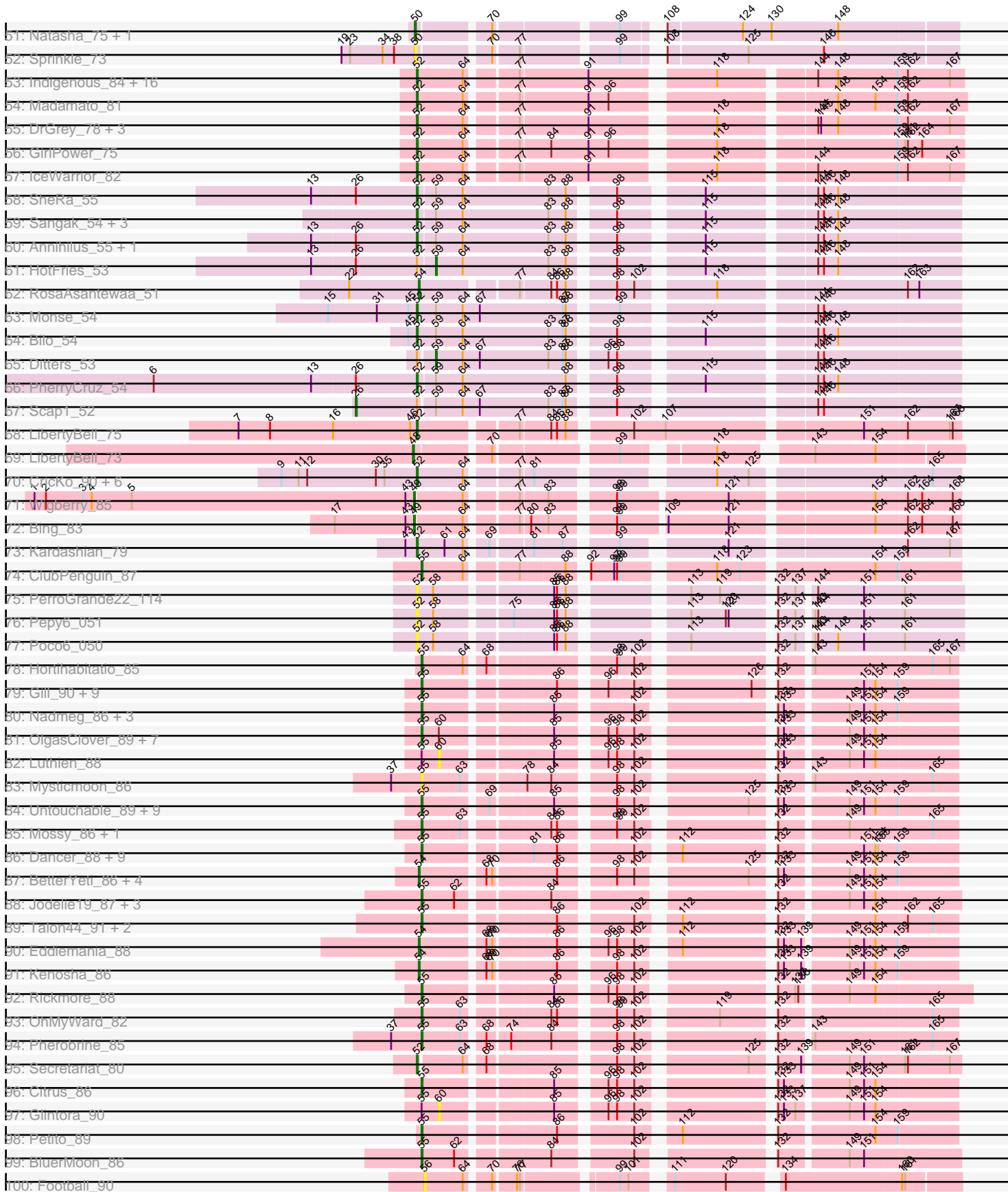
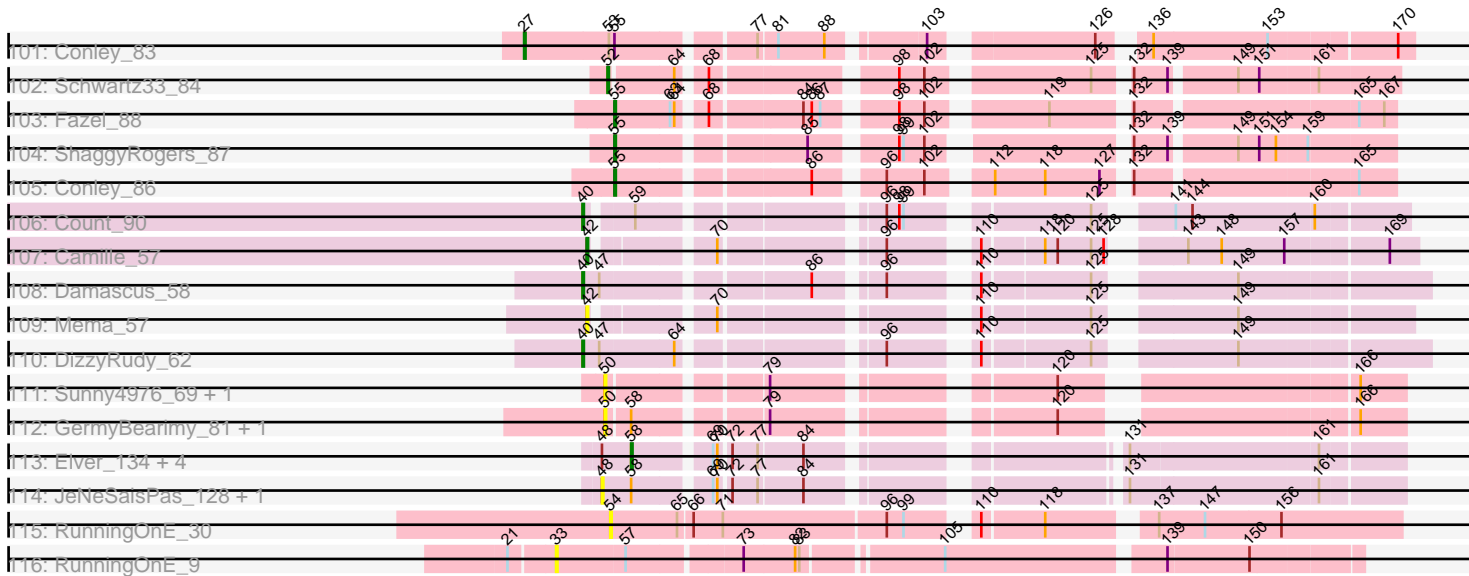


Pham 296186



Pham 296186



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 296186 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296186 has 281 members, 59 are drafts.

Phages represented in each track:

- Track 1 : McGuire_71, Ichabod_74, McSinger_68, Squee_73, BluSpix_68
- Track 2 : DreamCatcher_72, Bigchungu_69, GrecoEtereo_71, AFIS_66, Snazzy_68, SarFire_70, Thor_70
- Track 3 : Crispicous1_60
- Track 4 : Lopton_70
- Track 5 : AFIS_59, Bruns_64, NEHalo_60, SpikeBT_61, Moose_64, SwissCheese_66, Forsytheast_64, GageAP_64
- Track 6 : Lesedi_65
- Track 7 : GMonster_70, IgnatiusPatJac_70
- Track 8 : Correa_75, Tribby_80
- Track 9 : Cheesy_77
- Track 10 : Bowling_78, Dynamite_76, NapoleonB_77, Hankly_76
- Track 11 : Nason_76, Elsa_76, Arcadia_76
- Track 12 : Kardesai_76, KeaneyLin_72, Mooshroom_77, Circum_78, GoCrazy_73
- Track 13 : Heisenberger_75, JEGGS_75, Mudcat_72
- Track 14 : YoshiYama_78, Stardom_76
- Track 15 : BenitoAntonio_75
- Track 16 : Xenomorph_73
- Track 17 : Benllo_74
- Track 18 : Trustiboi_68, CastorTray_73, Gordon_67, Tatanka_63, Darby_67, Brunswick_71, ElephantMan_70, Dinallo_65, ScienceWizSam_71, Niktson_70, Issa_65, CapnMurica_67
- Track 19 : Acai_67, Teacup_71
- Track 20 : Tenno_69
- Track 21 : Nivinsha_72, AreFloNak_73, Synepsis_66, Nightmare_70
- Track 22 : DevitoJr_69
- Track 23 : Hemma_68
- Track 24 : MiniBagel_69
- Track 25 : Westerlin_67, Breylor17_66
- Track 26 : LucySwiss_70
- Track 27 : LilHuddy_74, Bouchard_74, Phaby_75, Shepard_74, Tokki_79
- Track 28 : Tipton_73
- Track 29 : Giantsbane_73
- Track 30 : Chlochlo_74
- Track 31 : Ingrid_76, Loretta_72
- Track 32 : Anandi_75
- Track 33 : MediumFry_69, Caterpillar_69

- Track 34 : Makai_73, Truckee_71
- Track 35 : TrixiePhattel_74
- Track 36 : Renaldo_81, BarbieDoll_77, Muglass_75, Lewando_77, Kinny_76
- Track 37 : PoeMe_74, Navi1117_76, GantcherGoblin_71, Uzumaki_70, Zeina_76, Phaila_75
- Track 38 : KevinMinion_71, Argan_70
- Track 39 : Mardi_74, Tenney120_74
- Track 40 : Leathea_73
- Track 41 : Biscute_73
- Track 42 : Stardrop_77
- Track 43 : Navi1117_79
- Track 44 : Inked_75
- Track 45 : Zippen_75
- Track 46 : Powelldog_75
- Track 47 : DoctorPepper_71, Raunak_73, MrAaronian_72, HerbBucket_70, Jeremy4pt0_69, Djungelskog_71, Spain_72, Linda_72, Sloopyjoe_72, StarLord_72, ProfFrink_72, Salk_72, Egad_72, Boog_71, BronxBay_72, Shiba_71
- Track 48 : Onestar_71
- Track 49 : Michelle_72, Stayer_72
- Track 50 : Sporto_71
- Track 51 : Natasha_75, RustyBoy_76
- Track 52 : Sprinkle_73
- Track 53 : Indigenous_84, Esketit_78, TaidaOne_82, Spectropatronm_81, Rima_83, TonyStarch_81, OlympicHelado_84, Jaylociraptor_82, Meibysrarus_80, FidgetOrca_84, TieDye_78, HazuAndZazu_79, Maya_82, Soshi_81, Hoshi_83, Namu_84, CherryBlossom_82
- Track 54 : Madamato_81
- Track 55 : DrGrey_78, FrodoSwaggins_80, Espio_80, Popy_80
- Track 56 : GirlPower_75
- Track 57 : IceWarrior_82
- Track 58 : SheRa_55
- Track 59 : Sangak_54, GoblinVoyage_55, RavenPuff_55, Doxi13_56
- Track 60 : Annihilus_55, Moozy_54
- Track 61 : HotFries_53
- Track 62 : RosaAsantewaa_51
- Track 63 : Monse_54
- Track 64 : Bilo_54
- Track 65 : Ditters_53
- Track 66 : PherryCruz_54
- Track 67 : Scap1_52
- Track 68 : LibertyBell_75
- Track 69 : LibertyBell_73
- Track 70 : CricKo_90, FromIndy_88, Regigigas_90, SendItCS_82, Miek_84, Thiqqums_90, Rainydai_87
- Track 71 : Wigberry_85
- Track 72 : Bing_83
- Track 73 : Kardashian_79
- Track 74 : ClubPenguin_87
- Track 75 : PerroGrande22_114
- Track 76 : Pepy6_051
- Track 77 : POCO6_050
- Track 78 : Hortihabitatio_85

- Track 79 : Gill_90, Magel_91, Roney_88, Capybara_87, Kerry_89, Tanis_89, Odesza_88, Captrips_87, Gravy_89, NoPickles_89
- Track 80 : Nadmeg_86, Vardy_86, Runhaar_85, Burley_86
- Track 81 : OlgasClover_89, Figliar_86, Duffington_88, Nithya_87, Chikenjars_88, EndAve_89, MajinBuu_88, AlainaMarie_88
- Track 82 : Luthien_88
- Track 83 : Mysticmoon_86
- Track 84 : Untouchable_89, Zeph_90, Arataki_87, ArtetaBall_86, Hydrus_87, Madvan_86, Demure_84, Dialga_88, Phepper_88, CWormy_85
- Track 85 : Mossy_86, Blanky_83
- Track 86 : Dancer_88, Bugg_92, FortCran_88, JulesRay_88, Football_93, Avazak_89, Trufflozitus_93, Artorias_88, Tairn4Wing_91, ChickyNugget_90
- Track 87 : BetterYeti_86, PestoPenguin_91, Crocheter_87, Gusicorn_88, Aloe25_90
- Track 88 : Jodelie19_87, Aflac_88, Tonaltzin_92, TenaciousP_89
- Track 89 : Talon44_91, Perkunas_90, SweetCrkHerbs_91
- Track 90 : Eddiemania_88
- Track 91 : Kenosha_86
- Track 92 : Rickmore_88
- Track 93 : OhMyWard_82
- Track 94 : Pherobrine_85
- Track 95 : Secretariat_80
- Track 96 : Citrus_86
- Track 97 : Glintora_90
- Track 98 : Petite_89
- Track 99 : BluerMoon_86
- Track 100 : Football_90
- Track 101 : Conley_83
- Track 102 : Schwartz33_84
- Track 103 : Fazel_88
- Track 104 : ShaggyRogers_87
- Track 105 : Conley_86
- Track 106 : Count_90
- Track 107 : Camille_57
- Track 108 : Damascus_58
- Track 109 : Mema_57
- Track 110 : DizzyRudy_62
- Track 111 : Sunny4976_69, Jazzy4900_70
- Track 112 : GermyBearimy_81, Arzan_73
- Track 113 : Elver_134, Paella_134, Kureo_131, Qui_134, Marianna39_131
- Track 114 : JeNeSaisPas_128, Gandionco_130
- Track 115 : RunningOnE_30
- Track 116 : RunningOnE_9

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

The start number called the most often in the published annotations is 55, it was called in 59 of the 222 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AFIS_59, Aflac_88, AlainaMarie_88, Arataki_87, ArtetaBall_86, Artorias_88, Avazak_89, Blanky_83, BluerMoon_86, Bruns_64, Bugg_92, Burley_86, CWormy_85, Captrips_87, Capybara_87, ChickyNuggy_90, Chikenjars_88, Citrus_86, ClubPenguin_87, Conley_86, Crispicous1_60, Dancer_88, Demure_84, Dialga_88, Duffington_88, EndAve_89, Fazel_88, Figliar_86, Football_93, Forsytheast_64, FortCran_88, GageAP_64, Gill_90, Gravy_89, Hortihabitatio_85, Hydrus_87, Jodelie19_87, JulesRay_88, Kerry_89, Madvan_86, Magel_91, MajinBuu_88, Moose_64, Mossy_86, Mysticmoon_86, NEHalo_60, Nadmeg_86, Nithya_87, NoPickles_89, Odesza_88, OhMyWard_82, OlgasClover_89, Perkunas_90, Petite_89, Phepper_88, Pherobrine_85, Rickmore_88, Roney_88, Runhaar_85, ShaggyRogers_87, SpikeBT_61, SweetCrkHerbs_91, SwissCheese_66, Tairn4Wing_91, Talon44_91, Tanis_89, TenaciousP_89, Tonaltzin_92, Trufflozitus_93, Untouchable_89, Vardy_86, Zeph_90,

