

Pham 283429



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 283429 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283429 has 284 members, 31 are drafts.

Phages represented in each track:

- Track 1 : Phrappuccino_126, Settecandela_126
- Track 2 : MrMiyagi_94
- Track 3 : Fowlmouth_95
- Track 4 : Indlulamithi_87
- Track 5 : Cuke_99
- Track 6 : Isolde_49, Tiff81_46, Raphaella_49, Auxilium_46, YoungHarleezy_50, Mapleville_47
- Track 7 : Gorpy_49, Sakai_48
- Track 8 : Nyilah_48
- Track 9 : LeBruni_50
- Track 10 : Sporco_51
- Track 11 : AbbyDaisy_49
- Track 12 : Vopal_52
- Track 13 : Kabloowy_50
- Track 14 : BlueShadow_48
- Track 15 : MidnightRain_51
- Track 16 : DarwinJr_53
- Track 17 : Biskit_52, Troje_52, SketchMex_50, MScarn_54, Buttrmlkdreams_52, Blondies_53, Horseradish_52, Yummy_52
- Track 18 : Axym_48, Typhonomachy_48, Burnsey_49, Agatha_49, Cozz_47
- Track 19 : GTE2_40
- Track 20 : AikoCarson_50, Emalyn_48, CanesSauce_48, CaramelLatte_48, Amok_50, ChocoMunchkin_48
- Track 21 : RedBaron_51
- Track 22 : Yarn_46, AndPeggy_46, Tolls_50
- Track 23 : BillDoor_49
- Track 24 : ChickenTender_51
- Track 25 : RanchParmCat_53, Margaret_54, Button_51, GiKK_53, Jamzy_53
- Track 26 : SteamedHams_49
- Track 27 : Yakult_51
- Track 28 : Bubble_47, Quasar_49, Nina_48, SweatNTears_51, MunkgeeRoachy_47
- Track 29 : Orla_56, Nodigi_56, Hexbug_56
- Track 30 : Gumball_80, SirHarley_82, PLOT_80
- Track 31 : Erk16_80, Delton_80, WaldoWhy_82, PBI1_76, Butterscotch_78, Chill_82, Adjutor_78, Thoth_80, BigMama_78, Penelope2018_80
- Track 32 : Nova_79
- Track 33 : Visconti_81

- Track 34 : SuperheroCarly_80
- Track 35 : Mopey_81, Giuseppe_81, Troll4_79, Helpful_82, KandZ_77
- Track 36 : Prager_80
- Track 37 : Phalaborwa_82
- Track 38 : Hawkeye_92
- Track 39 : WheatThin_71, Nadeem_71, Parada_71, Brylie_71, Mulch_71
- Track 40 : Ayotoya_72, GrandSlam_73, Hamood_73, DelRio_72, Chop_73
- Track 41 : Skog_217
- Track 42 : SCentae_156, CherryTomatoes_158, Pupper_157
- Track 43 : ObLaDi_116, ModicumRichard_117, Cafasso_117
- Track 44 : Aleemily_115
- Track 45 : Morgana_124
- Track 46 : Richo_66, Dartin_66, Shaobing_66, McMater_66, Peanam_66
- Track 47 : DartGoblin_66, TiniBug_64, Anma_65, DrHayes_64, Urkel_64, Bella96_64, SamuelLPlaqson_64, Anaya_66
- Track 48 : Nibb_66
- Track 49 : LaterM_64
- Track 50 : BGlluviae_63, Jarvi_63, Twitch_63, Blizzard_63, Atiba_64, Hyperbowlee_63, Llorens_63, Adephegia_63, Ramen_64, Zabiza_58, Homura_63, Tachez_63, CaseJules_65, Spock_63, Pisa1_63, Rosmarinus_63, QuincyRose_62, ShiaSurprise_64, Lunahalos_63, Boiiii_63, Apocalypse_66, Durfee_63, Piatt_63, Sulley_63, ActinUp_63, Joy99_63, Tiri_64, Peel_63, Ganymede_64, Belladonna_63, Adonis_63, BEEST_63, Beezoo_65, Padfoot_63, Topper_63, Angelica_63, CREW_63, Inky_63, HedwigODU_63, Asayake_63, CallaLilly_63, Jeckyll_63, Capricorn_63, MeaningOfLife_64, Dalmuri_63, Geraldini_66
- Track 51 : Veliki_65, JAWS_64, Prithvi_65, Devera_71, Efra2_69, Rapunzel97_65, BarrelRoll_64, Pokerus_63, YoureAdopted_63, BaghaKamala_63, TaiwanKao_66, Illumine_69, Murucutumbu_65, Slimphazie_64, CrimD_65, Dole_69, Yunkel11_68, Mynx_65, LindNT_63, TruffulaTree_64, Guanica15_68, TreyKay_65, Zavala_66
- Track 52 : MacKat_59, Ageofdapage_67, Emerson_65, Clipper_67, Padpat_66
- Track 53 : LilPharaoh_52, SgtBeansprout_52
- Track 54 : Bern_65, Deby_64, CheetoDust_63, Jayhawk_65
- Track 55 : Chris_66
- Track 56 : Chavito_66
- Track 57 : Stinson_65
- Track 58 : Niklas_66
- Track 59 : KiSi_68, Oscar_67, LeMond_67, Scarlett_68
- Track 60 : Megsy_66
- Track 61 : MarkPhew_66
- Track 62 : TingHuaYa_67
- Track 63 : Validus_68
- Track 64 : LastHope_68
- Track 65 : Curiosium_67
- Track 66 : Keshu_66
- Track 67 : Hurricane_64, Lea83_64, Pixie_63, ShedlockHolmes_65
- Track 68 : MacnCheese_66
- Track 69 : Pharb_63
- Track 70 : TribbleTrouble_64
- Track 71 : Feyre_60, Leston_57, Heftyboy_58, Waterfoul_59, Paola_57, SoSeph_58, Guillsminger_58, Thyatira_60
- Track 72 : Larva_58, AlleyCat_59, Psycho_57, Dadosky_59
- Track 73 : OkiRoe_58, Gengar_57, Miryou_61

- Track 74 : DoubleChamp_54, Agent47_57, BananenDer11_54, LilDirt_54, Collard_55, InvictusManeo_55, ViviJ_56
- Track 75 : Edugator_56
- Track 76 : Omnicron_61
- Track 77 : Kratio_55
- Track 78 : Rando14_59
- Track 79 : Ximenita_69, Syra333_67
- Track 80 : Fefferhead_61, Amgine_62, Ellie_59, Applecrisp_60
- Track 81 : Cain_67, Tierra_67, Bryler_67, Phrank_67
- Track 82 : Shadow1_68, Sunflower1121_69
- Track 83 : PhelpsODU_65, Unicorn_65
- Track 84 : Hammy_63
- Track 85 : DarthP_63, Amohnition_63
- Track 86 : Marshawn_63
- Track 87 : Krueger_68
- Track 88 : November_61
- Track 89 : TClif_64
- Track 90 : Aminay_62
- Track 91 : VanLee_109
- Track 92 : Colossa_108
- Track 93 : Kevin1_59
- Track 94 : Hilltopfarm_91, Faiyaz_91, AuntGwenStacy_89, Typha_89
- Track 95 : Bipper_99
- Track 96 : Cracklewink_99
- Track 97 : DS6A_87
- Track 98 : TPA4_81
- Track 99 : 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 91, it was called in 86 of the 253 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_63, Adephagia_63, Adonis_63, Ageofdapage_67, Anaya_66, Angelica_63, Anma_65, Apocalypse_66, Asayake_63, Atiba_64, BEEST_63, BGlluviae_63, BaghaKamala_63, BarrelRoll_64, Beezoo_65, Bella96_64, Belladonna_63, Bern_65, Blizzard_63, Boiiii_63, CREW_63, CallaLilly_63, Capricorn_63, CaseJules_65, CheetoDust_63, Clipper_67, CrimD_65, Curiosium_67, Dalmuri_63, DartGoblin_66, 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, Pisa1_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, Aleemily_115, AlleyCat_59, Amgine_62, Aminay_62, Amohnition_63, Amok_50, AndPeggy_46, Applecrisp_60, AuntGwenStacy_89, Auxilium_46, Axym_48, Ayotoya_72, BananenDer11_54, BigMama_78, BillDoor_49, Bipper_99, Biskit_52, Blondies_53, BlueShadow_48, Bryler_67, Brylie_71, Bubble_47, Burnsey_49, Butterscotch_78, Button_51, Buttrmlkdreams_52, Cafasso_117, Cain_67, CanesSauce_48, CaramellLatte_48, Chavito_66, CherryTomatoes_158, ChickenTender_51, Chill_82, ChocoMunchkin_48, Chop_73, Chris_66, Collard_55, Colossa_108, Cozz_47, Cracklewink_99, Cuke_99, DS6A_87, Dadosky_59, DARTH_P_63, Dartin_66, DarwinJr_53, DelRio_72, Delton_80, DoubleChamp_54, Edugator_56, Ellie_59, Emalyn_48, Erk16_80, Faiyaz_91, Fefferhead_61, Feyre_60, Fowlmouth_95, GTE2_40, Gengar_57, GiKK_53, Giuseppe_81, Gorpy_49, GrandSlam_73, Guillsminger_58, Gumball_80, Hammy_63, Hamood_73, Hawkeye_92, Heftyboy_58, Helpful_82, Hexbug_56, Hilltopfarm_91, Horseradish_52, Hurricane_64, Indlulamithi_87, InvictusManeo_55, Isolde_49, Jamzy_53, Kabloowy_50, KandZ_77, Keshu_66, Kevin1_59, KiSi_68, Kratio_55, Krueger_68, Larva_58, LastHope_68, LeBruni_50, LeMond_67, Lea83_64, Leston_57, LilDirt_54, LilPharaoh_52, MScarn_54, Mapleville_47, Margaret_54, MarkPhew_66, Marshawn_63, McMater_66, MidnightRain_51, Miryou_61, ModicumRichard_117, Mopey_81, Morgana_124, MrMiyagi_94, Mulch_71, MunkgeeRoachy_47, Nadeem_71, Nibb_66, Niklas_66, Nina_48, Nodigi_56, Nova_79, November_61, Nyilah_48, ObLaDi_116, OkiRoe_58, Omnicron_61, Orla_56, Oscar_67, PBI1_76, PLOT_80, Paola_57, Parada_71, 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, Richo_66, SCentae_156, Sakai_48, Scarlett_68, Settecandela_126, SgtBeansprout_52, Shadow1_68, Shaobing_66, ShedlockHolmes_65, SirHarley_82, SketchMex_50, Skog_217, SoSeph_58, Sporco_51, SteamedHams_49, Sunflower1121_69, SuperheroCarly_80, SweatNTears_51, Syra333_67, TClif_64, TPA4_81, Thoth_80, Thyatira_60, Tierra_67, Tiff81_46, Tolls_50, TripleTrouble_64, Trogglehumper_5, Troje_52, Troll4_79, Typha_89, Typhonmarchy_48, Unicorn_65, Validus_68, VanLee_109, Visconti_81, ViviJ_56, Vopal_52, WaldoWhy_82, Waterfoul_59, WheatThin_71, Ximenita_69, Yakult_51, Yarn_46, YoungHarleezy_50, Yummy_52,

