAWS_4 Start: 727, Stop: 954, Start Num: 43

Candidate Starts for JAWS_4:

(Start: 43 @727 has 1 MA's), (63, 823), (95, 892),

Gene: Jarvi_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Jarvi_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Jayhawk_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Jayhawk_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Jeckyll_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Jeckyll_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Jodelie19_1 Start: 199, Stop: 468, Start Num: 35

Candidate Starts for Jodelie19_1:

(Start: 34 @196 has 2 MA's), (Start: 35 @199 has 1 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Joy99_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for Joy99_4:

(Start: 48 @703 has 163 MA's), (63, 799), (95, 868),

Gene: JulesRay_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for JulesRay_1:

(Start: 48 @221 has 163 MA's), (61, 305),

Gene: JustBecause_14 Start: 7426, Stop: 7731, Start Num: 46

Candidate Starts for JustBecause_14:

(33, 7390), (Start: 46 @7426 has 7 MA's), (Start: 50 @7459 has 4 MA's), (62, 7534), (63, 7543), (81, 7597), (104, 7702),

Gene: Kela_14 Start: 7417, Stop: 7722, Start Num: 46

Candidate Starts for Kela_14:

(33, 7381), (Start: 46 @7417 has 7 MA's), (Start: 50 @7450 has 4 MA's), (62, 7525), (63, 7534), (67, 7558), (81, 7588), (104, 7693),

Gene: Kenosha_1 Start: 212, Stop: 469, Start Num: 39

Candidate Starts for Kenosha_1:

(25, 152), (Start: 34 @197 has 2 MA's), (Start: 39 @212 has 24 MA's), (87, 395),

Gene: Kerry_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Kerry_1:

(Start: 48 @221 has 163 MA's),

Gene: Keshu_2 Start: 191, Stop: 412, Start Num: 48

Candidate Starts for Keshu_2:

(Start: 48 @191 has 163 MA's), (76, 299),

Gene: KiSi_3 Start: 624, Stop: 842, Start Num: 48

Candidate Starts for KiSi_3:

(Start: 48 @624 has 163 MA's), (63, 720), (76, 738), (80, 750), (87, 768), (96, 786), (101, 801),

Gene: Kiko_21 Start: 18413, Stop: 18652, Start Num: 52

Candidate Starts for Kiko_21:

(23, 18278), (Start: 52 @18413 has 1 MA's), (63, 18497), (67, 18518), (76, 18548), (81, 18563), (93, 18596),

Gene: KleverKiS_90 Start: 54555, Stop: 54785, Start Num: 48

Candidate Starts for KleverKiS_90:

(Start: 48 @54555 has 163 MA's), (63, 54651), (87, 54711),

Gene: Kradal_16 Start: 8275, Stop: 8580, Start Num: 46

Candidate Starts for Kradal_16:

(2, 7633), (3, 7645), (4, 7672), (33, 8239), (Start: 46 @8275 has 7 MA's), (Start: 50 @8308 has 4 MA's), (56, 8347), (67, 8416), (76, 8431), (102, 8539), (104, 8551),

Gene: Kratio_2 Start: 299, Stop: 511, Start Num: 44

Candidate Starts for Kratio_2:

(Start: 44 @299 has 5 MA's), (63, 383), (80, 416), (89, 440), (92, 449), (94, 452), (98, 458),

Gene: Krishelle_40 Start: 30392, Stop: 30171, Start Num: 48

Candidate Starts for Krishelle_40:

(Start: 38 @30404 has 8 MA's), (Start: 48 @30392 has 163 MA's), (78, 30272),

Gene: Kropertea_105 Start: 63152, Stop: 63346, Start Num: 50

Candidate Starts for Kropertea_105:

(Start: 39 @63116 has 24 MA's), (Start: 50 @63152 has 4 MA's), (62, 63215), (63, 63224), (70, 63242), (71, 63248), (87, 63272), (95, 63290),