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

- Conley_83, Glintora_90, Luthien_88,

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

- AFIS_66, Acai_67, Aloe25_90, Anandi_75, Annihilus_55, Arcadia_76, AreFloNak_73, Argan_70, Arzan_73, BarbieDoll_77, BenitoAntonio_75, Benllo_74, BetterYeti_86, Bigchungj_69, Bilo_54, Bing_83, Biscute_73, BluSpix_68, Boog_71, Bouchard_74, Bowling_78, Breylor17_66, BronxBay_72, Brunswick_71, Camille_57, CapnMurica_67, CastorTray_73, Caterpillar_69, Cheesy_77, CherryBlossom_82, Chlochlo_74, Circum_78, Correa_75, Count_90, CricKo_90, Crocheter_87, Damascus_58, Darby_67, DevitoJr_69, Dinallo_65, Ditters_53, DizzyRudy_62, Djungelskog_71, DoctorPepper_71, Doxi13_56, DrGrey_78, DreamCatcher_72, Dynamite_76, Eddiemania_88, Egad_72, ElephantMan_70, Elsa_76, Elver_134, Esketit_78, Espio_80, FidgetOrca_84, Football_90, FrodoSwaggins_80, FromIndy_88, GMonster_70, Gandionco_130, GantcherGoblin_71, GermyBearimy_81, Giantsbane_73, GirlPower_75, GoCrazy_73, GoblinVoyage_55, Gordon_67, GrecoEtereo_71, Gusicorn_88, Hankly_76, HazuAndZazu_79, Heisenberger_75, Hemma_68, HerbBucket_70, Hoshi_83, HotFries_53, IceWarrior_82, Ichabod_74, IgnatiusPatJac_70, Indigenous_84, Ingrid_76, Inked_75, Issa_65, JEGGS_75, Jaylociraptor_82, Jazzy4900_70, JeNeSaisPas_128, Jeremy4pt0_69, Kardashian_79, Kardesai_76, KeaneyLin_72, Kenosha_86, KevinMinion_71, Kinny_76, Kureo_131, Leathea_73, Lesedi_65, Lewando_77, LibertyBell_73, LibertyBell_75, LilHuddy_74, Linda_72, Lopton_70, Loretta_72, LucySwiss_70, Madamato_81, Makai_73, Mardi_74, Marianna39_131, Maya_82, McGuire_71, McSinger_68, MediumFry_69, Meibysrarus_80, Mema_57, Michelle_72, Miek_84, MiniBagel_69, Monse_54, Mooshroom_77, Moozy_54, MrAaronian_72, Mudcat_72, Muglass_75, Namu_84, NapoleonB_77, Nason_76, Natasha_75, Navi1117_76, Navi1117_79, Nightmare_70, Niktson_70, Nivinsha_72, OlympicHelado_84, Onestar_71, Paella_134, Pepy6_051, PerroGrande22_114, PestoPenguin_91, Phaby_75, Phaila_75, PherryCruz_54, Poco6_050, PoeMe_74, Popy_80, PowellDog_75, ProfFrink_72, Qui_134, Rainydai_87, Raunak_73, RavenPuff_55, Regigigas_90, Renaldo_81, Rima_83, RosaAsantewaa_51, RunningOnE_30, RunningOnE_9, RustyBoy_76, Salk_72, Sangak_54, SarFire_70, Scap1_52, Schwartz33_84, ScienceWizSam_71, Secretariat_80, SendItCS_82, SheRa_55, Shepard_74, Shiba_71, Sloopyjoe_72, Snazzy_68, Soshi_81, Spain_72, Spectropatronm_81, Sporto_71, Sprinkle_73, Squee_73, StarLord_72, Stardom_76, Stardrop_77, Stayer_72, Sunny4976_69, Synopsis_66, TaidaOne_82, Tatanka_63, Teacup_71, Tenney120_74, Tenno_69, Thiqqums_90, Thor_70, TieDye_78, Tipton_73, Tokki_79, TonyStarch_81, Tribby_80, TrixiePhattel_74, Truckee_71,

Trustiboi_68, Uzumaki_70, Westerlin_67, Wigberry_85, Xenomorph_73, YoshiYama_78, Zeina_76, Zippen_75,

Summary by start number:

Start 18:

- Found in 1 of 281 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Navi1117_79 (AU6),

Start 26:

- Found in 6 of 281 (2.1%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Scap1_52 (BI2),

Start 27:

- Found in 1 of 281 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Conley_83 (DJ),

Start 28:

- Found in 16 of 281 (5.7%) of genes in pham
- Manual Annotations of this start: 14 of 222
- Called 87.5% of time when present
- Phage (with cluster) where this start called: AFIS_66 (A1), Bigchungji_69 (A1), BluSpix_68 (A1), DreamCatcher_72 (A1), GrecoEtereo_71 (A1), Ichabod_74 (A1), Lesedi_65 (A1), Lopton_70 (A1), McGuire_71 (A1), McSinger_68 (A1), SarFire_70 (A1), Snazzy_68 (A1), Squee_73 (A1), Thor_70 (A1),

Start 29:

- Found in 16 of 281 (5.7%) of genes in pham
- Manual Annotations of this start: 2 of 222
- Called 12.5% of time when present
- Phage (with cluster) where this start called: GMonster_70 (A1), IgnatiusPatJac_70 (A1),

Start 33:

- 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: RunningOnE_9 (UNK),

Start 34:

- Found in 20 of 281 (7.1%) of genes in pham
- Manual Annotations of this start: 2 of 222
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Michelle_72 (AW), Stayer_72 (AW),

Start 40:

- Found in 21 of 281 (7.5%) of genes in pham

- Manual Annotations of this start: 3 of 222
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Count_90 (EL), Damascus_58 (EL), DizzyRudy_62 (EL),

Start 42:

- Found in 2 of 281 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camille_57 (EL), Mema_57 (EL),

Start 44:

- Found in 42 of 281 (14.9%) of genes in pham
- Manual Annotations of this start: 34 of 222
- Called 97.6% of time when present
- Phage (with cluster) where this start called: Acai_67 (AU1), Anandi_75 (AU4), AreFloNak_73 (AU1), Bouchard_74 (AU2), Breylor17_66 (AU1), Brunswick_71 (AU1), CapnMurica_67 (AU1), CastorTray_73 (AU1), Caterpillar_69 (AU4), Chlochlo_74 (AU2), Darby_67 (AU1), DevitoJr_69 (AU1), Dinallo_65 (AU1), ElephantMan_70 (AU1), Giantsbane_73 (AU2), Gordon_67 (AU1), Hemma_68 (AU1), Ingrid_76 (AU3), Inked_75 (AU7), Issa_65 (AU1), LilHuddy_74 (AU2), Loretta_72 (AU3), LucySwiss_70 (AU1), Makai_73 (AU5), MediumFry_69 (AU4), MiniBagel_69 (AU1), Nightmare_70 (AU1), Niktson_70 (AU1), Nivinsha_72 (AU1), Phaby_75 (AU2), ScienceWizSam_71 (AU1), Shepard_74 (AU2), Synopsis_66 (AU1), Tatanka_63 (AU1), Teacup_71 (AU1), Tenno_69 (AU1), Tokki_79 (AU2), Truckee_71 (AU5), Trustiboi_68 (AU1), Westerlin_67 (AU1), Zippen_75 (AU7),

Start 48:

- Found in 8 of 281 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 37.5% of time when present
- Phage (with cluster) where this start called: Gandionco_130 (FK), JeNeSaisPas_128 (FK), LibertyBell_73 (BI3),

Start 49:

- Found in 2 of 281 (0.7%) of genes in pham
- Manual Annotations of this start: 2 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bing_83 (BI5), Wigberry_85 (BI5),

Start 50:

- Found in 70 of 281 (24.9%) of genes in pham
- Manual Annotations of this start: 40 of 222
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Arcadia_76 (AM), Argan_70 (AU6), Arzan_73 (FI), BenitoAntonio_75 (AM), Benllo_74 (AM), Biscute_73 (AU6), Boog_71 (AW), Bowling_78 (AM), BronxBay_72 (AW), Cheesy_77 (AM), Circum_78 (AM), Correa_75 (AM), Djungelskog_71 (AW), DoctorPepper_71 (AW), Dynamite_76 (AM), Egad_72 (AW), Elsa_76 (AM), GermyBearimy_81 (FI), GoCrazy_73 (AM), Hankly_76 (AM), Heisenberger_75 (AM), HerbBucket_70 (AW), JEGGS_75 (AM), Jazzy4900_70 (FI), Jeremy4pt0_69 (AW), Kardesai_76 (AM), KeaneyLin_72 (AM), KevinMinion_71 (AU6), Linda_72 (AW), Mooshroom_77 (AM), MrAaronian_72 (AW), Mudcat_72 (AM), NapoleonB_77 (AM), Nason_76 (AM), Natasha_75 (AW), Onestar_71 (AW),

Powelldog_75 (AW), ProfFrink_72 (AW), Raunak_73 (AW), RustyBoy_76 (AW), Salk_72 (AW), Shiba_71 (AW), Sloopyjoe_72 (AW), Spain_72 (AW), Sporto_71 (AW), Sprinkle_73 (AW), StarLord_72 (AW), Sunny4976_69 (FI), Tribby_80 (AM), Xenomorph_73 (AM),

Start 52:

- Found in 51 of 281 (18.1%) of genes in pham
- Manual Annotations of this start: 42 of 222
- Called 94.1% of time when present
- Phage (with cluster) where this start called: Annihilus_55 (BI2), Bilo_54 (BI2), CherryBlossom_82 (BI1), CricKo_90 (BI4), Doxi13_56 (BI2), DrGrey_78 (BI1), Esketit_78 (BI1), Espio_80 (BI1), FidgetOrca_84 (BI1), FrodoSwaggins_80 (BI1), FromIndy_88 (BI4), GirlPower_75 (BI1), GoblinVoyage_55 (BI2), HazuAndZazu_79 (BI1), Hoshi_83 (BI1), IceWarrior_82 (BI1), Indigenous_84 (BI1), Jaylociraptor_82 (BI1), Kardashian_79 (BI6), LibertyBell_75 (BI3), Madamato_81 (BI1), Maya_82 (BI1), Meibysrarus_80 (BI1), Miek_84 (BI4), Monse_54 (BI2), Moozy_54 (BI2), Namu_84 (BI1), OlympicHelado_84 (BI1), Pepy6_051 (CC), PerroGrande22_114 (CC), PherryCruz_54 (BI2), Poco6_050 (CC), Popy_80 (BI1), Rainydai_87 (BI4), RavenPuff_55 (BI2), Regigigas_90 (BI4), Rima_83 (BI1), Sangak_54 (BI2), Schwartz33_84 (DJ), Secretariat_80 (DJ), SendItCS_82 (BI4), SheRa_55 (BI2), Soshi_81 (BI1), Spectropatronm_81 (BI1), TaidaOne_82 (BI1), Thiqqums_90 (BI4), TieDye_78 (BI1), TonyStarch_81 (BI1),

Start 53:

- Found in 20 of 281 (7.1%) of genes in pham
- Manual Annotations of this start: 8 of 222
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BarbieDoll_77 (AU6), GantcherGoblin_71 (AU6), Kinny_76 (AU6), LeatheA_73 (AU6), Lewando_77 (AU6), Mardi_74 (AU6), Muglass_75 (AU6), Navi1117_76 (AU6), Phaila_75 (AU6), PoeMe_74 (AU6), Renaldo_81 (AU6), Stardrop_77 (AU6), Tenney120_74 (AU6), TrixiePhattel_74 (AU6), Uzumaki_70 (AU6), Zeina_76 (AU6),

Start 54:

- Found in 9 of 281 (3.2%) of genes in pham
- Manual Annotations of this start: 6 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aloe25_90 (DJ), BetterYeti_86 (DJ), Crocheter_87 (DJ), Eddiemania_88 (DJ), Gusicorn_88 (DJ), Kenosha_86 (DJ), PestoPenguin_91 (DJ), RosaAsantewaa_51 (BI2), RunningOnE_30 (UNK),

Start 55:

- Found in 75 of 281 (26.7%) of genes in pham
- Manual Annotations of this start: 59 of 222
- Called 96.0% of time when present
- Phage (with cluster) where this start called: AFIS_59 (A1), Aflac_88 (DJ), AlainaMarie_88 (DJ), Arataki_87 (DJ), ArtetaBall_86 (DJ), Artorias_88 (DJ), Avazak_89 (DJ), Blanky_83 (DJ), BluerMoon_86 (DJ), Bruns_64 (A1), Bugg_92 (DJ), Burley_86 (DJ), CWormy_85 (DJ), Captrips_87 (DJ), Capybara_87 (DJ), ChickyNuggy_90 (DJ), Chikenjars_88 (DJ), Citrus_86 (DJ), ClubPenguin_87 (BI7), Conley_86 (DJ), Crispicous1_60 (A1), Dancer_88 (DJ), Demure_84 (DJ), Dialga_88 (DJ), Duffington_88 (DJ), EndAve_89 (DJ), Fazel_88 (DJ), Figliar_86 (DJ), Football_93 (DJ), Forsytheast_64 (A1), FortCran_88 (DJ), GageAP_64 (A1), Gill_90

(DJ), Gravy_89 (DJ), Hortihabitatio_85 (DJ), Hydrus_87 (DJ), Jodelie19_87 (DJ), JulesRay_88 (DJ), Kerry_89 (DJ), Madvan_86 (DJ), Magel_91 (DJ), MajinBuu_88 (DJ), Moose_64 (A1), Mossy_86 (DJ), Mysticmoon_86 (DJ), NEHalo_60 (A1), Nadmeg_86 (DJ), Nithya_87 (DJ), NoPickles_89 (DJ), Odesza_88 (DJ), OhMyWard_82 (DJ), OlgasClover_89 (DJ), Perkunas_90 (DJ), Petito_89 (DJ), Phepper_88 (DJ), Pherobrine_85 (DJ), Rickmore_88 (DJ), Roney_88 (DJ), Runhaar_85 (DJ), ShaggyRogers_87 (DJ), SpikeBT_61 (A1), SweetCrkHerbs_91 (DJ), SwissCheese_66 (A1), Tairn4Wing_91 (DJ), Talon44_91 (DJ), Tanis_89 (DJ), TenaciousP_89 (DJ), Tonaltzin_92 (DJ), Trufflozitus_93 (DJ), Untouchable_89 (DJ), Vardy_86 (DJ), Zeph_90 (DJ),

Start 56:

- 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: Football_90 (DJ),

Start 58:

- Found in 36 of 281 (12.8%) of genes in pham
- Manual Annotations of this start: 3 of 222
- Called 13.9% of time when present
- Phage (with cluster) where this start called: Elver_134 (FK), Kureo_131 (FK), Marianna39_131 (FK), Paella_134 (FK), Qui_134 (FK),

Start 59:

- Found in 14 of 281 (5.0%) of genes in pham
- Manual Annotations of this start: 2 of 222
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Ditters_53 (BI2), HotFries_53 (BI2),

Start 60:

- Found in 18 of 281 (6.4%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Glintora_90 (DJ), Luthien_88 (DJ), Tipton_73 (AU2),

Start 70:

- Found in 45 of 281 (16.0%) of genes in pham
- No Manual Annotations of this start.
- Called 4.4% of time when present
- Phage (with cluster) where this start called: Stardom_76 (AM), YoshiYama_78 (AM),

Summary by clusters:

There are 23 clusters represented in this pham: DJ, FI, FK, A1, BI5, AU1, AU3, AU2, AU5, AU4, AU7, AU6, EL, CC, AM, AW, BI6, BI7, BI4, UNK, BI2, BI3, BI1,

Info for manual annotations of cluster A1:

- Start number 28 was manually annotated 14 times for cluster A1.
- Start number 29 was manually annotated 2 times for cluster A1.
- Start number 55 was manually annotated 9 times for cluster A1.