Summary by start number:

Start 51:

- Found in 1 of 284 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hawkeye_92 (D2),

Start 52:

- Found in 23 of 284 (8.1%) of genes in pham
- Manual Annotations of this start: 21 of 253
- Called 95.7% 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 56:

- Found in 26 of 284 (9.2%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Indlulamithi_87 (AC), SuperheroCarly_80 (D1),

Start 57:

- Found in 3 of 284 (1.1%) of genes in pham
- Manual Annotations of this start: 3 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cuke_99 (AC), Fowlmouth_95 (AC), MrMiyagi_94 (AC),

Start 60:

- Found in 1 of 284 (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: TPA4_81 (singleton),

Start 64:

- Found in 3 of 284 (1.1%) of genes in pham
- Manual Annotations of this start: 3 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes_158 (DO), Pupper_157 (DO), SCentae_156 (DO),

Start 68:

- Found in 1 of 284 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DS6A_87 (singleton),

Start 70:

- Found in 3 of 284 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Skog_217 (DO),

Start 80:

- Found in 2 of 284 (0.7%) of genes in pham
- Manual Annotations of this start: 2 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phrappuccino_126 (AA), Settecandela_126 (AA),

Start 81:

- Found in 6 of 284 (2.1%) of genes in pham
- Manual Annotations of this start: 5 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy_89 (Y), Bipper_99 (Y), Cracklewink_99 (Y), Faiyaz_91 (Y), Hilltopfarm_91 (Y), Typha_89 (Y),

Start 83:

- Found in 32 of 284 (11.3%) of genes in pham
- Manual Annotations of this start: 26 of 253
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Agatha_49 (CT), AikoCarson_50 (CT), Amok_50 (CT), AndPeggy_46 (CT), Axym_48 (CT), BillDoor_49 (CT), Biskit_52 (CT), Blondies_53 (CT), Bubble_47 (CT), Burnsey_49 (CT), Buttrmlkdreams_52 (CT), CanesSauce_48 (CT), CaramelLatte_48 (CT), ChickenTender_51 (CT), ChocoMunchkin_48 (CT), Cozz_47 (CT), Emalyn_48 (CT), 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_48 (CT), Yarn_46 (CT), Yummy_52 (CT),

Start 84:

- Found in 11 of 284 (3.9%) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: GTE2_40 (CT),

Start 85:

- Found in 4 of 284 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Kevin1_59 (N),

Start 91:

- Found in 92 of 284 (32.4%) of genes in pham
- Manual Annotations of this start: 86 of 253
- Called 98.9% of time when present
- Phage (with cluster) where this start called: ActinUp_63 (K1), Adephagia_63 (K1), Adonis_63 (K1), Ageofdapage_67 (K1), Anaya_66 (K1), Angelica_63 (K1), Anma_65 (K1), Apocalypse_66 (K1), Asayake_63 (K1), Atiba_64 (K1), BEEEST_63 (K1), BGIlluvia_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_63 (K1), Capricorn_63 (K1), CaseJules_65 (K1), CheetoDust_63 (K1), Clipper_67 (K1), CrimD_65 (K1), Curiosium_67 (K1), Dalmuri_63 (K1), DartGoblin_66 (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), Pisa1_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 93:

- Found in 1 of 284 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aminay_62 (K7),

Start 94:

- Found in 73 of 284 (25.7%) of genes in pham
- Manual Annotations of this start: 66 of 253
- 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), Applecrisp_60 (K6), BananenDer11_54 (K5), Bryler_67 (K6), Cain_67 (K6), Chavito_66 (K1), Chris_66 (K1), Collard_55 (K5), Dadosky_59 (K5), DARTH_63 (K6), Dartin_66 (K1), DoubleChamp_54 (K5), 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_64 (K3), Leston_57 (K5), LilDirt_54 (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_61 (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), TripleTrouble_64 (K3), Unicorn_65 (K6), Validus_68 (K1), ViviJ_56 (K5), Waterfoul_59 (K5), Ximenita_69 (K6),

Start 96:

- Found in 9 of 284 (3.2%) of genes in pham
- Manual Annotations of this start: 8 of 253
- 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 98:

- Found in 10 of 284 (3.5%) of genes in pham
- Manual Annotations of this start: 10 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya_72 (DI), Bryllie_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 99:

- Found in 1 of 284 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 253

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trogglehumper_5 (singleton),

Start 100:

- Found in 24 of 284 (8.5%) of genes in pham
- Manual Annotations of this start: 15 of 253
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_49 (AY), Aleemily_115 (DZ), Auxilium_46 (AY), BlueShadow_48 (AY), Cafasso_117 (DZ), Colossa_108 (KA), DarwinJr_53 (AY), Gorpy_49 (AY), Isolde_49 (AY), Kabloowy_50 (AY), LeBruni_50 (AY), Mapleville_47 (AY), MidnightRain_51 (AY), ModicumRichard_117 (DZ), Morgana_124 (DZ), Nyilah_48 (AY), ObLaDi_116 (DZ), Raphaella_49 (AY), Sakai_48 (AY), Sporco_51 (AY), Tiff81_46 (AY), VanLee_109 (KA), Vopal_52 (AY), YoungHarleezy_50 (AY),

Start 104:

- Found in 9 of 284 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 253
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Yakult_51 (CT),

Summary by clusters:

There are 18 clusters represented in this pham: AA, DO, KA, DI, AC, N, K3, Y, K1, DZ, K6, K5, AY, K7, singleton, CT, D2, D1,

Info for manual annotations of cluster AA:

- Start number 80 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster AC:

- Start number 56 was manually annotated 1 time for cluster AC.
- Start number 57 was manually annotated 3 times for cluster AC.

Info for manual annotations of cluster AY:

- Start number 100 was manually annotated 10 times for cluster AY.

Info for manual annotations of cluster CT:

- Start number 83 was manually annotated 26 times for cluster CT.
- Start number 96 was manually annotated 8 times for cluster CT.
- Start number 104 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster D1:

- Start number 52 was manually annotated 21 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 51 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DI:

- Start number 98 was manually annotated 10 times for cluster DI.

Info for manual annotations of cluster DO:

- Start number 64 was manually annotated 3 times for cluster DO.
- Start number 70 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DZ:

- Start number 100 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster K1:

- Start number 91 was manually annotated 86 times for cluster K1.
- Start number 94 was manually annotated 14 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 94 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K5:

- Start number 94 was manually annotated 23 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 94 was manually annotated 21 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 93 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster KA:

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

Info for manual annotations of cluster N:

- Start number 85 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster Y:

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

Gene Information:

Gene: AbbyDaisy_49 Start: 31179, Stop: 31364, Start Num: 100

Candidate Starts for AbbyDaisy_49:

(78, 31122), (Start: 100 @31179 has 15 MA's), (113, 31236), (120, 31257), (125, 31272),

Gene: ActinUp_63 Start: 42440, Stop: 42655, Start Num: 91

Candidate Starts for ActinUp_63:

(Start: 91 @42440 has 86 MA's), (116, 42527), (119, 42536),

Gene: Adephagia_63 Start: 42477, Stop: 42692, Start Num: 91

Candidate Starts for Adephagia_63:

(Start: 91 @42477 has 86 MA's), (116, 42564), (119, 42573),

Gene: Adjutor_78 Start: 58520, Stop: 58834, Start Num: 52

Candidate Starts for Adjutor_78:

(25, 58403), (37, 58466), (Start: 52 @58520 has 21 MA's), (Start: 56 @58529 has 1 MA's), (69, 58574), (73, 58583),

Gene: Adonis_63 Start: 42712, Stop: 42927, Start Num: 91

Candidate Starts for Adonis_63:

(Start: 91 @42712 has 86 MA's), (116, 42799), (119, 42808),

Gene: Agatha_49 Start: 36030, Stop: 35797, Start Num: 83
Candidate Starts for Agatha_49:
(Start: 83 @36030 has 26 MA's), (109, 35946), (127, 35886),

Gene: Agent47_57 Start: 39612, Stop: 39824, Start Num: 94
Candidate Starts for Agent47_57:
(66, 39537), (69, 39546), (75, 39558), (Start: 94 @39612 has 66 MA's), (102, 39630), (116, 39690),
(124, 39714), (125, 39717), (133, 39744), (144, 39771), (150, 39819),

Gene: Ageofdapage_67 Start: 43868, Stop: 44083, Start Num: 91
Candidate Starts for Ageofdapage_67:
(Start: 91 @43868 has 86 MA's), (116, 43955), (119, 43964),

Gene: AikoCarson_50 Start: 36349, Stop: 36098, Start Num: 83
Candidate Starts for AikoCarson_50:
(Start: 83 @36349 has 26 MA's), (84, 36343), (119, 36220), (134, 36175),

Gene: Aleemily_115 Start: 64180, Stop: 63974, Start Num: 100
Candidate Starts for Aleemily_115:
(72, 64249), (Start: 100 @64180 has 15 MA's), (117, 64108), (122, 64093), (127, 64078), (149, 64000),

Gene: AlleyCat_59 Start: 39910, Stop: 40122, Start Num: 94
Candidate Starts for AlleyCat_59:
(Start: 94 @39910 has 66 MA's), (116, 39988), (124, 40012), (125, 40015), (133, 40042), (144, 40069),

Gene: Amgine_62 Start: 43547, Stop: 43759, Start Num: 94
Candidate Starts for Amgine_62:
(Start: 94 @43547 has 66 MA's), (116, 43628), (119, 43637),

Gene: Aminay_62 Start: 41845, Stop: 42069, Start Num: 93
Candidate Starts for Aminay_62:
(Start: 93 @41845 has 1 MA's), (115, 41926), (118, 41935), (125, 41956), (146, 42025),

Gene: Amohnition_63 Start: 43082, Stop: 43294, Start Num: 94
Candidate Starts for Amohnition_63:
(2, 42395), (6, 42482), (8, 42530), (9, 42557), (10, 42581), (13, 42623), (34, 42905), (Start: 94 @43082
has 66 MA's), (116, 43163), (119, 43172), (147, 43247),