Gene: LastHope_4 Start: 698, Stop: 925, Start Num: 48

Candidate Starts for LastHope_4:

(Start: 48 @698 has 163 MA's), (Start: 50 @722 has 4 MA's), (63, 794), (95, 863),

Gene: LaterM_4 Start: 703, Stop: 936, Start Num: 48

Candidate Starts for LaterM_4:

(Start: 48 @703 has 163 MA's), (80, 844), (87, 862),

Gene: LeMond_3 Start: 624, Stop: 842, Start Num: 48

Candidate Starts for LeMond_3:

(10, 324), (Start: 48 @624 has 163 MA's), (63, 720), (76, 738), (80, 750), (87, 768), (96, 786), (101, 801),

Gene: Lea83_2 Start: 191, Stop: 418, Start Num: 48

Candidate Starts for Lea83_2:

(Start: 48 @191 has 163 MA's), (63, 287), (76, 308), (80, 320),

Gene: Leston_3 Start: 542, Stop: 772, Start Num: 48

Candidate Starts for Leston_3:

(Start: 48 @542 has 163 MA's), (49, 563), (Start: 50 @566 has 4 MA's), (73, 653), (76, 662), (80, 674),

Gene: Lillie_40 Start: 30032, Stop: 29811, Start Num: 48

Candidate Starts for Lillie_40:

(Start: 38 @30044 has 8 MA's), (Start: 48 @30032 has 163 MA's), (78, 29912),

Gene: LindNT_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for LindNT_4:

(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: Llorens_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Llorens_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: LordFarquaad_19 Start: 17679, Stop: 18002, Start Num: 45

Candidate Starts for LordFarquaad_19:
(Start: 45 @17679 has 16 MA's), (71, 17859), (78, 17877), (86, 17901),

Gene: Lunahalos_4 Start: 727, Stop: 963, Start Num: 48
Candidate Starts for Lunahalos_4:
(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: MacKat_4 Start: 703, Stop: 939, Start Num: 48
Candidate Starts for MacKat_4:
(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: MacnCheese_2 Start: 194, Stop: 415, Start Num: 48
Candidate Starts for MacnCheese_2:
(Start: 48 @194 has 163 MA's), (63, 284), (76, 302), (80, 314), (97, 356),

Gene: Madvan_1 Start: 211, Stop: 468, Start Num: 39
Candidate Starts for Madvan_1:
(16, 130), (25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Magel_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Magel_1:
(Start: 48 @221 has 163 MA's),

Gene: MajinBuu_1 Start: 211, Stop: 468, Start Num: 39
Candidate Starts for MajinBuu_1:
(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: MarkPhew_3 Start: 565, Stop: 789, Start Num: 48
Candidate Starts for MarkPhew_3:
(16, 475), (Start: 48 @565 has 163 MA's), (Start: 50 @589 has 4 MA's), (55, 610), (61, 649), (63, 661),
(76, 685), (80, 697),

Gene: McMater_4 Start: 742, Stop: 954, Start Num: 48
Candidate Starts for McMater_4:
(Start: 48 @742 has 163 MA's), (88, 877), (91, 883),

Gene: MeaningOfLife_4 Start: 703, Stop: 930, Start Num: 48
Candidate Starts for MeaningOfLife_4:
(Start: 48 @703 has 163 MA's), (63, 799), (95, 868),

Gene: Megsy_4 Start: 703, Stop: 930, Start Num: 48
Candidate Starts for Megsy_4:
(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: Miryou_3 Start: 517, Stop: 747, Start Num: 48
Candidate Starts for Miryou_3:
(Start: 48 @517 has 163 MA's), (49, 538), (Start: 50 @541 has 4 MA's), (73, 628), (76, 637), (80, 649),
(92, 682), (103, 742),

