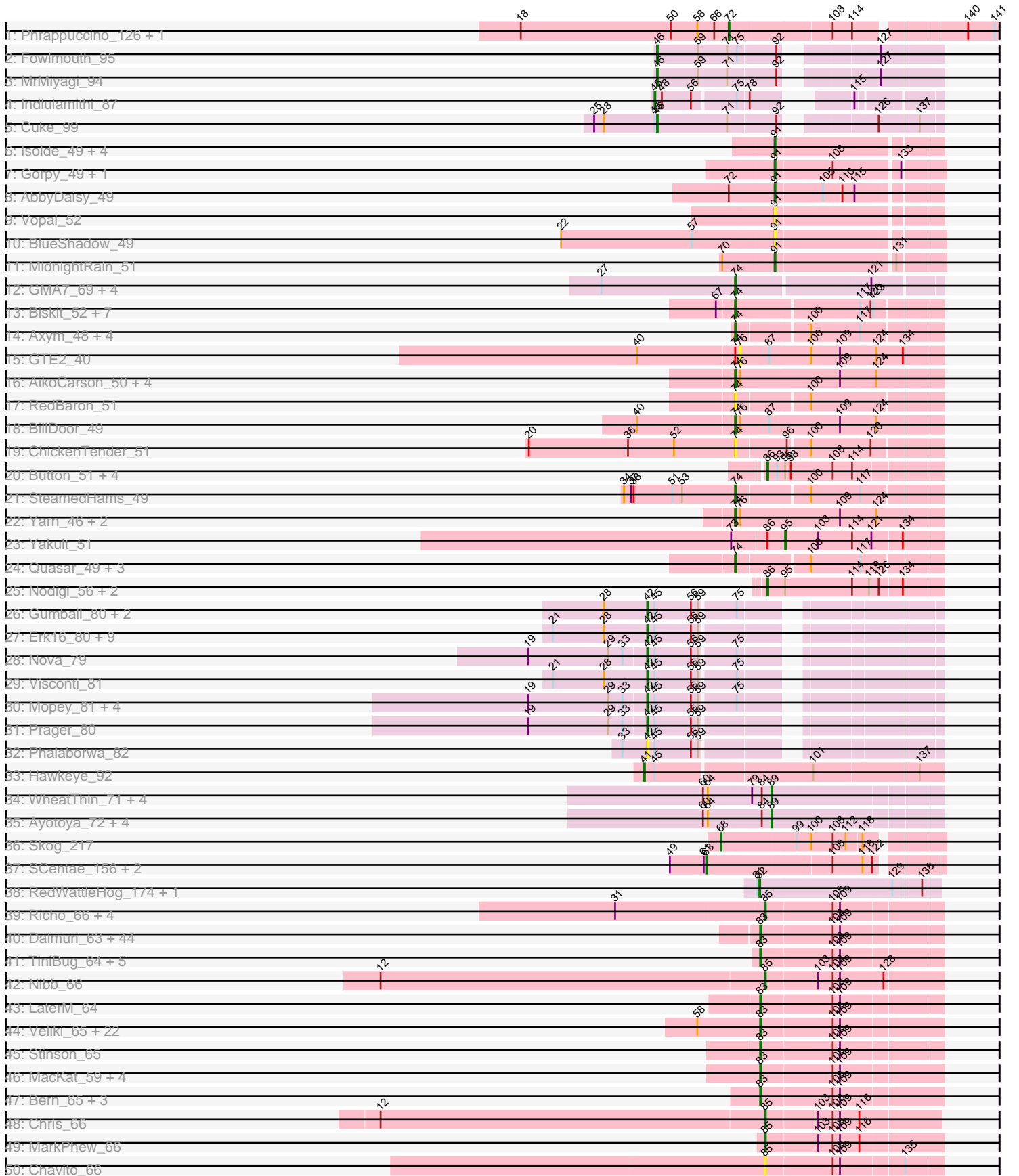
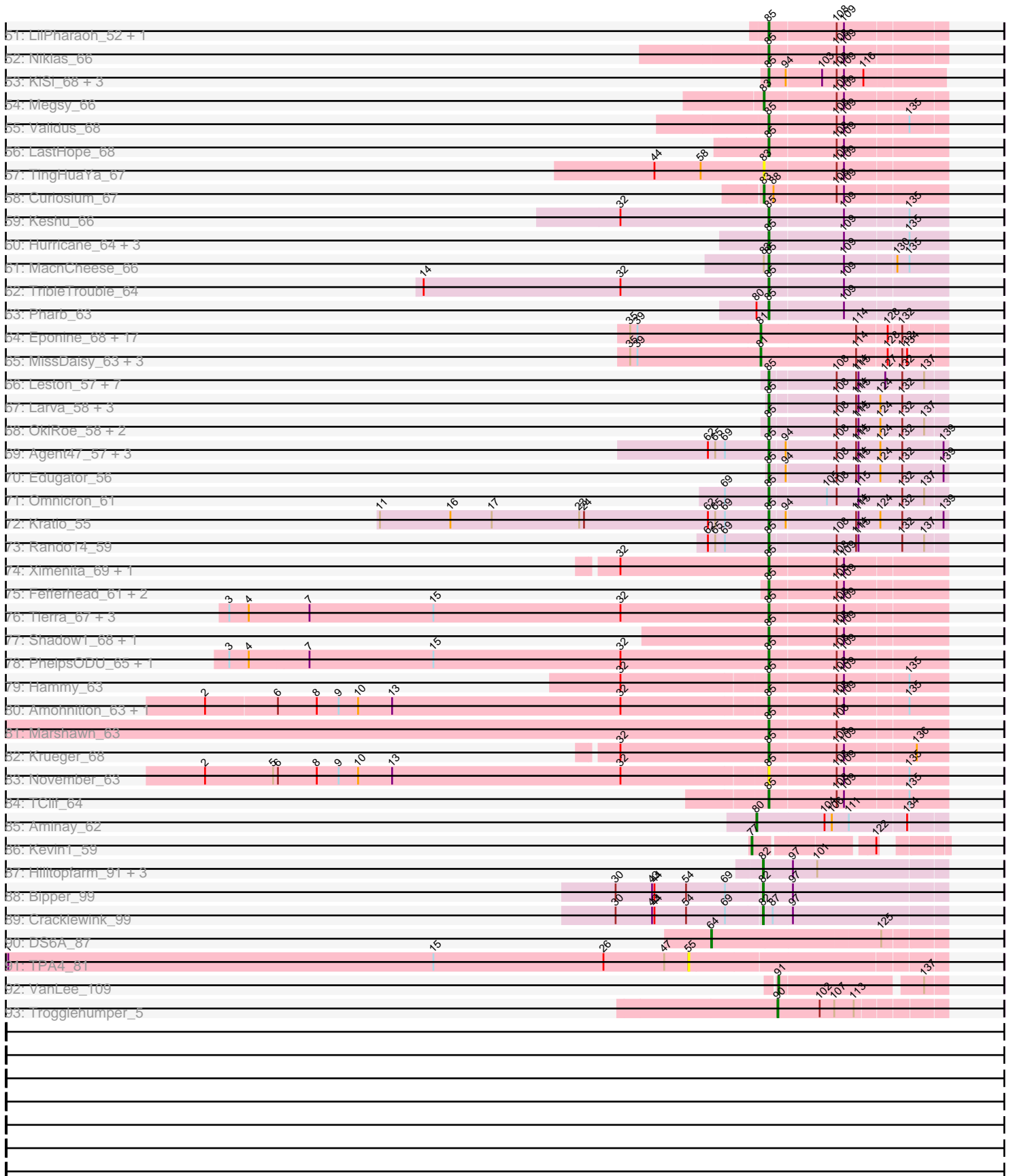


Pham 224229



Pham 224229



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 224229 Report

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

Pham number 224229 has 291 members, 32 are drafts.

Phages represented in each track:

- Track 1 : Phrappuccino_126, Settecandela_126
- Track 2 : Fowlmouth_95
- Track 3 : MrMiyagi_94
- Track 4 : Indlulamithi_87
- Track 5 : Cuke_99
- Track 6 : Isolde_49, Tiff81_46, Raphaella_49, Auxilium_46, YoungHarleezy_50
- Track 7 : Gorpy_49, Sakai_48
- Track 8 : AbbyDaisy_49
- Track 9 : Vopal_52
- Track 10 : BlueShadow_49
- Track 11 : MidnightRain_51
- Track 12 : GMA7_69, Amore2_80, Austin_79, GTE7_68, HayZem_81
- Track 13 : Biskit_52, Troje_52, SketchMex_50, MScarn_54, Buttrmlkdreams_52, Blondies_52, Horseradish_52, Yummy_52
- Track 14 : Axym_48, Typhonomachy_49, Burnsey_49, Agatha_49, Cozz_47
- Track 15 : GTE2_40
- Track 16 : AikoCarson_50, Emalyn_48, CanesSauce_48, Amok_50, ChocoMunchkin_48
- Track 17 : RedBaron_51
- Track 18 : BillDoor_49
- Track 19 : ChickenTender_51
- Track 20 : Button_51, RanchParmCat_53, Margaret_54, Jamzy_53, GiKK_53
- Track 21 : SteamedHams_49
- Track 22 : Yarn_46, AndPeggy_46, Tolls_50
- Track 23 : Yakult_51
- Track 24 : Quasar_49, Nina_48, SweatNTears_51, MunkgeeRoachy_47
- Track 25 : Nodigi_56, Orla_56, Hexbug_56
- Track 26 : Gumball_80, SirHarley_82, PLOT_80
- Track 27 : Erk16_80, Delton_80, Butterscotch_78, WaldoWhy_82, PBI1_76, Chill_82, Adjutor_78, Thoth_80, BigMama_78, Penelope2018_80
- Track 28 : Nova_79
- Track 29 : Visconti_81
- Track 30 : Mopey_81, Giuseppe_81, Troll4_79, Helpful_82, KandZ_77
- Track 31 : Prager_80
- Track 32 : Phalaborwa_82
- Track 33 : Hawkeye_92
- Track 34 : WheatThin_71, Nadeem_71, Parada_71, Brylie_71, Mulch_71

- Track 35 : Ayotoya_72, GrandSlam_73, Hamood_73, DelRio_72, Chop_73
- Track 36 : Skog_217
- Track 37 : SCentae_156, CherryTomatoes_158, Pupper_157
- Track 38 : RedWattleHog_174, Stormageddon_175
- Track 39 : Richo_66, Dartin_66, Shaobing_66, McMater_66, Peanam_66
- Track 40 : Dalmuri_63, BGIlluvia_63, Jarvi_63, Twitch_63, Blizzard_63, Beezoo_65, Atiba_64, Hyperbowlee_63, Llorens_63, Adephagia_63, Ramen_64, Zabiza_58, Homura_63, Tachez_63, CaseJules_65, Spock_63, Rosmarinus_63, QuincyRose_62, Capricorn_63, ShiaSurprise_64, Lunahalos_63, Boiiii_63, Apocalypse_66, Durfee_63, Sulley_63, ActinUp_63, Joy99_63, Tiri_64, Peel_63, Belladonna_63, Adonis_63, Piatt_63, Padfoot_63, Topper_63, Angelica_63, CREW_63, Inky_63, CallaLilly_65, Asayake_63, Jeckyll_63, MeaningOfLife_64, Ganymede_64, HedwigODU_63, Geraldini_66, BEEST_63
- Track 41 : TiniBug_64, DrHayes_64, Urkel_64, Bella96_64, SamuelLPlaqson_64, Anaya_66
- Track 42 : Nibb_66
- Track 43 : LaterM_64
- Track 44 : Veliki_65, JAWS_64, Prithvi_65, Devera_71, Efra2_69, Rapunzel97_65, BarrelRoll_64, Pokerus_63, Yunkel11_68, YoureAdopted_63, BaghaKamala_63, TaiwanKao_66, Slimphazie_64, CrimD_65, Dole_69, Zavala_66, Murucutumbu_65, Mynx_65, TreyKay_65, LindNT_63, TruffulaTree_64, Illumine_69, Guanica15_68
- Track 45 : Stinson_65
- Track 46 : MacKat_59, Ageofdapage_67, Emerson_65, Clipper_68, Padpat_66
- Track 47 : Bern_65, Deby_64, CheetoDust_63, Jayhawk_65
- Track 48 : Chris_66
- Track 49 : MarkPhew_66
- Track 50 : Chavito_66
- Track 51 : LilPharaoh_52, SgtBeansprout_52
- Track 52 : Niklas_66
- Track 53 : KiSi_68, LeMond_67, Scarlett_68, Oscar_67
- Track 54 : Megsy_66
- Track 55 : Validus_68
- Track 56 : LastHope_68
- Track 57 : TingHuaYa_67
- Track 58 : Curiosium_67
- Track 59 : Keshu_66
- Track 60 : Hurricane_64, Lea83_65, Pixie_63, ShedlockHolmes_65
- Track 61 : MacnCheese_66
- Track 62 : TribbleTrouble_64
- Track 63 : Pharb_63
- Track 64 : Eponine_68, Juliette_68, Y2_64, Cheetobro_66, Ruthiejr_67, SamScheppers_64, Malthus_67, Taquito_65, Y10_64, Fionnbharth_66, Slarp_66, Mitti_66, Wintermute_66, Kraw_67, Chancellor_66, OmniCritical_65, Lebo14_67, JF1_66
- Track 65 : MissDaisy_63, Patt_62, Bobquesha_67, Reptar3000_63
- Track 66 : Leston_57, Heftyboy_58, Waterfoul_59, Feyre_60, Paola_57, SoSeph_58, Guillsminger_58, Thyatira_60
- Track 67 : Larva_58, AlleyCat_59, Psycho_57, Dadosky_59
- Track 68 : OkiRoe_58, Gengar_57, Miryou_61
- Track 69 : Agent47_57, Collard_55, InvictusManeo_55, ViviJ_55
- Track 70 : Edugator_56
- Track 71 : Omnicron_61
- Track 72 : Kratio_55