Gene: Amok_50 Start: 36274, Stop: 36023, Start Num: 83
Candidate Starts for Amok_50:
(Start: 83 @36274 has 26 MA's), (84, 36268), (119, 36145), (134, 36100),

Gene: Anaya_66 Start: 43420, Stop: 43638, Start Num: 91
Candidate Starts for Anaya_66:
(Start: 91 @43420 has 86 MA's), (116, 43507), (119, 43516),

Gene: AndPeggy_46 Start: 35560, Stop: 35309, Start Num: 83
Candidate Starts for AndPeggy_46:
(Start: 83 @35560 has 26 MA's), (84, 35554), (119, 35431), (134, 35386),

Gene: Angelica_63 Start: 42629, Stop: 42844, Start Num: 91
Candidate Starts for Angelica_63:

(Start: 91 @42629 has 86 MA's), (116, 42716), (119, 42725),

Gene: Anma_65 Start: 43328, Stop: 43543, Start Num: 91

Candidate Starts for Anma_65:

(Start: 91 @43328 has 86 MA's), (116, 43415), (119, 43424),

Gene: Apocalypse_66 Start: 43395, Stop: 43610, Start Num: 91

Candidate Starts for Apocalypse_66:

(Start: 91 @43395 has 86 MA's), (116, 43482), (119, 43491),

Gene: Applecrisp_60 Start: 42677, Stop: 42889, Start Num: 94

Candidate Starts for Applecrisp_60:

(Start: 94 @42677 has 66 MA's), (116, 42758), (119, 42767),

Gene: Asayake_63 Start: 42792, Stop: 43007, Start Num: 91

Candidate Starts for Asayake_63:

(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Atiba_64 Start: 42440, Stop: 42655, Start Num: 91

Candidate Starts for Atiba_64:

(Start: 91 @42440 has 86 MA's), (116, 42527), (119, 42536),

Gene: AuntGwenStacy_89 Start: 58871, Stop: 59092, Start Num: 81

Candidate Starts for AuntGwenStacy_89:

(Start: 81 @58871 has 5 MA's), (97, 58907), (108, 58937),

Gene: Auxilium_46 Start: 28442, Stop: 28633, Start Num: 100

Candidate Starts for Auxilium_46:

(Start: 100 @28442 has 15 MA's),

Gene: Axym_48 Start: 35927, Stop: 35694, Start Num: 83

Candidate Starts for Axym_48:

(Start: 83 @35927 has 26 MA's), (109, 35843), (127, 35783),

Gene: Ayotoya_72 Start: 48939, Stop: 49139, Start Num: 98

Candidate Starts for Ayotoya_72:

(65, 48855), (67, 48861), (92, 48927), (Start: 98 @48939 has 10 MA's),

Gene: BEEST_63 Start: 42792, Stop: 43007, Start Num: 91

Candidate Starts for BEEST_63:

(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: BGlluviae_63 Start: 42595, Stop: 42810, Start Num: 91

Candidate Starts for BGlluviae_63:

(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: BaghaKamala_63 Start: 42253, Stop: 42471, Start Num: 91

Candidate Starts for BaghaKamala_63:

(63, 42175), (Start: 91 @42253 has 86 MA's), (116, 42340), (119, 42349),

Gene: BananenDer11_54 Start: 39573, Stop: 39785, Start Num: 94

Candidate Starts for BananenDer11_54:

(66, 39498), (69, 39507), (75, 39519), (Start: 94 @39573 has 66 MA's), (102, 39591), (116, 39651), (124, 39675), (125, 39678), (133, 39705), (144, 39732), (150, 39780),

Gene: BarrelRoll_64 Start: 42877, Stop: 43092, Start Num: 91
Candidate Starts for BarrelRoll_64:
(63, 42799), (Start: 91 @42877 has 86 MA's), (116, 42964), (119, 42973),

Gene: Beezoo_65 Start: 43389, Stop: 43604, Start Num: 91
Candidate Starts for Beezoo_65:
(Start: 91 @43389 has 86 MA's), (116, 43476), (119, 43485),

Gene: Bella96_64 Start: 43173, Stop: 43388, Start Num: 91
Candidate Starts for Bella96_64:
(Start: 91 @43173 has 86 MA's), (116, 43260), (119, 43269),

Gene: Belladonna_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Belladonna_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: Bern_65 Start: 41846, Stop: 42064, Start Num: 91
Candidate Starts for Bern_65:
(Start: 91 @41846 has 86 MA's), (116, 41933), (119, 41942),

Gene: BigMama_78 Start: 58605, Stop: 58919, Start Num: 52
Candidate Starts for BigMama_78:
(25, 58488), (37, 58551), (Start: 52 @58605 has 21 MA's), (Start: 56 @58614 has 1 MA's), (69, 58659), (73, 58668),

Gene: BillDoor_49 Start: 35229, Stop: 34978, Start Num: 83
Candidate Starts for BillDoor_49:
(44, 35346), (Start: 83 @35229 has 26 MA's), (84, 35223), (95, 35187), (119, 35100), (134, 35055),

Gene: Bipper_99 Start: 62157, Stop: 62378, Start Num: 81
Candidate Starts for Bipper_99:
(28, 61980), (36, 62025), (38, 62028), (48, 62067), (62, 62115), (Start: 81 @62157 has 5 MA's), (97, 62193),

Gene: Biskit_52 Start: 36207, Stop: 35971, Start Num: 83
Candidate Starts for Biskit_52:
(71, 36225), (Start: 83 @36207 has 26 MA's), (127, 36060), (130, 36048), (132, 36045),

Gene: Blizzard_63 Start: 42792, Stop: 43007, Start Num: 91
Candidate Starts for Blizzard_63:
(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Blondies_53 Start: 36524, Stop: 36288, Start Num: 83
Candidate Starts for Blondies_53:
(71, 36542), (Start: 83 @36524 has 26 MA's), (127, 36377), (130, 36365), (132, 36362),

Gene: BlueShadow_48 Start: 30488, Stop: 30679, Start Num: 100
Candidate Starts for BlueShadow_48:
(24, 30227), (61, 30389), (Start: 100 @30488 has 15 MA's),

Gene: Boiiii_63 Start: 42794, Stop: 43009, Start Num: 91
Candidate Starts for Boiiii_63:
(Start: 91 @42794 has 86 MA's), (116, 42881), (119, 42890),

Gene: Bryler_67 Start: 42423, Stop: 42635, Start Num: 94
Candidate Starts for Bryler_67:
(3, 41757), (4, 41781), (7, 41856), (15, 42009), (34, 42240), (Start: 94 @42423 has 66 MA's), (116, 42504), (119, 42513),

Gene: Brylie_71 Start: 47955, Stop: 48155, Start Num: 98
Candidate Starts for Brylie_71:
(65, 47871), (67, 47877), (88, 47931), (92, 47943), (Start: 98 @47955 has 10 MA's),

Gene: Bubble_47 Start: 35617, Stop: 35384, Start Num: 83
Candidate Starts for Bubble_47:
(Start: 83 @35617 has 26 MA's), (109, 35533), (127, 35473),

Gene: Burnsey_49 Start: 36021, Stop: 35788, Start Num: 83
Candidate Starts for Burnsey_49:
(Start: 83 @36021 has 26 MA's), (109, 35937), (127, 35877),

Gene: Butterscotch_78 Start: 58571, Stop: 58885, Start Num: 52
Candidate Starts for Butterscotch_78:
(25, 58454), (37, 58517), (Start: 52 @58571 has 21 MA's), (Start: 56 @58580 has 1 MA's), (69, 58625), (73, 58634),

Gene: Button_51 Start: 36058, Stop: 35855, Start Num: 96
Candidate Starts for Button_51:
(Start: 96 @36058 has 8 MA's), (101, 36046), (Start: 104 @36037 has 1 MA's), (105, 36031), (117, 35980), (125, 35956),

Gene: Buttrmlkdreams_52 Start: 36654, Stop: 36418, Start Num: 83
Candidate Starts for Buttrmlkdreams_52:
(71, 36672), (Start: 83 @36654 has 26 MA's), (127, 36507), (130, 36495), (132, 36492),

Gene: CREW_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for CREW_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: Cafasso_117 Start: 64785, Stop: 64579, Start Num: 100
Candidate Starts for Cafasso_117:
(Start: 100 @64785 has 15 MA's), (117, 64713), (122, 64698), (127, 64683),

Gene: Cain_67 Start: 42411, Stop: 42623, Start Num: 94
Candidate Starts for Cain_67:
(3, 41745), (4, 41769), (7, 41844), (15, 41997), (34, 42228), (Start: 94 @42411 has 66 MA's), (116, 42492), (119, 42501),

Gene: CallaLilly_63 Start: 42518, Stop: 42733, Start Num: 91
Candidate Starts for CallaLilly_63:
(Start: 91 @42518 has 86 MA's), (116, 42605), (119, 42614),

Gene: CanesSauce_48 Start: 35730, Stop: 35479, Start Num: 83

Candidate Starts for CanesSauce_48:
(Start: 83 @35730 has 26 MA's), (84, 35724), (119, 35601), (134, 35556),

Gene: Capricorn_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Capricorn_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: CaramellLatte_48 Start: 35730, Stop: 35479, Start Num: 83
Candidate Starts for CaramellLatte_48:
(Start: 83 @35730 has 26 MA's), (84, 35724), (119, 35601), (134, 35556),

Gene: CaseJules_65 Start: 42792, Stop: 43007, Start Num: 91
Candidate Starts for CaseJules_65:
(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Chavito_66 Start: 43632, Stop: 43841, Start Num: 94
Candidate Starts for Chavito_66:
(Start: 94 @43632 has 66 MA's), (116, 43713), (119, 43722), (147, 43797),

Gene: CheetoDust_63 Start: 42300, Stop: 42518, Start Num: 91
Candidate Starts for CheetoDust_63:
(Start: 91 @42300 has 86 MA's), (116, 42387), (119, 42396),

Gene: CherryTomatoes_158 Start: 111644, Stop: 111907, Start Num: 64
Candidate Starts for CherryTomatoes_158:
(50, 111599), (62, 111641), (Start: 64 @111644 has 3 MA's), (116, 111794), (128, 111830), (138, 111842),

Gene: ChickenTender_51 Start: 35574, Stop: 35341, Start Num: 83
Candidate Starts for ChickenTender_51:
(20, 35829), (39, 35706), (55, 35649), (Start: 83 @35574 has 26 MA's), (103, 35514), (109, 35490), (130, 35418),