Info for manual annotations of cluster AM:

- Start number 50 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AU1:

- Start number 44 was manually annotated 19 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 44 was manually annotated 7 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 44 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 44 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 44 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 18 was manually annotated 1 time for cluster AU6.
- Start number 50 was manually annotated 3 times for cluster AU6.
- Start number 53 was manually annotated 8 times for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 44 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 34 was manually annotated 2 times for cluster AW.
- Start number 50 was manually annotated 16 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 52 was manually annotated 24 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 26 was manually annotated 1 time for cluster BI2.
- Start number 52 was manually annotated 9 times for cluster BI2.
- Start number 54 was manually annotated 1 time for cluster BI2.
- Start number 59 was manually annotated 2 times for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 48 was manually annotated 1 time for cluster BI3.
- Start number 52 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 52 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 49 was manually annotated 2 times for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 52 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 55 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster DJ:

- Start number 27 was manually annotated 1 time for cluster DJ.
- Start number 52 was manually annotated 2 times for cluster DJ.
- Start number 54 was manually annotated 5 times for cluster DJ.
- Start number 55 was manually annotated 49 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 40 was manually annotated 3 times for cluster EL.
- Start number 42 was manually annotated 1 time for cluster EL.

Info for manual annotations of cluster FK:

- Start number 58 was manually annotated 3 times for cluster FK.

Gene Information:

Gene: AFIS_59 Start: 40536, Stop: 39979, Start Num: 55

Candidate Starts for AFIS_59:

(Start: 55 @40536 has 59 MA's), (64, 40494), (69, 40476), (90, 40392), (95, 40374), (106, 40323), (116, 40269), (146, 40167), (171, 39999),

Gene: AFIS_66 Start: 43840, Stop: 43262, Start Num: 28

Candidate Starts for AFIS_66:

(Start: 28 @43840 has 14 MA's), (Start: 29 @43828 has 2 MA's), (36, 43810), (82, 43669), (89, 43642), (97, 43603), (104, 43573), (152, 43360),

Gene: Acai_67 Start: 46762, Stop: 47265, Start Num: 44

Candidate Starts for Acai_67:

(Start: 44 @46762 has 34 MA's), (77, 46861), (117, 47020), (118, 47023), (129, 47077), (146, 47134), (149, 47161), (160, 47212),

Gene: Aflac_88 Start: 56715, Stop: 57197, Start Num: 55

Candidate Starts for Aflac_88:

(Start: 55 @56715 has 59 MA's), (62, 56748), (84, 56832), (132, 57021), (149, 57087), (151, 57102), (154, 57114),

Gene: AlainaMarie_88 Start: 56739, Stop: 57221, Start Num: 55

Candidate Starts for AlainaMarie_88:

(Start: 55 @56739 has 59 MA's), (60, 56757), (85, 56859), (96, 56901), (98, 56910), (102, 56928), (132, 57048), (133, 57054), (149, 57114), (151, 57129), (154, 57141),

Gene: Aloe25_90 Start: 55873, Stop: 56352, Start Num: 54

Candidate Starts for Aloe25_90:

(Start: 54 @55873 has 6 MA's), (68, 55930), (70, 55936), (86, 55996), (98, 56044), (102, 56062), (125, 56161), (132, 56179), (133, 56185), (149, 56245), (151, 56260), (154, 56272), (159, 56293),

Gene: Anandi_75 Start: 47524, Stop: 48027, Start Num: 44

Candidate Starts for Anandi_75:

(Start: 44 @47524 has 34 MA's), (Start: 58 @47548 has 3 MA's), (69, 47596), (75, 47617), (77, 47623), (84, 47653), (146, 47896), (160, 47974),

Gene: Annihilus_55 Start: 38912, Stop: 39421, Start Num: 52

Candidate Starts for Annihilus_55:

(13, 38804), (Start: 26 @38849 has 1 MA's), (Start: 52 @38912 has 42 MA's), (Start: 59 @38927 has 2 MA's), (64, 38954), (83, 39044), (88, 39062), (98, 39101), (115, 39176), (144, 39278), (146, 39284), (148, 39299),

Gene: Arataki_87 Start: 55860, Stop: 56339, Start Num: 55

Candidate Starts for Arataki_87:

(Start: 55 @55860 has 59 MA's), (69, 55920), (85, 55980), (98, 56031), (102, 56049), (125, 56148), (132, 56166), (133, 56172), (149, 56232), (151, 56247), (154, 56259), (159, 56280),

Gene: Arcadia_76 Start: 45700, Stop: 46212, Start Num: 50

Candidate Starts for Arcadia_76:

(Start: 50 @45700 has 40 MA's), (69, 45766), (70, 45769), (84, 45823), (120, 45967), (122, 45973), (126, 45994), (127, 45997),

Gene: AreFloNak_73 Start: 46808, Stop: 47311, Start Num: 44

Candidate Starts for AreFloNak_73:

(Start: 44 @46808 has 34 MA's), (77, 46907), (118, 47069), (129, 47123), (146, 47180), (160, 47258),

Gene: Argan_70 Start: 44513, Stop: 45007, Start Num: 50

Candidate Starts for Argan_70:

(Start: 50 @44513 has 40 MA's), (Start: 53 @44516 has 8 MA's), (63, 44558), (64, 44561), (110, 44729), (127, 44810), (148, 44888),

Gene: ArtetaBall_86 Start: 55817, Stop: 56296, Start Num: 55

Candidate Starts for ArtetaBall_86:

(Start: 55 @55817 has 59 MA's), (69, 55877), (85, 55937), (98, 55988), (102, 56006), (125, 56105), (132, 56123), (133, 56129), (149, 56189), (151, 56204), (154, 56216), (159, 56237),

Gene: Artorias_88 Start: 55253, Stop: 55735, Start Num: 55

Candidate Starts for Artorias_88:

(Start: 55 @55253 has 59 MA's), (81, 55352), (86, 55376), (102, 55442), (112, 55475), (132, 55562), (151, 55643), (154, 55655), (155, 55658), (159, 55676),

Gene: Arzan_73 Start: 46217, Stop: 46693, Start Num: 50

Candidate Starts for Arzan_73:

(Start: 50 @46217 has 40 MA's), (Start: 58 @46232 has 3 MA's), (79, 46313), (120, 46481), (166, 46661),

Gene: Avazak_89 Start: 55682, Stop: 56164, Start Num: 55

Candidate Starts for Avazak_89:

(Start: 55 @55682 has 59 MA's), (81, 55781), (86, 55805), (102, 55871), (112, 55904), (132, 55991), (151, 56072), (154, 56084), (155, 56087), (159, 56105),

Gene: BarbieDoll_77 Start: 46222, Stop: 46713, Start Num: 53

Candidate Starts for BarbieDoll_77:

(Start: 50 @46219 has 40 MA's), (Start: 53 @46222 has 8 MA's), (63, 46264), (64, 46267), (100, 46405), (110, 46435), (113, 46450), (127, 46516), (158, 46648), (161, 46660),

Gene: BenitoAntonio_75 Start: 45340, Stop: 45852, Start Num: 50

Candidate Starts for BenitoAntonio_75:

(20, 45268), (Start: 50 @45340 has 40 MA's), (69, 45406), (70, 45409), (84, 45463), (120, 45607), (122, 45613), (126, 45634), (127, 45637), (161, 45781),

Gene: Benllo_74 Start: 46018, Stop: 46530, Start Num: 50

Candidate Starts for Benllo_74:

(Start: 50 @46018 has 40 MA's), (70, 46087), (84, 46141), (120, 46285), (122, 46291), (126, 46312), (127, 46315),

Gene: BetterYeti_86 Start: 55872, Stop: 56351, Start Num: 54

Candidate Starts for BetterYeti_86:

(Start: 54 @55872 has 6 MA's), (68, 55929), (70, 55935), (86, 55995), (98, 56043), (102, 56061), (125, 56160), (132, 56178), (133, 56184), (149, 56244), (151, 56259), (154, 56271), (159, 56292),

Gene: Bigchungji_69 Start: 44593, Stop: 44015, Start Num: 28

Candidate Starts for Bigchungji_69:

(Start: 28 @44593 has 14 MA's), (Start: 29 @44581 has 2 MA's), (36, 44563), (82, 44422), (89, 44395), (97, 44356), (104, 44326), (152, 44113),

Gene: Bilo_54 Start: 39203, Stop: 39715, Start Num: 52

Candidate Starts for Bilo_54:

(45, 39194), (Start: 52 @39203 has 42 MA's), (Start: 59 @39221 has 2 MA's), (64, 39248), (83, 39338), (87, 39353), (88, 39356), (98, 39395), (115, 39470), (144, 39572), (146, 39578), (148, 39593),

Gene: Bing_83 Start: 51639, Stop: 52142, Start Num: 49

Candidate Starts for Bing_83:

(17, 51558), (43, 51630), (Start: 49 @51639 has 2 MA's), (64, 51684), (77, 51729), (80, 51738), (83, 51756), (98, 51813), (99, 51816), (109, 51858), (121, 51921), (154, 52059), (162, 52089), (164, 52104), (168, 52134),

Gene: Biscute_73 Start: 45871, Stop: 46365, Start Num: 50

Candidate Starts for Biscute_73:

(Start: 50 @45871 has 40 MA's), (Start: 53 @45874 has 8 MA's), (63, 45916), (64, 45919), (100, 46057), (110, 46087), (113, 46102), (127, 46168), (158, 46300), (161, 46312),

Gene: Blanky_83 Start: 56507, Stop: 56989, Start Num: 55

Candidate Starts for Blanky_83:

(Start: 55 @56507 has 59 MA's), (63, 56546), (84, 56624), (86, 56630), (98, 56678), (99, 56681), (102, 56696), (132, 56816), (149, 56882), (165, 56963),

Gene: BluSpix_68 Start: 40281, Stop: 39703, Start Num: 28

Candidate Starts for BluSpix_68:

(Start: 28 @40281 has 14 MA's), (Start: 29 @40269 has 2 MA's), (36, 40251), (82, 40110), (89, 40083), (97, 40044), (104, 40014), (152, 39801),

Gene: BluerMoon_86 Start: 56545, Stop: 57027, Start Num: 55

Candidate Starts for BluerMoon_86:

(Start: 55 @56545 has 59 MA's), (62, 56578), (84, 56662), (102, 56734), (132, 56851), (149, 56917), (151, 56932),

Gene: Boog_71 Start: 44933, Stop: 45430, Start Num: 50

Candidate Starts for Boog_71:

(Start: 34 @44900 has 2 MA's), (38, 44912), (Start: 40 @44918 has 3 MA's), (Start: 50 @44933 has 40 MA's), (Start: 58 @44948 has 3 MA's), (99, 45113), (125, 45221), (148, 45314),

Gene: Bouchard_74 Start: 47398, Stop: 47901, Start Num: 44

Candidate Starts for Bouchard_74:

(Start: 44 @47398 has 34 MA's), (60, 47428), (63, 47449), (69, 47470), (77, 47497), (86, 47533), (118, 47659), (129, 47713), (146, 47770), (149, 47797),

Gene: Bowling_78 Start: 46295, Stop: 46807, Start Num: 50

Candidate Starts for Bowling_78:

(Start: 50 @46295 has 40 MA's), (70, 46364), (84, 46418), (120, 46562), (122, 46568), (126, 46589),

Gene: Breylor17_66 Start: 47201, Stop: 47704, Start Num: 44

Candidate Starts for Breylor17_66:

(Start: 44 @47201 has 34 MA's), (77, 47300), (118, 47462), (129, 47516), (143, 47564), (146, 47573), (149, 47600), (160, 47651),

Gene: BronxBay_72 Start: 45205, Stop: 45702, Start Num: 50

Candidate Starts for BronxBay_72:

(Start: 34 @45172 has 2 MA's), (38, 45184), (Start: 40 @45190 has 3 MA's), (Start: 50 @45205 has 40 MA's), (Start: 58 @45220 has 3 MA's), (99, 45385), (125, 45493), (148, 45586),

Gene: Bruns_64 Start: 41012, Stop: 40455, Start Num: 55

Candidate Starts for Bruns_64:

(Start: 55 @41012 has 59 MA's), (64, 40970), (69, 40952), (90, 40868), (95, 40850), (106, 40799), (116, 40745), (146, 40643), (171, 40475),

Gene: Brunswick_71 Start: 46642, Stop: 47145, Start Num: 44

Candidate Starts for Brunswick_71:

(Start: 44 @46642 has 34 MA's), (77, 46741), (118, 46903), (129, 46957), (146, 47014), (149, 47041), (160, 47092),

Gene: Bugg_92 Start: 55298, Stop: 55780, Start Num: 55

Candidate Starts for Bugg_92:

(Start: 55 @55298 has 59 MA's), (81, 55397), (86, 55421), (102, 55487), (112, 55520), (132, 55607), (151, 55688), (154, 55700), (155, 55703), (159, 55721),

Gene: Burley_86 Start: 55548, Stop: 56027, Start Num: 55

Candidate Starts for Burley_86:

(Start: 55 @55548 has 59 MA's), (85, 55668), (102, 55737), (132, 55854), (133, 55860), (149, 55920), (151, 55935), (154, 55947), (159, 55968),

Gene: CWormy_85 Start: 55500, Stop: 55979, Start Num: 55

Candidate Starts for CWormy_85:

(Start: 55 @55500 has 59 MA's), (69, 55560), (85, 55620), (98, 55671), (102, 55689), (125, 55788), (132, 55806), (133, 55812), (149, 55872), (151, 55887), (154, 55899), (159, 55920),

Gene: Camille_57 Start: 40747, Stop: 41235, Start Num: 42

Candidate Starts for Camille_57:

(Start: 42 @40747 has 1 MA's), (70, 40816), (96, 40915), (110, 40963), (118, 41002), (120, 41011), (125, 41035), (128, 41044), (143, 41080), (148, 41104), (157, 41149), (169, 41215),

Gene: CapnMurica_67 Start: 47359, Stop: 47862, Start Num: 44
Candidate Starts for CapnMurica_67:
(Start: 44 @47359 has 34 MA's), (77, 47458), (118, 47620), (129, 47674), (146, 47731), (149, 47758),
(160, 47809),

Gene: Captrips_87 Start: 55033, Stop: 55515, Start Num: 55
Candidate Starts for Captrips_87:
(Start: 55 @55033 has 59 MA's), (86, 55156), (96, 55195), (102, 55222), (126, 55327), (132, 55342),
(151, 55423), (154, 55435), (159, 55456),

Gene: Capybara_87 Start: 55256, Stop: 55738, Start Num: 55
Candidate Starts for Capybara_87:
(Start: 55 @55256 has 59 MA's), (86, 55379), (96, 55418), (102, 55445), (126, 55550), (132, 55565),
(151, 55646), (154, 55658), (159, 55679),

Gene: CastorTray_73 Start: 47393, Stop: 47896, Start Num: 44
Candidate Starts for CastorTray_73:
(Start: 44 @47393 has 34 MA's), (77, 47492), (118, 47654), (129, 47708), (146, 47765), (149, 47792),
(160, 47843),

Gene: Caterpillar_69 Start: 46228, Stop: 46731, Start Num: 44
Candidate Starts for Caterpillar_69:
(Start: 44 @46228 has 34 MA's), (69, 46300), (86, 46363), (96, 46402), (118, 46489), (146, 46600),

Gene: Cheesy_77 Start: 45492, Stop: 46004, Start Num: 50
Candidate Starts for Cheesy_77:
(Start: 50 @45492 has 40 MA's), (70, 45561), (84, 45615), (120, 45759), (122, 45765), (126, 45786),
(127, 45789),

