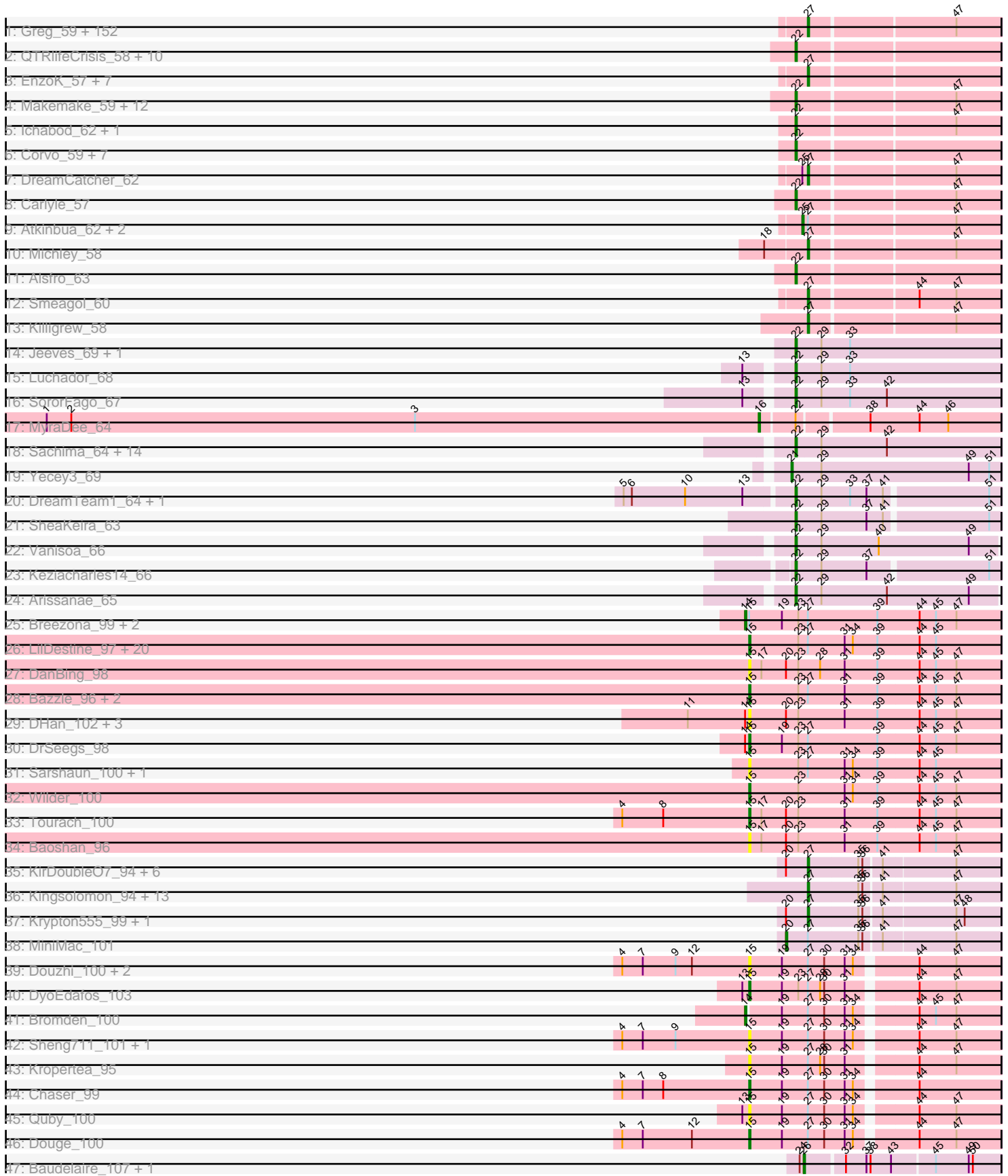


Pham 215755



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 215755 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215755 has 306 members, 50 are drafts.