- Track 73 : Rando14_59
- Track 74 : Ximenita_69, Syra333_67
- Track 75 : Fefferhead_61, Amgine_62, Ellie_59
- Track 76 : Tierra_67, Cain_67, Bryler_67, Phrank_67
- Track 77 : Shadow1_68, Sunflower1121_69
- Track 78 : PhelpsODU_65, Unicorn_65
- Track 79 : Hammy_63
- Track 80 : Amohnition_63, DARTH_P_63
- Track 81 : Marshawn_63
- Track 82 : Krueger_68
- Track 83 : November_63
- Track 84 : TClif_64
- Track 85 : Aminay_62
- Track 86 : Kevin1_59
- Track 87 : Hilltopfarm_91, Faiyaz_89, Typha_89, AuntGwenStacy_89
- Track 88 : Bipper_99
- Track 89 : Cracklewink_99
- Track 90 : DS6A_87
- Track 91 : TPA4_81
- Track 92 : VanLee_109
- Track 93 : Trogglehumper_5

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

The start number called the most often in the published annotations is 83, it was called in 82 of the 259 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_63, Adephegia_63, Adonis_63, Ageofdapage_67, Anaya_66, Angelica_63, Apocalypse_66, Asayake_63, Atiba_64, BEEST_63, BGIlluviae_63, BaghaKamala_63, BarrelRoll_64, Beezoo_65, Bella96_64, Belladonna_63, Bern_65, Blizzard_63, Boiiii_63, CREW_63, CallaLilly_65, Capricorn_63, CaseJules_65, CheetoDust_63, Clipper_68, CrimD_65, Curiosium_67, Dalmuri_63, Deby_64, Devera_71, Dole_69, DrHayes_64, Durfee_63, Efra2_69, Emerson_65, Ganymede_64, Geraldini_66, Guanica15_68, HedwigODU_63, Homura_63, Hyperbowlee_63, Illumine_69, Inky_63, JAWS_64, Jarvi_63, Jayhawk_65, Jeckyll_63, Joy99_63, LaterM_64, LindNT_63, Llorens_63, Lunahalos_63, MacKat_59, MeaningOfLife_64, Megsy_66, Murucutumbu_65, Mynx_65, Padfoot_63, Padpat_66, Peel_63, Piatt_63, Pokerus_63, Prithvi_65, QuincyRose_62, Ramen_64, Rapunzel97_65, Rosmarinus_63, SamuelLPlaqson_64, ShiaSurprise_64, Slimphazie_64, Spock_63, Stinson_65, Sulley_63, Tachez_63, TaiwanKao_66, TingHuaYa_67, TiniBug_64, Tiri_64, Topper_63, TreyKay_65, TruffulaTree_64, Twitch_63, Urkel_64, Veliki_65, YoureAdopted_63, Yunkel11_68, Zabiza_58, Zavala_66,

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

- MacnCheese_66,

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

- AbbyDaisy_49, Adjutor_78, Agatha_49, Agent47_57, AikoCarson_50, AlleyCat_59, Amgine_62, Aminay_62, Amohntion_63, Amok_50, Amore2_80, AndPeggy_46, AuntGwenStacy_89, Austin_79, Auxilium_46, Axym_48, Ayotoya_72, BigMama_78, BillDoor_49, Bipper_99, Biskit_52, Blondies_52, BlueShadow_49, Bobquesha_67, Bryler_67, Brylie_71, Burnsey_49, Butterscotch_78, Button_51, Buttrmlkdreams_52, Cain_67, CanesSauce_48, Chancellor_66, Chavito_66, Cheetobro_66, CherryTomatoes_158, ChickenTender_51, Chill_82, ChocoMunchkin_48, Chop_73, Chris_66, Collard_55, Cozz_47, Cracklewink_99, Cuke_99, DS6A_87, Dadosky_59, DarthP_63, Dartin_66, DelRio_72, Delton_80, Edugator_56, Ellie_59, Emalyn_48, Eponine_68, Erk16_80, Faiyaz_89, Fefferhead_61, Feyre_60, Fionnbharth_66, Fowlmouth_95, GMA7_69, GTE2_40, GTE7_68, Gengar_57, GiKK_53, Giuseppe_81, Gorpy_49, GrandSlam_73, Guillsminger_58, Gumball_80, Hammy_63, Hamood_73, Hawkeye_92, HayZem_81, Heftyboy_58, Helpful_82, Hexbug_56, Hilltopfarm_91, Horseradish_52, Hurricane_64, Indlulamithi_87, InvictusManeo_55, Isolde_49, JF1_66, Jamzy_53, Juliette_68, KandZ_77, Keshu_66, Kevin1_59, KiSi_68, Kratio_55, Kraw_67, Krueger_68, Larva_58, LastHope_68, LeMond_67, Lea83_65, Lebo14_67, Leston_57, LilPharaoh_52, MScarn_54, Malthus_67, Margaret_54, MarkPhew_66, Marshawn_63, McMater_66, MidnightRain_51, Miryou_61, MissDaisy_63, Mitti_66, Mopey_81, MrMiyagi_94, Mulch_71, MunkgeeRoachy_47, Nadeem_71, Nibb_66, Niklas_66, Nina_48, Nodigi_56, Nova_79, November_63, OkiRoe_58, OmniCritical_65, Omnicron_61, Orla_56, Oscar_67, PBI1_76, PLOT_80, Paola_57, Parada_71, Patt_62, Peanam_66, Penelope2018_80, Phalaborwa_82, Pharb_63, PhelpsODU_65, Phrank_67, Phrappuccino_126, Pixie_63, Prager_80, Psycho_57, Pupper_157, Quasar_49, RanchParmCat_53, Rando14_59, Raphaella_49, RedBaron_51, RedWattleHog_174, Reptar3000_63, Richo_66, Ruthiejr_67, SCentae_156, Sakai_48, SamScheppers_64, Scarlett_68, Settecandela_126, SgtBeansprout_52, Shadow1_68, Shaobing_66, ShedlockHolmes_65, SirHarley_82, SketchMex_50, Skog_217, Slarp_66, SoSeph_58, SteamedHams_49, Stormageddon_175, Sunflower1121_69, SweatNTears_51, Syra333_67, TClif_64, TPA4_81, Taquito_65, Thoth_80, Thyatira_60, Tierra_67, Tiff81_46, Tolls_50, TribleTrouble_64, Trogglehumper_5, Troje_52, Troll4_79, Typha_89, Typhonmarchy_49, Unicorn_65, Validus_68, VanLee_109, Visconti_81, ViviJ_55, Vopal_52, WaldoWhy_82, Waterfoul_59, WheatThin_71, Wintermute_66, Ximenita_69, Y10_64, Y2_64, Yakult_51, Yarn_46, YoungHarleezy_50, Yummy_52,

Summary by start number:

Start 41:

- Found in 1 of 291 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hawkeye_92 (D2),

Start 42:

- Found in 22 of 291 (7.6%) of genes in pham
- Manual Annotations of this start: 21 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adjutor_78 (D1), BigMama_78 (D1), Butterscotch_78 (D1), Chill_82 (D1), Delton_80 (D1), Erk16_80 (D1), Giuseppe_81 (D1), Gumball_80 (D1), Helpful_82 (D1), KandZ_77 (D1), Mopey_81 (D1), Nova_79 (D1), PBI1_76 (D1), PLOT_80 (D1), Penelope2018_80 (D1), Phalaborwa_82 (D1), Prager_80 (D1), SirHarley_82 (D1), Thoth_80 (D1), Troll4_79 (D1), Visconti_81 (D1),

WaldoWhy_82 (D1),

Start 45:

- Found in 25 of 291 (8.6%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 4.0% of time when present
- Phage (with cluster) where this start called: Indlulamithi_87 (AC),

Start 46:

- Found in 3 of 291 (1.0%) of genes in pham
- Manual Annotations of this start: 3 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cuke_99 (AC), Fowlmouth_95 (AC), MrMiyagi_94 (AC),

Start 55:

- Found in 1 of 291 (0.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TPA4_81 (singleton),

Start 63:

- Found in 3 of 291 (1.0%) of genes in pham
- Manual Annotations of this start: 3 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes_158 (DO), Pupper_157 (DO), SCentae_156 (DO),

Start 64:

- Found in 11 of 291 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 9.1% of time when present
- Phage (with cluster) where this start called: DS6A_87 (singleton),

Start 68:

- Found in 1 of 291 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Skog_217 (DO),

Start 72:

- Found in 3 of 291 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 259
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Phrappuccino_126 (AA), Settecandela_126 (AA),

Start 74:

- Found in 35 of 291 (12.0%) of genes in pham
- Manual Annotations of this start: 26 of 259
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Agatha_49 (CT), AikoCarson_50 (CT), Amok_50 (CT), Amore2_80 (CS1), AndPeggy_46 (CT), Austin_79 (CS1), Axym_48

(CT), BillDoor_49 (CT), Biskit_52 (CT), Blondies_52 (CT), Burnsey_49 (CT), Buttrmlkdreams_52 (CT), CanesSauce_48 (CT), ChickenTender_51 (CT), ChocoMunchkin_48 (CT), Cozz_47 (CT), Emalyn_48 (CT), GMA7_69 (CS1), GTE7_68 (CS1), HayZem_81 (CS1), Horseradish_52 (CT), MScarn_54 (CT), MunkgeeRoachy_47 (CT), Nina_48 (CT), Quasar_49 (CT), RedBaron_51 (CT), SketchMex_50 (CT), SteamedHams_49 (CT), SweatNTears_51 (CT), Tolls_50 (CT), Troje_52 (CT), Typhonmarchy_49 (CT), Yarn_46 (CT), Yummy_52 (CT),

Start 76:

- Found in 10 of 291 (3.4%) of genes in pham
- No Manual Annotations of this start.
- Called 10.0% of time when present
- Phage (with cluster) where this start called: GTE2_40 (CT),

Start 77:

- Found in 1 of 291 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kevin1_59 (N),

Start 80:

- Found in 2 of 291 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Aminay_62 (K7),

Start 81:

- Found in 24 of 291 (8.2%) of genes in pham
- Manual Annotations of this start: 19 of 259
- Called 91.7% of time when present
- Phage (with cluster) where this start called: Bobquesha_67 (K4), Chancellor_66 (K4), Cheetobro_66 (K4), Eponine_68 (K4), Fionnbharth_66 (K4), JF1_66 (K4), Juliette_68 (K4), Kraw_67 (K4), Lebo14_67 (K4), Malthus_67 (K4), MissDaisy_63 (K4), Mitti_66 (K4), OmniCritical_65 (K4), Patt_62 (K4), Reptar3000_63 (K4), Ruthiejr_67 (K4), SamScheppers_64 (K4), Slarp_66 (K4), Taquito_65 (K4), Wintermute_66 (K4), Y10_64 (K4), Y2_64 (K4),

Start 82:

- Found in 8 of 291 (2.7%) of genes in pham
- Manual Annotations of this start: 6 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy_89 (Y), Bipper_99 (Y), Cracklewink_99 (Y), Faiyaz_89 (Y), Hilltopfarm_91 (Y), RedWattleHog_174 (DX), Stormageddon_175 (DX), Typha_89 (Y),

Start 83:

- Found in 89 of 291 (30.6%) of genes in pham
- Manual Annotations of this start: 82 of 259
- Called 98.9% of time when present
- Phage (with cluster) where this start called: ActinUp_63 (K1), Adephegia_63 (K1), Adonis_63 (K1), Ageofdapage_67 (K1), Anaya_66 (K1), Angelica_63 (K1), Apocalypse_66 (K1), Asayake_63 (K1), Atiba_64 (K1), BEEST_63 (K1), BGlluviae_63 (K1), BaghaKamala_63 (K1), BarrelRoll_64 (K1), Beezoo_65 (K1), Bella96_64 (K1),

Belladonna_63 (K1), Bern_65 (K1), Blizzard_63 (K1), Boiiii_63 (K1), CREW_63 (K1), CallaLilly_65 (K1), Capricorn_63 (K1), CaseJules_65 (K1), CheetoDust_63 (K1), Clipper_68 (K1), CrimD_65 (K1), Curiosium_67 (K1), Dalmuri_63 (K1), Deby_64 (K1), Devera_71 (K1), Dole_69 (K1), DrHayes_64 (K1), Durfee_63 (K1), Efra2_69 (K1), Emerson_65 (K1), Ganymede_64 (K1), Geraldini_66 (K1), Guanica15_68 (K1), HedwigODU_63 (K1), Homura_63 (K1), Hyperbowlee_63 (K1), Illumine_69 (K1), Inky_63 (K1), JAWS_64 (K1), Jarvi_63 (K1), Jayhawk_65 (K1), Jeckyll_63 (K1), Joy99_63 (K1), LaterM_64 (K1), LindNT_63 (K1), Llorens_63 (K1), Lunahalos_63 (K1), MacKat_59 (K1), MeaningOfLife_64 (K1), Megsy_66 (K1), Murucutumbu_65 (K1), Mynx_65 (K1), Padfoot_63 (K1), Padpat_66 (K1), Peel_63 (K1), Piatt_63 (K1), Pokerus_63 (K1), Prithvi_65 (K1), QuincyRose_62 (K1), Ramen_64 (K1), Rapunzel97_65 (K1), Rosmarinus_63 (K1), SamuelLPlaqson_64 (K1), ShiaSurprise_64 (K1), Slimphazie_64 (K1), Spock_63 (K1), Stinson_65 (K1), Sulley_63 (K1), Tachez_63 (K1), TaiwanKao_66 (K1), TingHuaYa_67 (K1), TiniBug_64 (K1), Tiri_64 (K1), Topper_63 (K1), TreyKay_65 (K1), TruffulaTree_64 (K1), Twitch_63 (K1), Urkel_64 (K1), Veliki_65 (K1), YoureAdopted_63 (K1), Yunkel11_68 (K1), Zabiza_58 (K1), Zavala_66 (K1),

Start 85:

- Found in 69 of 291 (23.7%) of genes in pham
- Manual Annotations of this start: 62 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47_57 (K5), AlleyCat_59 (K5), Amgine_62 (K6), Amohntion_63 (K6), Bryler_67 (K6), Cain_67 (K6), Chavito_66 (K1), Chris_66 (K1), Collard_55 (K5), Dadosky_59 (K5), DarthP_63 (K6), Dartin_66 (K1), Edugator_56 (K5), Ellie_59 (K6), Fefferhead_61 (K6), Feyre_60 (K5), Gengar_57 (K5), Guillsminger_58 (K5), Hammy_63 (K6), Heftyboy_58 (K5), Hurricane_64 (K3), InvictusManeo_55 (K5), Keshu_66 (K3), KiSi_68 (K1), Kratio_55 (K5), Krueger_68 (K6), Larva_58 (K5), LastHope_68 (K1), LeMond_67 (K1), Lea83_65 (K3), Leston_57 (K5), LilPharaoh_52 (K1), MacnCheese_66 (K3), MarkPhew_66 (K1), Marshawn_63 (K6), McMater_66 (K1), Miryou_61 (K5), Nibb_66 (K1), Niklas_66 (K1), November_63 (K6), OkiRoe_58 (K5), Omnicron_61 (K5), Oscar_67 (K1), Paola_57 (K5), Peanam_66 (K1), Pharb_63 (K3), PhelpsODU_65 (K6), Phrank_67 (K6), Pixie_63 (K3), Psycho_57 (K5), Rando14_59 (K5), Richo_66 (K1), Scarlett_68 (K1), SgtBeansprout_52 (K1), Shadow1_68 (K6), Shaobing_66 (K1), ShedlockHolmes_65 (K3), SoSeph_58 (K5), Sunflower1121_69 (K6), Syra333_67 (K6), TClif_64 (K6), Thyatira_60 (K5), Tierra_67 (K6), TribbleTrouble_64 (K3), Unicorn_65 (K6), Validus_68 (K1), ViviJ_55 (K5), Waterfoul_59 (K5), Ximenita_69 (K6),

Start 86:

- Found in 9 of 291 (3.1%) of genes in pham
- Manual Annotations of this start: 8 of 259
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Button_51 (CT), GiKK_53 (CT), Hexbug_56 (CT), Jamzy_53 (CT), Margaret_54 (CT), Nodigi_56 (CT), Orla_56 (CT), RanchParmCat_53 (CT),

Start 89:

- Found in 10 of 291 (3.4%) of genes in pham
- Manual Annotations of this start: 10 of 259
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Ayotoya_72 (DI), Brylie_71 (DI), Chop_73 (DI), DelRio_72 (DI), GrandSlam_73 (DI), Hamood_73 (DI), Mulch_71 (DI), Nadeem_71 (DI), Parada_71 (DI), WheatThin_71 (DI),

Start 90:

- Found in 1 of 291 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trogglehumper_5 (singleton),

Start 91:

- Found in 12 of 291 (4.1%) of genes in pham
- Manual Annotations of this start: 9 of 259
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_49 (AY), Auxilium_46 (AY), BlueShadow_49 (AY), Gorpy_49 (AY), Isolde_49 (AY), MidnightRain_51 (AY), Raphaella_49 (AY), Sakai_48 (AY), Tiff81_46 (AY), VanLee_109 (singleton), Vopal_52 (AY), YoungHarleezy_50 (AY),

Start 95:

- Found in 9 of 291 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 259
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Yakult_51 (CT),

Summary by clusters:

There are 19 clusters represented in this pham: AA, DO, singleton, DX, DI, D2, AC, N, K3, Y, K1, K7, K6, K5, K4, AY, D1, CS1, CT,

Info for manual annotations of cluster AA:

- Start number 72 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster AC:

- Start number 45 was manually annotated 1 time for cluster AC.
- Start number 46 was manually annotated 3 times for cluster AC.

Info for manual annotations of cluster AY:

- Start number 91 was manually annotated 8 times for cluster AY.

Info for manual annotations of cluster CS1:

- Start number 74 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CT:

- Start number 74 was manually annotated 23 times for cluster CT.
- Start number 86 was manually annotated 8 times for cluster CT.
- Start number 95 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster D1:

- Start number 42 was manually annotated 21 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 41 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DI:

- Start number 89 was manually annotated 10 times for cluster DI.

Info for manual annotations of cluster DO:

- Start number 63 was manually annotated 3 times for cluster DO.
- Start number 68 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DX:

- Start number 82 was manually annotated 2 times for cluster DX.

Info for manual annotations of cluster K1:

- Start number 83 was manually annotated 82 times for cluster K1.
- Start number 85 was manually annotated 14 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 85 was manually annotated 7 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 81 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 85 was manually annotated 22 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 85 was manually annotated 19 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 80 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster N:

- Start number 77 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster Y:

- Start number 82 was manually annotated 4 times for cluster Y.

Gene Information:

Gene: AbbyDaisy_49 Start: 31179, Stop: 31364, Start Num: 91

Candidate Starts for AbbyDaisy_49:

(Start: 72 @31122 has 2 MA's), (Start: 91 @31179 has 9 MA's), (105, 31236), (110, 31257), (115, 31272),

Gene: ActinUp_63 Start: 42440, Stop: 42655, Start Num: 83

Candidate Starts for ActinUp_63:

(Start: 83 @42440 has 82 MA's), (108, 42527), (109, 42536),

Gene: Adephagia_63 Start: 42477, Stop: 42692, Start Num: 83

Candidate Starts for Adephagia_63:

(Start: 83 @42477 has 82 MA's), (108, 42564), (109, 42573),

Gene: Adjutor_78 Start: 58520, Stop: 58834, Start Num: 42
Candidate Starts for Adjutor_78:
(21, 58403), (28, 58466), (Start: 42 @58520 has 21 MA's), (Start: 45 @58529 has 1 MA's), (56, 58574),
(59, 58583),

Gene: Adonis_63 Start: 42712, Stop: 42927, Start Num: 83
Candidate Starts for Adonis_63:
(Start: 83 @42712 has 82 MA's), (108, 42799), (109, 42808),

Gene: Agatha_49 Start: 36030, Stop: 35797, Start Num: 74
Candidate Starts for Agatha_49:
(Start: 74 @36030 has 26 MA's), (100, 35946), (117, 35886),

Gene: Agent47_57 Start: 39612, Stop: 39824, Start Num: 85
Candidate Starts for Agent47_57:
(62, 39537), (65, 39546), (69, 39558), (Start: 85 @39612 has 62 MA's), (94, 39630), (108, 39690),
(114, 39714), (115, 39717), (124, 39744), (132, 39771), (139, 39819),

Gene: Ageofdapage_67 Start: 43868, Stop: 44083, Start Num: 83
Candidate Starts for Ageofdapage_67:
(Start: 83 @43868 has 82 MA's), (108, 43955), (109, 43964),

Gene: AikoCarson_50 Start: 36349, Stop: 36098, Start Num: 74
Candidate Starts for AikoCarson_50:
(Start: 74 @36349 has 26 MA's), (76, 36343), (109, 36220), (124, 36175),

Gene: AlleyCat_59 Start: 39910, Stop: 40122, Start Num: 85
Candidate Starts for AlleyCat_59:
(Start: 85 @39910 has 62 MA's), (108, 39988), (114, 40012), (115, 40015), (124, 40042), (132, 40069),

Gene: Amgine_62 Start: 43547, Stop: 43759, Start Num: 85
Candidate Starts for Amgine_62:
(Start: 85 @43547 has 62 MA's), (108, 43628), (109, 43637),

Gene: Aminay_62 Start: 41845, Stop: 42069, Start Num: 80
Candidate Starts for Aminay_62:
(Start: 80 @41845 has 1 MA's), (104, 41926), (106, 41935), (111, 41956), (134, 42025),

Gene: Amohnition_63 Start: 43082, Stop: 43294, Start Num: 85
Candidate Starts for Amohnition_63:
(2, 42395), (6, 42482), (8, 42530), (9, 42557), (10, 42581), (13, 42623), (32, 42905), (Start: 85 @43082
has 62 MA's), (108, 43163), (109, 43172), (135, 43247),

Gene: Amok_50 Start: 36274, Stop: 36023, Start Num: 74
Candidate Starts for Amok_50:
(Start: 74 @36274 has 26 MA's), (76, 36268), (109, 36145), (124, 36100),

Gene: Amore2_80 Start: 61514, Stop: 61275, Start Num: 74
Candidate Starts for Amore2_80:
(27, 61679), (Start: 74 @61514 has 26 MA's), (121, 61355),

Gene: Anaya_66 Start: 43420, Stop: 43638, Start Num: 83
Candidate Starts for Anaya_66:

(Start: 83 @43420 has 82 MA's), (108, 43507), (109, 43516),

Gene: AndPeggy_46 Start: 35560, Stop: 35309, Start Num: 74

Candidate Starts for AndPeggy_46:

(Start: 74 @35560 has 26 MA's), (76, 35554), (109, 35431), (124, 35386),

Gene: Angelica_63 Start: 42629, Stop: 42844, Start Num: 83

Candidate Starts for Angelica_63:

(Start: 83 @42629 has 82 MA's), (108, 42716), (109, 42725),

Gene: Apocalypse_66 Start: 43395, Stop: 43610, Start Num: 83

Candidate Starts for Apocalypse_66:

(Start: 83 @43395 has 82 MA's), (108, 43482), (109, 43491),

Gene: Asayake_63 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for Asayake_63:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Atiba_64 Start: 42440, Stop: 42655, Start Num: 83

Candidate Starts for Atiba_64:

(Start: 83 @42440 has 82 MA's), (108, 42527), (109, 42536),

Gene: AuntGwenStacy_89 Start: 58871, Stop: 59092, Start Num: 82

Candidate Starts for AuntGwenStacy_89:

(Start: 82 @58871 has 6 MA's), (97, 58907), (101, 58937),

Gene: Austin_79 Start: 61512, Stop: 61273, Start Num: 74

Candidate Starts for Austin_79:

(27, 61677), (Start: 74 @61512 has 26 MA's), (121, 61353),

Gene: Auxilium_46 Start: 28442, Stop: 28633, Start Num: 91

Candidate Starts for Auxilium_46:

(Start: 91 @28442 has 9 MA's),

Gene: Axym_48 Start: 35927, Stop: 35694, Start Num: 74

Candidate Starts for Axym_48:

(Start: 74 @35927 has 26 MA's), (100, 35843), (117, 35783),

Gene: Ayotoya_72 Start: 48939, Stop: 49139, Start Num: 89

Candidate Starts for Ayotoya_72:

(60, 48855), (Start: 64 @48861 has 1 MA's), (84, 48927), (Start: 89 @48939 has 10 MA's),

Gene: BEEST_63 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for BEEST_63:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: BGlluviae_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for BGlluviae_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: BaghaKamala_63 Start: 42253, Stop: 42471, Start Num: 83

Candidate Starts for BaghaKamala_63:

(58, 42175), (Start: 83 @42253 has 82 MA's), (108, 42340), (109, 42349),

Gene: BarrelRoll_64 Start: 42877, Stop: 43092, Start Num: 83
Candidate Starts for BarrelRoll_64:
(58, 42799), (Start: 83 @42877 has 82 MA's), (108, 42964), (109, 42973),

Gene: Beezoo_65 Start: 43389, Stop: 43604, Start Num: 83
Candidate Starts for Beezoo_65:
(Start: 83 @43389 has 82 MA's), (108, 43476), (109, 43485),

Gene: Bella96_64 Start: 43173, Stop: 43388, Start Num: 83
Candidate Starts for Bella96_64:
(Start: 83 @43173 has 82 MA's), (108, 43260), (109, 43269),

Gene: Belladonna_63 Start: 42595, Stop: 42810, Start Num: 83
Candidate Starts for Belladonna_63:
(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: Bern_65 Start: 41846, Stop: 42064, Start Num: 83
Candidate Starts for Bern_65:
(Start: 83 @41846 has 82 MA's), (108, 41933), (109, 41942),

Gene: BigMama_78 Start: 58605, Stop: 58919, Start Num: 42
Candidate Starts for BigMama_78:
(21, 58488), (28, 58551), (Start: 42 @58605 has 21 MA's), (Start: 45 @58614 has 1 MA's), (56, 58659),
(59, 58668),

Gene: BillDoor_49 Start: 35229, Stop: 34978, Start Num: 74
Candidate Starts for BillDoor_49:
(40, 35346), (Start: 74 @35229 has 26 MA's), (76, 35223), (87, 35187), (109, 35100), (124, 35055),

Gene: Bipper_99 Start: 62157, Stop: 62378, Start Num: 82
Candidate Starts for Bipper_99:
(30, 61980), (43, 62025), (44, 62028), (54, 62067), (69, 62115), (Start: 82 @62157 has 6 MA's), (97,
62193),

Gene: Biskit_52 Start: 36207, Stop: 35971, Start Num: 74
Candidate Starts for Biskit_52:
(67, 36225), (Start: 74 @36207 has 26 MA's), (117, 36060), (120, 36048), (123, 36045),

Gene: Blizzard_63 Start: 42792, Stop: 43007, Start Num: 83
Candidate Starts for Blizzard_63:
(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Blondies_52 Start: 36524, Stop: 36288, Start Num: 74
Candidate Starts for Blondies_52:
(67, 36542), (Start: 74 @36524 has 26 MA's), (117, 36377), (120, 36365), (123, 36362),

Gene: BlueShadow_49 Start: 30488, Stop: 30679, Start Num: 91
Candidate Starts for BlueShadow_49:
(22, 30227), (57, 30389), (Start: 91 @30488 has 9 MA's),

Gene: Bobquesha_67 Start: 40811, Stop: 41029, Start Num: 81
Candidate Starts for Bobquesha_67:

(35, 40652), (39, 40661), (Start: 81 @40811 has 19 MA's), (114, 40928), (128, 40964), (132, 40979), (134, 40985),

Gene: Boiiii_63 Start: 42794, Stop: 43009, Start Num: 83

Candidate Starts for Boiiii_63:

(Start: 83 @42794 has 82 MA's), (108, 42881), (109, 42890),

Gene: Bryler_67 Start: 42423, Stop: 42635, Start Num: 85

Candidate Starts for Bryler_67:

(3, 41757), (4, 41781), (7, 41856), (15, 42009), (32, 42240), (Start: 85 @42423 has 62 MA's), (108, 42504), (109, 42513),

Gene: Brylie_71 Start: 47955, Stop: 48155, Start Num: 89

Candidate Starts for Brylie_71:

(60, 47871), (Start: 64 @47877 has 1 MA's), (79, 47931), (84, 47943), (Start: 89 @47955 has 10 MA's),

Gene: Burnsey_49 Start: 36021, Stop: 35788, Start Num: 74

Candidate Starts for Burnsey_49:

(Start: 74 @36021 has 26 MA's), (100, 35937), (117, 35877),

Gene: Butterscotch_78 Start: 58571, Stop: 58885, Start Num: 42

Candidate Starts for Butterscotch_78:

(21, 58454), (28, 58517), (Start: 42 @58571 has 21 MA's), (Start: 45 @58580 has 1 MA's), (56, 58625), (59, 58634),

Gene: Button_51 Start: 36058, Stop: 35855, Start Num: 86

Candidate Starts for Button_51:

(Start: 86 @36058 has 8 MA's), (93, 36046), (Start: 95 @36037 has 1 MA's), (98, 36031), (108, 35980), (114, 35956),

Gene: Buttrmlkdreams_52 Start: 36654, Stop: 36418, Start Num: 74

Candidate Starts for Buttrmlkdreams_52:

(67, 36672), (Start: 74 @36654 has 26 MA's), (117, 36507), (120, 36495), (123, 36492),

Gene: CREW_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for CREW_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: Cain_67 Start: 42411, Stop: 42623, Start Num: 85

Candidate Starts for Cain_67:

(3, 41745), (4, 41769), (7, 41844), (15, 41997), (32, 42228), (Start: 85 @42411 has 62 MA's), (108, 42492), (109, 42501),

Gene: CallaLilly_65 Start: 42518, Stop: 42733, Start Num: 83

Candidate Starts for CallaLilly_65:

(Start: 83 @42518 has 82 MA's), (108, 42605), (109, 42614),

Gene: CanesSauce_48 Start: 35730, Stop: 35479, Start Num: 74

Candidate Starts for CanesSauce_48:

(Start: 74 @35730 has 26 MA's), (76, 35724), (109, 35601), (124, 35556),

Gene: Capricorn_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Capricorn_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: CaseJules_65 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for CaseJules_65:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Chancellor_66 Start: 41921, Stop: 42139, Start Num: 81

Candidate Starts for Chancellor_66:

(35, 41762), (39, 41771), (Start: 81 @41921 has 19 MA's), (114, 42038), (128, 42074), (132, 42089),

Gene: Chavito_66 Start: 43632, Stop: 43841, Start Num: 85

Candidate Starts for Chavito_66:

(Start: 85 @43632 has 62 MA's), (108, 43713), (109, 43722), (135, 43797),

Gene: CheetoDust_63 Start: 42300, Stop: 42518, Start Num: 83

Candidate Starts for CheetoDust_63:

(Start: 83 @42300 has 82 MA's), (108, 42387), (109, 42396),

Gene: Cheetobro_66 Start: 41918, Stop: 42136, Start Num: 81

Candidate Starts for Cheetobro_66:

(35, 41759), (39, 41768), (Start: 81 @41918 has 19 MA's), (114, 42035), (128, 42071), (132, 42086),

Gene: CherryTomatoes_158 Start: 111644, Stop: 111907, Start Num: 63

Candidate Starts for CherryTomatoes_158:

(49, 111599), (61, 111641), (Start: 63 @111644 has 3 MA's), (108, 111794), (118, 111830), (122, 111842),

Gene: ChickenTender_51 Start: 35574, Stop: 35341, Start Num: 74

Candidate Starts for ChickenTender_51:

(20, 35829), (36, 35706), (52, 35649), (Start: 74 @35574 has 26 MA's), (96, 35514), (100, 35490), (120, 35418),

Gene: Chill_82 Start: 58548, Stop: 58862, Start Num: 42

Candidate Starts for Chill_82:

(21, 58431), (28, 58494), (Start: 42 @58548 has 21 MA's), (Start: 45 @58557 has 1 MA's), (56, 58602), (59, 58611),

Gene: ChocoMunchkin_48 Start: 35730, Stop: 35479, Start Num: 74

Candidate Starts for ChocoMunchkin_48:

(Start: 74 @35730 has 26 MA's), (76, 35724), (109, 35601), (124, 35556),

Gene: Chop_73 Start: 49004, Stop: 49204, Start Num: 89

Candidate Starts for Chop_73:

(60, 48920), (Start: 64 @48926 has 1 MA's), (84, 48992), (Start: 89 @49004 has 10 MA's),

Gene: Chris_66 Start: 43655, Stop: 43864, Start Num: 85

Candidate Starts for Chris_66:

(12, 43181), (Start: 85 @43655 has 62 MA's), (103, 43718), (108, 43736), (109, 43745), (116, 43769),

Gene: Clipper_68 Start: 43491, Stop: 43709, Start Num: 83

Candidate Starts for Clipper_68:

(Start: 83 @43491 has 82 MA's), (108, 43578), (109, 43587),

Gene: Collard_55 Start: 39573, Stop: 39785, Start Num: 85

Candidate Starts for Collard_55:

(62, 39498), (65, 39507), (69, 39519), (Start: 85 @39573 has 62 MA's), (94, 39591), (108, 39651), (114, 39675), (115, 39678), (124, 39705), (132, 39732), (139, 39780),

Gene: Cozz_47 Start: 35618, Stop: 35385, Start Num: 74

Candidate Starts for Cozz_47:

(Start: 74 @35618 has 26 MA's), (100, 35534), (117, 35474),

Gene: Cracklewink_99 Start: 61392, Stop: 61613, Start Num: 82

Candidate Starts for Cracklewink_99:

(30, 61215), (43, 61260), (44, 61263), (54, 61302), (69, 61350), (Start: 82 @61392 has 6 MA's), (87, 61404), (97, 61428),

Gene: CrimD_65 Start: 43416, Stop: 43631, Start Num: 83

Candidate Starts for CrimD_65:

(58, 43338), (Start: 83 @43416 has 82 MA's), (108, 43503), (109, 43512),

Gene: Cuke_99 Start: 56679, Stop: 56984, Start Num: 46

Candidate Starts for Cuke_99:

(25, 56601), (28, 56613), (Start: 45 @56676 has 1 MA's), (Start: 46 @56679 has 3 MA's), (71, 56766), (92, 56823), (126, 56910), (137, 56958),

Gene: Curiosium_67 Start: 42105, Stop: 42323, Start Num: 83

Candidate Starts for Curiosium_67:

(Start: 83 @42105 has 82 MA's), (88, 42117), (108, 42192), (109, 42201),

Gene: DS6A_87 Start: 56210, Stop: 56485, Start Num: 64

Candidate Starts for DS6A_87:

(Start: 64 @56210 has 1 MA's), (125, 56414),

Gene: Dadosky_59 Start: 39912, Stop: 40124, Start Num: 85

Candidate Starts for Dadosky_59:

(Start: 85 @39912 has 62 MA's), (108, 39990), (114, 40014), (115, 40017), (124, 40044), (132, 40071),

Gene: Dalmuri_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Dalmuri_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: DarthP_63 Start: 42936, Stop: 43148, Start Num: 85

Candidate Starts for DarthP_63:

(2, 42249), (6, 42336), (8, 42384), (9, 42411), (10, 42435), (13, 42477), (32, 42759), (Start: 85 @42936 has 62 MA's), (108, 43017), (109, 43026), (135, 43101),

Gene: Dartin_66 Start: 43084, Stop: 43293, Start Num: 85

Candidate Starts for Dartin_66:

(31, 42904), (Start: 85 @43084 has 62 MA's), (108, 43165), (109, 43174),

Gene: Deby_64 Start: 43078, Stop: 43293, Start Num: 83

Candidate Starts for Deby_64:

(Start: 83 @43078 has 82 MA's), (108, 43165), (109, 43174),

Gene: DelRio_72 Start: 49046, Stop: 49246, Start Num: 89

Candidate Starts for DelRio_72:

(60, 48962), (Start: 64 @48968 has 1 MA's), (84, 49034), (Start: 89 @49046 has 10 MA's),

Gene: Delton_80 Start: 58981, Stop: 59295, Start Num: 42

Candidate Starts for Delton_80:

(21, 58864), (28, 58927), (Start: 42 @58981 has 21 MA's), (Start: 45 @58990 has 1 MA's), (56, 59035), (59, 59044),

Gene: Devera_71 Start: 44431, Stop: 44646, Start Num: 83

Candidate Starts for Devera_71:

(58, 44353), (Start: 83 @44431 has 82 MA's), (108, 44518), (109, 44527),

Gene: Dole_69 Start: 44434, Stop: 44649, Start Num: 83

Candidate Starts for Dole_69:

(58, 44356), (Start: 83 @44434 has 82 MA's), (108, 44521), (109, 44530),

Gene: DrHayes_64 Start: 43328, Stop: 43543, Start Num: 83

Candidate Starts for DrHayes_64:

(Start: 83 @43328 has 82 MA's), (108, 43415), (109, 43424),

Gene: Durfee_63 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for Durfee_63:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Edugator_56 Start: 41333, Stop: 41545, Start Num: 85

Candidate Starts for Edugator_56:

(Start: 85 @41333 has 62 MA's), (94, 41351), (108, 41411), (114, 41435), (115, 41438), (124, 41465), (132, 41492), (139, 41540),

Gene: Efra2_69 Start: 43158, Stop: 43376, Start Num: 83

Candidate Starts for Efra2_69:

(58, 43080), (Start: 83 @43158 has 82 MA's), (108, 43245), (109, 43254),

Gene: Ellie_59 Start: 42407, Stop: 42619, Start Num: 85

Candidate Starts for Ellie_59:

(Start: 85 @42407 has 62 MA's), (108, 42488), (109, 42497),

Gene: Emalyn_48 Start: 35066, Stop: 34815, Start Num: 74

Candidate Starts for Emalyn_48:

(Start: 74 @35066 has 26 MA's), (76, 35060), (109, 34937), (124, 34892),

Gene: Emerson_65 Start: 42909, Stop: 43127, Start Num: 83

Candidate Starts for Emerson_65:

(Start: 83 @42909 has 82 MA's), (108, 42996), (109, 43005),

Gene: Eponine_68 Start: 42764, Stop: 42982, Start Num: 81

Candidate Starts for Eponine_68:

(35, 42605), (39, 42614), (Start: 81 @42764 has 19 MA's), (114, 42881), (128, 42917), (132, 42932),

Gene: Erk16_80 Start: 58641, Stop: 58955, Start Num: 42

Candidate Starts for Erk16_80:

(21, 58524), (28, 58587), (Start: 42 @58641 has 21 MA's), (Start: 45 @58650 has 1 MA's), (56, 58695), (59, 58704),

Gene: Faiyaz_89 Start: 58877, Stop: 59098, Start Num: 82

Candidate Starts for Faiyaz_89:

(Start: 82 @58877 has 6 MA's), (97, 58913), (101, 58943),

Gene: Fefferhead_61 Start: 42316, Stop: 42528, Start Num: 85

Candidate Starts for Fefferhead_61:

(Start: 85 @42316 has 62 MA's), (108, 42397), (109, 42406),

Gene: Feyre_60 Start: 43292, Stop: 43504, Start Num: 85

Candidate Starts for Feyre_60:

(Start: 85 @43292 has 62 MA's), (108, 43370), (114, 43394), (115, 43397), (127, 43430), (132, 43451), (137, 43478),

Gene: Fionnbharth_66 Start: 42162, Stop: 42380, Start Num: 81

Candidate Starts for Fionnbharth_66:

(35, 42003), (39, 42012), (Start: 81 @42162 has 19 MA's), (114, 42279), (128, 42315), (132, 42330),

Gene: Fowlmouth_95 Start: 57786, Stop: 58094, Start Num: 46

Candidate Starts for Fowlmouth_95:

(Start: 46 @57786 has 3 MA's), (59, 57837), (71, 57873), (75, 57885), (92, 57930), (127, 58020),

Gene: GMA7_69 Start: 55728, Stop: 55489, Start Num: 74

Candidate Starts for GMA7_69:

(27, 55893), (Start: 74 @55728 has 26 MA's), (121, 55569),

Gene: GTE2_40 Start: 35662, Stop: 35417, Start Num: 76

Candidate Starts for GTE2_40:

(40, 35785), (Start: 74 @35668 has 26 MA's), (76, 35662), (87, 35626), (100, 35575), (109, 35539), (124, 35494), (134, 35461),

Gene: GTE7_68 Start: 55759, Stop: 55520, Start Num: 74

Candidate Starts for GTE7_68:

(27, 55924), (Start: 74 @55759 has 26 MA's), (121, 55600),

Gene: Ganymede_64 Start: 42817, Stop: 43032, Start Num: 83

Candidate Starts for Ganymede_64:

(Start: 83 @42817 has 82 MA's), (108, 42904), (109, 42913),

Gene: Gengar_57 Start: 41311, Stop: 41523, Start Num: 85

Candidate Starts for Gengar_57:

(Start: 85 @41311 has 62 MA's), (108, 41389), (114, 41413), (115, 41416), (124, 41443), (132, 41470), (137, 41497),

Gene: Geraldini_66 Start: 43474, Stop: 43689, Start Num: 83

Candidate Starts for Geraldini_66:

(Start: 83 @43474 has 82 MA's), (108, 43561), (109, 43570),

Gene: GiKK_53 Start: 36382, Stop: 36179, Start Num: 86

Candidate Starts for GiKK_53:

(Start: 86 @36382 has 8 MA's), (93, 36370), (Start: 95 @36361 has 1 MA's), (98, 36355), (108, 36304), (114, 36280),

Gene: Giuseppe_81 Start: 58355, Stop: 58669, Start Num: 42
Candidate Starts for Giuseppe_81:
(19, 58211), (29, 58310), (33, 58328), (Start: 42 @58355 has 21 MA's), (Start: 45 @58364 has 1 MA's),
(56, 58409), (59, 58418), (75, 58460),

Gene: Gorpy_49 Start: 31480, Stop: 31674, Start Num: 91
Candidate Starts for Gorpy_49:
(Start: 91 @31480 has 9 MA's), (108, 31549), (133, 31627),

Gene: GrandSlam_73 Start: 49004, Stop: 49204, Start Num: 89
Candidate Starts for GrandSlam_73:
(60, 48920), (Start: 64 @48926 has 1 MA's), (84, 48992), (Start: 89 @49004 has 10 MA's),

Gene: Guanica15_68 Start: 42899, Stop: 43117, Start Num: 83
Candidate Starts for Guanica15_68:
(58, 42821), (Start: 83 @42899 has 82 MA's), (108, 42986), (109, 42995),

Gene: Guillsminger_58 Start: 41282, Stop: 41494, Start Num: 85
Candidate Starts for Guillsminger_58:
(Start: 85 @41282 has 62 MA's), (108, 41360), (114, 41384), (115, 41387), (127, 41420), (132, 41441),
(137, 41468),

Gene: Gumball_80 Start: 58986, Stop: 59300, Start Num: 42
Candidate Starts for Gumball_80:
(28, 58932), (Start: 42 @58986 has 21 MA's), (Start: 45 @58995 has 1 MA's), (56, 59040), (59, 59049),
(75, 59091),

Gene: Hammy_63 Start: 42924, Stop: 43136, Start Num: 85
Candidate Starts for Hammy_63:
(32, 42747), (Start: 85 @42924 has 62 MA's), (108, 43005), (109, 43014), (135, 43089),

Gene: Hamood_73 Start: 49004, Stop: 49204, Start Num: 89
Candidate Starts for Hamood_73:
(60, 48920), (Start: 64 @48926 has 1 MA's), (84, 48992), (Start: 89 @49004 has 10 MA's),

Gene: Hawkeye_92 Start: 60485, Stop: 60838, Start Num: 41
Candidate Starts for Hawkeye_92:
(Start: 41 @60485 has 1 MA's), (Start: 45 @60497 has 1 MA's), (101, 60683), (137, 60809),

Gene: HayZem_81 Start: 61512, Stop: 61273, Start Num: 74
Candidate Starts for HayZem_81:
(27, 61677), (Start: 74 @61512 has 26 MA's), (121, 61353),

Gene: HedwigODU_63 Start: 42440, Stop: 42655, Start Num: 83
Candidate Starts for HedwigODU_63:
(Start: 83 @42440 has 82 MA's), (108, 42527), (109, 42536),

Gene: Heftyboy_58 Start: 41654, Stop: 41866, Start Num: 85
Candidate Starts for Heftyboy_58:
(Start: 85 @41654 has 62 MA's), (108, 41732), (114, 41756), (115, 41759), (127, 41792), (132, 41813),
(137, 41840),

Gene: Helpful_82 Start: 58743, Stop: 59057, Start Num: 42

Candidate Starts for Helpful_82:

(19, 58599), (29, 58698), (33, 58716), (Start: 42 @58743 has 21 MA's), (Start: 45 @58752 has 1 MA's), (56, 58797), (59, 58806), (75, 58848),

Gene: Hexbug_56 Start: 38441, Stop: 38238, Start Num: 86

Candidate Starts for Hexbug_56:

(Start: 86 @38441 has 8 MA's), (Start: 95 @38420 has 1 MA's), (114, 38339), (119, 38318), (126, 38309), (134, 38282),

Gene: Hilltopfarm_91 Start: 59257, Stop: 59478, Start Num: 82

Candidate Starts for Hilltopfarm_91:

(Start: 82 @59257 has 6 MA's), (97, 59293), (101, 59323),

Gene: Homura_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Homura_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: Horseradish_52 Start: 36140, Stop: 35904, Start Num: 74

Candidate Starts for Horseradish_52:

(67, 36158), (Start: 74 @36140 has 26 MA's), (117, 35993), (120, 35981), (123, 35978),

Gene: Hurricane_64 Start: 42910, Stop: 43122, Start Num: 85

Candidate Starts for Hurricane_64:

(Start: 85 @42910 has 62 MA's), (109, 43000), (135, 43075),

Gene: Hyperbowlee_63 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for Hyperbowlee_63:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Illumine_69 Start: 44433, Stop: 44648, Start Num: 83

Candidate Starts for Illumine_69:

(58, 44355), (Start: 83 @44433 has 82 MA's), (108, 44520), (109, 44529),

Gene: Indlulamithi_87 Start: 59764, Stop: 60048, Start Num: 45

Candidate Starts for Indlulamithi_87:

(Start: 45 @59764 has 1 MA's), (48, 59773), (56, 59809), (75, 59860), (78, 59872), (115, 59956),

Gene: Inky_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Inky_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: InvictusManeo_55 Start: 39616, Stop: 39828, Start Num: 85

Candidate Starts for InvictusManeo_55:

(62, 39541), (65, 39550), (69, 39562), (Start: 85 @39616 has 62 MA's), (94, 39634), (108, 39694), (114, 39718), (115, 39721), (124, 39748), (132, 39775), (139, 39823),

Gene: Isolde_49 Start: 30525, Stop: 30716, Start Num: 91

Candidate Starts for Isolde_49:

(Start: 91 @30525 has 9 MA's),

Gene: JAWS_64 Start: 42868, Stop: 43086, Start Num: 83

Candidate Starts for JAWS_64:

(58, 42790), (Start: 83 @42868 has 82 MA's), (108, 42955), (109, 42964),

Gene: JF1_66 Start: 42079, Stop: 42297, Start Num: 81

Candidate Starts for JF1_66:

(35, 41920), (39, 41929), (Start: 81 @42079 has 19 MA's), (114, 42196), (128, 42232), (132, 42247),

Gene: Jamzy_53 Start: 36362, Stop: 36159, Start Num: 86

Candidate Starts for Jamzy_53:

(Start: 86 @36362 has 8 MA's), (93, 36350), (Start: 95 @36341 has 1 MA's), (98, 36335), (108, 36284), (114, 36260),

Gene: Jarvi_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Jarvi_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: Jayhawk_65 Start: 42937, Stop: 43152, Start Num: 83

Candidate Starts for Jayhawk_65:

(Start: 83 @42937 has 82 MA's), (108, 43024), (109, 43033),

Gene: Jeckyll_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Jeckyll_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: Joy99_63 Start: 42524, Stop: 42739, Start Num: 83

Candidate Starts for Joy99_63:

(Start: 83 @42524 has 82 MA's), (108, 42611), (109, 42620),

Gene: Juliette_68 Start: 42226, Stop: 42444, Start Num: 81

Candidate Starts for Juliette_68:

(35, 42067), (39, 42076), (Start: 81 @42226 has 19 MA's), (114, 42343), (128, 42379), (132, 42394),

Gene: KandZ_77 Start: 58571, Stop: 58885, Start Num: 42

Candidate Starts for KandZ_77:

(19, 58427), (29, 58526), (33, 58544), (Start: 42 @58571 has 21 MA's), (Start: 45 @58580 has 1 MA's), (56, 58625), (59, 58634), (75, 58676),

Gene: Keshu_66 Start: 43008, Stop: 43220, Start Num: 85

Candidate Starts for Keshu_66:

(32, 42825), (Start: 85 @43008 has 62 MA's), (109, 43098), (135, 43173),

Gene: Kevin1_59 Start: 36836, Stop: 37027, Start Num: 77

Candidate Starts for Kevin1_59:

(Start: 77 @36836 has 1 MA's), (122, 36968),

Gene: KiSi_68 Start: 43636, Stop: 43845, Start Num: 85

Candidate Starts for KiSi_68:

(Start: 85 @43636 has 62 MA's), (94, 43657), (103, 43699), (108, 43717), (109, 43726), (116, 43750),

Gene: Kratio_55 Start: 39352, Stop: 39564, Start Num: 85

Candidate Starts for Kratio_55:

(11, 38872), (16, 38959), (17, 39010), (23, 39118), (24, 39124), (62, 39277), (65, 39286), (69, 39298), (Start: 85 @39352 has 62 MA's), (94, 39370), (114, 39454), (115, 39457), (124, 39484), (132, 39511), (139, 39559),

Gene: Kraw_67 Start: 41914, Stop: 42132, Start Num: 81
Candidate Starts for Kraw_67:
(35, 41755), (39, 41764), (Start: 81 @41914 has 19 MA's), (114, 42031), (128, 42067), (132, 42082),

Gene: Krueger_68 Start: 42699, Stop: 42911, Start Num: 85
Candidate Starts for Krueger_68:
(32, 42516), (Start: 85 @42699 has 62 MA's), (108, 42780), (109, 42789), (136, 42873),

Gene: Larva_58 Start: 40784, Stop: 40996, Start Num: 85
Candidate Starts for Larva_58:
(Start: 85 @40784 has 62 MA's), (108, 40862), (114, 40886), (115, 40889), (124, 40916), (132, 40943),

Gene: LastHope_68 Start: 42025, Stop: 42237, Start Num: 85
Candidate Starts for LastHope_68:
(Start: 85 @42025 has 62 MA's), (108, 42106), (109, 42115),

Gene: LaterM_64 Start: 43287, Stop: 43502, Start Num: 83
Candidate Starts for LaterM_64:
(Start: 83 @43287 has 82 MA's), (108, 43374), (109, 43383),

Gene: LeMond_67 Start: 43270, Stop: 43479, Start Num: 85
Candidate Starts for LeMond_67:
(Start: 85 @43270 has 62 MA's), (94, 43291), (103, 43333), (108, 43351), (109, 43360), (116, 43384),

Gene: Lea83_65 Start: 42945, Stop: 43157, Start Num: 85
Candidate Starts for Lea83_65:
(Start: 85 @42945 has 62 MA's), (109, 43035), (135, 43110),

Gene: Lebo14_67 Start: 42247, Stop: 42465, Start Num: 81
Candidate Starts for Lebo14_67:
(35, 42088), (39, 42097), (Start: 81 @42247 has 19 MA's), (114, 42364), (128, 42400), (132, 42415),

Gene: Leston_57 Start: 41411, Stop: 41623, Start Num: 85
Candidate Starts for Leston_57:
(Start: 85 @41411 has 62 MA's), (108, 41489), (114, 41513), (115, 41516), (127, 41549), (132, 41570),
(137, 41597),

Gene: LilPharaoh_52 Start: 39482, Stop: 39691, Start Num: 85
Candidate Starts for LilPharaoh_52:
(Start: 85 @39482 has 62 MA's), (108, 39563), (109, 39572),

Gene: LindNT_63 Start: 43082, Stop: 43297, Start Num: 83
Candidate Starts for LindNT_63:
(58, 43004), (Start: 83 @43082 has 82 MA's), (108, 43169), (109, 43178),

Gene: Llorens_63 Start: 42595, Stop: 42810, Start Num: 83
Candidate Starts for Llorens_63:
(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: Lunahalos_63 Start: 42595, Stop: 42810, Start Num: 83
Candidate Starts for Lunahalos_63:
(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: MScarn_54 Start: 36322, Stop: 36086, Start Num: 74
Candidate Starts for MScarn_54:
(67, 36340), (Start: 74 @36322 has 26 MA's), (117, 36175), (120, 36163), (123, 36160),

Gene: MacKat_59 Start: 38375, Stop: 38593, Start Num: 83
Candidate Starts for MacKat_59:
(Start: 83 @38375 has 82 MA's), (108, 38462), (109, 38471),

Gene: MacnCheese_66 Start: 43527, Stop: 43739, Start Num: 85
Candidate Starts for MacnCheese_66:
(Start: 83 @43521 has 82 MA's), (Start: 85 @43527 has 62 MA's), (109, 43617), (130, 43677), (135, 43692),

Gene: Malthus_67 Start: 41914, Stop: 42132, Start Num: 81
Candidate Starts for Malthus_67:
(35, 41755), (39, 41764), (Start: 81 @41914 has 19 MA's), (114, 42031), (128, 42067), (132, 42082),

Gene: Margaret_54 Start: 37114, Stop: 36911, Start Num: 86
Candidate Starts for Margaret_54:
(Start: 86 @37114 has 8 MA's), (93, 37102), (Start: 95 @37093 has 1 MA's), (98, 37087), (108, 37036), (114, 37012),

Gene: MarkPhew_66 Start: 42770, Stop: 42982, Start Num: 85
Candidate Starts for MarkPhew_66:
(Start: 85 @42770 has 62 MA's), (103, 42833), (108, 42851), (109, 42860), (116, 42884),

Gene: Marshawn_63 Start: 43120, Stop: 43332, Start Num: 85
Candidate Starts for Marshawn_63:
(Start: 85 @43120 has 62 MA's), (108, 43201),

Gene: McMater_66 Start: 43084, Stop: 43293, Start Num: 85
Candidate Starts for McMater_66:
(31, 42904), (Start: 85 @43084 has 62 MA's), (108, 43165), (109, 43174),

Gene: MeaningOfLife_64 Start: 43347, Stop: 43562, Start Num: 83
Candidate Starts for MeaningOfLife_64:
(Start: 83 @43347 has 82 MA's), (108, 43434), (109, 43443),

Gene: Megsy_66 Start: 43003, Stop: 43218, Start Num: 83
Candidate Starts for Megsy_66:
(Start: 83 @43003 has 82 MA's), (108, 43090), (109, 43099),

Gene: MidnightRain_51 Start: 31618, Stop: 31809, Start Num: 91
Candidate Starts for MidnightRain_51:
(70, 31558), (Start: 91 @31618 has 9 MA's), (131, 31756),

Gene: Miryou_61 Start: 44008, Stop: 44220, Start Num: 85
Candidate Starts for Miryou_61:
(Start: 85 @44008 has 62 MA's), (108, 44086), (114, 44110), (115, 44113), (124, 44140), (132, 44167), (137, 44194),

Gene: MissDaisy_63 Start: 40826, Stop: 41044, Start Num: 81
Candidate Starts for MissDaisy_63:

(35, 40667), (39, 40676), (Start: 81 @40826 has 19 MA's), (114, 40943), (128, 40979), (132, 40994), (134, 41000),

Gene: Mitti_66 Start: 42093, Stop: 42311, Start Num: 81

Candidate Starts for Mitti_66:

(35, 41934), (39, 41943), (Start: 81 @42093 has 19 MA's), (114, 42210), (128, 42246), (132, 42261),

Gene: Mopey_81 Start: 58381, Stop: 58695, Start Num: 42

Candidate Starts for Mopey_81:

(19, 58237), (29, 58336), (33, 58354), (Start: 42 @58381 has 21 MA's), (Start: 45 @58390 has 1 MA's), (56, 58435), (59, 58444), (75, 58486),

Gene: MrMiyagi_94 Start: 58054, Stop: 58362, Start Num: 46

Candidate Starts for MrMiyagi_94:

(Start: 46 @58054 has 3 MA's), (59, 58105), (71, 58141), (92, 58198), (127, 58288),

Gene: Mulch_71 Start: 47994, Stop: 48194, Start Num: 89

Candidate Starts for Mulch_71:

(60, 47910), (Start: 64 @47916 has 1 MA's), (79, 47970), (84, 47982), (Start: 89 @47994 has 10 MA's),

Gene: MunkgeeRoachy_47 Start: 35379, Stop: 35146, Start Num: 74

Candidate Starts for MunkgeeRoachy_47:

(Start: 74 @35379 has 26 MA's), (100, 35295), (117, 35235),

Gene: Murucutumbu_65 Start: 43862, Stop: 44077, Start Num: 83

Candidate Starts for Murucutumbu_65:

(58, 43784), (Start: 83 @43862 has 82 MA's), (108, 43949), (109, 43958),

Gene: Mynx_65 Start: 43204, Stop: 43422, Start Num: 83

Candidate Starts for Mynx_65:

(58, 43126), (Start: 83 @43204 has 82 MA's), (108, 43291), (109, 43300),

Gene: Nadeem_71 Start: 47982, Stop: 48182, Start Num: 89

Candidate Starts for Nadeem_71:

(60, 47898), (Start: 64 @47904 has 1 MA's), (79, 47958), (84, 47970), (Start: 89 @47982 has 10 MA's),

Gene: Nibb_66 Start: 42981, Stop: 43193, Start Num: 85

Candidate Starts for Nibb_66:

(12, 42507), (Start: 85 @42981 has 62 MA's), (103, 43044), (108, 43062), (109, 43071), (128, 43122),

Gene: Niklas_66 Start: 43145, Stop: 43354, Start Num: 85

Candidate Starts for Niklas_66:

(Start: 85 @43145 has 62 MA's), (108, 43226), (109, 43235),

Gene: Nina_48 Start: 36199, Stop: 35966, Start Num: 74

Candidate Starts for Nina_48:

(Start: 74 @36199 has 26 MA's), (100, 36115), (117, 36055),

Gene: Nodigi_56 Start: 38471, Stop: 38268, Start Num: 86

Candidate Starts for Nodigi_56:

(Start: 86 @38471 has 8 MA's), (Start: 95 @38450 has 1 MA's), (114, 38369), (119, 38348), (126, 38339), (134, 38312),

Gene: Nova_79 Start: 58848, Stop: 59162, Start Num: 42

Candidate Starts for Nova_79:

(19, 58704), (29, 58803), (33, 58821), (Start: 42 @58848 has 21 MA's), (Start: 45 @58857 has 1 MA's), (56, 58902), (59, 58911), (75, 58953),

Gene: November_63 Start: 42834, Stop: 43046, Start Num: 85

Candidate Starts for November_63:

(2, 42144), (5, 42228), (6, 42234), (8, 42282), (9, 42309), (10, 42333), (13, 42375), (32, 42657), (Start: 85 @42834 has 62 MA's), (108, 42915), (109, 42924), (135, 42999),

Gene: OkiRoe_58 Start: 41679, Stop: 41891, Start Num: 85

Candidate Starts for OkiRoe_58:

(Start: 85 @41679 has 62 MA's), (108, 41757), (114, 41781), (115, 41784), (124, 41811), (132, 41838), (137, 41865),

Gene: OmniCritical_65 Start: 41983, Stop: 42201, Start Num: 81

Candidate Starts for OmniCritical_65:

(35, 41824), (39, 41833), (Start: 81 @41983 has 19 MA's), (114, 42100), (128, 42136), (132, 42151),

Gene: Omnicron_61 Start: 41791, Stop: 42003, Start Num: 85

Candidate Starts for Omnicron_61:

(69, 41737), (Start: 85 @41791 has 62 MA's), (105, 41857), (108, 41869), (115, 41896), (132, 41950), (137, 41977),

Gene: Orla_56 Start: 38400, Stop: 38197, Start Num: 86

Candidate Starts for Orla_56:

(Start: 86 @38400 has 8 MA's), (Start: 95 @38379 has 1 MA's), (114, 38298), (119, 38277), (126, 38268), (134, 38241),

Gene: Oscar_67 Start: 43187, Stop: 43396, Start Num: 85

Candidate Starts for Oscar_67:

(Start: 85 @43187 has 62 MA's), (94, 43208), (103, 43250), (108, 43268), (109, 43277), (116, 43301),

Gene: PBI1_76 Start: 58502, Stop: 58816, Start Num: 42

Candidate Starts for PBI1_76:

(21, 58385), (28, 58448), (Start: 42 @58502 has 21 MA's), (Start: 45 @58511 has 1 MA's), (56, 58556), (59, 58565),