Gene: Chill_82 Start: 58548, Stop: 58862, Start Num: 52
Candidate Starts for Chill_82:
(25, 58431), (37, 58494), (Start: 52 @58548 has 21 MA's), (Start: 56 @58557 has 1 MA's), (69, 58602), (73, 58611),

Gene: ChocoMunchkin_48 Start: 35730, Stop: 35479, Start Num: 83
Candidate Starts for ChocoMunchkin_48:
(Start: 83 @35730 has 26 MA's), (84, 35724), (119, 35601), (134, 35556),

Gene: Chop_73 Start: 49004, Stop: 49204, Start Num: 98
Candidate Starts for Chop_73:
(65, 48920), (67, 48926), (92, 48992), (Start: 98 @49004 has 10 MA's),

Gene: Chris_66 Start: 43655, Stop: 43864, Start Num: 94
Candidate Starts for Chris_66:
(12, 43181), (Start: 94 @43655 has 66 MA's), (111, 43718), (116, 43736), (119, 43745), (126, 43769),

Gene: Clipper_67 Start: 43491, Stop: 43709, Start Num: 91
Candidate Starts for Clipper_67:
(Start: 91 @43491 has 86 MA's), (116, 43578), (119, 43587),

Gene: Collard_55 Start: 39573, Stop: 39785, Start Num: 94

Candidate Starts for Collard_55:

(66, 39498), (69, 39507), (75, 39519), (Start: 94 @39573 has 66 MA's), (102, 39591), (116, 39651), (124, 39675), (125, 39678), (133, 39705), (144, 39732), (150, 39780),

Gene: Colossa_108 Start: 57696, Stop: 57887, Start Num: 100

Candidate Starts for Colossa_108:

(Start: 100 @57696 has 15 MA's), (149, 57861),

Gene: Cozz_47 Start: 35618, Stop: 35385, Start Num: 83

Candidate Starts for Cozz_47:

(Start: 83 @35618 has 26 MA's), (109, 35534), (127, 35474),

Gene: Cracklewink_99 Start: 61392, Stop: 61613, Start Num: 81

Candidate Starts for Cracklewink_99:

(28, 61215), (36, 61260), (38, 61263), (48, 61302), (62, 61350), (Start: 81 @61392 has 5 MA's), (86, 61404), (97, 61428),

Gene: CrimD_65 Start: 43416, Stop: 43631, Start Num: 91

Candidate Starts for CrimD_65:

(63, 43338), (Start: 91 @43416 has 86 MA's), (116, 43503), (119, 43512),

Gene: Cuke_99 Start: 56679, Stop: 56984, Start Num: 57

Candidate Starts for Cuke_99:

(33, 56601), (37, 56613), (Start: 56 @56676 has 1 MA's), (Start: 57 @56679 has 3 MA's), (Start: 85 @56766 has 1 MA's), (106, 56823), (140, 56910), (149, 56958),

Gene: Curiosium_67 Start: 42105, Stop: 42323, Start Num: 91

Candidate Starts for Curiosium_67:

(Start: 91 @42105 has 86 MA's), (97, 42117), (116, 42192), (119, 42201),

Gene: DS6A_87 Start: 56210, Stop: 56485, Start Num: 68

Candidate Starts for DS6A_87:

(Start: 68 @56210 has 1 MA's), (136, 56414),

Gene: Dadosky_59 Start: 39912, Stop: 40124, Start Num: 94

Candidate Starts for Dadosky_59:

(Start: 94 @39912 has 66 MA's), (116, 39990), (124, 40014), (125, 40017), (133, 40044), (144, 40071),

Gene: Dalmuri_63 Start: 42595, Stop: 42810, Start Num: 91

Candidate Starts for Dalmuri_63:

(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: DartGoblin_66 Start: 43145, Stop: 43360, Start Num: 91

Candidate Starts for DartGoblin_66:

(Start: 91 @43145 has 86 MA's), (116, 43232), (119, 43241),

Gene: DarthP_63 Start: 42936, Stop: 43148, Start Num: 94

Candidate Starts for DarthP_63:

(2, 42249), (6, 42336), (8, 42384), (9, 42411), (10, 42435), (13, 42477), (34, 42759), (Start: 94 @42936 has 66 MA's), (116, 43017), (119, 43026), (147, 43101),

Gene: Dartin_66 Start: 43084, Stop: 43293, Start Num: 94
Candidate Starts for Dartin_66:
(33, 42904), (Start: 94 @43084 has 66 MA's), (116, 43165), (119, 43174),

Gene: DarwinJr_53 Start: 31842, Stop: 32027, Start Num: 100
Candidate Starts for DarwinJr_53:
(32, 31647), (50, 31707), (53, 31716), (77, 31785), (Start: 100 @31842 has 15 MA's), (113, 31899),
(125, 31935),

Gene: Deby_64 Start: 43078, Stop: 43293, Start Num: 91
Candidate Starts for Deby_64:
(Start: 91 @43078 has 86 MA's), (116, 43165), (119, 43174),

Gene: DelRio_72 Start: 49046, Stop: 49246, Start Num: 98
Candidate Starts for DelRio_72:
(65, 48962), (67, 48968), (92, 49034), (Start: 98 @49046 has 10 MA's),

Gene: Delton_80 Start: 58981, Stop: 59295, Start Num: 52
Candidate Starts for Delton_80:
(25, 58864), (37, 58927), (Start: 52 @58981 has 21 MA's), (Start: 56 @58990 has 1 MA's), (69, 59035),
(73, 59044),

Gene: Devera_71 Start: 44431, Stop: 44646, Start Num: 91
Candidate Starts for Devera_71:
(63, 44353), (Start: 91 @44431 has 86 MA's), (116, 44518), (119, 44527),

Gene: Dole_69 Start: 44434, Stop: 44649, Start Num: 91
Candidate Starts for Dole_69:
(63, 44356), (Start: 91 @44434 has 86 MA's), (116, 44521), (119, 44530),

Gene: DoubleChamp_54 Start: 39573, Stop: 39785, Start Num: 94
Candidate Starts for DoubleChamp_54:
(66, 39498), (69, 39507), (75, 39519), (Start: 94 @39573 has 66 MA's), (102, 39591), (116, 39651),
(124, 39675), (125, 39678), (133, 39705), (144, 39732), (150, 39780),

Gene: DrHayes_64 Start: 43328, Stop: 43543, Start Num: 91
Candidate Starts for DrHayes_64:
(Start: 91 @43328 has 86 MA's), (116, 43415), (119, 43424),

Gene: Durfee_63 Start: 42792, Stop: 43007, Start Num: 91
Candidate Starts for Durfee_63:
(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Edugator_56 Start: 41333, Stop: 41545, Start Num: 94
Candidate Starts for Edugator_56:
(Start: 94 @41333 has 66 MA's), (102, 41351), (116, 41411), (124, 41435), (125, 41438), (133, 41465),
(144, 41492), (150, 41540),

Gene: Efra2_69 Start: 43158, Stop: 43376, Start Num: 91
Candidate Starts for Efra2_69:
(63, 43080), (Start: 91 @43158 has 86 MA's), (116, 43245), (119, 43254),

Gene: Ellie_59 Start: 42407, Stop: 42619, Start Num: 94

Candidate Starts for Ellie_59:

(Start: 94 @42407 has 66 MA's), (116, 42488), (119, 42497),

Gene: Emalyn_48 Start: 35066, Stop: 34815, Start Num: 83

Candidate Starts for Emalyn_48:

(Start: 83 @35066 has 26 MA's), (84, 35060), (119, 34937), (134, 34892),

Gene: Emerson_65 Start: 42909, Stop: 43127, Start Num: 91

Candidate Starts for Emerson_65:

(Start: 91 @42909 has 86 MA's), (116, 42996), (119, 43005),

Gene: Erk16_80 Start: 58641, Stop: 58955, Start Num: 52

Candidate Starts for Erk16_80:

(25, 58524), (37, 58587), (Start: 52 @58641 has 21 MA's), (Start: 56 @58650 has 1 MA's), (69, 58695), (73, 58704),

Gene: Faiyaz_91 Start: 58877, Stop: 59098, Start Num: 81

Candidate Starts for Faiyaz_91:

(Start: 81 @58877 has 5 MA's), (97, 58913), (108, 58943),

Gene: Fefferhead_61 Start: 42316, Stop: 42528, Start Num: 94

Candidate Starts for Fefferhead_61:

(Start: 94 @42316 has 66 MA's), (116, 42397), (119, 42406),

Gene: Feyre_60 Start: 43292, Stop: 43504, Start Num: 94

Candidate Starts for Feyre_60:

(Start: 94 @43292 has 66 MA's), (116, 43370), (124, 43394), (125, 43397), (135, 43430), (144, 43451), (149, 43478),

Gene: Fowlmouth_95 Start: 57786, Stop: 58094, Start Num: 57

Candidate Starts for Fowlmouth_95:

(Start: 57 @57786 has 3 MA's), (73, 57837), (Start: 85 @57873 has 1 MA's), (90, 57885), (106, 57930), (141, 58020),

Gene: GTE2_40 Start: 35662, Stop: 35417, Start Num: 84

Candidate Starts for GTE2_40:

(44, 35785), (Start: 83 @35668 has 26 MA's), (84, 35662), (95, 35626), (109, 35575), (119, 35539), (134, 35494), (147, 35461),

Gene: Ganymede_64 Start: 42817, Stop: 43032, Start Num: 91

Candidate Starts for Ganymede_64:

(Start: 91 @42817 has 86 MA's), (116, 42904), (119, 42913),

Gene: Gengar_57 Start: 41311, Stop: 41523, Start Num: 94

Candidate Starts for Gengar_57:

(Start: 94 @41311 has 66 MA's), (116, 41389), (124, 41413), (125, 41416), (133, 41443), (144, 41470), (149, 41497),

Gene: Geraldini_66 Start: 43474, Stop: 43689, Start Num: 91

Candidate Starts for Geraldini_66:

(Start: 91 @43474 has 86 MA's), (116, 43561), (119, 43570),

Gene: GiKK_53 Start: 36382, Stop: 36179, Start Num: 96

Candidate Starts for GiKK_53:

(Start: 96 @36382 has 8 MA's), (101, 36370), (Start: 104 @36361 has 1 MA's), (105, 36355), (117, 36304), (125, 36280),

Gene: Giuseppe_81 Start: 58355, Stop: 58669, Start Num: 52

Candidate Starts for Giuseppe_81:

(22, 58211), (40, 58310), (46, 58328), (Start: 52 @58355 has 21 MA's), (Start: 56 @58364 has 1 MA's), (69, 58409), (73, 58418), (90, 58460),