Gene: MkaliMitinis3_109 Start: 63259, Stop: 63471, Start Num: 50
Candidate Starts for MkaliMitinis3_109:
(Start: 39 @63226 has 24 MA's), (Start: 50 @63259 has 4 MA's), (58, 63301), (59, 63304), (66, 63337),
(75, 63364), (76, 63367), (78, 63373), (80, 63379), (81, 63382), (95, 63415),

Gene: Mocha12_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for Mocha12_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Moonflower_20 Start: 18958, Stop: 19197, Start Num: 52
Candidate Starts for Moonflower_20:
(49, 18937), (Start: 50 @18940 has 4 MA's), (Start: 52 @18958 has 1 MA's), (67, 19063), (76, 19093),
(81, 19108),

Gene: MrMagoo_102 Start: 56348, Stop: 56605, Start Num: 44
Candidate Starts for MrMagoo_102:
(26, 56282), (Start: 44 @56348 has 5 MA's), (76, 56501), (80, 56513), (87, 56531), (95, 56549),

Gene: Murucutumbu_4 Start: 703, Stop: 930, Start Num: 48
Candidate Starts for Murucutumbu_4:
(11, 442), (Start: 48 @703 has 163 MA's), (63, 799), (95, 868),

Gene: Mynx_4 Start: 703, Stop: 939, Start Num: 48
Candidate Starts for Mynx_4:
(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: Mysticmoon_1 Start: 220, Stop: 441, Start Num: 48
Candidate Starts for Mysticmoon_1:
(15, 118), (31, 178), (Start: 48 @220 has 163 MA's),

Gene: Nadmeg_1 Start: 212, Stop: 469, Start Num: 39
Candidate Starts for Nadmeg_1:
(16, 131), (25, 152), (Start: 34 @197 has 2 MA's), (Start: 39 @212 has 24 MA's), (87, 395),

Gene: Nanosmite_96 Start: 55870, Stop: 56115, Start Num: 48
Candidate Starts for Nanosmite_96:
(18, 55789), (Start: 48 @55870 has 163 MA's), (76, 56011), (87, 56041), (95, 56059),

Gene: Neighly_3 Start: 300, Stop: 512, Start Num: 44
Candidate Starts for Neighly_3:
(Start: 44 @300 has 5 MA's), (63, 384), (80, 417), (89, 441), (92, 450), (94, 453), (98, 459),

Gene: Nibb_3 Start: 602, Stop: 826, Start Num: 48
Candidate Starts for Nibb_3:
(16, 491), (Start: 48 @602 has 163 MA's), (55, 647), (61, 686), (63, 698), (76, 722), (80, 734), (84,
743),

Gene: Niklas_4 Start: 742, Stop: 954, Start Num: 48
Candidate Starts for Niklas_4:
(Start: 48 @742 has 163 MA's), (88, 877), (91, 883),

Gene: Nirvana_22 Start: 10337, Stop: 10642, Start Num: 46
Candidate Starts for Nirvana_22:
(33, 10301), (Start: 46 @10337 has 7 MA's), (Start: 50 @10370 has 4 MA's), (56, 10409), (67, 10478),
(76, 10493), (102, 10601), (104, 10613),

Gene: Nithya_1 Start: 196, Stop: 468, Start Num: 34

Candidate Starts for Nithya_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: NoPickles_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for NoPickles_1:

(Start: 48 @221 has 163 MA's),

Gene: November_2 Start: 206, Stop: 427, Start Num: 48

Candidate Starts for November_2:

(Start: 48 @206 has 163 MA's), (63, 296), (80, 326),

Gene: Odesza_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Odesza_1:

(Start: 48 @221 has 163 MA's),

Gene: OhMyWard_1 Start: 219, Stop: 473, Start Num: 48

Candidate Starts for OhMyWard_1:

(31, 177), (Start: 48 @219 has 163 MA's), (69, 339), (87, 393), (93, 408),

Gene: OkiRoe_3 Start: 517, Stop: 747, Start Num: 48

Candidate Starts for OkiRoe_3:

(Start: 48 @517 has 163 MA's), (49, 538), (Start: 50 @541 has 4 MA's), (73, 628), (76, 637), (80, 649), (92, 682), (103, 742),

Gene: OlgasClover_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for OlgasClover_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Omnicron_3 Start: 483, Stop: 713, Start Num: 48

Candidate Starts for Omnicron_3:

(30, 432), (Start: 48 @483 has 163 MA's), (73, 594), (76, 603), (77, 606), (80, 615), (92, 648), (98, 657), (101, 672),

Gene: Oscar_3 Start: 624, Stop: 842, Start Num: 48

Candidate Starts for Oscar_3:

(6, 234), (10, 324), (Start: 48 @624 has 163 MA's), (63, 720), (76, 738), (80, 750), (87, 768), (96, 786), (101, 801),

Gene: PYPDinur_112 Start: 63957, Stop: 64223, Start Num: 39

Candidate Starts for PYPDinur_112:

(Start: 39 @63957 has 24 MA's), (Start: 50 @63990 has 4 MA's), (61, 64050), (65, 64074), (73, 64110), (76, 64119), (78, 64125), (87, 64149), (95, 64167),

Gene: Padfoot_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Padfoot_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Padpat_4 Start: 727, Stop: 960, Start Num: 48

Candidate Starts for Padpat_4:

(Start: 48 @727 has 163 MA's), (62, 814), (80, 868), (87, 886), (95, 904),

Gene: Paola_3 Start: 517, Stop: 747, Start Num: 48

Candidate Starts for Paola_3:

(Start: 48 @517 has 163 MA's), (49, 538), (Start: 50 @541 has 4 MA's), (73, 628), (76, 637), (80, 649), (92, 682), (103, 742),

Gene: Peanam_4 Start: 742, Stop: 954, Start Num: 48

Candidate Starts for Peanam_4:

(Start: 48 @742 has 163 MA's), (88, 877), (91, 883),

Gene: Peel_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Peel_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Perkunas_1 Start: 221, Stop: 451, Start Num: 48

Candidate Starts for Perkunas_1:

(21, 140), (Start: 48 @221 has 163 MA's),

Gene: Petito_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Petito_1:

(21, 140), (Start: 48 @221 has 163 MA's),

Gene: PhailMary_39 Start: 30366, Stop: 30133, Start Num: 38

Candidate Starts for PhailMary_39:

(Start: 38 @30366 has 8 MA's), (Start: 48 @30354 has 163 MA's), (78, 30234),

Gene: Pharb_2 Start: 188, Stop: 406, Start Num: 48

Candidate Starts for Pharb_2:

(20, 107), (Start: 48 @188 has 163 MA's), (51, 224), (63, 278), (76, 296), (80, 308),

Gene: PhelpsODU_3 Start: 659, Stop: 880, Start Num: 48

Candidate Starts for PhelpsODU_3:

(Start: 48 @659 has 163 MA's), (76, 776), (78, 782), (80, 788), (87, 806),

Gene: Phepper_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Phepper_1:

(Start: 39 @211 has 24 MA's), (87, 394),

Gene: Pherobrine_1 Start: 220, Stop: 441, Start Num: 48

Candidate Starts for Pherobrine_1:

(Start: 48 @220 has 163 MA's), (103, 433),

Gene: Phrank_3 Start: 664, Stop: 888, Start Num: 48

Candidate Starts for Phrank_3:

(Start: 48 @664 has 163 MA's), (63, 760), (76, 778), (80, 790), (95, 826),

Gene: Phrankenstein_40 Start: 29990, Stop: 29757, Start Num: 38

Candidate Starts for Phrankenstein_40:

(Start: 38 @29990 has 8 MA's), (Start: 48 @29978 has 163 MA's), (78, 29858),

Gene: Piatt_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Piatt_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Pixie_2 Start: 191, Stop: 415, Start Num: 48

Candidate Starts for Pixie_2:

(Start: 48 @191 has 163 MA's), (63, 287), (80, 320), (95, 356),

Gene: Pokerus_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for Pokerus_4:

(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: Prithvi_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for Prithvi_4:

(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: Psycho_3 Start: 542, Stop: 772, Start Num: 48

Candidate Starts for Psycho_3:

(30, 491), (Start: 48 @542 has 163 MA's), (49, 563), (Start: 50 @566 has 4 MA's), (63, 626), (73, 653), (76, 662), (85, 686), (98, 716), (103, 767),

Gene: Quantum_15 Start: 8275, Stop: 8580, Start Num: 46

Candidate Starts for Quantum_15:

(2, 7633), (3, 7645), (4, 7672), (33, 8239), (Start: 46 @8275 has 7 MA's), (Start: 50 @8308 has 4 MA's), (56, 8347), (67, 8416), (76, 8431), (102, 8539), (104, 8551),

Gene: Quby_111 Start: 63147, Stop: 63413, Start Num: 39

Candidate Starts for Quby_111:

(Start: 39 @63147 has 24 MA's), (Start: 50 @63180 has 4 MA's), (61, 63240), (65, 63264), (73, 63300), (76, 63309), (78, 63315), (87, 63339), (95, 63357),

Gene: QuincyRose_4 Start: 703, Stop: 939, Start Num: 48

Candidate Starts for QuincyRose_4:

(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: RER2_33 Start: 26904, Stop: 26683, Start Num: 48

Candidate Starts for RER2_33:

(Start: 38 @26916 has 8 MA's), (Start: 48 @26904 has 163 MA's), (78, 26784),

Gene: Ramen_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Ramen_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Rando14_3 Start: 618, Stop: 842, Start Num: 48

Candidate Starts for Rando14_3:

(Start: 48 @618 has 163 MA's), (63, 714), (80, 744), (87, 762),

Gene: Rapunzel97_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Rapunzel97_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Raqqa_98 Start: 52973, Stop: 53242, Start Num: 53

Candidate Starts for Raqqa_98:

(8, 52550), (12, 52682), (13, 52697), (32, 52865), (53, 52973), (71, 53096), (78, 53114), (86, 53141), (87, 53153), (100, 53195),

Gene: Rasputin_40 Start: 30014, Stop: 29781, Start Num: 38

Candidate Starts for Rasputin_40:

(Start: 38 @30014 has 8 MA's), (Start: 48 @30002 has 163 MA's), (78, 29882),

Gene: Reindeer_91 Start: 55528, Stop: 55773, Start Num: 48
Candidate Starts for Reindeer_91:
(24, 55456), (Start: 48 @55528 has 163 MA's), (76, 55669), (93, 55714),

Gene: Rey_102 Start: 56267, Stop: 56512, Start Num: 44
Candidate Starts for Rey_102:
(Start: 44 @56267 has 5 MA's), (76, 56408), (87, 56438),

Gene: Rhodalysa_40 Start: 30032, Stop: 29811, Start Num: 48
Candidate Starts for Rhodalysa_40:
(Start: 38 @30044 has 8 MA's), (Start: 48 @30032 has 163 MA's), (78, 29912),

Gene: Richie_97 Start: 52968, Stop: 53210, Start Num: 41
Candidate Starts for Richie_97:
(Start: 41 @52968 has 2 MA's), (64, 53073), (87, 53136),

Gene: Richo_4 Start: 742, Stop: 954, Start Num: 48
Candidate Starts for Richo_4:
(Start: 48 @742 has 163 MA's), (88, 877), (91, 883),

Gene: Rickmore_1 Start: 211, Stop: 435, Start Num: 39
Candidate Starts for Rickmore_1:
(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (73, 331), (87, 364),

Gene: Roney_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Roney_1:
(Start: 48 @221 has 163 MA's),

Gene: RoseMarie_97 Start: 58078, Stop: 58308, Start Num: 48
Candidate Starts for RoseMarie_97:
(Start: 48 @58078 has 163 MA's), (80, 58216), (87, 58234),