Gene: PLOT_80 Start: 58539, Stop: 58853, Start Num: 42

Candidate Starts for PLOT_80:

(28, 58485), (Start: 42 @58539 has 21 MA's), (Start: 45 @58548 has 1 MA's), (56, 58593), (59, 58602), (75, 58644),

Gene: Padfoot_63 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for Padfoot_63:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Padpat_66 Start: 42909, Stop: 43127, Start Num: 83

Candidate Starts for Padpat_66:

(Start: 83 @42909 has 82 MA's), (108, 42996), (109, 43005),

Gene: Paola_57 Start: 41282, Stop: 41494, Start Num: 85

Candidate Starts for Paola_57:

(Start: 85 @41282 has 62 MA's), (108, 41360), (114, 41384), (115, 41387), (127, 41420), (132, 41441), (137, 41468),

Gene: Parada_71 Start: 47994, Stop: 48194, Start Num: 89

Candidate Starts for Parada_71:

(60, 47910), (Start: 64 @47916 has 1 MA's), (79, 47970), (84, 47982), (Start: 89 @47994 has 10 MA's),

Gene: Patt_62 Start: 40550, Stop: 40768, Start Num: 81

Candidate Starts for Patt_62:

(35, 40391), (39, 40400), (Start: 81 @40550 has 19 MA's), (114, 40667), (128, 40703), (132, 40718), (134, 40724),

Gene: Peanam_66 Start: 43103, Stop: 43312, Start Num: 85

Candidate Starts for Peanam_66:

(31, 42923), (Start: 85 @43103 has 62 MA's), (108, 43184), (109, 43193),

Gene: Peel_63 Start: 42597, Stop: 42812, Start Num: 83

Candidate Starts for Peel_63:

(Start: 83 @42597 has 82 MA's), (108, 42684), (109, 42693),

Gene: Penelope2018_80 Start: 58570, Stop: 58884, Start Num: 42

Candidate Starts for Penelope2018_80:

(21, 58453), (28, 58516), (Start: 42 @58570 has 21 MA's), (Start: 45 @58579 has 1 MA's), (56, 58624), (59, 58633),

Gene: Phalaborwa_82 Start: 59041, Stop: 59355, Start Num: 42

Candidate Starts for Phalaborwa_82:

(33, 59011), (Start: 42 @59041 has 21 MA's), (Start: 45 @59050 has 1 MA's), (56, 59095), (59, 59104),

Gene: Pharb_63 Start: 42257, Stop: 42469, Start Num: 85

Candidate Starts for Pharb_63:

(Start: 80 @42242 has 1 MA's), (Start: 85 @42257 has 62 MA's), (109, 42347),

Gene: PhelpsODU_65 Start: 42337, Stop: 42549, Start Num: 85

Candidate Starts for PhelpsODU_65:

(3, 41674), (4, 41698), (7, 41770), (15, 41923), (32, 42154), (Start: 85 @42337 has 62 MA's), (108, 42418), (109, 42427),

Gene: Phrank_67 Start: 42401, Stop: 42613, Start Num: 85

Candidate Starts for Phrank_67:

(3, 41735), (4, 41759), (7, 41834), (15, 41987), (32, 42218), (Start: 85 @42401 has 62 MA's), (108, 42482), (109, 42491),

Gene: Phrappuccino_126 Start: 92677, Stop: 92982, Start Num: 72

Candidate Starts for Phrappuccino_126:

(18, 92419), (50, 92605), (58, 92638), (66, 92659), (Start: 72 @92677 has 2 MA's), (108, 92800), (114, 92824), (140, 92944), (141, 92977),

Gene: Piatt_63 Start: 42792, Stop: 43007, Start Num: 83

Candidate Starts for Piatt_63:

(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: Pixie_63 Start: 42430, Stop: 42642, Start Num: 85

Candidate Starts for Pixie_63:
(Start: 85 @42430 has 62 MA's), (109, 42520), (135, 42595),

Gene: Pokerus_63 Start: 42937, Stop: 43152, Start Num: 83
Candidate Starts for Pokerus_63:
(58, 42859), (Start: 83 @42937 has 82 MA's), (108, 43024), (109, 43033),

Gene: Prager_80 Start: 58475, Stop: 58789, Start Num: 42
Candidate Starts for Prager_80:
(19, 58331), (29, 58430), (33, 58448), (Start: 42 @58475 has 21 MA's), (Start: 45 @58484 has 1 MA's),
(56, 58529), (59, 58538),

Gene: Prithvi_65 Start: 43082, Stop: 43297, Start Num: 83
Candidate Starts for Prithvi_65:
(58, 43004), (Start: 83 @43082 has 82 MA's), (108, 43169), (109, 43178),

Gene: Psycho_57 Start: 39909, Stop: 40121, Start Num: 85
Candidate Starts for Psycho_57:
(Start: 85 @39909 has 62 MA's), (108, 39987), (114, 40011), (115, 40014), (124, 40041), (132, 40068),

Gene: Pupper_157 Start: 111884, Stop: 112147, Start Num: 63
Candidate Starts for Pupper_157:
(49, 111839), (61, 111881), (Start: 63 @111884 has 3 MA's), (108, 112034), (118, 112070), (122,
112082),

Gene: Quasar_49 Start: 36624, Stop: 36391, Start Num: 74
Candidate Starts for Quasar_49:
(Start: 74 @36624 has 26 MA's), (100, 36540), (117, 36480),

Gene: QuincyRose_62 Start: 42817, Stop: 43032, Start Num: 83
Candidate Starts for QuincyRose_62:
(Start: 83 @42817 has 82 MA's), (108, 42904), (109, 42913),

Gene: Ramen_64 Start: 42442, Stop: 42657, Start Num: 83
Candidate Starts for Ramen_64:
(Start: 83 @42442 has 82 MA's), (108, 42529), (109, 42538),

Gene: RanchParmCat_53 Start: 37255, Stop: 37052, Start Num: 86
Candidate Starts for RanchParmCat_53:
(Start: 86 @37255 has 8 MA's), (93, 37243), (Start: 95 @37234 has 1 MA's), (98, 37228), (108, 37177),
(114, 37153),

Gene: Rando14_59 Start: 39518, Stop: 39730, Start Num: 85
Candidate Starts for Rando14_59:
(62, 39443), (65, 39452), (69, 39464), (Start: 85 @39518 has 62 MA's), (108, 39596), (114, 39620),
(115, 39623), (132, 39677), (137, 39704),

Gene: Raphaella_49 Start: 30457, Stop: 30648, Start Num: 91
Candidate Starts for Raphaella_49:
(Start: 91 @30457 has 9 MA's),

Gene: Rapunzel97_65 Start: 42892, Stop: 43107, Start Num: 83
Candidate Starts for Rapunzel97_65:

(58, 42814), (Start: 83 @42892 has 82 MA's), (108, 42979), (109, 42988),

Gene: RedBaron_51 Start: 36246, Stop: 36013, Start Num: 74

Candidate Starts for RedBaron_51:

(Start: 74 @36246 has 26 MA's), (100, 36162),

Gene: RedWattleHog_174 Start: 111466, Stop: 111675, Start Num: 82

Candidate Starts for RedWattleHog_174:

(Start: 81 @111463 has 19 MA's), (Start: 82 @111466 has 6 MA's), (129, 111625), (138, 111655),

Gene: Reptar3000_63 Start: 40538, Stop: 40756, Start Num: 81

Candidate Starts for Reptar3000_63:

(35, 40379), (39, 40388), (Start: 81 @40538 has 19 MA's), (114, 40655), (128, 40691), (132, 40706), (134, 40712),

Gene: Richo_66 Start: 43084, Stop: 43293, Start Num: 85

Candidate Starts for Richo_66:

(31, 42904), (Start: 85 @43084 has 62 MA's), (108, 43165), (109, 43174),

Gene: Rosmarinus_63 Start: 42583, Stop: 42798, Start Num: 83

Candidate Starts for Rosmarinus_63:

(Start: 83 @42583 has 82 MA's), (108, 42670), (109, 42679),

Gene: Ruthiejr_67 Start: 41964, Stop: 42182, Start Num: 81

Candidate Starts for Ruthiejr_67:

(35, 41805), (39, 41814), (Start: 81 @41964 has 19 MA's), (114, 42081), (128, 42117), (132, 42132),

Gene: SCentae_156 Start: 112038, Stop: 112301, Start Num: 63

Candidate Starts for SCentae_156:

(49, 111993), (61, 112035), (Start: 63 @112038 has 3 MA's), (108, 112188), (118, 112224), (122, 112236),

Gene: Sakai_48 Start: 30191, Stop: 30385, Start Num: 91

Candidate Starts for Sakai_48:

(Start: 91 @30191 has 9 MA's), (108, 30260), (133, 30338),

Gene: SamScheppers_64 Start: 42393, Stop: 42611, Start Num: 81

Candidate Starts for SamScheppers_64:

(35, 42234), (39, 42243), (Start: 81 @42393 has 19 MA's), (114, 42510), (128, 42546), (132, 42561),

Gene: SamuelLPlaqson_64 Start: 43328, Stop: 43543, Start Num: 83

Candidate Starts for SamuelLPlaqson_64:

(Start: 83 @43328 has 82 MA's), (108, 43415), (109, 43424),

Gene: Scarlett_68 Start: 43514, Stop: 43726, Start Num: 85

Candidate Starts for Scarlett_68:

(Start: 85 @43514 has 62 MA's), (94, 43535), (103, 43577), (108, 43595), (109, 43604), (116, 43628),

Gene: Settecandela_126 Start: 92677, Stop: 92982, Start Num: 72

Candidate Starts for Settecandela_126:

(18, 92419), (50, 92605), (58, 92638), (66, 92659), (Start: 72 @92677 has 2 MA's), (108, 92800), (114, 92824), (140, 92944), (141, 92977),

Gene: SgtBeansprout_52 Start: 39754, Stop: 39963, Start Num: 85
Candidate Starts for SgtBeansprout_52:
(Start: 85 @39754 has 62 MA's), (108, 39835), (109, 39844),

Gene: Shadow1_68 Start: 42852, Stop: 43064, Start Num: 85
Candidate Starts for Shadow1_68:
(Start: 85 @42852 has 62 MA's), (108, 42933), (109, 42942),

Gene: Shaobing_66 Start: 43121, Stop: 43330, Start Num: 85
Candidate Starts for Shaobing_66:
(31, 42941), (Start: 85 @43121 has 62 MA's), (108, 43202), (109, 43211),

Gene: ShedlockHolmes_65 Start: 42949, Stop: 43161, Start Num: 85
Candidate Starts for ShedlockHolmes_65:
(Start: 85 @42949 has 62 MA's), (109, 43039), (135, 43114),

Gene: ShiaSurprise_64 Start: 42792, Stop: 43007, Start Num: 83
Candidate Starts for ShiaSurprise_64:
(Start: 83 @42792 has 82 MA's), (108, 42879), (109, 42888),

Gene: SirHarley_82 Start: 58970, Stop: 59284, Start Num: 42
Candidate Starts for SirHarley_82:
(28, 58916), (Start: 42 @58970 has 21 MA's), (Start: 45 @58979 has 1 MA's), (56, 59024), (59, 59033),
(75, 59075),

Gene: SketchMex_50 Start: 36207, Stop: 35971, Start Num: 74
Candidate Starts for SketchMex_50:
(67, 36225), (Start: 74 @36207 has 26 MA's), (117, 36060), (120, 36048), (123, 36045),

Gene: Skog_217 Start: 141536, Stop: 141781, Start Num: 68
Candidate Starts for Skog_217:
(Start: 68 @141536 has 1 MA's), (99, 141623), (100, 141641), (108, 141668), (112, 141683), (118,
141701),

Gene: Slarp_66 Start: 41921, Stop: 42139, Start Num: 81
Candidate Starts for Slarp_66:
(35, 41762), (39, 41771), (Start: 81 @41921 has 19 MA's), (114, 42038), (128, 42074), (132, 42089),

Gene: Slimphazie_64 Start: 42892, Stop: 43107, Start Num: 83
Candidate Starts for Slimphazie_64:
(58, 42814), (Start: 83 @42892 has 82 MA's), (108, 42979), (109, 42988),

Gene: SoSeph_58 Start: 41654, Stop: 41866, Start Num: 85
Candidate Starts for SoSeph_58:
(Start: 85 @41654 has 62 MA's), (108, 41732), (114, 41756), (115, 41759), (127, 41792), (132, 41813),
(137, 41840),

Gene: Spock_63 Start: 42596, Stop: 42811, Start Num: 83
Candidate Starts for Spock_63:
(Start: 83 @42596 has 82 MA's), (108, 42683), (109, 42692),