Gene: CherryBlossom_82 Start: 50872, Stop: 51381, Start Num: 52
Candidate Starts for CherryBlossom_82:
(Start: 52 @50872 has 42 MA's), (64, 50917), (77, 50962), (91, 51031), (118, 51145), (144, 51235),
(148, 51256), (159, 51316), (162, 51325), (167, 51367),

Gene: ChickyNuggy_90 Start: 55424, Stop: 55906, Start Num: 55
Candidate Starts for ChickyNuggy_90:
(Start: 55 @55424 has 59 MA's), (81, 55523), (86, 55547), (102, 55613), (112, 55646), (132, 55733),
(151, 55814), (154, 55826), (155, 55829), (159, 55847),

Gene: Chikenjars_88 Start: 56967, Stop: 57449, Start Num: 55
Candidate Starts for Chikenjars_88:
(Start: 55 @56967 has 59 MA's), (60, 56985), (85, 57087), (96, 57129), (98, 57138), (102, 57156),
(132, 57276), (133, 57282), (149, 57342), (151, 57357), (154, 57369),

Gene: Chlochlo_74 Start: 46925, Stop: 47428, Start Num: 44
Candidate Starts for Chlochlo_74:
(Start: 44 @46925 has 34 MA's), (60, 46955), (63, 46976), (69, 46997), (77, 47024), (86, 47060), (118,
47186), (129, 47240), (146, 47297), (149, 47324), (160, 47375),

Gene: Circum_78 Start: 46108, Stop: 46620, Start Num: 50
Candidate Starts for Circum_78:
(20, 46036), (Start: 50 @46108 has 40 MA's), (70, 46177), (84, 46231), (120, 46375), (122, 46381),
(126, 46402), (127, 46405), (161, 46549),

Gene: Citrus_86 Start: 56560, Stop: 57042, Start Num: 55

Candidate Starts for Citrus_86:

(Start: 55 @56560 has 59 MA's), (85, 56680), (96, 56722), (98, 56731), (102, 56749), (132, 56869), (133, 56875), (149, 56935), (151, 56950), (154, 56962),

Gene: ClubPenguin_87 Start: 51570, Stop: 52061, Start Num: 55

Candidate Starts for ClubPenguin_87:

(Start: 55 @51570 has 59 MA's), (64, 51612), (77, 51657), (88, 51702), (92, 51714), (97, 51738), (98, 51741), (99, 51744), (118, 51828), (123, 51852), (154, 51978), (159, 51999),

Gene: Conley_83 Start: 53384, Stop: 53935, Start Num: 27

Candidate Starts for Conley_83:

(Start: 27 @53384 has 1 MA's), (Start: 53 @53444 has 8 MA's), (Start: 55 @53447 has 59 MA's), (77, 53534), (81, 53546), (88, 53579), (103, 53636), (126, 53735), (136, 53759), (153, 53840), (170, 53924),

Gene: Conley_86 Start: 55548, Stop: 56030, Start Num: 55

Candidate Starts for Conley_86:

(Start: 55 @55548 has 59 MA's), (86, 55671), (96, 55710), (102, 55737), (112, 55770), (118, 55806), (127, 55845), (132, 55857), (165, 56004),

Gene: Correa_75 Start: 45066, Stop: 45578, Start Num: 50

Candidate Starts for Correa_75:

(Start: 50 @45066 has 40 MA's), (70, 45135), (84, 45189), (120, 45333), (126, 45360),

Gene: Count_90 Start: 59071, Stop: 59562, Start Num: 40

Candidate Starts for Count_90:

(Start: 40 @59071 has 3 MA's), (Start: 59 @59098 has 2 MA's), (96, 59245), (98, 59254), (99, 59257), (125, 59368), (141, 59404), (144, 59416), (160, 59500),

Gene: CricKo_90 Start: 53073, Stop: 53564, Start Num: 52

Candidate Starts for CricKo_90:

(9, 52932), (11, 52950), (12, 52959), (30, 53031), (35, 53040), (Start: 52 @53073 has 42 MA's), (64, 53118), (77, 53163), (81, 53175), (118, 53331), (125, 53364), (165, 53535),

Gene: Crispicous1_60 Start: 40522, Stop: 39992, Start Num: 55

Candidate Starts for Crispicous1_60:

(Start: 55 @40522 has 59 MA's), (69, 40462), (99, 40348), (135, 40186), (140, 40168), (142, 40159), (165, 40051),

Gene: Crocheter_87 Start: 55966, Stop: 56445, Start Num: 54

Candidate Starts for Crocheter_87:

(Start: 54 @55966 has 6 MA's), (68, 56023), (70, 56029), (86, 56089), (98, 56137), (102, 56155), (125, 56254), (132, 56272), (133, 56278), (149, 56338), (151, 56353), (154, 56365), (159, 56386),

Gene: Damascus_58 Start: 42170, Stop: 42682, Start Num: 40

Candidate Starts for Damascus_58:

(Start: 40 @42170 has 3 MA's), (47, 42182), (86, 42314), (96, 42353), (110, 42401), (125, 42473), (149, 42554),

Gene: Dancer_88 Start: 54990, Stop: 55472, Start Num: 55

Candidate Starts for Dancer_88:

(Start: 55 @54990 has 59 MA's), (81, 55089), (86, 55113), (102, 55179), (112, 55212), (132, 55299), (151, 55380), (154, 55392), (155, 55395), (159, 55413),

Gene: Darby_67 Start: 46386, Stop: 46889, Start Num: 44

Candidate Starts for Darby_67:

(Start: 44 @46386 has 34 MA's), (77, 46485), (118, 46647), (129, 46701), (146, 46758), (149, 46785), (160, 46836),

Gene: Demure_84 Start: 55994, Stop: 56473, Start Num: 55

Candidate Starts for Demure_84:

(Start: 55 @55994 has 59 MA's), (69, 56054), (85, 56114), (98, 56165), (102, 56183), (125, 56282), (132, 56300), (133, 56306), (149, 56366), (151, 56381), (154, 56393), (159, 56414),

Gene: DevitoJr_69 Start: 46771, Stop: 47274, Start Num: 44

Candidate Starts for DevitoJr_69:

(Start: 44 @46771 has 34 MA's), (77, 46870), (129, 47086), (146, 47143), (149, 47170), (160, 47221),

Gene: Dialga_88 Start: 55833, Stop: 56312, Start Num: 55

Candidate Starts for Dialga_88:

(Start: 55 @55833 has 59 MA's), (69, 55893), (85, 55953), (98, 56004), (102, 56022), (125, 56121), (132, 56139), (133, 56145), (149, 56205), (151, 56220), (154, 56232), (159, 56253),

Gene: Dinallo_65 Start: 47651, Stop: 48154, Start Num: 44

Candidate Starts for Dinallo_65:

(Start: 44 @47651 has 34 MA's), (77, 47750), (118, 47912), (129, 47966), (146, 48023), (149, 48050), (160, 48101),

Gene: Ditters_53 Start: 39401, Stop: 39895, Start Num: 59

Candidate Starts for Ditters_53:

(Start: 52 @39386 has 42 MA's), (Start: 59 @39401 has 2 MA's), (64, 39428), (67, 39446), (83, 39518), (87, 39533), (88, 39536), (96, 39566), (98, 39575), (144, 39752), (146, 39758),

Gene: DizzyRudy_62 Start: 42057, Stop: 42569, Start Num: 40

Candidate Starts for DizzyRudy_62:

(Start: 40 @42057 has 3 MA's), (47, 42069), (64, 42120), (96, 42240), (110, 42288), (125, 42360), (149, 42441),

Gene: Djungelskog_71 Start: 45207, Stop: 45704, Start Num: 50

Candidate Starts for Djungelskog_71:

(Start: 34 @45174 has 2 MA's), (38, 45186), (Start: 40 @45192 has 3 MA's), (Start: 50 @45207 has 40 MA's), (Start: 58 @45222 has 3 MA's), (99, 45387), (125, 45495), (148, 45588),

Gene: DoctorPepper_71 Start: 44909, Stop: 45406, Start Num: 50

Candidate Starts for DoctorPepper_71:

(Start: 34 @44876 has 2 MA's), (38, 44888), (Start: 40 @44894 has 3 MA's), (Start: 50 @44909 has 40 MA's), (Start: 58 @44924 has 3 MA's), (99, 45089), (125, 45197), (148, 45290),

Gene: Doxi13_56 Start: 39042, Stop: 39551, Start Num: 52

Candidate Starts for Doxi13_56:

(Start: 52 @39042 has 42 MA's), (Start: 59 @39057 has 2 MA's), (64, 39084), (83, 39174), (88, 39192), (98, 39231), (115, 39306), (144, 39408), (146, 39414), (148, 39429),

Gene: DrGrey_78 Start: 51385, Stop: 51894, Start Num: 52

Candidate Starts for DrGrey_78:

(Start: 52 @51385 has 42 MA's), (64, 51430), (77, 51475), (91, 51544), (118, 51658), (144, 51748), (145, 51751), (148, 51769), (159, 51829), (162, 51838), (167, 51880),

Gene: DreamCatcher_72 Start: 44845, Stop: 44267, Start Num: 28

Candidate Starts for DreamCatcher_72:

(Start: 28 @44845 has 14 MA's), (Start: 29 @44833 has 2 MA's), (36, 44815), (82, 44674), (89, 44647), (97, 44608), (104, 44578), (152, 44365),

Gene: Duffington_88 Start: 56767, Stop: 57249, Start Num: 55

Candidate Starts for Duffington_88:

(Start: 55 @56767 has 59 MA's), (60, 56785), (85, 56887), (96, 56929), (98, 56938), (102, 56956), (132, 57076), (133, 57082), (149, 57142), (151, 57157), (154, 57169),

Gene: Dynamite_76 Start: 45552, Stop: 46064, Start Num: 50

Candidate Starts for Dynamite_76:

(Start: 50 @45552 has 40 MA's), (70, 45621), (84, 45675), (120, 45819), (122, 45825), (126, 45846),

Gene: Eddiemania_88 Start: 56862, Stop: 57341, Start Num: 54

Candidate Starts for Eddiemania_88:

(Start: 54 @56862 has 6 MA's), (68, 56919), (69, 56922), (70, 56925), (86, 56985), (96, 57024), (98, 57033), (102, 57051), (112, 57081), (132, 57168), (133, 57174), (139, 57192), (149, 57234), (151, 57249), (154, 57261), (159, 57282),

Gene: Egad_72 Start: 45183, Stop: 45680, Start Num: 50

Candidate Starts for Egad_72:

(Start: 34 @45150 has 2 MA's), (38, 45162), (Start: 40 @45168 has 3 MA's), (Start: 50 @45183 has 40 MA's), (Start: 58 @45198 has 3 MA's), (99, 45363), (125, 45471), (148, 45564),

Gene: ElephantMan_70 Start: 47272, Stop: 47775, Start Num: 44

Candidate Starts for ElephantMan_70:

(Start: 44 @47272 has 34 MA's), (77, 47371), (118, 47533), (129, 47587), (146, 47644), (149, 47671), (160, 47722),

Gene: Elsa_76 Start: 45700, Stop: 46212, Start Num: 50

Candidate Starts for Elsa_76:

(Start: 50 @45700 has 40 MA's), (69, 45766), (70, 45769), (84, 45823), (120, 45967), (122, 45973), (126, 45994), (127, 45997),

Gene: Elver_134 Start: 71317, Stop: 71790, Start Num: 58

Candidate Starts for Elver_134:

(Start: 48 @71296 has 1 MA's), (Start: 58 @71317 has 3 MA's), (69, 71365), (70, 71368), (72, 71374), (77, 71392), (84, 71422), (131, 71605), (161, 71734),

Gene: EndAve_89 Start: 56677, Stop: 57159, Start Num: 55

Candidate Starts for EndAve_89:

(Start: 55 @56677 has 59 MA's), (60, 56695), (85, 56797), (96, 56839), (98, 56848), (102, 56866), (132, 56986), (133, 56992), (149, 57052), (151, 57067), (154, 57079),

Gene: Esketit_78 Start: 49973, Stop: 50482, Start Num: 52

Candidate Starts for Esketit_78:

(Start: 52 @49973 has 42 MA's), (64, 50018), (77, 50063), (91, 50132), (118, 50246), (144, 50336), (148, 50357), (159, 50417), (162, 50426), (167, 50468),

Gene: Espio_80 Start: 51756, Stop: 52265, Start Num: 52

Candidate Starts for Espio_80:

(Start: 52 @51756 has 42 MA's), (64, 51801), (77, 51846), (91, 51915), (118, 52029), (144, 52119), (145, 52122), (148, 52140), (159, 52200), (162, 52209), (167, 52251),

Gene: Fazel_88 Start: 55520, Stop: 56002, Start Num: 55

Candidate Starts for Fazel_88:

(Start: 55 @55520 has 59 MA's), (63, 55559), (64, 55562), (68, 55577), (84, 55637), (86, 55643), (87, 55649), (98, 55691), (102, 55709), (119, 55781), (132, 55829), (165, 55976), (167, 55994),

Gene: FidgetOrca_84 Start: 51423, Stop: 51932, Start Num: 52

Candidate Starts for FidgetOrca_84:

(Start: 52 @51423 has 42 MA's), (64, 51468), (77, 51513), (91, 51582), (118, 51696), (144, 51786), (148, 51807), (159, 51867), (162, 51876), (167, 51918),

Gene: Figliar_86 Start: 56571, Stop: 57053, Start Num: 55

Candidate Starts for Figliar_86:

(Start: 55 @56571 has 59 MA's), (60, 56589), (85, 56691), (96, 56733), (98, 56742), (102, 56760), (132, 56880), (133, 56886), (149, 56946), (151, 56961), (154, 56973),

Gene: Football_93 Start: 55333, Stop: 55815, Start Num: 55

Candidate Starts for Football_93:

(Start: 55 @55333 has 59 MA's), (81, 55432), (86, 55456), (102, 55522), (112, 55555), (132, 55642), (151, 55723), (154, 55735), (155, 55738), (159, 55756),

Gene: Football_90 Start: 53214, Stop: 53690, Start Num: 56

Candidate Starts for Football_90:

(56, 53214), (64, 53253), (70, 53274), (76, 53295), (77, 53298), (99, 53385), (101, 53394), (111, 53421), (120, 53472), (134, 53517), (160, 53634), (161, 53637),

Gene: Forsytheast_64 Start: 41180, Stop: 40623, Start Num: 55

Candidate Starts for Forsytheast_64:

(Start: 55 @41180 has 59 MA's), (64, 41138), (69, 41120), (90, 41036), (95, 41018), (106, 40967), (116, 40913), (146, 40811), (171, 40643),

Gene: FortCran_88 Start: 55254, Stop: 55736, Start Num: 55

Candidate Starts for FortCran_88:

(Start: 55 @55254 has 59 MA's), (81, 55353), (86, 55377), (102, 55443), (112, 55476), (132, 55563), (151, 55644), (154, 55656), (155, 55659), (159, 55677),

Gene: FrodoSwaggins_80 Start: 51780, Stop: 52289, Start Num: 52

Candidate Starts for FrodoSwaggins_80:

(Start: 52 @51780 has 42 MA's), (64, 51825), (77, 51870), (91, 51939), (118, 52053), (144, 52143), (145, 52146), (148, 52164), (159, 52224), (162, 52233), (167, 52275),

Gene: FromIndy_88 Start: 52273, Stop: 52764, Start Num: 52

Candidate Starts for FromIndy_88:

(9, 52132), (11, 52150), (12, 52159), (30, 52231), (35, 52240), (Start: 52 @52273 has 42 MA's), (64, 52318), (77, 52363), (81, 52375), (118, 52531), (125, 52564), (165, 52735),