Gene: Gorpy_49 Start: 31480, Stop: 31674, Start Num: 100

Candidate Starts for Gorpy_49:

(Start: 100 @31480 has 15 MA's), (116, 31549), (145, 31627),

Gene: GrandSlam_73 Start: 49004, Stop: 49204, Start Num: 98

Candidate Starts for GrandSlam_73:

(65, 48920), (67, 48926), (92, 48992), (Start: 98 @49004 has 10 MA's),

Gene: Guanica15_68 Start: 42899, Stop: 43117, Start Num: 91

Candidate Starts for Guanica15_68:

(63, 42821), (Start: 91 @42899 has 86 MA's), (116, 42986), (119, 42995),

Gene: Guillsminger_58 Start: 41282, Stop: 41494, Start Num: 94

Candidate Starts for Guillsminger_58:

(Start: 94 @41282 has 66 MA's), (116, 41360), (124, 41384), (125, 41387), (135, 41420), (144, 41441), (149, 41468),

Gene: Gumball_80 Start: 58986, Stop: 59300, Start Num: 52

Candidate Starts for Gumball_80:

(37, 58932), (Start: 52 @58986 has 21 MA's), (Start: 56 @58995 has 1 MA's), (69, 59040), (73, 59049), (90, 59091),

Gene: Hammy_63 Start: 42924, Stop: 43136, Start Num: 94

Candidate Starts for Hammy_63:

(34, 42747), (Start: 94 @42924 has 66 MA's), (116, 43005), (119, 43014), (147, 43089),

Gene: Hamood_73 Start: 49004, Stop: 49204, Start Num: 98

Candidate Starts for Hamood_73:

(65, 48920), (67, 48926), (92, 48992), (Start: 98 @49004 has 10 MA's),

Gene: Hawkeye_92 Start: 60485, Stop: 60838, Start Num: 51

Candidate Starts for Hawkeye_92:

(Start: 51 @60485 has 1 MA's), (Start: 56 @60497 has 1 MA's), (114, 60683), (149, 60809),

Gene: HedwigODU_63 Start: 42440, Stop: 42655, Start Num: 91

Candidate Starts for HedwigODU_63:

(Start: 91 @42440 has 86 MA's), (116, 42527), (119, 42536),

Gene: Heftyboy_58 Start: 41654, Stop: 41866, Start Num: 94

Candidate Starts for Heftyboy_58:

(Start: 94 @41654 has 66 MA's), (116, 41732), (124, 41756), (125, 41759), (135, 41792), (144, 41813), (149, 41840),

Gene: Helpful_82 Start: 58743, Stop: 59057, Start Num: 52

Candidate Starts for Helpful_82:

(22, 58599), (40, 58698), (46, 58716), (Start: 52 @58743 has 21 MA's), (Start: 56 @58752 has 1 MA's), (69, 58797), (73, 58806), (90, 58848),

Gene: Hexbug_56 Start: 38441, Stop: 38238, Start Num: 96

Candidate Starts for Hexbug_56:

(Start: 96 @38441 has 8 MA's), (Start: 104 @38420 has 1 MA's), (125, 38339), (131, 38318), (137, 38309), (147, 38282),

Gene: Hilltopfarm_91 Start: 59257, Stop: 59478, Start Num: 81

Candidate Starts for Hilltopfarm_91:

(Start: 81 @59257 has 5 MA's), (97, 59293), (108, 59323),

Gene: Homura_63 Start: 42595, Stop: 42810, Start Num: 91

Candidate Starts for Homura_63:

(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: Horseradish_52 Start: 36140, Stop: 35904, Start Num: 83

Candidate Starts for Horseradish_52:

(71, 36158), (Start: 83 @36140 has 26 MA's), (127, 35993), (130, 35981), (132, 35978),

Gene: Hurricane_64 Start: 42910, Stop: 43122, Start Num: 94

Candidate Starts for Hurricane_64:

(Start: 94 @42910 has 66 MA's), (119, 43000), (147, 43075),

Gene: Hyperbowlee_63 Start: 42792, Stop: 43007, Start Num: 91

Candidate Starts for Hyperbowlee_63:

(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Illumine_69 Start: 44433, Stop: 44648, Start Num: 91

Candidate Starts for Illumine_69:

(63, 44355), (Start: 91 @44433 has 86 MA's), (116, 44520), (119, 44529),

Gene: Indlulamithi_87 Start: 59764, Stop: 60048, Start Num: 56

Candidate Starts for Indlulamithi_87:

(Start: 56 @59764 has 1 MA's), (59, 59773), (69, 59809), (90, 59860), (95, 59872), (129, 59956),

Gene: Inky_63 Start: 42595, Stop: 42810, Start Num: 91

Candidate Starts for Inky_63:

(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: InvictusManeo_55 Start: 39616, Stop: 39828, Start Num: 94

Candidate Starts for InvictusManeo_55:

(66, 39541), (69, 39550), (75, 39562), (Start: 94 @39616 has 66 MA's), (102, 39634), (116, 39694), (124, 39718), (125, 39721), (133, 39748), (144, 39775), (150, 39823),

Gene: Isolde_49 Start: 30525, Stop: 30716, Start Num: 100

Candidate Starts for Isolde_49:

(Start: 100 @30525 has 15 MA's),

Gene: JAWS_64 Start: 42868, Stop: 43086, Start Num: 91

Candidate Starts for JAWS_64:

(63, 42790), (Start: 91 @42868 has 86 MA's), (116, 42955), (119, 42964),

Gene: Jamzy_53 Start: 36362, Stop: 36159, Start Num: 96
Candidate Starts for Jamzy_53:
(Start: 96 @36362 has 8 MA's), (101, 36350), (Start: 104 @36341 has 1 MA's), (105, 36335), (117, 36284), (125, 36260),

Gene: Jarvi_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Jarvi_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: Jayhawk_65 Start: 42937, Stop: 43152, Start Num: 91
Candidate Starts for Jayhawk_65:
(Start: 91 @42937 has 86 MA's), (116, 43024), (119, 43033),

Gene: Jeckyll_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Jeckyll_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: Joy99_63 Start: 42524, Stop: 42739, Start Num: 91
Candidate Starts for Joy99_63:
(Start: 91 @42524 has 86 MA's), (116, 42611), (119, 42620),

Gene: Kabloowy_50 Start: 31539, Stop: 31730, Start Num: 100
Candidate Starts for Kabloowy_50:
(53, 31413), (76, 31482), (Start: 100 @31539 has 15 MA's),

Gene: KandZ_77 Start: 58571, Stop: 58885, Start Num: 52
Candidate Starts for KandZ_77:
(22, 58427), (40, 58526), (46, 58544), (Start: 52 @58571 has 21 MA's), (Start: 56 @58580 has 1 MA's), (69, 58625), (73, 58634), (90, 58676),

Gene: Keshu_66 Start: 43008, Stop: 43220, Start Num: 94
Candidate Starts for Keshu_66:
(34, 42825), (Start: 94 @43008 has 66 MA's), (119, 43098), (147, 43173),

Gene: Kevin1_59 Start: 36836, Stop: 37027, Start Num: 85
Candidate Starts for Kevin1_59:
(Start: 85 @36836 has 1 MA's), (139, 36968),

Gene: KiSi_68 Start: 43636, Stop: 43845, Start Num: 94
Candidate Starts for KiSi_68:
(Start: 94 @43636 has 66 MA's), (102, 43657), (111, 43699), (116, 43717), (119, 43726), (126, 43750),

Gene: Kratio_55 Start: 39352, Stop: 39564, Start Num: 94
Candidate Starts for Kratio_55:
(11, 38872), (17, 38959), (18, 39010), (26, 39118), (27, 39124), (66, 39277), (69, 39286), (75, 39298), (Start: 94 @39352 has 66 MA's), (102, 39370), (124, 39454), (125, 39457), (133, 39484), (144, 39511), (150, 39559),

Gene: Krueger_68 Start: 42699, Stop: 42911, Start Num: 94
Candidate Starts for Krueger_68:
(34, 42516), (Start: 94 @42699 has 66 MA's), (116, 42780), (119, 42789), (148, 42873),

Gene: Larva_58 Start: 40784, Stop: 40996, Start Num: 94
Candidate Starts for Larva_58:
(Start: 94 @40784 has 66 MA's), (116, 40862), (124, 40886), (125, 40889), (133, 40916), (144, 40943),

Gene: LastHope_68 Start: 42025, Stop: 42237, Start Num: 94
Candidate Starts for LastHope_68:
(Start: 94 @42025 has 66 MA's), (116, 42106), (119, 42115),

Gene: LaterM_64 Start: 43287, Stop: 43502, Start Num: 91
Candidate Starts for LaterM_64:
(Start: 91 @43287 has 86 MA's), (116, 43374), (119, 43383),

Gene: LeBruni_50 Start: 29822, Stop: 30013, Start Num: 100
Candidate Starts for LeBruni_50:
(Start: 100 @29822 has 15 MA's),

Gene: LeMond_67 Start: 43270, Stop: 43479, Start Num: 94
Candidate Starts for LeMond_67:
(Start: 94 @43270 has 66 MA's), (102, 43291), (111, 43333), (116, 43351), (119, 43360), (126, 43384),

Gene: Lea83_64 Start: 42945, Stop: 43157, Start Num: 94
Candidate Starts for Lea83_64:
(Start: 94 @42945 has 66 MA's), (119, 43035), (147, 43110),

Gene: Leston_57 Start: 41411, Stop: 41623, Start Num: 94
Candidate Starts for Leston_57:
(Start: 94 @41411 has 66 MA's), (116, 41489), (124, 41513), (125, 41516), (135, 41549), (144, 41570),
(149, 41597),

Gene: LilDirt_54 Start: 39374, Stop: 39586, Start Num: 94
Candidate Starts for LilDirt_54:
(66, 39299), (69, 39308), (75, 39320), (Start: 94 @39374 has 66 MA's), (102, 39392), (116, 39452),
(124, 39476), (125, 39479), (133, 39506), (144, 39533), (150, 39581),

Gene: LilPharaoh_52 Start: 39482, Stop: 39691, Start Num: 94
Candidate Starts for LilPharaoh_52:
(Start: 94 @39482 has 66 MA's), (116, 39563), (119, 39572),

Gene: LindNT_63 Start: 43082, Stop: 43297, Start Num: 91
Candidate Starts for LindNT_63:
(63, 43004), (Start: 91 @43082 has 86 MA's), (116, 43169), (119, 43178),

Gene: Llorens_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Llorens_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: Lunahalos_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Lunahalos_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: MScarn_54 Start: 36322, Stop: 36086, Start Num: 83
Candidate Starts for MScarn_54:
(71, 36340), (Start: 83 @36322 has 26 MA's), (127, 36175), (130, 36163), (132, 36160),