Phages represented in each track:

- Track 1 : Greg_59, Jerm2_59, Kykar_58, Nhonho_57, KBG_59, Fushigi_55, StewieG_55, NEHalo_56, Hermia_58, HermioneGrange_59, Papez_61, MrGordo_58, Magnar_56, BarrowTuph_58, Ciao_57, Watermelon_59, Paphu_57, Hope4ever_60, Forsytheast_57, Kugel_58, Dussy_60, Swole_59, GrecoEtereo_58, DrFeelGood_56, McSinger_57, Sagefire_60, Gyzlar_54, Seabiscuit_62, JuliaChild_59, Rohr_59, Smairt_61, Kanely_60, Abbyshoes_61, Fajezeel_59, Mkhuseleli_56, Jorgensen_59, Perseus_58, RidgeCB_58, Fascinus_54, Inyanga_53, BigPaolini_57, Rutherford_59, Rhynn_56, Bigchung_57, Crispicous1_55, Solon_56, Sanya_54, SwissCheese_59, CactusRose_56, Museum_59, Marcell_55, Oogway_57, Sibs6_60, Dexes_58, JackSparrow_61, Rufus_59, Fenn_61, Monet_61, Slagathor_60, Buttons_56, Raid_57, Zeeculate_56, Tripl3t_60, Big3_57, BeesKnees_61, Marge_57, Violet_56, BK1_52, Gandalf20_61, AFIS_55, Zephyr_59, Levia_54, Chanagan_54, Hami1_53, Wheeler_58, Eyeball_59, BPBiabs31_60, PinkPlastic_58, Sumter_54, Snazzy_57, PacerPaul_58, Trouble_60, Magnito_57, Altman_61, McGuire_60, TheloniousMonk_59, IgnatiusPatJac_58, Squee_59, Tasp14_61, Arlo_56, Edtherson_57, Bob3_57, Lopton_58, Petruchio_57, GMonster_54, Applejack_53, ConceptII_61, Briton15_62, Phlippers_56, Pippin_59, Aeneas_61, MPlant7149_57, Francis47_57, Ajay_59, Abrogate_570, Burton_58, Blue_57, Peterson_62, Kenmech_63, Niza_60, Treddle_59, A6_52, Molly_59, Tote_54, Moose_57, Espresso_57, Petp2012_59, Payneful_58, PhineBark_58, Mule_56, Rajelicia_59, Adahisdi_58, PascalRango_58, Ringer_58, BigMau_60, Bigfoot_52, Wilkins_57, Topgun_57, HanShotFirst_59, Bruns_57, ILeeKay_61, Marchy_53, Naira_61, Nerujay_60, HarryOW_57, LunarLander_61, Marsha_57, ShortQueendom_51, PattyP_60, Target_59, Maroc7_56, Agaliana_53, Arcanine_60, Bxb1_53, Zeuska_57, PhrostyMug_58, TwoPeat_60, Acme_59, Iqorha_53, BaconJack_63, BluSpix_56, Lamina13_60, Lesedi_54
- Track 2 : QTRlifeCrisis_58, PSullivan_58, Froghopper_55, Marco3_61, Manatee_59, Pita2_61, Scowl_59, Anglerfish_59, Paraselene_56, Sunshine924_60, Euphoria_56
- Track 3 : EnzoK_57, Alvin_57, Parliament_58, Barriga_59, Teodoridan_56, Gompeii16_57, Bircsak_57, Mryolo_55
- Track 4 : Makemake_59, ProMouse_58, Homines_50, KyMonks1A_61, SarFire_55, KSSJEB_58, DD5_57, Turj99_56, LilBib_58, Sorpresa_56, Lockley_56, Thor_55, Sandaddy_55
- Track 5 : Ichabod_62, U2_57
- Track 6 : Corvo_59, MaryBeth_57, SkiPole_63, Switzer_59, MetalQZJ_56, Pepe_55, STLscum_61, Dynamix_60
- Track 7 : DreamCatcher_62