Gene: GMonster_70 Start: 44872, Stop: 44306, Start Num: 29

Candidate Starts for GMonster_70:

(Start: 28 @44884 has 14 MA's), (Start: 29 @44872 has 2 MA's), (36, 44854), (82, 44713), (89, 44686), (97, 44647), (104, 44617), (152, 44404),

Gene: GageAP_64 Start: 42203, Stop: 41646, Start Num: 55

Candidate Starts for GageAP_64:

(Start: 55 @42203 has 59 MA's), (64, 42161), (69, 42143), (90, 42059), (95, 42041), (106, 41990), (116, 41936), (146, 41834), (171, 41666),

Gene: Gandionco_130 Start: 70114, Stop: 70608, Start Num: 48

Candidate Starts for Gandionco_130:

(Start: 48 @70114 has 1 MA's), (Start: 58 @70135 has 3 MA's), (69, 70183), (70, 70186), (72, 70192), (77, 70210), (84, 70240), (131, 70423), (161, 70552),

Gene: GantcherGoblin_71 Start: 44575, Stop: 45066, Start Num: 53

Candidate Starts for GantcherGoblin_71:

(Start: 50 @44572 has 40 MA's), (Start: 53 @44575 has 8 MA's), (63, 44617), (64, 44620), (110, 44788), (127, 44869), (148, 44947),

Gene: GermyBearimy_81 Start: 47778, Stop: 48254, Start Num: 50

Candidate Starts for GermyBearimy_81:

(Start: 50 @47778 has 40 MA's), (Start: 58 @47793 has 3 MA's), (79, 47874), (120, 48042), (166, 48222),

Gene: Giantsbane_73 Start: 45925, Stop: 46428, Start Num: 44

Candidate Starts for Giantsbane_73:

(Start: 44 @45925 has 34 MA's), (Start: 58 @45949 has 3 MA's), (60, 45955), (63, 45976), (69, 45997), (77, 46024), (86, 46060), (118, 46186), (146, 46297), (149, 46324),

Gene: Gill_90 Start: 55283, Stop: 55765, Start Num: 55

Candidate Starts for Gill_90:

(Start: 55 @55283 has 59 MA's), (86, 55406), (96, 55445), (102, 55472), (126, 55577), (132, 55592), (151, 55673), (154, 55685), (159, 55706),

Gene: GirlPower_75 Start: 50852, Stop: 51361, Start Num: 52

Candidate Starts for GirlPower_75:

(Start: 52 @50852 has 42 MA's), (64, 50897), (77, 50942), (84, 50972), (91, 51011), (96, 51032), (118, 51125), (159, 51296), (161, 51302), (162, 51305), (164, 51320),

Gene: Glintora_90 Start: 56976, Stop: 57440, Start Num: 60

Candidate Starts for Glintora_90:

(Start: 55 @56958 has 59 MA's), (60, 56976), (85, 57078), (96, 57120), (98, 57129), (102, 57147), (132, 57267), (133, 57273), (137, 57285), (149, 57333), (151, 57348), (154, 57360),

Gene: GoCrazy_73 Start: 44995, Stop: 45507, Start Num: 50

Candidate Starts for GoCrazy_73:

(20, 44923), (Start: 50 @44995 has 40 MA's), (70, 45064), (84, 45118), (120, 45262), (122, 45268), (126, 45289), (127, 45292), (161, 45436),

Gene: GoblinVoyage_55 Start: 38886, Stop: 39395, Start Num: 52

Candidate Starts for GoblinVoyage_55:

(Start: 52 @38886 has 42 MA's), (Start: 59 @38901 has 2 MA's), (64, 38928), (83, 39018), (88, 39036), (98, 39075), (115, 39150), (144, 39252), (146, 39258), (148, 39273),

Gene: Gordon_67 Start: 47259, Stop: 47762, Start Num: 44

Candidate Starts for Gordon_67:

(Start: 44 @47259 has 34 MA's), (77, 47358), (118, 47520), (129, 47574), (146, 47631), (149, 47658), (160, 47709),

Gene: Gravy_89 Start: 54946, Stop: 55428, Start Num: 55

Candidate Starts for Gravy_89:

(Start: 55 @54946 has 59 MA's), (86, 55069), (96, 55108), (102, 55135), (126, 55240), (132, 55255), (151, 55336), (154, 55348), (159, 55369),

Gene: GrecoEtereo_71 Start: 44625, Stop: 44047, Start Num: 28

Candidate Starts for GrecoEtereo_71:

(Start: 28 @44625 has 14 MA's), (Start: 29 @44613 has 2 MA's), (36, 44595), (82, 44454), (89, 44427), (97, 44388), (104, 44358), (152, 44145),

Gene: Gusicorn_88 Start: 55873, Stop: 56352, Start Num: 54

Candidate Starts for Gusicorn_88:

(Start: 54 @55873 has 6 MA's), (68, 55930), (70, 55936), (86, 55996), (98, 56044), (102, 56062), (125, 56161), (132, 56179), (133, 56185), (149, 56245), (151, 56260), (154, 56272), (159, 56293),

Gene: Hankly_76 Start: 45190, Stop: 45702, Start Num: 50

Candidate Starts for Hankly_76:

(Start: 50 @45190 has 40 MA's), (70, 45259), (84, 45313), (120, 45457), (122, 45463), (126, 45484),

Gene: HazuAndZazu_79 Start: 51132, Stop: 51641, Start Num: 52

Candidate Starts for HazuAndZazu_79:

(Start: 52 @51132 has 42 MA's), (64, 51177), (77, 51222), (91, 51291), (118, 51405), (144, 51495), (148, 51516), (159, 51576), (162, 51585), (167, 51627),

Gene: Heisenberger_75 Start: 44957, Stop: 45469, Start Num: 50

Candidate Starts for Heisenberger_75:

(20, 44885), (Start: 50 @44957 has 40 MA's), (70, 45026), (84, 45080), (120, 45224), (122, 45230), (126, 45251), (127, 45254),

Gene: Hemma_68 Start: 44675, Stop: 45178, Start Num: 44

Candidate Starts for Hemma_68:

(Start: 44 @44675 has 34 MA's), (69, 44747), (87, 44816), (96, 44849), (108, 44888), (112, 44900), (129, 44990), (160, 45125),

Gene: HerbBucket_70 Start: 44915, Stop: 45412, Start Num: 50

Candidate Starts for HerbBucket_70:

(Start: 34 @44882 has 2 MA's), (38, 44894), (Start: 40 @44900 has 3 MA's), (Start: 50 @44915 has 40 MA's), (Start: 58 @44930 has 3 MA's), (99, 45095), (125, 45203), (148, 45296),

Gene: Hortihabitatio_85 Start: 55292, Stop: 55774, Start Num: 55

Candidate Starts for Hortihabitatio_85:

(Start: 55 @55292 has 59 MA's), (64, 55334), (68, 55349), (98, 55463), (99, 55466), (102, 55481), (132, 55601), (143, 55631), (165, 55748), (167, 55766),

Gene: Hoshi_83 Start: 51036, Stop: 51545, Start Num: 52

Candidate Starts for Hoshi_83:

(Start: 52 @51036 has 42 MA's), (64, 51081), (77, 51126), (91, 51195), (118, 51309), (144, 51399), (148, 51420), (159, 51480), (162, 51489), (167, 51531),

Gene: HotFries_53 Start: 39084, Stop: 39578, Start Num: 59

Candidate Starts for HotFries_53:

(13, 38961), (Start: 26 @39006 has 1 MA's), (Start: 52 @39069 has 42 MA's), (Start: 59 @39084 has 2 MA's), (64, 39111), (83, 39201), (88, 39219), (98, 39258), (115, 39333), (144, 39435), (146, 39441), (148, 39456),

Gene: Hydrus_87 Start: 56277, Stop: 56756, Start Num: 55

Candidate Starts for Hydrus_87:

(Start: 55 @56277 has 59 MA's), (69, 56337), (85, 56397), (98, 56448), (102, 56466), (125, 56565), (132, 56583), (133, 56589), (149, 56649), (151, 56664), (154, 56676), (159, 56697),

Gene: IceWarrior_82 Start: 50842, Stop: 51351, Start Num: 52

Candidate Starts for IceWarrior_82:

(Start: 52 @50842 has 42 MA's), (64, 50887), (77, 50932), (91, 51001), (118, 51115), (144, 51205), (159, 51286), (162, 51295), (167, 51337),

Gene: Ichabod_74 Start: 45654, Stop: 45076, Start Num: 28

Candidate Starts for Ichabod_74:

(Start: 28 @45654 has 14 MA's), (Start: 29 @45642 has 2 MA's), (36, 45624), (82, 45483), (89, 45456), (97, 45417), (104, 45387), (152, 45174),

Gene: IgnatiusPatJac_70 Start: 44214, Stop: 43648, Start Num: 29

Candidate Starts for IgnatiusPatJac_70:

(Start: 28 @44226 has 14 MA's), (Start: 29 @44214 has 2 MA's), (36, 44196), (82, 44055), (89, 44028), (97, 43989), (104, 43959), (152, 43746),

Gene: Indigenous_84 Start: 51428, Stop: 51937, Start Num: 52

Candidate Starts for Indigenous_84:

(Start: 52 @51428 has 42 MA's), (64, 51473), (77, 51518), (91, 51587), (118, 51701), (144, 51791), (148, 51812), (159, 51872), (162, 51881), (167, 51923),

Gene: Ingrid_76 Start: 47223, Stop: 47726, Start Num: 44

Candidate Starts for Ingrid_76:

(Start: 44 @47223 has 34 MA's), (69, 47295), (86, 47358), (96, 47397), (114, 47469), (118, 47484),

Gene: Inked_75 Start: 47849, Stop: 48352, Start Num: 44

Candidate Starts for Inked_75:

(Start: 44 @47849 has 34 MA's), (69, 47921), (86, 47984), (96, 48023), (114, 48095), (118, 48110),

Gene: Issa_65 Start: 46433, Stop: 46936, Start Num: 44

Candidate Starts for Issa_65:

(Start: 44 @46433 has 34 MA's), (77, 46532), (118, 46694), (129, 46748), (146, 46805), (149, 46832), (160, 46883),

Gene: JEGGS_75 Start: 45036, Stop: 45548, Start Num: 50

Candidate Starts for JEGGS_75:

(20, 44964), (Start: 50 @45036 has 40 MA's), (70, 45105), (84, 45159), (120, 45303), (122, 45309), (126, 45330), (127, 45333),

Gene: Jaylociraptor_82 Start: 51008, Stop: 51517, Start Num: 52

Candidate Starts for Jaylociraptor_82:

(Start: 52 @51008 has 42 MA's), (64, 51053), (77, 51098), (91, 51167), (118, 51281), (144, 51371), (148, 51392), (159, 51452), (162, 51461), (167, 51503),

Gene: Jazzy4900_70 Start: 47081, Stop: 47557, Start Num: 50

Candidate Starts for Jazzy4900_70:

(Start: 50 @47081 has 40 MA's), (79, 47177), (120, 47345), (166, 47525),

Gene: JeNeSaisPas_128 Start: 70710, Stop: 71204, Start Num: 48

Candidate Starts for JeNeSaisPas_128:

(Start: 48 @70710 has 1 MA's), (Start: 58 @70731 has 3 MA's), (69, 70779), (70, 70782), (72, 70788), (77, 70806), (84, 70836), (131, 71019), (161, 71148),

Gene: Jeremy4pt0_69 Start: 44904, Stop: 45401, Start Num: 50

Candidate Starts for Jeremy4pt0_69:

(Start: 34 @44871 has 2 MA's), (38, 44883), (Start: 40 @44889 has 3 MA's), (Start: 50 @44904 has 40 MA's), (Start: 58 @44919 has 3 MA's), (99, 45084), (125, 45192), (148, 45285),

Gene: Jodelie19_87 Start: 57758, Stop: 58240, Start Num: 55

Candidate Starts for Jodelie19_87:

(Start: 55 @57758 has 59 MA's), (62, 57791), (84, 57875), (132, 58064), (149, 58130), (151, 58145), (154, 58157),

Gene: JulesRay_88 Start: 55349, Stop: 55831, Start Num: 55

Candidate Starts for JulesRay_88:

(Start: 55 @55349 has 59 MA's), (81, 55448), (86, 55472), (102, 55538), (112, 55571), (132, 55658), (151, 55739), (154, 55751), (155, 55754), (159, 55772),

Gene: Kardashian_79 Start: 51398, Stop: 51889, Start Num: 52

Candidate Starts for Kardashian_79:

(43, 51386), (Start: 52 @51398 has 42 MA's), (61, 51425), (64, 51443), (69, 51461), (81, 51500), (87, 51530), (99, 51575), (121, 51668), (162, 51836), (167, 51878),

Gene: Kardesai_76 Start: 45309, Stop: 45821, Start Num: 50

Candidate Starts for Kardesai_76:

(20, 45237), (Start: 50 @45309 has 40 MA's), (70, 45378), (84, 45432), (120, 45576), (122, 45582), (126, 45603), (127, 45606), (161, 45750),

Gene: KeaneyLin_72 Start: 44995, Stop: 45507, Start Num: 50

Candidate Starts for KeaneyLin_72:

(20, 44923), (Start: 50 @44995 has 40 MA's), (70, 45064), (84, 45118), (120, 45262), (122, 45268), (126, 45289), (127, 45292), (161, 45436),

Gene: Kenosha_86 Start: 56334, Stop: 56813, Start Num: 54

Candidate Starts for Kenosha_86:

(Start: 54 @56334 has 6 MA's), (68, 56391), (69, 56394), (70, 56397), (86, 56457), (98, 56505), (102, 56523), (132, 56640), (133, 56646), (139, 56664), (149, 56706), (151, 56721), (154, 56733), (159, 56754),

Gene: Kerry_89 Start: 55009, Stop: 55491, Start Num: 55

Candidate Starts for Kerry_89:

(Start: 55 @55009 has 59 MA's), (86, 55132), (96, 55171), (102, 55198), (126, 55303), (132, 55318), (151, 55399), (154, 55411), (159, 55432),

Gene: KevinMinion_71 Start: 45464, Stop: 45958, Start Num: 50

Candidate Starts for KevinMinion_71:

(Start: 50 @45464 has 40 MA's), (Start: 53 @45467 has 8 MA's), (63, 45509), (64, 45512), (110, 45680), (127, 45761), (148, 45839),

Gene: Kinny_76 Start: 46701, Stop: 47192, Start Num: 53

Candidate Starts for Kinny_76:

(Start: 50 @46698 has 40 MA's), (Start: 53 @46701 has 8 MA's), (63, 46743), (64, 46746), (100, 46884), (110, 46914), (113, 46929), (127, 46995), (158, 47127), (161, 47139),

Gene: Kureo_131 Start: 70331, Stop: 70804, Start Num: 58

Candidate Starts for Kureo_131:

(Start: 48 @70310 has 1 MA's), (Start: 58 @70331 has 3 MA's), (69, 70379), (70, 70382), (72, 70388), (77, 70406), (84, 70436), (131, 70619), (161, 70748),

Gene: Leathea_73 Start: 44483, Stop: 44992, Start Num: 53

Candidate Starts for Leathea_73:

(39, 44459), (41, 44465), (Start: 50 @44480 has 40 MA's), (Start: 53 @44483 has 8 MA's), (64, 44528), (94, 44642), (110, 44696), (127, 44777), (134, 44801), (143, 44831),

Gene: Lesedi_65 Start: 42530, Stop: 41952, Start Num: 28

Candidate Starts for Lesedi_65:

(10, 42602), (Start: 28 @42530 has 14 MA's), (Start: 29 @42518 has 2 MA's), (36, 42500), (82, 42359), (89, 42332), (97, 42293), (104, 42263), (152, 42050),

Gene: Lewando_77 Start: 46439, Stop: 46930, Start Num: 53

Candidate Starts for Lewando_77:

(Start: 50 @46436 has 40 MA's), (Start: 53 @46439 has 8 MA's), (63, 46481), (64, 46484), (100, 46622), (110, 46652), (113, 46667), (127, 46733), (158, 46865), (161, 46877),

Gene: LibertyBell_75 Start: 48093, Stop: 48605, Start Num: 52

Candidate Starts for LibertyBell_75:

(7, 47907), (8, 47940), (16, 48006), (46, 48087), (Start: 52 @48093 has 42 MA's), (77, 48183), (84, 48213), (86, 48219), (88, 48228), (102, 48285), (107, 48318), (151, 48510), (162, 48552), (167, 48594), (168, 48597),

Gene: LibertyBell_73 Start: 45969, Stop: 46457, Start Num: 48

Candidate Starts for LibertyBell_73:

(Start: 48 @45969 has 1 MA's), (70, 46038), (99, 46152), (118, 46227), (143, 46308), (154, 46371),

Gene: LilHuddy_74 Start: 47051, Stop: 47554, Start Num: 44

Candidate Starts for LilHuddy_74:

(Start: 44 @47051 has 34 MA's), (60, 47081), (63, 47102), (69, 47123), (77, 47150), (86, 47186), (118, 47312), (129, 47366), (146, 47423), (149, 47450),

Gene: Linda_72 Start: 45202, Stop: 45699, Start Num: 50

Candidate Starts for Linda_72:

(Start: 34 @45169 has 2 MA's), (38, 45181), (Start: 40 @45187 has 3 MA's), (Start: 50 @45202 has 40 MA's), (Start: 58 @45217 has 3 MA's), (99, 45382), (125, 45490), (148, 45583),

Gene: Lopton_70 Start: 46302, Stop: 45724, Start Num: 28

Candidate Starts for Lopton_70:

(24, 46311), (Start: 28 @46302 has 14 MA's), (Start: 29 @46290 has 2 MA's), (36, 46272), (82, 46131), (89, 46104), (97, 46065), (104, 46035), (152, 45822),

Gene: Loretta_72 Start: 47223, Stop: 47726, Start Num: 44

Candidate Starts for Loretta_72:

(Start: 44 @47223 has 34 MA's), (69, 47295), (86, 47358), (96, 47397), (114, 47469), (118, 47484),

Gene: LucySwiss_70 Start: 46378, Stop: 46881, Start Num: 44

Candidate Starts for LucySwiss_70:

(Start: 44 @46378 has 34 MA's), (77, 46477), (118, 46639), (129, 46693), (149, 46777), (160, 46828),

Gene: Luthien_88 Start: 56700, Stop: 57164, Start Num: 60

Candidate Starts for Luthien_88:

(Start: 55 @56682 has 59 MA's), (60, 56700), (85, 56802), (96, 56844), (98, 56853), (102, 56871), (132, 56991), (133, 56997), (149, 57057), (151, 57072), (154, 57084),

Gene: Madamoto_81 Start: 50680, Stop: 51192, Start Num: 52

Candidate Starts for Madamoto_81:

(Start: 52 @50680 has 42 MA's), (64, 50725), (77, 50770), (91, 50839), (96, 50860), (148, 51064), (154, 51103), (159, 51124), (162, 51133),

Gene: Madvan_86 Start: 55589, Stop: 56068, Start Num: 55

Candidate Starts for Madvan_86:

(Start: 55 @55589 has 59 MA's), (69, 55649), (85, 55709), (98, 55760), (102, 55778), (125, 55877), (132, 55895), (133, 55901), (149, 55961), (151, 55976), (154, 55988), (159, 56009),

Gene: Magel_91 Start: 55198, Stop: 55680, Start Num: 55

Candidate Starts for Magel_91:

(Start: 55 @55198 has 59 MA's), (86, 55321), (96, 55360), (102, 55387), (126, 55492), (132, 55507), (151, 55588), (154, 55600), (159, 55621),

Gene: MajinBuu_88 Start: 56949, Stop: 57431, Start Num: 55

Candidate Starts for MajinBuu_88:

(Start: 55 @56949 has 59 MA's), (60, 56967), (85, 57069), (96, 57111), (98, 57120), (102, 57138), (132, 57258), (133, 57264), (149, 57324), (151, 57339), (154, 57351),

Gene: Makai_73 Start: 47336, Stop: 47839, Start Num: 44

Candidate Starts for Makai_73:

(Start: 44 @47336 has 34 MA's), (Start: 58 @47360 has 3 MA's), (63, 47387), (77, 47435), (86, 47471), (118, 47597), (129, 47651), (146, 47708), (149, 47735), (160, 47786),

Gene: Mardi_74 Start: 45219, Stop: 45710, Start Num: 53

Candidate Starts for Mardi_74:

(Start: 50 @45216 has 40 MA's), (Start: 53 @45219 has 8 MA's), (63, 45261), (64, 45264), (110, 45432), (127, 45513),

Gene: Marianna39_131 Start: 70740, Stop: 71213, Start Num: 58

Candidate Starts for Marianna39_131:

(Start: 48 @70719 has 1 MA's), (Start: 58 @70740 has 3 MA's), (69, 70788), (70, 70791), (72, 70797), (77, 70815), (84, 70845), (131, 71028), (161, 71157),

Gene: Maya_82 Start: 51022, Stop: 51531, Start Num: 52

Candidate Starts for Maya_82:

(Start: 52 @51022 has 42 MA's), (64, 51067), (77, 51112), (91, 51181), (118, 51295), (144, 51385), (148, 51406), (159, 51466), (162, 51475), (167, 51517),

Gene: McGuire_71 Start: 44174, Stop: 43596, Start Num: 28

Candidate Starts for McGuire_71:

(Start: 28 @44174 has 14 MA's), (Start: 29 @44162 has 2 MA's), (36, 44144), (82, 44003), (89, 43976), (97, 43937), (104, 43907), (152, 43694),

Gene: McSinger_68 Start: 43534, Stop: 42956, Start Num: 28

Candidate Starts for McSinger_68:

(Start: 28 @43534 has 14 MA's), (Start: 29 @43522 has 2 MA's), (36, 43504), (82, 43363), (89, 43336), (97, 43297), (104, 43267), (152, 43054),

Gene: MediumFry_69 Start: 46566, Stop: 47069, Start Num: 44

Candidate Starts for MediumFry_69:

(Start: 44 @46566 has 34 MA's), (69, 46638), (86, 46701), (96, 46740), (118, 46827), (146, 46938),

Gene: Meibysrarus_80 Start: 50406, Stop: 50915, Start Num: 52

Candidate Starts for Meibysrarus_80:

(Start: 52 @50406 has 42 MA's), (64, 50451), (77, 50496), (91, 50565), (118, 50679), (144, 50769), (148, 50790), (159, 50850), (162, 50859), (167, 50901),

Gene: Mema_57 Start: 44587, Stop: 45072, Start Num: 42

Candidate Starts for Mema_57:

(Start: 42 @44587 has 1 MA's), (70, 44656), (110, 44803), (125, 44875), (149, 44956),

Gene: Michelle_72 Start: 45171, Stop: 45701, Start Num: 34

Candidate Starts for Michelle_72:

(Start: 34 @45171 has 2 MA's), (38, 45183), (Start: 40 @45189 has 3 MA's), (Start: 50 @45204 has 40 MA's), (Start: 58 @45219 has 3 MA's), (99, 45384), (125, 45492), (148, 45585),

Gene: Miek_84 Start: 51455, Stop: 51946, Start Num: 52

Candidate Starts for Miek_84:

(9, 51314), (11, 51332), (12, 51341), (30, 51413), (35, 51422), (Start: 52 @51455 has 42 MA's), (64, 51500), (77, 51545), (81, 51557), (118, 51713), (125, 51746), (165, 51917),

Gene: MiniBagel_69 Start: 47363, Stop: 47866, Start Num: 44

Candidate Starts for MiniBagel_69:

(Start: 44 @47363 has 34 MA's), (69, 47435), (77, 47462), (118, 47624), (129, 47678), (146, 47735), (149, 47762), (160, 47813),

Gene: Monse_54 Start: 38889, Stop: 39401, Start Num: 52

Candidate Starts for Monse_54:

(15, 38796), (31, 38847), (45, 38880), (Start: 52 @38889 has 42 MA's), (Start: 59 @38907 has 2 MA's), (64, 38934), (67, 38952), (87, 39039), (88, 39042), (99, 39084), (144, 39258), (146, 39264),

Gene: Moose_64 Start: 41180, Stop: 40623, Start Num: 55

Candidate Starts for Moose_64:

(Start: 55 @41180 has 59 MA's), (64, 41138), (69, 41120), (90, 41036), (95, 41018), (106, 40967), (116, 40913), (146, 40811), (171, 40643),

Gene: Mooshroom_77 Start: 45309, Stop: 45821, Start Num: 50

Candidate Starts for Mooshroom_77:

(20, 45237), (Start: 50 @45309 has 40 MA's), (70, 45378), (84, 45432), (120, 45576), (122, 45582), (126, 45603), (127, 45606), (161, 45750),

Gene: Moozy_54 Start: 38896, Stop: 39405, Start Num: 52

Candidate Starts for Moozy_54:

(13, 38788), (Start: 26 @38833 has 1 MA's), (Start: 52 @38896 has 42 MA's), (Start: 59 @38911 has 2 MA's), (64, 38938), (83, 39028), (88, 39046), (98, 39085), (115, 39160), (144, 39262), (146, 39268), (148, 39283),

Gene: Mossy_86 Start: 56611, Stop: 57093, Start Num: 55

Candidate Starts for Mossy_86:

(Start: 55 @56611 has 59 MA's), (63, 56650), (84, 56728), (86, 56734), (98, 56782), (99, 56785), (102, 56800), (132, 56920), (149, 56986), (165, 57067),

Gene: MrAaronian_72 Start: 45204, Stop: 45701, Start Num: 50

Candidate Starts for MrAaronian_72:

(Start: 34 @45171 has 2 MA's), (38, 45183), (Start: 40 @45189 has 3 MA's), (Start: 50 @45204 has 40 MA's), (Start: 58 @45219 has 3 MA's), (99, 45384), (125, 45492), (148, 45585),

Gene: Mudcat_72 Start: 46394, Stop: 46906, Start Num: 50

Candidate Starts for Mudcat_72:

(20, 46322), (Start: 50 @46394 has 40 MA's), (70, 46463), (84, 46517), (120, 46661), (122, 46667), (126, 46688), (127, 46691),

Gene: Muglass_75 Start: 45778, Stop: 46269, Start Num: 53

Candidate Starts for Muglass_75:

(Start: 50 @45775 has 40 MA's), (Start: 53 @45778 has 8 MA's), (63, 45820), (64, 45823), (100, 45961), (110, 45991), (113, 46006), (127, 46072), (158, 46204), (161, 46216),

Gene: Mysticmoon_86 Start: 55708, Stop: 56190, Start Num: 55

Candidate Starts for Mysticmoon_86:

(37, 55678), (Start: 55 @55708 has 59 MA's), (63, 55747), (78, 55801), (84, 55825), (98, 55879), (102, 55897), (132, 56017), (143, 56047), (165, 56164),

Gene: NEHalo_60 Start: 41604, Stop: 41047, Start Num: 55

Candidate Starts for NEHalo_60:

(Start: 55 @41604 has 59 MA's), (64, 41562), (69, 41544), (90, 41460), (95, 41442), (106, 41391), (116, 41337), (146, 41235), (171, 41067),

Gene: Nadmeg_86 Start: 56574, Stop: 57053, Start Num: 55

Candidate Starts for Nadmeg_86:

(Start: 55 @56574 has 59 MA's), (85, 56694), (102, 56763), (132, 56880), (133, 56886), (149, 56946), (151, 56961), (154, 56973), (159, 56994),

Gene: Namo_84 Start: 51477, Stop: 51986, Start Num: 52

Candidate Starts for Namo_84:

(Start: 52 @51477 has 42 MA's), (64, 51522), (77, 51567), (91, 51636), (118, 51750), (144, 51840), (148, 51861), (159, 51921), (162, 51930), (167, 51972),

Gene: NapoleonB_77 Start: 45552, Stop: 46064, Start Num: 50

Candidate Starts for NapoleonB_77:

(Start: 50 @45552 has 40 MA's), (70, 45621), (84, 45675), (120, 45819), (122, 45825), (126, 45846),

Gene: Nason_76 Start: 45700, Stop: 46212, Start Num: 50
Candidate Starts for Nason_76:
(Start: 50 @45700 has 40 MA's), (69, 45766), (70, 45769), (84, 45823), (120, 45967), (122, 45973),
(126, 45994), (127, 45997),

Gene: Natasha_75 Start: 45514, Stop: 46011, Start Num: 50
Candidate Starts for Natasha_75:
(Start: 50 @45514 has 40 MA's), (70, 45580), (99, 45694), (108, 45721), (124, 45796), (130, 45826),
(148, 45895),

Gene: Navi1117_76 Start: 45655, Stop: 46146, Start Num: 53
Candidate Starts for Navi1117_76:
(Start: 50 @45652 has 40 MA's), (Start: 53 @45655 has 8 MA's), (63, 45697), (64, 45700), (110,
45868), (127, 45949), (148, 46027),

Gene: Navi1117_79 Start: 46821, Stop: 47384, Start Num: 18
Candidate Starts for Navi1117_79:
(14, 46803), (Start: 18 @46821 has 1 MA's), (51, 46899), (169, 47376),

Gene: Nightmare_70 Start: 47676, Stop: 48179, Start Num: 44
Candidate Starts for Nightmare_70:
(Start: 44 @47676 has 34 MA's), (77, 47775), (118, 47937), (129, 47991), (146, 48048), (160, 48126),

Gene: Niktson_70 Start: 47272, Stop: 47775, Start Num: 44
Candidate Starts for Niktson_70:
(Start: 44 @47272 has 34 MA's), (77, 47371), (118, 47533), (129, 47587), (146, 47644), (149, 47671),
(160, 47722),

Gene: Nithya_87 Start: 56516, Stop: 56998, Start Num: 55
Candidate Starts for Nithya_87:
(Start: 55 @56516 has 59 MA's), (60, 56534), (85, 56636), (96, 56678), (98, 56687), (102, 56705),
(132, 56825), (133, 56831), (149, 56891), (151, 56906), (154, 56918),

Gene: Nivinsha_72 Start: 46808, Stop: 47311, Start Num: 44
Candidate Starts for Nivinsha_72:
(Start: 44 @46808 has 34 MA's), (77, 46907), (118, 47069), (129, 47123), (146, 47180), (160, 47258),

Gene: NoPickles_89 Start: 55105, Stop: 55587, Start Num: 55
Candidate Starts for NoPickles_89:
(Start: 55 @55105 has 59 MA's), (86, 55228), (96, 55267), (102, 55294), (126, 55399), (132, 55414),
(151, 55495), (154, 55507), (159, 55528),

Gene: Odesza_88 Start: 55145, Stop: 55627, Start Num: 55
Candidate Starts for Odesza_88:
(Start: 55 @55145 has 59 MA's), (86, 55268), (96, 55307), (102, 55334), (126, 55439), (132, 55454),
(151, 55535), (154, 55547), (159, 55568),

Gene: OhMyWard_82 Start: 56405, Stop: 56887, Start Num: 55
Candidate Starts for OhMyWard_82:
(Start: 55 @56405 has 59 MA's), (63, 56444), (84, 56522), (86, 56528), (98, 56576), (99, 56579), (102,
56594), (119, 56666), (132, 56714), (165, 56861),