Gene: MacKat_59 Start: 38375, Stop: 38593, Start Num: 91
Candidate Starts for MacKat_59:
(Start: 91 @38375 has 86 MA's), (116, 38462), (119, 38471),

Gene: MacnCheese_66 Start: 43527, Stop: 43739, Start Num: 94
Candidate Starts for MacnCheese_66:
(Start: 91 @43521 has 86 MA's), (Start: 94 @43527 has 66 MA's), (119, 43617), (142, 43677), (147, 43692),

Gene: Mapleville_47 Start: 30349, Stop: 30540, Start Num: 100
Candidate Starts for Mapleville_47:
(Start: 100 @30349 has 15 MA's),

Gene: Margaret_54 Start: 37114, Stop: 36911, Start Num: 96
Candidate Starts for Margaret_54:
(Start: 96 @37114 has 8 MA's), (101, 37102), (Start: 104 @37093 has 1 MA's), (105, 37087), (117, 37036), (125, 37012),

Gene: MarkPhew_66 Start: 42770, Stop: 42982, Start Num: 94
Candidate Starts for MarkPhew_66:
(Start: 94 @42770 has 66 MA's), (111, 42833), (116, 42851), (119, 42860), (126, 42884),

Gene: Marshawn_63 Start: 43120, Stop: 43332, Start Num: 94
Candidate Starts for Marshawn_63:
(Start: 94 @43120 has 66 MA's), (116, 43201),

Gene: McMater_66 Start: 43084, Stop: 43293, Start Num: 94
Candidate Starts for McMater_66:
(33, 42904), (Start: 94 @43084 has 66 MA's), (116, 43165), (119, 43174),

Gene: MeaningOfLife_64 Start: 43347, Stop: 43562, Start Num: 91
Candidate Starts for MeaningOfLife_64:
(Start: 91 @43347 has 86 MA's), (116, 43434), (119, 43443),

Gene: Megsy_66 Start: 43003, Stop: 43218, Start Num: 91
Candidate Starts for Megsy_66:
(Start: 91 @43003 has 86 MA's), (116, 43090), (119, 43099),

Gene: MidnightRain_51 Start: 31618, Stop: 31809, Start Num: 100
Candidate Starts for MidnightRain_51:
(74, 31558), (Start: 100 @31618 has 15 MA's), (143, 31756),

Gene: Miryou_61 Start: 44008, Stop: 44220, Start Num: 94
Candidate Starts for Miryou_61:
(Start: 94 @44008 has 66 MA's), (116, 44086), (124, 44110), (125, 44113), (133, 44140), (144, 44167), (149, 44194),

Gene: ModicumRichard_117 Start: 65073, Stop: 64867, Start Num: 100
Candidate Starts for ModicumRichard_117:
(Start: 100 @65073 has 15 MA's), (117, 65001), (122, 64986), (127, 64971),

Gene: Mopey_81 Start: 58381, Stop: 58695, Start Num: 52

Candidate Starts for Mopey_81:

(22, 58237), (40, 58336), (46, 58354), (Start: 52 @58381 has 21 MA's), (Start: 56 @58390 has 1 MA's), (69, 58435), (73, 58444), (90, 58486),

Gene: Morgana_124 Start: 67243, Stop: 67037, Start Num: 100

Candidate Starts for Morgana_124:

(72, 67312), (Start: 100 @67243 has 15 MA's), (117, 67171), (122, 67156), (127, 67141),

Gene: MrMiyagi_94 Start: 58054, Stop: 58362, Start Num: 57

Candidate Starts for MrMiyagi_94:

(Start: 57 @58054 has 3 MA's), (73, 58105), (Start: 85 @58141 has 1 MA's), (106, 58198), (141, 58288),

Gene: Mulch_71 Start: 47994, Stop: 48194, Start Num: 98

Candidate Starts for Mulch_71:

(65, 47910), (67, 47916), (88, 47970), (92, 47982), (Start: 98 @47994 has 10 MA's),

Gene: MunkgeeRoachy_47 Start: 35379, Stop: 35146, Start Num: 83

Candidate Starts for MunkgeeRoachy_47:

(Start: 83 @35379 has 26 MA's), (109, 35295), (127, 35235),

Gene: Murucutumbu_65 Start: 43862, Stop: 44077, Start Num: 91

Candidate Starts for Murucutumbu_65:

(63, 43784), (Start: 91 @43862 has 86 MA's), (116, 43949), (119, 43958),

Gene: Mynx_65 Start: 43204, Stop: 43422, Start Num: 91

Candidate Starts for Mynx_65:

(63, 43126), (Start: 91 @43204 has 86 MA's), (116, 43291), (119, 43300),

Gene: Nadeem_71 Start: 47982, Stop: 48182, Start Num: 98

Candidate Starts for Nadeem_71:

(65, 47898), (67, 47904), (88, 47958), (92, 47970), (Start: 98 @47982 has 10 MA's),

Gene: Nibb_66 Start: 42981, Stop: 43193, Start Num: 94

Candidate Starts for Nibb_66:

(12, 42507), (Start: 94 @42981 has 66 MA's), (111, 43044), (116, 43062), (119, 43071), (137, 43122),

Gene: Niklas_66 Start: 43145, Stop: 43354, Start Num: 94

Candidate Starts for Niklas_66:

(Start: 94 @43145 has 66 MA's), (116, 43226), (119, 43235),

Gene: Nina_48 Start: 36199, Stop: 35966, Start Num: 83

Candidate Starts for Nina_48:

(Start: 83 @36199 has 26 MA's), (109, 36115), (127, 36055),

Gene: Nodigi_56 Start: 38471, Stop: 38268, Start Num: 96

Candidate Starts for Nodigi_56:

(Start: 96 @38471 has 8 MA's), (Start: 104 @38450 has 1 MA's), (125, 38369), (131, 38348), (137, 38339), (147, 38312),

Gene: Nova_79 Start: 58848, Stop: 59162, Start Num: 52

Candidate Starts for Nova_79:

(22, 58704), (40, 58803), (46, 58821), (Start: 52 @58848 has 21 MA's), (Start: 56 @58857 has 1 MA's), (69, 58902), (73, 58911), (90, 58953),

Gene: November_61 Start: 42834, Stop: 43046, Start Num: 94
Candidate Starts for November_61:

(2, 42144), (5, 42228), (6, 42234), (8, 42282), (9, 42309), (10, 42333), (13, 42375), (34, 42657), (Start: 94 @42834 has 66 MA's), (116, 42915), (119, 42924), (147, 42999),

Gene: Nyilah_48 Start: 29132, Stop: 29323, Start Num: 100
Candidate Starts for Nyilah_48:

(87, 29102), (Start: 100 @29132 has 15 MA's), (116, 29201),

Gene: ObLaDi_116 Start: 64475, Stop: 64269, Start Num: 100
Candidate Starts for ObLaDi_116:

(Start: 100 @64475 has 15 MA's), (117, 64403), (122, 64388), (127, 64373),

Gene: OkiRoe_58 Start: 41679, Stop: 41891, Start Num: 94
Candidate Starts for OkiRoe_58:

(Start: 94 @41679 has 66 MA's), (116, 41757), (124, 41781), (125, 41784), (133, 41811), (144, 41838), (149, 41865),

Gene: Omnicron_61 Start: 41791, Stop: 42003, Start Num: 94
Candidate Starts for Omnicron_61:

(75, 41737), (Start: 94 @41791 has 66 MA's), (113, 41857), (116, 41869), (125, 41896), (144, 41950), (149, 41977),

Gene: Orla_56 Start: 38400, Stop: 38197, Start Num: 96
Candidate Starts for Orla_56:

(Start: 96 @38400 has 8 MA's), (Start: 104 @38379 has 1 MA's), (125, 38298), (131, 38277), (137, 38268), (147, 38241),

Gene: Oscar_67 Start: 43187, Stop: 43396, Start Num: 94
Candidate Starts for Oscar_67:

(Start: 94 @43187 has 66 MA's), (102, 43208), (111, 43250), (116, 43268), (119, 43277), (126, 43301),

Gene: PBI1_76 Start: 58502, Stop: 58816, Start Num: 52
Candidate Starts for PBI1_76:

(25, 58385), (37, 58448), (Start: 52 @58502 has 21 MA's), (Start: 56 @58511 has 1 MA's), (69, 58556), (73, 58565),

Gene: PLOT_80 Start: 58539, Stop: 58853, Start Num: 52
Candidate Starts for PLOT_80:

(37, 58485), (Start: 52 @58539 has 21 MA's), (Start: 56 @58548 has 1 MA's), (69, 58593), (73, 58602), (90, 58644),

Gene: Padfoot_63 Start: 42792, Stop: 43007, Start Num: 91
Candidate Starts for Padfoot_63:

(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Padpat_66 Start: 42909, Stop: 43127, Start Num: 91
Candidate Starts for Padpat_66:

(Start: 91 @42909 has 86 MA's), (116, 42996), (119, 43005),

Gene: Paola_57 Start: 41282, Stop: 41494, Start Num: 94
Candidate Starts for Paola_57:
(Start: 94 @41282 has 66 MA's), (116, 41360), (124, 41384), (125, 41387), (135, 41420), (144, 41441),
(149, 41468),

Gene: Parada_71 Start: 47994, Stop: 48194, Start Num: 98
Candidate Starts for Parada_71:
(65, 47910), (67, 47916), (88, 47970), (92, 47982), (Start: 98 @47994 has 10 MA's),

Gene: Peanam_66 Start: 43103, Stop: 43312, Start Num: 94
Candidate Starts for Peanam_66:
(33, 42923), (Start: 94 @43103 has 66 MA's), (116, 43184), (119, 43193),

Gene: Peel_63 Start: 42597, Stop: 42812, Start Num: 91
Candidate Starts for Peel_63:
(Start: 91 @42597 has 86 MA's), (116, 42684), (119, 42693),

Gene: Penelope2018_80 Start: 58570, Stop: 58884, Start Num: 52
Candidate Starts for Penelope2018_80:
(25, 58453), (37, 58516), (Start: 52 @58570 has 21 MA's), (Start: 56 @58579 has 1 MA's), (69, 58624),
(73, 58633),

Gene: Phalaborwa_82 Start: 59041, Stop: 59355, Start Num: 52
Candidate Starts for Phalaborwa_82:
(46, 59011), (Start: 52 @59041 has 21 MA's), (Start: 56 @59050 has 1 MA's), (69, 59095), (73, 59104),

Gene: Pharb_63 Start: 42257, Stop: 42469, Start Num: 94
Candidate Starts for Pharb_63:
(89, 42242), (Start: 94 @42257 has 66 MA's), (119, 42347),