- Track 8 : Carlyle_57
- Track 9 : Atkinbua_62, Pinto_59, Rubeus_58
- Track 10 : Michley_58
- Track 11 : Alsfro_63
- Track 12 : Smeagol_60
- Track 13 : Killigrew_58
- Track 14 : Jeeves_69, Gail_67
- Track 15 : Luchador_68
- Track 16 : SororFago_67
- Track 17 : MyraDee_64
- Track 18 : Sachima_64, Phaeder_68, Tubs_68, Lilleskat_64, Beemo_69, Catalina_70, RyeScarlet_70, EdogawaKiddo_66, Pioneer_69, PackMan_67, Aliter_69, Phonnegut_69, HortumSL17_69, Onglai_66, Myxus_68
- Track 19 : Yecey3_69
- Track 20 : DreamTeam1_64, Charm_64
- Track 21 : SheaKeira_63
- Track 22 : Vanisoa_66
- Track 23 : Keziacharles14_66
- Track 24 : Arissanae_65
- Track 25 : Breezona_99, Miley16_99, Winky_99
- Track 26 : LilDestine_97, Faith1_99, Loadrie_98, BobsGarage_98, BigCheese_99, GuuelaD_96, Finemlucis_100, Kahlid_98, Lewan_100, Itos_99, Vetrix_97, Netyap_98, Gabriela_99, SoJulia_101, MkaliMitinis3_101, Wigglewiggle_99, Rumpelstiltskin_95, Zakai_100, Gardann_99, Underpass_89, Nicholasp3_99
- Track 27 : DanBing_98
- Track 28 : Bazzle_96, Archie_96, Crossroads_99
- Track 29 : DHan_102, ZhongYanYuan_96, Hafay_100, Claus_99
- Track 30 : DrSeegs_98
- Track 31 : Sarshaun_100, Soap141_99
- Track 32 : Wilder_100
- Track 33 : Tourach_100
- Track 34 : Baoshan_96
- Track 35 : KirDoubleO7_94, BourbonZero_97, MiniLon_101, Ellson_95, DuncansLeg_97, Lolly9_96, LiyuLake_95
- Track 36 : Kingsolomon_94, Jubie_95, TriFive_96, Snenia_95, Jobypre_96, MsGreen_96, Finnry_96, Clautastrophe_94, Bellis_94, Nicholas_94, Moostard_93, Samty_95, Lumos_96, Red305_97
- Track 37 : Krypton555_99, Whirlwind_98
- Track 38 : MiniMac_101
- Track 39 : Douzhi_100, BrainDrainer_101, FarmResident_101
- Track 40 : DyoEdafos_103
- Track 41 : Bromden_100
- Track 42 : Sheng711_101, PYPDinur_100
- Track 43 : Kropertea_95
- Track 44 : Chaser_99
- Track 45 : Quby_100
- Track 46 : Douge_100
- Track 47 : Baudelaire_107, Aegeus_107