Gene: OlgasClover_89 Start: 57350, Stop: 57832, Start Num: 55

Candidate Starts for OlgasClover_89:

(Start: 55 @57350 has 59 MA's), (60, 57368), (85, 57470), (96, 57512), (98, 57521), (102, 57539), (132, 57659), (133, 57665), (149, 57725), (151, 57740), (154, 57752),

Gene: OlympicHelado_84 Start: 51498, Stop: 52007, Start Num: 52

Candidate Starts for OlympicHelado_84:

(Start: 52 @51498 has 42 MA's), (64, 51543), (77, 51588), (91, 51657), (118, 51771), (144, 51861), (148, 51882), (159, 51942), (162, 51951), (167, 51993),

Gene: Onestar_71 Start: 45345, Stop: 45842, Start Num: 50

Candidate Starts for Onestar_71:

(Start: 50 @45345 has 40 MA's), (99, 45525), (101, 45534), (125, 45633), (129, 45654), (148, 45726),

Gene: Paella_134 Start: 71880, Stop: 72353, Start Num: 58

Candidate Starts for Paella_134:

(Start: 48 @71859 has 1 MA's), (Start: 58 @71880 has 3 MA's), (69, 71928), (70, 71931), (72, 71937), (77, 71955), (84, 71985), (131, 72168), (161, 72297),

Gene: Pepy6_051 Start: 72091, Stop: 72582, Start Num: 52

Candidate Starts for Pepy6_051:

(Start: 52 @72091 has 42 MA's), (Start: 58 @72106 has 3 MA's), (75, 72175), (85, 72214), (86, 72217), (88, 72226), (113, 72325), (120, 72361), (121, 72364), (132, 72403), (137, 72421), (143, 72433), (144, 72436), (151, 72484), (161, 72523),

Gene: Perkunas_90 Start: 55043, Stop: 55525, Start Num: 55

Candidate Starts for Perkunas_90:

(Start: 55 @55043 has 59 MA's), (86, 55166), (102, 55232), (112, 55265), (132, 55352), (154, 55445), (162, 55475), (165, 55499),

Gene: PerroGrande22_114 Start: 74744, Stop: 75235, Start Num: 52

Candidate Starts for PerroGrande22_114:

(Start: 52 @74744 has 42 MA's), (Start: 58 @74759 has 3 MA's), (85, 74867), (86, 74870), (88, 74879), (113, 74978), (119, 75008), (132, 75056), (137, 75074), (144, 75089), (151, 75137), (161, 75176),

Gene: PestoPenguin_91 Start: 55873, Stop: 56352, Start Num: 54

Candidate Starts for PestoPenguin_91:

(Start: 54 @55873 has 6 MA's), (68, 55930), (70, 55936), (86, 55996), (98, 56044), (102, 56062), (125, 56161), (132, 56179), (133, 56185), (149, 56245), (151, 56260), (154, 56272), (159, 56293),

Gene: Petito_89 Start: 55917, Stop: 56399, Start Num: 55

Candidate Starts for Petito_89:

(Start: 55 @55917 has 59 MA's), (86, 56040), (102, 56106), (112, 56139), (132, 56226), (154, 56319), (159, 56340),

Gene: Phaby_75 Start: 47582, Stop: 48085, Start Num: 44

Candidate Starts for Phaby_75:

(Start: 44 @47582 has 34 MA's), (60, 47612), (63, 47633), (69, 47654), (77, 47681), (86, 47717), (118, 47843), (129, 47897), (146, 47954), (149, 47981),

Gene: Phaila_75 Start: 44697, Stop: 45188, Start Num: 53

Candidate Starts for Phaila_75:

(Start: 50 @44694 has 40 MA's), (Start: 53 @44697 has 8 MA's), (63, 44739), (64, 44742), (110, 44910), (127, 44991), (148, 45069),

Gene: Phepper_88 Start: 56061, Stop: 56540, Start Num: 55

Candidate Starts for Phepper_88:

(Start: 55 @56061 has 59 MA's), (69, 56121), (85, 56181), (98, 56232), (102, 56250), (125, 56349), (132, 56367), (133, 56373), (149, 56433), (151, 56448), (154, 56460), (159, 56481),

Gene: Pherobrine_85 Start: 55751, Stop: 56233, Start Num: 55

Candidate Starts for Pherobrine_85:

(37, 55721), (Start: 55 @55751 has 59 MA's), (63, 55790), (68, 55808), (74, 55829), (84, 55868), (98, 55922), (102, 55940), (132, 56060), (143, 56090), (165, 56207),

Gene: PherryCruz_54 Start: 39085, Stop: 39594, Start Num: 52

Candidate Starts for PherryCruz_54:

(6, 38812), (13, 38977), (Start: 26 @39022 has 1 MA's), (Start: 52 @39085 has 42 MA's), (Start: 59 @39100 has 2 MA's), (64, 39127), (88, 39235), (98, 39274), (115, 39349), (144, 39451), (146, 39457), (148, 39472),

Gene: Poco6_050 Start: 73353, Stop: 73844, Start Num: 52

Candidate Starts for Poco6_050:

(Start: 52 @73353 has 42 MA's), (Start: 58 @73368 has 3 MA's), (85, 73476), (86, 73479), (88, 73488), (113, 73587), (132, 73665), (137, 73683), (143, 73695), (144, 73698), (148, 73719), (151, 73746), (161, 73785),

Gene: PoeMe_74 Start: 45187, Stop: 45678, Start Num: 53

Candidate Starts for PoeMe_74:

(Start: 50 @45184 has 40 MA's), (Start: 53 @45187 has 8 MA's), (63, 45229), (64, 45232), (110, 45400), (127, 45481), (148, 45559),

Gene: Popy_80 Start: 51779, Stop: 52288, Start Num: 52

Candidate Starts for Popy_80:

(Start: 52 @51779 has 42 MA's), (64, 51824), (77, 51869), (91, 51938), (118, 52052), (144, 52142), (145, 52145), (148, 52163), (159, 52223), (162, 52232), (167, 52274),

Gene: Powelldog_75 Start: 45923, Stop: 46420, Start Num: 50

Candidate Starts for Powelldog_75:

(25, 45860), (Start: 34 @45890 has 2 MA's), (38, 45902), (Start: 50 @45923 has 40 MA's), (70, 45989), (76, 46010), (77, 46013), (99, 46103), (108, 46130), (146, 46289),

Gene: ProfFrink_72 Start: 45182, Stop: 45679, Start Num: 50

Candidate Starts for ProfFrink_72:

(Start: 34 @45149 has 2 MA's), (38, 45161), (Start: 40 @45167 has 3 MA's), (Start: 50 @45182 has 40 MA's), (Start: 58 @45197 has 3 MA's), (99, 45362), (125, 45470), (148, 45563),

Gene: Qui_134 Start: 71880, Stop: 72353, Start Num: 58

Candidate Starts for Qui_134:

(Start: 48 @71859 has 1 MA's), (Start: 58 @71880 has 3 MA's), (69, 71928), (70, 71931), (72, 71937), (77, 71955), (84, 71985), (131, 72168), (161, 72297),

Gene: Rainydai_87 Start: 53073, Stop: 53564, Start Num: 52

Candidate Starts for Rainydai_87:

(9, 52932), (11, 52950), (12, 52959), (30, 53031), (35, 53040), (Start: 52 @53073 has 42 MA's), (64, 53118), (77, 53163), (81, 53175), (118, 53331), (125, 53364), (165, 53535),

Gene: Raunak_73 Start: 44844, Stop: 45341, Start Num: 50

Candidate Starts for Raunak_73:

(Start: 34 @44811 has 2 MA's), (38, 44823), (Start: 40 @44829 has 3 MA's), (Start: 50 @44844 has 40 MA's), (Start: 58 @44859 has 3 MA's), (99, 45024), (125, 45132), (148, 45225),

Gene: RavenPuff_55 Start: 39055, Stop: 39564, Start Num: 52

Candidate Starts for RavenPuff_55:

(Start: 52 @39055 has 42 MA's), (Start: 59 @39070 has 2 MA's), (64, 39097), (83, 39187), (88, 39205), (98, 39244), (115, 39319), (144, 39421), (146, 39427), (148, 39442),

Gene: Regigigas_90 Start: 52685, Stop: 53176, Start Num: 52

Candidate Starts for Regigigas_90:

(9, 52544), (11, 52562), (12, 52571), (30, 52643), (35, 52652), (Start: 52 @52685 has 42 MA's), (64, 52730), (77, 52775), (81, 52787), (118, 52943), (125, 52976), (165, 53147),

Gene: Renaldo_81 Start: 46660, Stop: 47151, Start Num: 53

Candidate Starts for Renaldo_81:

(Start: 50 @46657 has 40 MA's), (Start: 53 @46660 has 8 MA's), (63, 46702), (64, 46705), (100, 46843), (110, 46873), (113, 46888), (127, 46954), (158, 47086), (161, 47098),

Gene: Rickmore_88 Start: 55645, Stop: 56139, Start Num: 55

Candidate Starts for Rickmore_88:

(Start: 55 @55645 has 59 MA's), (85, 55765), (96, 55807), (98, 55816), (102, 55834), (132, 55951), (137, 55969), (138, 55972), (149, 56017), (154, 56044),

Gene: Rima_83 Start: 51477, Stop: 51986, Start Num: 52

Candidate Starts for Rima_83:

(Start: 52 @51477 has 42 MA's), (64, 51522), (77, 51567), (91, 51636), (118, 51750), (144, 51840), (148, 51861), (159, 51921), (162, 51930), (167, 51972),

Gene: Roney_88 Start: 55308, Stop: 55790, Start Num: 55

Candidate Starts for Roney_88:

(Start: 55 @55308 has 59 MA's), (86, 55431), (96, 55470), (102, 55497), (126, 55602), (132, 55617), (151, 55698), (154, 55710), (159, 55731),

Gene: RosaAsantewaa_51 Start: 38179, Stop: 38670, Start Num: 54

Candidate Starts for RosaAsantewaa_51:

(22, 38107), (Start: 54 @38179 has 6 MA's), (77, 38266), (84, 38296), (86, 38302), (88, 38311), (98, 38350), (102, 38368), (118, 38437), (162, 38617), (163, 38629),

Gene: Runhaar_85 Start: 55666, Stop: 56145, Start Num: 55

Candidate Starts for Runhaar_85:

(Start: 55 @55666 has 59 MA's), (85, 55786), (102, 55855), (132, 55972), (133, 55978), (149, 56038), (151, 56053), (154, 56065), (159, 56086),

Gene: RunningOnE_30 Start: 14405, Stop: 13887, Start Num: 54

Candidate Starts for RunningOnE_30:

(Start: 54 @14405 has 6 MA's), (65, 14357), (66, 14348), (71, 14327), (96, 14213), (99, 14201), (110, 14165), (118, 14123), (137, 14060), (147, 14027), (156, 13973),

Gene: RunningOnE_9 Start: 3940, Stop: 3410, Start Num: 33

Candidate Starts for RunningOnE_9:

(21, 3970), (33, 3940), (57, 3892), (73, 3817), (82, 3781), (83, 3778), (105, 3688), (139, 3541), (150, 3484),

Gene: RustyBoy_76 Start: 45713, Stop: 46210, Start Num: 50

Candidate Starts for RustyBoy_76:

(Start: 50 @45713 has 40 MA's), (70, 45779), (99, 45893), (108, 45920), (124, 45995), (130, 46025), (148, 46094),

Gene: Salk_72 Start: 45202, Stop: 45699, Start Num: 50

Candidate Starts for Salk_72:

(Start: 34 @45169 has 2 MA's), (38, 45181), (Start: 40 @45187 has 3 MA's), (Start: 50 @45202 has 40 MA's), (Start: 58 @45217 has 3 MA's), (99, 45382), (125, 45490), (148, 45583),

Gene: Sangak_54 Start: 38595, Stop: 39104, Start Num: 52

Candidate Starts for Sangak_54:

(Start: 52 @38595 has 42 MA's), (Start: 59 @38610 has 2 MA's), (64, 38637), (83, 38727), (88, 38745), (98, 38784), (115, 38859), (144, 38961), (146, 38967), (148, 38982),

Gene: SarFire_70 Start: 44563, Stop: 43985, Start Num: 28

Candidate Starts for SarFire_70:

(Start: 28 @44563 has 14 MA's), (Start: 29 @44551 has 2 MA's), (36, 44533), (82, 44392), (89, 44365), (97, 44326), (104, 44296), (152, 44083),

Gene: Scap1_52 Start: 38365, Stop: 38937, Start Num: 26

Candidate Starts for Scap1_52:

(Start: 26 @38365 has 1 MA's), (Start: 52 @38428 has 42 MA's), (Start: 59 @38443 has 2 MA's), (64, 38470), (67, 38488), (83, 38560), (87, 38575), (88, 38578), (98, 38617), (144, 38794), (146, 38800),

Gene: Schwartz33_84 Start: 54940, Stop: 55425, Start Num: 52

Candidate Starts for Schwartz33_84:

(Start: 52 @54940 has 42 MA's), (64, 54982), (68, 54997), (98, 55111), (102, 55129), (125, 55231), (132, 55249), (139, 55273), (149, 55315), (151, 55330), (161, 55369),

Gene: ScienceWizSam_71 Start: 46973, Stop: 47476, Start Num: 44

Candidate Starts for ScienceWizSam_71:

(Start: 44 @46973 has 34 MA's), (77, 47072), (118, 47234), (129, 47288), (146, 47345), (149, 47372), (160, 47423),

Gene: Secretariat_80 Start: 53208, Stop: 53693, Start Num: 52

Candidate Starts for Secretariat_80:

(Start: 52 @53208 has 42 MA's), (64, 53250), (68, 53265), (98, 53379), (102, 53397), (125, 53499), (132, 53517), (139, 53541), (149, 53583), (151, 53598), (161, 53637), (162, 53640), (167, 53682),

Gene: SendItCS_82 Start: 51443, Stop: 51934, Start Num: 52

Candidate Starts for SendItCS_82:

(9, 51302), (11, 51320), (12, 51329), (30, 51401), (35, 51410), (Start: 52 @51443 has 42 MA's), (64, 51488), (77, 51533), (81, 51545), (118, 51701), (125, 51734), (165, 51905),

Gene: ShaggyRogers_87 Start: 55632, Stop: 56111, Start Num: 55

Candidate Starts for ShaggyRogers_87:

(Start: 55 @55632 has 59 MA's), (85, 55752), (98, 55803), (99, 55806), (102, 55821), (132, 55938), (139, 55962), (149, 56004), (151, 56019), (154, 56031), (159, 56052),

Gene: SheRa_55 Start: 38965, Stop: 39474, Start Num: 52

Candidate Starts for SheRa_55:

(13, 38857), (Start: 26 @38902 has 1 MA's), (Start: 52 @38965 has 42 MA's), (Start: 59 @38980 has 2 MA's), (64, 39007), (83, 39097), (88, 39115), (98, 39154), (115, 39229), (144, 39331), (146, 39337), (148, 39352),

Gene: Shepard_74 Start: 46904, Stop: 47407, Start Num: 44

Candidate Starts for Shepard_74:

(Start: 44 @46904 has 34 MA's), (60, 46934), (63, 46955), (69, 46976), (77, 47003), (86, 47039), (118, 47165), (129, 47219), (146, 47276), (149, 47303),

Gene: Shiba_71 Start: 44860, Stop: 45357, Start Num: 50

Candidate Starts for Shiba_71:

(Start: 34 @44827 has 2 MA's), (38, 44839), (Start: 40 @44845 has 3 MA's), (Start: 50 @44860 has 40 MA's), (Start: 58 @44875 has 3 MA's), (99, 45040), (125, 45148), (148, 45241),

Gene: Sloopyjoe_72 Start: 45206, Stop: 45703, Start Num: 50

Candidate Starts for Sloopyjoe_72:

(Start: 34 @45173 has 2 MA's), (38, 45185), (Start: 40 @45191 has 3 MA's), (Start: 50 @45206 has 40 MA's), (Start: 58 @45221 has 3 MA's), (99, 45386), (125, 45494), (148, 45587),

Gene: Snazzy_68 Start: 43855, Stop: 43277, Start Num: 28

Candidate Starts for Snazzy_68:

(Start: 28 @43855 has 14 MA's), (Start: 29 @43843 has 2 MA's), (36, 43825), (82, 43684), (89, 43657), (97, 43618), (104, 43588), (152, 43375),

Gene: Soshi_81 Start: 51620, Stop: 52129, Start Num: 52

Candidate Starts for Soshi_81:

(Start: 52 @51620 has 42 MA's), (64, 51665), (77, 51710), (91, 51779), (118, 51893), (144, 51983), (148, 52004), (159, 52064), (162, 52073), (167, 52115),

Gene: Spain_72 Start: 45204, Stop: 45701, Start Num: 50

Candidate Starts for Spain_72:

(Start: 34 @45171 has 2 MA's), (38, 45183), (Start: 40 @45189 has 3 MA's), (Start: 50 @45204 has 40 MA's), (Start: 58 @45219 has 3 MA's), (99, 45384), (125, 45492), (148, 45585),

Gene: Spectropatronm_81 Start: 51016, Stop: 51525, Start Num: 52

Candidate Starts for Spectropatronm_81:

(Start: 52 @51016 has 42 MA's), (64, 51061), (77, 51106), (91, 51175), (118, 51289), (144, 51379), (148, 51400), (159, 51460), (162, 51469), (167, 51511),

Gene: SpikeBT_61 Start: 41461, Stop: 40904, Start Num: 55

Candidate Starts for SpikeBT_61:

(Start: 55 @41461 has 59 MA's), (64, 41419), (69, 41401), (90, 41317), (95, 41299), (106, 41248), (116, 41194), (146, 41092), (171, 40924),

Gene: Sporto_71 Start: 46287, Stop: 46784, Start Num: 50

Candidate Starts for Sporto_71:

(32, 46248), (Start: 50 @46287 has 40 MA's), (69, 46350), (77, 46377), (93, 46440), (108, 46494), (124, 46569), (130, 46599), (146, 46653),

Gene: Sprinkle_73 Start: 45895, Stop: 46392, Start Num: 50

Candidate Starts for Sprinkle_73:

(19, 45820), (23, 45829), (Start: 34 @45862 has 2 MA's), (38, 45874), (Start: 50 @45895 has 40 MA's), (70, 45961), (77, 45985), (99, 46075), (108, 46102), (125, 46183), (146, 46261),

Gene: Squee_73 Start: 44893, Stop: 44315, Start Num: 28

Candidate Starts for Squee_73:

(Start: 28 @44893 has 14 MA's), (Start: 29 @44881 has 2 MA's), (36, 44863), (82, 44722), (89, 44695), (97, 44656), (104, 44626), (152, 44413),

Gene: StarLord_72 Start: 45199, Stop: 45696, Start Num: 50

Candidate Starts for StarLord_72:

(Start: 34 @45166 has 2 MA's), (38, 45178), (Start: 40 @45184 has 3 MA's), (Start: 50 @45199 has 40 MA's), (Start: 58 @45214 has 3 MA's), (99, 45379), (125, 45487), (148, 45580),

Gene: Stardom_76 Start: 44971, Stop: 45414, Start Num: 70

Candidate Starts for Stardom_76:

(20, 44830), (Start: 50 @44902 has 40 MA's), (70, 44971), (84, 45025), (120, 45169), (122, 45175), (126, 45196), (127, 45199),

Gene: Stardrop_77 Start: 45289, Stop: 45780, Start Num: 53

Candidate Starts for Stardrop_77:

(Start: 50 @45286 has 40 MA's), (Start: 53 @45289 has 8 MA's), (63, 45331), (64, 45334), (110, 45502), (148, 45661),

Gene: Stayer_72 Start: 45169, Stop: 45699, Start Num: 34

Candidate Starts for Stayer_72:

(Start: 34 @45169 has 2 MA's), (38, 45181), (Start: 40 @45187 has 3 MA's), (Start: 50 @45202 has 40 MA's), (Start: 58 @45217 has 3 MA's), (99, 45382), (125, 45490), (148, 45583),

Gene: Sunny4976_69 Start: 47081, Stop: 47557, Start Num: 50

Candidate Starts for Sunny4976_69:

(Start: 50 @47081 has 40 MA's), (79, 47177), (120, 47345), (166, 47525),

Gene: SweetCrkHerbs_91 Start: 55056, Stop: 55538, Start Num: 55

Candidate Starts for SweetCrkHerbs_91:

(Start: 55 @55056 has 59 MA's), (86, 55179), (102, 55245), (112, 55278), (132, 55365), (154, 55458), (162, 55488), (165, 55512),

Gene: SwissCheese_66 Start: 41680, Stop: 41123, Start Num: 55

Candidate Starts for SwissCheese_66:

(Start: 55 @41680 has 59 MA's), (64, 41638), (69, 41620), (90, 41536), (95, 41518), (106, 41467), (116, 41413), (146, 41311), (171, 41143),

Gene: Synopsis_66 Start: 46738, Stop: 47241, Start Num: 44

Candidate Starts for Synopsis_66:

(Start: 44 @46738 has 34 MA's), (77, 46837), (118, 46999), (129, 47053), (146, 47110), (160, 47188),

Gene: TaidaOne_82 Start: 51492, Stop: 52001, Start Num: 52

Candidate Starts for TaidaOne_82:

(Start: 52 @51492 has 42 MA's), (64, 51537), (77, 51582), (91, 51651), (118, 51765), (144, 51855), (148, 51876), (159, 51936), (162, 51945), (167, 51987),

Gene: Tairn4Wing_91 Start: 55091, Stop: 55573, Start Num: 55

Candidate Starts for Tairn4Wing_91:

(Start: 55 @55091 has 59 MA's), (81, 55190), (86, 55214), (102, 55280), (112, 55313), (132, 55400), (151, 55481), (154, 55493), (155, 55496), (159, 55514),

Gene: Talon44_91 Start: 55653, Stop: 56135, Start Num: 55

Candidate Starts for Talon44_91:

(Start: 55 @55653 has 59 MA's), (86, 55776), (102, 55842), (112, 55875), (132, 55962), (154, 56055), (162, 56085), (165, 56109),

Gene: Tanis_89 Start: 55128, Stop: 55610, Start Num: 55

Candidate Starts for Tanis_89:

(Start: 55 @55128 has 59 MA's), (86, 55251), (96, 55290), (102, 55317), (126, 55422), (132, 55437), (151, 55518), (154, 55530), (159, 55551),

Gene: Tatanka_63 Start: 46880, Stop: 47383, Start Num: 44

Candidate Starts for Tatanka_63:

(Start: 44 @46880 has 34 MA's), (77, 46979), (118, 47141), (129, 47195), (146, 47252), (149, 47279), (160, 47330),

Gene: Teacup_71 Start: 47312, Stop: 47815, Start Num: 44

Candidate Starts for Teacup_71:

(Start: 44 @47312 has 34 MA's), (77, 47411), (117, 47570), (118, 47573), (129, 47627), (146, 47684), (149, 47711), (160, 47762),

Gene: TenaciousP_89 Start: 57721, Stop: 58203, Start Num: 55

Candidate Starts for TenaciousP_89:

(Start: 55 @57721 has 59 MA's), (62, 57754), (84, 57838), (132, 58027), (149, 58093), (151, 58108), (154, 58120),

Gene: Tenney120_74 Start: 45235, Stop: 45726, Start Num: 53

Candidate Starts for Tenney120_74:

(Start: 50 @45232 has 40 MA's), (Start: 53 @45235 has 8 MA's), (63, 45277), (64, 45280), (110, 45448), (127, 45529),

Gene: Tenno_69 Start: 47396, Stop: 47899, Start Num: 44

Candidate Starts for Tenno_69:

(Start: 44 @47396 has 34 MA's), (Start: 58 @47420 has 3 MA's), (77, 47495), (118, 47657), (129, 47711), (146, 47768), (149, 47795), (160, 47846),

Gene: Thiqqums_90 Start: 53073, Stop: 53564, Start Num: 52

Candidate Starts for Thiqqums_90:

(9, 52932), (11, 52950), (12, 52959), (30, 53031), (35, 53040), (Start: 52 @53073 has 42 MA's), (64, 53118), (77, 53163), (81, 53175), (118, 53331), (125, 53364), (165, 53535),

Gene: Thor_70 Start: 43921, Stop: 43343, Start Num: 28

Candidate Starts for Thor_70:

(Start: 28 @43921 has 14 MA's), (Start: 29 @43909 has 2 MA's), (36, 43891), (82, 43750), (89, 43723), (97, 43684), (104, 43654), (152, 43441),

Gene: TieDye_78 Start: 50340, Stop: 50849, Start Num: 52

Candidate Starts for TieDye_78:

(Start: 52 @50340 has 42 MA's), (64, 50385), (77, 50430), (91, 50499), (118, 50613), (144, 50703), (148, 50724), (159, 50784), (162, 50793), (167, 50835),

Gene: Tipton_73 Start: 47449, Stop: 47922, Start Num: 60

Candidate Starts for Tipton_73:

(Start: 44 @47419 has 34 MA's), (60, 47449), (63, 47470), (69, 47491), (77, 47518), (86, 47554), (118, 47680), (129, 47734), (146, 47791), (149, 47818),

Gene: Tokki_79 Start: 47450, Stop: 47953, Start Num: 44

Candidate Starts for Tokki_79:

(Start: 44 @47450 has 34 MA's), (60, 47480), (63, 47501), (69, 47522), (77, 47549), (86, 47585), (118, 47711), (129, 47765), (146, 47822), (149, 47849),

Gene: Tonaltzin_92 Start: 56460, Stop: 56942, Start Num: 55

Candidate Starts for Tonaltzin_92:

(Start: 55 @56460 has 59 MA's), (62, 56493), (84, 56577), (132, 56766), (149, 56832), (151, 56847), (154, 56859),

Gene: TonyStarch_81 Start: 50778, Stop: 51287, Start Num: 52

Candidate Starts for TonyStarch_81:

(Start: 52 @50778 has 42 MA's), (64, 50823), (77, 50868), (91, 50937), (118, 51051), (144, 51141), (148, 51162), (159, 51222), (162, 51231), (167, 51273),

Gene: Tribby_80 Start: 46452, Stop: 46964, Start Num: 50

Candidate Starts for Tribby_80:

(Start: 50 @46452 has 40 MA's), (70, 46521), (84, 46575), (120, 46719), (126, 46746),

Gene: TrixiePhattel_74 Start: 44870, Stop: 45361, Start Num: 53

Candidate Starts for TrixiePhattel_74:

(39, 44846), (Start: 50 @44867 has 40 MA's), (Start: 53 @44870 has 8 MA's), (Start: 58 @44885 has 3 MA's), (64, 44915), (100, 45053), (110, 45083), (127, 45164), (134, 45188), (143, 45218), (148, 45242), (161, 45308),

Gene: Truckee_71 Start: 47121, Stop: 47624, Start Num: 44

Candidate Starts for Truckee_71:

(Start: 44 @47121 has 34 MA's), (Start: 58 @47145 has 3 MA's), (63, 47172), (77, 47220), (86, 47256), (118, 47382), (129, 47436), (146, 47493), (149, 47520), (160, 47571),

Gene: Trufflozitus_93 Start: 55606, Stop: 56088, Start Num: 55

Candidate Starts for Trufflozitus_93:

(Start: 55 @55606 has 59 MA's), (81, 55705), (86, 55729), (102, 55795), (112, 55828), (132, 55915), (151, 55996), (154, 56008), (155, 56011), (159, 56029),

Gene: Trustiboi_68 Start: 46995, Stop: 47498, Start Num: 44

Candidate Starts for Trustiboi_68:

(Start: 44 @46995 has 34 MA's), (77, 47094), (118, 47256), (129, 47310), (146, 47367), (149, 47394), (160, 47445),

Gene: Untouchable_89 Start: 57058, Stop: 57537, Start Num: 55

Candidate Starts for Untouchable_89:

(Start: 55 @57058 has 59 MA's), (69, 57118), (85, 57178), (98, 57229), (102, 57247), (125, 57346), (132, 57364), (133, 57370), (149, 57430), (151, 57445), (154, 57457), (159, 57478),

Gene: Uzumaki_70 Start: 44675, Stop: 45166, Start Num: 53

Candidate Starts for Uzumaki_70:

(Start: 50 @44672 has 40 MA's), (Start: 53 @44675 has 8 MA's), (63, 44717), (64, 44720), (110, 44888), (127, 44969), (148, 45047),

Gene: Vardy_86 Start: 55581, Stop: 56060, Start Num: 55

Candidate Starts for Vardy_86:

(Start: 55 @55581 has 59 MA's), (85, 55701), (102, 55770), (132, 55887), (133, 55893), (149, 55953), (151, 55968), (154, 55980), (159, 56001),

Gene: Westerlin_67 Start: 48082, Stop: 48585, Start Num: 44

Candidate Starts for Westerlin_67:

(Start: 44 @48082 has 34 MA's), (77, 48181), (118, 48343), (129, 48397), (143, 48445), (146, 48454), (149, 48481), (160, 48532),

Gene: Wigberry_85 Start: 52198, Stop: 52701, Start Num: 49

Candidate Starts for Wigberry_85:

(1, 51802), (2, 51814), (3, 51853), (4, 51862), (5, 51904), (43, 52189), (Start: 49 @52198 has 2 MA's), (64, 52243), (77, 52288), (83, 52315), (98, 52372), (99, 52375), (121, 52480), (154, 52618), (162, 52648), (164, 52663), (168, 52693),

Gene: Xenomorph_73 Start: 45979, Stop: 46491, Start Num: 50

Candidate Starts for Xenomorph_73:

(Start: 50 @45979 has 40 MA's), (70, 46048), (84, 46102), (120, 46246), (122, 46252), (126, 46273), (127, 46276), (161, 46420),

Gene: YoshiYama_78 Start: 46617, Stop: 47060, Start Num: 70

Candidate Starts for YoshiYama_78:

(20, 46476), (Start: 50 @46548 has 40 MA's), (70, 46617), (84, 46671), (120, 46815), (122, 46821), (126, 46842), (127, 46845),

Gene: Zeina_76 Start: 45531, Stop: 46022, Start Num: 53

Candidate Starts for Zeina_76:

(Start: 50 @45528 has 40 MA's), (Start: 53 @45531 has 8 MA's), (63, 45573), (64, 45576), (110, 45744), (127, 45825), (148, 45903),

Gene: Zeph_90 Start: 56862, Stop: 57341, Start Num: 55

Candidate Starts for Zeph_90:

(Start: 55 @56862 has 59 MA's), (69, 56922), (85, 56982), (98, 57033), (102, 57051), (125, 57150), (132, 57168), (133, 57174), (149, 57234), (151, 57249), (154, 57261), (159, 57282),

Gene: Zippen_75 Start: 47714, Stop: 48217, Start Num: 44

Candidate Starts for Zippen_75:

(Start: 44 @47714 has 34 MA's), (69, 47786), (86, 47849), (96, 47888), (118, 47975),