Gene: SteamedHams_49 Start: 35394, Stop: 35161, Start Num: 74
Candidate Starts for SteamedHams_49:

(34, 35529), (37, 35520), (38, 35517), (51, 35469), (53, 35457), (Start: 74 @35394 has 26 MA's), (100, 35310), (117, 35250),

Gene: Stinson_65 Start: 43220, Stop: 43435, Start Num: 83

Candidate Starts for Stinson_65:

(Start: 83 @43220 has 82 MA's), (108, 43307), (109, 43316),

Gene: Stormageddon_175 Start: 112431, Stop: 112640, Start Num: 82

Candidate Starts for Stormageddon_175:

(Start: 81 @112428 has 19 MA's), (Start: 82 @112431 has 6 MA's), (129, 112590), (138, 112620),

Gene: Sulley_63 Start: 42656, Stop: 42871, Start Num: 83

Candidate Starts for Sulley_63:

(Start: 83 @42656 has 82 MA's), (108, 42743), (109, 42752),

Gene: Sunflower1121_69 Start: 42998, Stop: 43210, Start Num: 85

Candidate Starts for Sunflower1121_69:

(Start: 85 @42998 has 62 MA's), (108, 43079), (109, 43088),

Gene: SweatNTears_51 Start: 36160, Stop: 35927, Start Num: 74

Candidate Starts for SweatNTears_51:

(Start: 74 @36160 has 26 MA's), (100, 36076), (117, 36016),

Gene: Syra333_67 Start: 42711, Stop: 42923, Start Num: 85

Candidate Starts for Syra333_67:

(32, 42528), (Start: 85 @42711 has 62 MA's), (108, 42792), (109, 42801),

Gene: TClif_64 Start: 42546, Stop: 42758, Start Num: 85

Candidate Starts for TClif_64:

(Start: 85 @42546 has 62 MA's), (108, 42627), (109, 42636), (135, 42711),

Gene: TPA4_81 Start: 53987, Stop: 54289, Start Num: 55

Candidate Starts for TPA4_81:

(1, 53147), (15, 53672), (26, 53882), (47, 53957), (55, 53987),

Gene: Tachez_63 Start: 42440, Stop: 42655, Start Num: 83

Candidate Starts for Tachez_63:

(Start: 83 @42440 has 82 MA's), (108, 42527), (109, 42536),

Gene: TaiwanKao_66 Start: 43144, Stop: 43359, Start Num: 83

Candidate Starts for TaiwanKao_66:

(58, 43066), (Start: 83 @43144 has 82 MA's), (108, 43231), (109, 43240),

Gene: Taquito_65 Start: 42156, Stop: 42374, Start Num: 81

Candidate Starts for Taquito_65:

(35, 41997), (39, 42006), (Start: 81 @42156 has 19 MA's), (114, 42273), (128, 42309), (132, 42324),

Gene: Thoth_80 Start: 58624, Stop: 58938, Start Num: 42

Candidate Starts for Thoth_80:

(21, 58507), (28, 58570), (Start: 42 @58624 has 21 MA's), (Start: 45 @58633 has 1 MA's), (56, 58678), (59, 58687),

Gene: Thyatira_60 Start: 43612, Stop: 43824, Start Num: 85

Candidate Starts for Thyatira_60:

(Start: 85 @43612 has 62 MA's), (108, 43690), (114, 43714), (115, 43717), (127, 43750), (132, 43771), (137, 43798),

Gene: Tierra_67 Start: 43212, Stop: 43424, Start Num: 85

Candidate Starts for Tierra_67:

(3, 42546), (4, 42570), (7, 42645), (15, 42798), (32, 43029), (Start: 85 @43212 has 62 MA's), (108, 43293), (109, 43302),

Gene: Tiff81_46 Start: 28970, Stop: 29161, Start Num: 91

Candidate Starts for Tiff81_46:

(Start: 91 @28970 has 9 MA's),

Gene: TingHuaYa_67 Start: 42388, Stop: 42606, Start Num: 83

Candidate Starts for TingHuaYa_67:

(44, 42253), (58, 42310), (Start: 83 @42388 has 82 MA's), (108, 42475), (109, 42484),

Gene: TiniBug_64 Start: 43324, Stop: 43539, Start Num: 83

Candidate Starts for TiniBug_64:

(Start: 83 @43324 has 82 MA's), (108, 43411), (109, 43420),

Gene: Tiri_64 Start: 42728, Stop: 42943, Start Num: 83

Candidate Starts for Tiri_64:

(Start: 83 @42728 has 82 MA's), (108, 42815), (109, 42824),

Gene: Tolls_50 Start: 35802, Stop: 35551, Start Num: 74

Candidate Starts for Tolls_50:

(Start: 74 @35802 has 26 MA's), (76, 35796), (109, 35673), (124, 35628),

Gene: Topper_63 Start: 42595, Stop: 42810, Start Num: 83

Candidate Starts for Topper_63:

(Start: 83 @42595 has 82 MA's), (108, 42682), (109, 42691),

Gene: TreyKay_65 Start: 43082, Stop: 43297, Start Num: 83

Candidate Starts for TreyKay_65:

(58, 43004), (Start: 83 @43082 has 82 MA's), (108, 43169), (109, 43178),

Gene: TribbleTrouble_64 Start: 43429, Stop: 43641, Start Num: 85

Candidate Starts for TribbleTrouble_64:

(14, 43003), (32, 43246), (Start: 85 @43429 has 62 MA's), (109, 43519),

Gene: Trogglehumper_5 Start: 2263, Stop: 2457, Start Num: 90

Candidate Starts for Trogglehumper_5:

(Start: 90 @2263 has 1 MA's), (102, 2314), (107, 2332), (113, 2356),

Gene: Troje_52 Start: 36545, Stop: 36309, Start Num: 74

Candidate Starts for Troje_52:

(67, 36563), (Start: 74 @36545 has 26 MA's), (117, 36398), (120, 36386), (123, 36383),

Gene: Troll4_79 Start: 58537, Stop: 58851, Start Num: 42

Candidate Starts for Troll4_79:

(19, 58393), (29, 58492), (33, 58510), (Start: 42 @58537 has 21 MA's), (Start: 45 @58546 has 1 MA's), (56, 58591), (59, 58600), (75, 58642),

Gene: TruffulaTree_64 Start: 42888, Stop: 43103, Start Num: 83
Candidate Starts for TruffulaTree_64:
(58, 42810), (Start: 83 @42888 has 82 MA's), (108, 42975), (109, 42984),

Gene: Twitch_63 Start: 42597, Stop: 42812, Start Num: 83
Candidate Starts for Twitch_63:
(Start: 83 @42597 has 82 MA's), (108, 42684), (109, 42693),

Gene: Typha_89 Start: 58872, Stop: 59093, Start Num: 82
Candidate Starts for Typha_89:
(Start: 82 @58872 has 6 MA's), (97, 58908), (101, 58938),

Gene: Typhonomachy_49 Start: 35740, Stop: 35507, Start Num: 74
Candidate Starts for Typhonomachy_49:
(Start: 74 @35740 has 26 MA's), (100, 35656), (117, 35596),

Gene: Unicorn_65 Start: 42337, Stop: 42549, Start Num: 85
Candidate Starts for Unicorn_65:
(3, 41674), (4, 41698), (7, 41770), (15, 41923), (32, 42154), (Start: 85 @42337 has 62 MA's), (108, 42418), (109, 42427),

Gene: Urkel_64 Start: 43328, Stop: 43543, Start Num: 83
Candidate Starts for Urkel_64:
(Start: 83 @43328 has 82 MA's), (108, 43415), (109, 43424),

Gene: Validus_68 Start: 43466, Stop: 43675, Start Num: 85
Candidate Starts for Validus_68:
(Start: 85 @43466 has 62 MA's), (108, 43547), (109, 43556), (135, 43631),

Gene: VanLee_109 Start: 57771, Stop: 57962, Start Num: 91
Candidate Starts for VanLee_109:
(Start: 91 @57771 has 9 MA's), (137, 57936),

Gene: Veliki_65 Start: 42859, Stop: 43077, Start Num: 83
Candidate Starts for Veliki_65:
(58, 42781), (Start: 83 @42859 has 82 MA's), (108, 42946), (109, 42955),

Gene: Visconti_81 Start: 58585, Stop: 58899, Start Num: 42
Candidate Starts for Visconti_81:
(21, 58468), (28, 58531), (Start: 42 @58585 has 21 MA's), (Start: 45 @58594 has 1 MA's), (56, 58639), (59, 58648), (75, 58690),

Gene: ViviJ_55 Start: 39373, Stop: 39585, Start Num: 85
Candidate Starts for ViviJ_55:
(62, 39298), (65, 39307), (69, 39319), (Start: 85 @39373 has 62 MA's), (94, 39391), (108, 39451), (114, 39475), (115, 39478), (124, 39505), (132, 39532), (139, 39580),

Gene: Vopal_52 Start: 33686, Stop: 33877, Start Num: 91
Candidate Starts for Vopal_52:
(Start: 91 @33686 has 9 MA's),

Gene: WaldoWhy_82 Start: 58548, Stop: 58862, Start Num: 42

Candidate Starts for WaldoWhy_82:

(21, 58431), (28, 58494), (Start: 42 @58548 has 21 MA's), (Start: 45 @58557 has 1 MA's), (56, 58602), (59, 58611),

Gene: Waterfoul_59 Start: 41716, Stop: 41928, Start Num: 85

Candidate Starts for Waterfoul_59:

(Start: 85 @41716 has 62 MA's), (108, 41794), (114, 41818), (115, 41821), (127, 41854), (132, 41875), (137, 41902),

Gene: WheatThin_71 Start: 47982, Stop: 48182, Start Num: 89

Candidate Starts for WheatThin_71:

(60, 47898), (Start: 64 @47904 has 1 MA's), (79, 47958), (84, 47970), (Start: 89 @47982 has 10 MA's),

Gene: Wintermute_66 Start: 42151, Stop: 42369, Start Num: 81

Candidate Starts for Wintermute_66:

(35, 41992), (39, 42001), (Start: 81 @42151 has 19 MA's), (114, 42268), (128, 42304), (132, 42319),

Gene: Ximenita_69 Start: 43037, Stop: 43249, Start Num: 85

Candidate Starts for Ximenita_69:

(32, 42854), (Start: 85 @43037 has 62 MA's), (108, 43118), (109, 43127),

Gene: Y10_64 Start: 42079, Stop: 42297, Start Num: 81

Candidate Starts for Y10_64:

(35, 41920), (39, 41929), (Start: 81 @42079 has 19 MA's), (114, 42196), (128, 42232), (132, 42247),

Gene: Y2_64 Start: 42079, Stop: 42297, Start Num: 81

Candidate Starts for Y2_64:

(35, 41920), (39, 41929), (Start: 81 @42079 has 19 MA's), (114, 42196), (128, 42232), (132, 42247),

Gene: Yakult_51 Start: 37137, Stop: 36952, Start Num: 95

Candidate Starts for Yakult_51:

(73, 37200), (Start: 86 @37158 has 8 MA's), (Start: 95 @37137 has 1 MA's), (103, 37098), (114, 37056), (121, 37032), (134, 36996),

Gene: Yarn_46 Start: 35565, Stop: 35314, Start Num: 74

Candidate Starts for Yarn_46:

(Start: 74 @35565 has 26 MA's), (76, 35559), (109, 35436), (124, 35391),

Gene: YoungHarleezy_50 Start: 31023, Stop: 31214, Start Num: 91

Candidate Starts for YoungHarleezy_50:

(Start: 91 @31023 has 9 MA's),

Gene: YoureAdopted_63 Start: 43008, Stop: 43223, Start Num: 83

Candidate Starts for YoureAdopted_63:

(58, 42930), (Start: 83 @43008 has 82 MA's), (108, 43095), (109, 43104),

Gene: Yummy_52 Start: 36254, Stop: 36018, Start Num: 74

Candidate Starts for Yummy_52:

(67, 36272), (Start: 74 @36254 has 26 MA's), (117, 36107), (120, 36095), (123, 36092),

Gene: Yunkel11_68 Start: 42904, Stop: 43122, Start Num: 83

Candidate Starts for Yunkel11_68:

(58, 42826), (Start: 83 @42904 has 82 MA's), (108, 42991), (109, 43000),

Gene: Zabiza_58 Start: 38745, Stop: 38960, Start Num: 83
Candidate Starts for Zabiza_58:
(Start: 83 @38745 has 82 MA's), (108, 38832), (109, 38841),

Gene: Zavala_66 Start: 43164, Stop: 43382, Start Num: 83
Candidate Starts for Zavala_66:
(58, 43086), (Start: 83 @43164 has 82 MA's), (108, 43251), (109, 43260),