Gene: Rosmarinus_4 Start: 727, Stop: 963, Start Num: 48
Candidate Starts for Rosmarinus_4:
(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Runhaar_1 Start: 211, Stop: 468, Start Num: 39
Candidate Starts for Runhaar_1:
(16, 130), (25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: SamuelLPlaqson_4 Start: 691, Stop: 903, Start Num: 48
Candidate Starts for SamuelLPlaqson_4:
(Start: 48 @691 has 163 MA's), (Start: 50 @715 has 4 MA's), (92, 838),

Gene: Satis_16 Start: 8271, Stop: 8576, Start Num: 46
Candidate Starts for Satis_16:
(2, 7629), (3, 7641), (4, 7668), (33, 8235), (Start: 46 @8271 has 7 MA's), (Start: 50 @8304 has 4 MA's), (56, 8343), (67, 8412), (76, 8427), (102, 8535), (104, 8547),

Gene: Savage_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for Savage_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Scarlett_3 Start: 624, Stop: 842, Start Num: 48

Candidate Starts for Scarlett_3:

(10, 324), (Start: 48 @624 has 163 MA's), (63, 720), (76, 738), (80, 750), (87, 768), (96, 786), (101, 801),

Gene: Schwartz33_1 Start: 220, Stop: 471, Start Num: 48

Candidate Starts for Schwartz33_1:

(27, 157), (Start: 38 @208 has 8 MA's), (40, 211), (Start: 48 @220 has 163 MA's), (87, 394), (93, 409),

Gene: Secretariat_1 Start: 244, Stop: 525, Start Num: 38

Candidate Starts for Secretariat_1:

(Start: 38 @244 has 8 MA's), (Start: 48 @256 has 163 MA's), (63, 352), (74, 394), (93, 445),

Gene: ShaggyRogers_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for ShaggyRogers_1:

(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (81, 379), (87, 394),

Gene: Shaobing_4 Start: 742, Stop: 954, Start Num: 48

Candidate Starts for Shaobing_4:

(Start: 48 @742 has 163 MA's), (88, 877), (91, 883),

Gene: ShedlockHolmes_2 Start: 191, Stop: 418, Start Num: 48

Candidate Starts for ShedlockHolmes_2:

(Start: 48 @191 has 163 MA's), (63, 287), (76, 308), (80, 320),

Gene: Sheng711_114 Start: 63567, Stop: 63833, Start Num: 39

Candidate Starts for Sheng711_114:

(Start: 39 @63567 has 24 MA's), (Start: 50 @63600 has 4 MA's), (65, 63684), (70, 63711), (73, 63720), (78, 63735), (87, 63759), (95, 63777),

Gene: ShiaSurprise_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for ShiaSurprise_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Sicarius2_69 Start: 42234, Stop: 42470, Start Num: 39

Candidate Starts for Sicarius2_69:

(22, 42162), (Start: 39 @42234 has 24 MA's), (87, 42396), (99, 42414),

Gene: SlimJimmy_90 Start: 55164, Stop: 55394, Start Num: 48

Candidate Starts for SlimJimmy_90:

(Start: 48 @55164 has 163 MA's), (63, 55260), (87, 55320),

Gene: Slimphazie_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Slimphazie_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: SoSeph_3 Start: 538, Stop: 768, Start Num: 48

Candidate Starts for SoSeph_3:

(30, 487), (Start: 48 @538 has 163 MA's), (49, 559), (Start: 50 @562 has 4 MA's), (73, 649), (76, 658), (80, 670), (92, 703), (103, 763),

Gene: SoilAssassin_19 Start: 17679, Stop: 18002, Start Num: 45

Candidate Starts for SoilAssassin_19:
(Start: 45 @17679 has 16 MA's), (71, 17859), (78, 17877), (86, 17901),