Gene: PhelpsODU_65 Start: 42337, Stop: 42549, Start Num: 94
Candidate Starts for PhelpsODU_65:
(3, 41674), (4, 41698), (7, 41770), (15, 41923), (34, 42154), (Start: 94 @42337 has 66 MA's), (116,
42418), (119, 42427),

Gene: Phrank_67 Start: 42401, Stop: 42613, Start Num: 94
Candidate Starts for Phrank_67:
(3, 41735), (4, 41759), (7, 41834), (15, 41987), (34, 42218), (Start: 94 @42401 has 66 MA's), (116,
42482), (119, 42491),

Gene: Phrappuccino_126 Start: 92677, Stop: 92982, Start Num: 80
Candidate Starts for Phrappuccino_126:
(19, 92419), (53, 92605), (62, 92638), (Start: 70 @92659 has 1 MA's), (Start: 80 @92677 has 2 MA's),
(116, 92800), (125, 92824), (151, 92944), (152, 92977),

Gene: Piatt_63 Start: 42792, Stop: 43007, Start Num: 91
Candidate Starts for Piatt_63:
(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: Pisa1_63 Start: 43410, Stop: 43625, Start Num: 91
Candidate Starts for Pisa1_63:
(Start: 91 @43410 has 86 MA's), (116, 43497), (119, 43506),

Gene: Pixie_63 Start: 42430, Stop: 42642, Start Num: 94
Candidate Starts for Pixie_63:
(Start: 94 @42430 has 66 MA's), (119, 42520), (147, 42595),

Gene: Pokerus_63 Start: 42937, Stop: 43152, Start Num: 91
Candidate Starts for Pokerus_63:
(63, 42859), (Start: 91 @42937 has 86 MA's), (116, 43024), (119, 43033),

Gene: Prager_80 Start: 58475, Stop: 58789, Start Num: 52
Candidate Starts for Prager_80:
(22, 58331), (40, 58430), (46, 58448), (Start: 52 @58475 has 21 MA's), (Start: 56 @58484 has 1 MA's),
(69, 58529), (73, 58538),

Gene: Prithvi_65 Start: 43082, Stop: 43297, Start Num: 91
Candidate Starts for Prithvi_65:
(63, 43004), (Start: 91 @43082 has 86 MA's), (116, 43169), (119, 43178),

Gene: Psycho_57 Start: 39909, Stop: 40121, Start Num: 94
Candidate Starts for Psycho_57:
(Start: 94 @39909 has 66 MA's), (116, 39987), (124, 40011), (125, 40014), (133, 40041), (144, 40068),

Gene: Pupper_157 Start: 111884, Stop: 112147, Start Num: 64
Candidate Starts for Pupper_157:
(50, 111839), (62, 111881), (Start: 64 @111884 has 3 MA's), (116, 112034), (128, 112070), (138,
112082),

Gene: Quasar_49 Start: 36624, Stop: 36391, Start Num: 83
Candidate Starts for Quasar_49:
(Start: 83 @36624 has 26 MA's), (109, 36540), (127, 36480),

Gene: QuincyRose_62 Start: 42817, Stop: 43032, Start Num: 91
Candidate Starts for QuincyRose_62:
(Start: 91 @42817 has 86 MA's), (116, 42904), (119, 42913),

Gene: Ramen_64 Start: 42442, Stop: 42657, Start Num: 91
Candidate Starts for Ramen_64:
(Start: 91 @42442 has 86 MA's), (116, 42529), (119, 42538),

Gene: RanchParmCat_53 Start: 37255, Stop: 37052, Start Num: 96
Candidate Starts for RanchParmCat_53:
(Start: 96 @37255 has 8 MA's), (101, 37243), (Start: 104 @37234 has 1 MA's), (105, 37228), (117,
37177), (125, 37153),

Gene: Rando14_59 Start: 39518, Stop: 39730, Start Num: 94
Candidate Starts for Rando14_59:
(66, 39443), (69, 39452), (75, 39464), (Start: 94 @39518 has 66 MA's), (116, 39596), (124, 39620),
(125, 39623), (144, 39677), (149, 39704),

Gene: Raphaella_49 Start: 30457, Stop: 30648, Start Num: 100
Candidate Starts for Raphaella_49:
(Start: 100 @30457 has 15 MA's),

Gene: Rapunzel97_65 Start: 42892, Stop: 43107, Start Num: 91

Candidate Starts for Rapunzel97_65:
(63, 42814), (Start: 91 @42892 has 86 MA's), (116, 42979), (119, 42988),

Gene: RedBaron_51 Start: 36246, Stop: 36013, Start Num: 83
Candidate Starts for RedBaron_51:
(Start: 83 @36246 has 26 MA's), (109, 36162),

Gene: Richo_66 Start: 43084, Stop: 43293, Start Num: 94
Candidate Starts for Richo_66:
(33, 42904), (Start: 94 @43084 has 66 MA's), (116, 43165), (119, 43174),

Gene: Rosmarinus_63 Start: 42583, Stop: 42798, Start Num: 91
Candidate Starts for Rosmarinus_63:
(Start: 91 @42583 has 86 MA's), (116, 42670), (119, 42679),

Gene: SCentae_156 Start: 112038, Stop: 112301, Start Num: 64
Candidate Starts for SCentae_156:
(50, 111993), (62, 112035), (Start: 64 @112038 has 3 MA's), (116, 112188), (128, 112224), (138, 112236),

Gene: Sakai_48 Start: 30191, Stop: 30385, Start Num: 100
Candidate Starts for Sakai_48:
(Start: 100 @30191 has 15 MA's), (116, 30260), (145, 30338),

Gene: SamuelLPlaqson_64 Start: 43328, Stop: 43543, Start Num: 91
Candidate Starts for SamuelLPlaqson_64:
(Start: 91 @43328 has 86 MA's), (116, 43415), (119, 43424),

Gene: Scarlett_68 Start: 43514, Stop: 43726, Start Num: 94
Candidate Starts for Scarlett_68:
(Start: 94 @43514 has 66 MA's), (102, 43535), (111, 43577), (116, 43595), (119, 43604), (126, 43628),

Gene: Settecandela_126 Start: 92677, Stop: 92982, Start Num: 80
Candidate Starts for Settecandela_126:
(19, 92419), (53, 92605), (62, 92638), (Start: 70 @92659 has 1 MA's), (Start: 80 @92677 has 2 MA's), (116, 92800), (125, 92824), (151, 92944), (152, 92977),

Gene: SgtBeansprout_52 Start: 39754, Stop: 39963, Start Num: 94
Candidate Starts for SgtBeansprout_52:
(Start: 94 @39754 has 66 MA's), (116, 39835), (119, 39844),

Gene: Shadow1_68 Start: 42852, Stop: 43064, Start Num: 94
Candidate Starts for Shadow1_68:
(Start: 94 @42852 has 66 MA's), (116, 42933), (119, 42942),

Gene: Shaobing_66 Start: 43121, Stop: 43330, Start Num: 94
Candidate Starts for Shaobing_66:
(33, 42941), (Start: 94 @43121 has 66 MA's), (116, 43202), (119, 43211),

Gene: ShedlockHolmes_65 Start: 42949, Stop: 43161, Start Num: 94
Candidate Starts for ShedlockHolmes_65:
(Start: 94 @42949 has 66 MA's), (119, 43039), (147, 43114),

Gene: ShiaSurprise_64 Start: 42792, Stop: 43007, Start Num: 91
Candidate Starts for ShiaSurprise_64:
(Start: 91 @42792 has 86 MA's), (116, 42879), (119, 42888),

Gene: SirHarley_82 Start: 58970, Stop: 59284, Start Num: 52
Candidate Starts for SirHarley_82:
(37, 58916), (Start: 52 @58970 has 21 MA's), (Start: 56 @58979 has 1 MA's), (69, 59024), (73, 59033),
(90, 59075),

Gene: SketchMex_50 Start: 36207, Stop: 35971, Start Num: 83
Candidate Starts for SketchMex_50:
(71, 36225), (Start: 83 @36207 has 26 MA's), (127, 36060), (130, 36048), (132, 36045),

Gene: Skog_217 Start: 141536, Stop: 141781, Start Num: 70
Candidate Starts for Skog_217:
(Start: 70 @141536 has 1 MA's), (107, 141623), (109, 141641), (116, 141668), (121, 141683), (128,
141701),

Gene: Slimphazie_64 Start: 42892, Stop: 43107, Start Num: 91
Candidate Starts for Slimphazie_64:
(63, 42814), (Start: 91 @42892 has 86 MA's), (116, 42979), (119, 42988),

Gene: SoSeph_58 Start: 41654, Stop: 41866, Start Num: 94
Candidate Starts for SoSeph_58:
(Start: 94 @41654 has 66 MA's), (116, 41732), (124, 41756), (125, 41759), (135, 41792), (144, 41813),
(149, 41840),

Gene: Spock_63 Start: 42596, Stop: 42811, Start Num: 91
Candidate Starts for Spock_63:
(Start: 91 @42596 has 86 MA's), (116, 42683), (119, 42692),

Gene: Sporco_51 Start: 30638, Stop: 30829, Start Num: 100
Candidate Starts for Sporco_51:
(21, 30344), (23, 30362), (25, 30392), (29, 30410), (31, 30434), (43, 30467), (45, 30470), (49, 30497),
(79, 30581), (Start: 100 @30638 has 15 MA's),

Gene: SteamedHams_49 Start: 35394, Stop: 35161, Start Num: 83
Candidate Starts for SteamedHams_49:
(35, 35529), (41, 35520), (42, 35517), (54, 35469), (58, 35457), (Start: 83 @35394 has 26 MA's), (109,
35310), (127, 35250),

Gene: Stinson_65 Start: 43220, Stop: 43435, Start Num: 91
Candidate Starts for Stinson_65:
(Start: 91 @43220 has 86 MA's), (116, 43307), (119, 43316),

Gene: Sulley_63 Start: 42656, Stop: 42871, Start Num: 91
Candidate Starts for Sulley_63:
(Start: 91 @42656 has 86 MA's), (116, 42743), (119, 42752),

Gene: Sunflower1121_69 Start: 42998, Stop: 43210, Start Num: 94
Candidate Starts for Sunflower1121_69:
(Start: 94 @42998 has 66 MA's), (116, 43079), (119, 43088),

Gene: SuperheroCarly_80 Start: 58569, Stop: 58877, Start Num: 56
Candidate Starts for SuperheroCarly_80:
(22, 58416), (40, 58515), (46, 58533), (Start: 52 @58560 has 21 MA's), (Start: 56 @58569 has 1 MA's),
(69, 58614), (73, 58623), (90, 58665),

Gene: SweatNTears_51 Start: 36160, Stop: 35927, Start Num: 83
Candidate Starts for SweatNTears_51:
(Start: 83 @36160 has 26 MA's), (109, 36076), (127, 36016),

Gene: Syra333_67 Start: 42711, Stop: 42923, Start Num: 94
Candidate Starts for Syra333_67:
(34, 42528), (Start: 94 @42711 has 66 MA's), (116, 42792), (119, 42801),

Gene: TClif_64 Start: 42546, Stop: 42758, Start Num: 94
Candidate Starts for TClif_64:
(Start: 94 @42546 has 66 MA's), (116, 42627), (119, 42636), (147, 42711),

Gene: TPA4_81 Start: 53987, Stop: 54289, Start Num: 60
Candidate Starts for TPA4_81:
(1, 53147), (16, 53672), (30, 53882), (50, 53957), (60, 53987),

Gene: Tachez_63 Start: 42440, Stop: 42655, Start Num: 91
Candidate Starts for Tachez_63:
(Start: 91 @42440 has 86 MA's), (116, 42527), (119, 42536),

Gene: TaiwanKao_66 Start: 43144, Stop: 43359, Start Num: 91
Candidate Starts for TaiwanKao_66:
(63, 43066), (Start: 91 @43144 has 86 MA's), (116, 43231), (119, 43240),

Gene: Thoth_80 Start: 58624, Stop: 58938, Start Num: 52
Candidate Starts for Thoth_80:
(25, 58507), (37, 58570), (Start: 52 @58624 has 21 MA's), (Start: 56 @58633 has 1 MA's), (69, 58678),
(73, 58687),

Gene: Thyatira_60 Start: 43612, Stop: 43824, Start Num: 94
Candidate Starts for Thyatira_60:
(Start: 94 @43612 has 66 MA's), (116, 43690), (124, 43714), (125, 43717), (135, 43750), (144, 43771),
(149, 43798),

Gene: Tierra_67 Start: 43212, Stop: 43424, Start Num: 94
Candidate Starts for Tierra_67:
(3, 42546), (4, 42570), (7, 42645), (15, 42798), (34, 43029), (Start: 94 @43212 has 66 MA's), (116,
43293), (119, 43302),

Gene: Tiff81_46 Start: 28970, Stop: 29161, Start Num: 100
Candidate Starts for Tiff81_46:
(Start: 100 @28970 has 15 MA's),

Gene: TingHuaYa_67 Start: 42388, Stop: 42606, Start Num: 91
Candidate Starts for TingHuaYa_67:
(47, 42253), (63, 42310), (Start: 91 @42388 has 86 MA's), (116, 42475), (119, 42484),

Gene: TiniBug_64 Start: 43324, Stop: 43539, Start Num: 91

Candidate Starts for TiniBug_64:
(Start: 91 @43324 has 86 MA's), (116, 43411), (119, 43420),

Gene: Tiri_64 Start: 42728, Stop: 42943, Start Num: 91
Candidate Starts for Tiri_64:
(Start: 91 @42728 has 86 MA's), (116, 42815), (119, 42824),

Gene: Tolls_50 Start: 35802, Stop: 35551, Start Num: 83
Candidate Starts for Tolls_50:
(Start: 83 @35802 has 26 MA's), (84, 35796), (119, 35673), (134, 35628),

Gene: Topper_63 Start: 42595, Stop: 42810, Start Num: 91
Candidate Starts for Topper_63:
(Start: 91 @42595 has 86 MA's), (116, 42682), (119, 42691),

Gene: TreyKay_65 Start: 43082, Stop: 43297, Start Num: 91
Candidate Starts for TreyKay_65:
(63, 43004), (Start: 91 @43082 has 86 MA's), (116, 43169), (119, 43178),

Gene: TribbleTrouble_64 Start: 43429, Stop: 43641, Start Num: 94
Candidate Starts for TribbleTrouble_64:
(14, 43003), (34, 43246), (Start: 94 @43429 has 66 MA's), (119, 43519),

Gene: Trogglehumper_5 Start: 2263, Stop: 2457, Start Num: 99
Candidate Starts for Trogglehumper_5:
(Start: 99 @2263 has 1 MA's), (110, 2314), (115, 2332), (123, 2356),

Gene: Troje_52 Start: 36545, Stop: 36309, Start Num: 83
Candidate Starts for Troje_52:
(71, 36563), (Start: 83 @36545 has 26 MA's), (127, 36398), (130, 36386), (132, 36383),

Gene: Troll4_79 Start: 58537, Stop: 58851, Start Num: 52
Candidate Starts for Troll4_79:
(22, 58393), (40, 58492), (46, 58510), (Start: 52 @58537 has 21 MA's), (Start: 56 @58546 has 1 MA's),
(69, 58591), (73, 58600), (90, 58642),

Gene: TruffulaTree_64 Start: 42888, Stop: 43103, Start Num: 91
Candidate Starts for TruffulaTree_64:
(63, 42810), (Start: 91 @42888 has 86 MA's), (116, 42975), (119, 42984),

Gene: Twitch_63 Start: 42597, Stop: 42812, Start Num: 91
Candidate Starts for Twitch_63:
(Start: 91 @42597 has 86 MA's), (116, 42684), (119, 42693),

Gene: Typha_89 Start: 58872, Stop: 59093, Start Num: 81
Candidate Starts for Typha_89:
(Start: 81 @58872 has 5 MA's), (97, 58908), (108, 58938),

Gene: Typhonomachy_48 Start: 35740, Stop: 35507, Start Num: 83
Candidate Starts for Typhonomachy_48:
(Start: 83 @35740 has 26 MA's), (109, 35656), (127, 35596),

Gene: Unicorn_65 Start: 42337, Stop: 42549, Start Num: 94

Candidate Starts for Unicorn_65:
(3, 41674), (4, 41698), (7, 41770), (15, 41923), (34, 42154), (Start: 94 @42337 has 66 MA's), (116, 42418), (119, 42427),

Gene: Urkel_64 Start: 43328, Stop: 43543, Start Num: 91
Candidate Starts for Urkel_64:
(Start: 91 @43328 has 86 MA's), (116, 43415), (119, 43424),

Gene: Validus_68 Start: 43466, Stop: 43675, Start Num: 94
Candidate Starts for Validus_68:
(Start: 94 @43466 has 66 MA's), (116, 43547), (119, 43556), (147, 43631),

Gene: VanLee_109 Start: 57771, Stop: 57962, Start Num: 100
Candidate Starts for VanLee_109:
(Start: 100 @57771 has 15 MA's), (149, 57936),

Gene: Veliki_65 Start: 42859, Stop: 43077, Start Num: 91
Candidate Starts for Veliki_65:
(63, 42781), (Start: 91 @42859 has 86 MA's), (116, 42946), (119, 42955),

Gene: Visconti_81 Start: 58585, Stop: 58899, Start Num: 52
Candidate Starts for Visconti_81:
(25, 58468), (37, 58531), (Start: 52 @58585 has 21 MA's), (Start: 56 @58594 has 1 MA's), (69, 58639), (73, 58648), (90, 58690),

Gene: ViviJ_56 Start: 39373, Stop: 39585, Start Num: 94
Candidate Starts for ViviJ_56:
(66, 39298), (69, 39307), (75, 39319), (Start: 94 @39373 has 66 MA's), (102, 39391), (116, 39451), (124, 39475), (125, 39478), (133, 39505), (144, 39532), (150, 39580),

Gene: Vopal_52 Start: 33686, Stop: 33877, Start Num: 100
Candidate Starts for Vopal_52:
(Start: 100 @33686 has 15 MA's),

Gene: WaldoWhy_82 Start: 58548, Stop: 58862, Start Num: 52
Candidate Starts for WaldoWhy_82:
(25, 58431), (37, 58494), (Start: 52 @58548 has 21 MA's), (Start: 56 @58557 has 1 MA's), (69, 58602), (73, 58611),

Gene: Waterfoul_59 Start: 41716, Stop: 41928, Start Num: 94
Candidate Starts for Waterfoul_59:
(Start: 94 @41716 has 66 MA's), (116, 41794), (124, 41818), (125, 41821), (135, 41854), (144, 41875), (149, 41902),

Gene: WheatThin_71 Start: 47982, Stop: 48182, Start Num: 98
Candidate Starts for WheatThin_71:
(65, 47898), (67, 47904), (88, 47958), (92, 47970), (Start: 98 @47982 has 10 MA's),

Gene: Ximenita_69 Start: 43037, Stop: 43249, Start Num: 94
Candidate Starts for Ximenita_69:
(34, 42854), (Start: 94 @43037 has 66 MA's), (116, 43118), (119, 43127),

Gene: Yakult_51 Start: 37137, Stop: 36952, Start Num: 104

Candidate Starts for Yakult_51:

(82, 37200), (Start: 96 @37158 has 8 MA's), (Start: 104 @37137 has 1 MA's), (112, 37098), (125, 37056), (133, 37032), (147, 36996),

Gene: Yarn_46 Start: 35565, Stop: 35314, Start Num: 83

Candidate Starts for Yarn_46:

(Start: 83 @35565 has 26 MA's), (84, 35559), (119, 35436), (134, 35391),

Gene: YoungHarleezy_50 Start: 31023, Stop: 31214, Start Num: 100

Candidate Starts for YoungHarleezy_50:

(Start: 100 @31023 has 15 MA's),

Gene: YoureAdopted_63 Start: 43008, Stop: 43223, Start Num: 91

Candidate Starts for YoureAdopted_63:

(63, 42930), (Start: 91 @43008 has 86 MA's), (116, 43095), (119, 43104),

Gene: Yummy_52 Start: 36254, Stop: 36018, Start Num: 83

Candidate Starts for Yummy_52:

(71, 36272), (Start: 83 @36254 has 26 MA's), (127, 36107), (130, 36095), (132, 36092),

Gene: Yunkel11_68 Start: 42904, Stop: 43122, Start Num: 91

Candidate Starts for Yunkel11_68:

(63, 42826), (Start: 91 @42904 has 86 MA's), (116, 42991), (119, 43000),

Gene: Zabiza_58 Start: 38745, Stop: 38960, Start Num: 91

Candidate Starts for Zabiza_58:

(Start: 91 @38745 has 86 MA's), (116, 38832), (119, 38841),

Gene: Zavala_66 Start: 43164, Stop: 43382, Start Num: 91

Candidate Starts for Zavala_66:

(63, 43086), (Start: 91 @43164 has 86 MA's), (116, 43251), (119, 43260),