Gene: Spock_4 Start: 727, Stop: 963, Start Num: 48
Candidate Starts for Spock_4:
(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Sproutie_19 Start: 17686, Stop: 18009, Start Num: 45
Candidate Starts for Sproutie_19:
(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Stinson_4 Start: 703, Stop: 936, Start Num: 48
Candidate Starts for Stinson_4:
(Start: 48 @703 has 163 MA's), (80, 844), (87, 862),

Gene: Sulley_4 Start: 727, Stop: 945, Start Num: 48
Candidate Starts for Sulley_4:
(Start: 48 @727 has 163 MA's), (63, 823), (80, 853), (95, 889),

Gene: Swann_40 Start: 30042, Stop: 29809, Start Num: 38
Candidate Starts for Swann_40:
(Start: 38 @30042 has 8 MA's), (Start: 48 @30030 has 163 MA's), (78, 29910),

Gene: TBond007_2 Start: 191, Stop: 415, Start Num: 48
Candidate Starts for TBond007_2:
(Start: 48 @191 has 163 MA's), (63, 287), (80, 320), (95, 356),

Gene: TWAMP_40 Start: 30032, Stop: 29811, Start Num: 48
Candidate Starts for TWAMP_40:
(Start: 38 @30044 has 8 MA's), (Start: 48 @30032 has 163 MA's), (78, 29912),

Gene: Tachez_4 Start: 703, Stop: 939, Start Num: 48
Candidate Starts for Tachez_4:
(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: TaiwanKao_4 Start: 703, Stop: 930, Start Num: 48
Candidate Starts for TaiwanKao_4:
(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: Talon44_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Talon44_1:
(21, 140), (Start: 48 @221 has 163 MA's),

Gene: Tanis_1 Start: 221, Stop: 445, Start Num: 48
Candidate Starts for Tanis_1:
(Start: 48 @221 has 163 MA's),

Gene: TenaciousP_1 Start: 211, Stop: 468, Start Num: 39
Candidate Starts for TenaciousP_1:
(Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Thyatira_3 Start: 517, Stop: 747, Start Num: 48
Candidate Starts for Thyatira_3:

(Start: 48 @517 has 163 MA's), (49, 538), (Start: 50 @541 has 4 MA's), (73, 628), (76, 637), (80, 649), (92, 682), (103, 742),

Gene: Tierra_3 Start: 665, Stop: 889, Start Num: 48

Candidate Starts for Tierra_3:

(Start: 48 @665 has 163 MA's), (63, 761), (76, 779), (80, 791), (95, 827),

Gene: TingHuaYa_4 Start: 698, Stop: 925, Start Num: 48

Candidate Starts for TingHuaYa_4:

(Start: 48 @698 has 163 MA's), (Start: 50 @722 has 4 MA's), (63, 794),

Gene: TiniBug_4 Start: 691, Stop: 903, Start Num: 48

Candidate Starts for TiniBug_4:

(Start: 48 @691 has 163 MA's), (Start: 50 @715 has 4 MA's), (92, 838),

Gene: Tiri_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for Tiri_4:

(Start: 48 @703 has 163 MA's), (73, 814), (87, 853),

Gene: Topper_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Topper_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: TreyKay_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for TreyKay_4:

(Start: 48 @703 has 163 MA's), (63, 799), (80, 832), (95, 868),

Gene: TribbleTrouble_2 Start: 194, Stop: 412, Start Num: 48

Candidate Starts for TribbleTrouble_2:

(Start: 48 @194 has 163 MA's), (63, 290), (76, 308), (80, 320), (95, 356),

Gene: Trufflozitus_1 Start: 221, Stop: 445, Start Num: 48

Candidate Starts for Trufflozitus_1:

(Start: 48 @221 has 163 MA's),

Gene: TruffulaTree_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for TruffulaTree_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: TuertoX_19 Start: 17686, Stop: 18009, Start Num: 45

Candidate Starts for TuertoX_19:

(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Twitch_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Twitch_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: Unicorn_3 Start: 659, Stop: 880, Start Num: 48

Candidate Starts for Unicorn_3:

(Start: 48 @659 has 163 MA's), (76, 776), (78, 782), (80, 788), (87, 806),

Gene: Urkel_4 Start: 691, Stop: 903, Start Num: 48

Candidate Starts for Urkel_4:

(Start: 48 @691 has 163 MA's), (Start: 50 @715 has 4 MA's), (92, 838),

Gene: Validus_3 Start: 477, Stop: 689, Start Num: 48

Candidate Starts for Validus_3:

(14, 333), (Start: 48 @477 has 163 MA's), (79, 588),

Gene: VanLee_69 Start: 43001, Stop: 43234, Start Num: 41

Candidate Starts for VanLee_69:

(5, 42515), (9, 42659), (Start: 41 @43001 has 2 MA's), (80, 43142), (95, 43178),

Gene: Vardy_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Vardy_1:

(25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),

Gene: Veliki_4 Start: 727, Stop: 963, Start Num: 48

Candidate Starts for Veliki_4:

(Start: 48 @727 has 163 MA's), (73, 850), (87, 889), (95, 907),

Gene: ViviJ_2 Start: 300, Stop: 512, Start Num: 44

Candidate Starts for ViviJ_2:

(Start: 44 @300 has 5 MA's), (63, 384), (80, 417), (89, 441), (92, 450), (94, 453), (98, 459),

Gene: Waterfoul_3 Start: 538, Stop: 768, Start Num: 48

Candidate Starts for Waterfoul_3:

(30, 487), (Start: 48 @538 has 163 MA's), (49, 559), (Start: 50 @562 has 4 MA's), (73, 649), (76, 658), (80, 670), (92, 703), (103, 763),

Gene: Whiteclaw_19 Start: 17686, Stop: 18009, Start Num: 45

Candidate Starts for Whiteclaw_19:

(Start: 45 @17686 has 16 MA's), (71, 17866), (78, 17884), (86, 17908),

Gene: Wyborn_68 Start: 42933, Stop: 43205, Start Num: 39

Candidate Starts for Wyborn_68:

(22, 42861), (Start: 39 @42933 has 24 MA's), (55, 43008), (62, 43053), (63, 43062), (72, 43080), (83, 43110), (99, 43146),

Gene: Yeet412_19 Start: 17679, Stop: 18002, Start Num: 45

Candidate Starts for Yeet412_19:

(Start: 45 @17679 has 16 MA's), (71, 17859), (78, 17877), (86, 17901),

Gene: YoureAdopted_4 Start: 703, Stop: 930, Start Num: 48

Candidate Starts for YoureAdopted_4:

(Start: 48 @703 has 163 MA's), (63, 799), (95, 868),

Gene: Yuna_4 Start: 807, Stop: 1034, Start Num: 42

Candidate Starts for Yuna_4:

(Start: 42 @807 has 1 MA's), (63, 906), (76, 930), (80, 942),

Gene: Yunkel11_4 Start: 699, Stop: 923, Start Num: 48

Candidate Starts for Yunkel11_4:

(Start: 48 @699 has 163 MA's), (Start: 50 @723 has 4 MA's), (64, 786), (92, 858), (94, 861),

Gene: Zabiza_4 Start: 727, Stop: 954, Start Num: 48

Candidate Starts for Zabiza_4:

(Start: 48 @727 has 163 MA's), (63, 823), (95, 892),

Gene: Zavala_4 Start: 703, Stop: 939, Start Num: 48

Candidate Starts for Zavala_4:

(Start: 48 @703 has 163 MA's), (73, 826), (87, 865), (95, 883),

Gene: Zeph_1 Start: 211, Stop: 468, Start Num: 39

Candidate Starts for Zeph_1:

(25, 151), (Start: 34 @196 has 2 MA's), (Start: 39 @211 has 24 MA's), (69, 340), (87, 394),