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

The start number called the most often in the published annotations is 27, it was called in 163 of the 256 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6_52, AFIS_55, Abbyshoes_61, Abrogate_570, Acme_59, Adahisdi_58, Aeneas_61, Agaliana_53, Ajay_59, Altman_61, Alvin_57, Applejack_53, Arcanine_60, Arlo_56, BK1_52, BPBiEbs31_60, BaconJack_63, Barriga_59, BarrowTuph_58, BeesKnees_61, Bellis_94, Big3_57, BigMau_60, BigPaolini_57, Bigchungl_57, Bigfoot_52, Bircsak_57, BluSpix_56, Blue_57, Bob3_57, BourbonZero_97, Briton15_62, Bruns_57, Burton_58, Buttons_56, Bxb1_53, CactusRose_56, Chanagan_54, Ciao_57, Clautastrophe_94, ConceptII_61, Crispicous1_55, Dexes_58, DrFeelGood_56, DreamCatcher_62, DuncansLeg_97, Dussy_60, Edtherson_57, Ellson_95, EnzoK_57, Espresso_57, Eyeball_59, Fajezeel_59, Fascinus_54, Fenn_61, Finnry_96, Forsytheast_57, Francis47_57, Fushigi_55, GMonster_54, Gandalf20_61, Gompeii16_57, GrecoEtereo_58, Greg_59, Gyzlar_54, Hami1_53, HanShotFirst_59, HarryOW_57, Hermia_58, HermioneGrange_59, Hope4ever_60, ILeeKay_61, IgnatiusPatJac_58, Inyanga_53, Iqorha_53, JackSparrow_61, Jerm2_59, Jobypre_96, Jorgensen_59, Jubie_95, JuliaChild_59, KBG_59, Kanely_60, Kenmech_63, Killigrew_58, Kingsolomon_94, KirDoubleO7_94, Krypton555_99, Kugel_58, Kykar_58, Lamina13_60, Lesedi_54, Levia_54, LiyuLake_95, Lolly9_96, Lopton_58, Lumos_96, LunarLander_61, MPlant7149_57, Magnar_56, Magnito_57, Marcell_55, Marchy_53, Marge_57, Maroc7_56, Marsha_57, McGuire_60, McSinger_57, Michley_58, MiniLon_101, MkhuseLi_56, Molly_59, Monet_61, Moose_57, Moostard_93, MrGordo_58, Mryolo_55, MsGreen_96, Mule_56, Museum_59, NEHalo_56, Naira_61, Nerujay_60, Nhonho_57, Nicholas_94, Niza_60, Oogway_57, PacerPaul_58, Papez_61, Paphu_57, Parliament_58, PascalRango_58, PattyP_60, Payneful_58, Perseus_58, Peterson_62, Petp2012_59, Petruchio_57, PhineBark_58, Phlippers_56, PhrostyMug_58, PinkPlastic_58, Pippin_59, Raid_57, Rajelicia_59, Red305_97, Rhynn_56, RidgeCB_58, Ringer_58, Rohr_59, Rufus_59, Rutherferd_59, Sagefire_60, Samty_95, Sanya_54, Seabiscuit_62, ShortQueendom_51, Sibs6_60, Slagathor_60, Smairt_61, Smeagol_60, Snazzy_57, Snenia_95, Solon_56, Squee_59, StewieG_55, Sumter_54, SwissCheese_59, Swole_59, Target_59, Tasp14_61, Teodoridan_56, TheloniousMonk_59, Topgun_57, Tote_54, Treddle_59, TriFive_96, Tripl3t_60, Trouble_60, TwoPeat_60, Violet_56, Watermelon_59, Wheeler_58, Whirlwind_98, Wilkins_57, Zeeculate_56, Zephyr_59, Zeuska_57,

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

- Archie_96, Atkinbua_62, Bazzle_96, BigCheese_99, BobsGarage_98, BrainDrainer_101, Breezona_99, Bromden_100, Chaser_99, Crossroads_99, Douge_100, Douzhi_100, DrSeegs_98, DyoEdafos_103, Faith1_99, FarmResident_101, Finemlucis_100, Gabriela_99, Gardann_99, GuuelaD_96, Itos_99, Kahlid_98, Kropertea_95, Lewan_100, LilDestine_97, Loadrie_98, Miley16_99, MiniMac_101, MkaliMitinis3_101, Netyap_98, Nicholasp3_99, PYPDinur_100, Pinto_59, Quby_100, Rubeus_58, Rumpelstiltskin_95, Sarshaun_100, Sheng711_101, SoJulia_101, Soap141_99, Underpass_89, Vetrix_97, Wigglewiggle_99, Winky_99, Zakai_100,

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

- Aegeus_107, Aliter_69, Alsfro_63, Anglerfish_59, Arissanae_65, Baoshan_96, Baudelaire_107, Beemo_69, Carlyle_57, Catalina_70, Charm_64, Claus_99, Corvo_59, DD5_57, DHan_102, DanBing_98, DreamTeam1_64, Dynamix_60,

EdogawaKiddo_66, Euphoria_56, Froghopper_55, Gail_67, Hafay_100, Homines_50, HortumSL17_69, Ichabod_62, Jeeves_69, KSSJEB_58, Keziacharles14_66, KyMonks1A_61, LilBib_58, Lilleskat_64, Lockley_56, Luchador_68, Makemake_59, Manatee_59, Marco3_61, MaryBeth_57, MetalQZJ_56, MyraDee_64, Myxus_68, Onglai_66, PSullivan_58, PackMan_67, Paraselene_56, Pepe_55, Phaeder_68, Phonnegut_69, Pioneer_69, Pita2_61, ProMouse_58, QTRlifeCrisis_58, RyeScarlet_70, STLscum_61, Sachima_64, Sandaddy_55, SarFire_55, Scowl_59, SheaKeira_63, SkiPole_63, SororFago_67, Sorpresa_56, Sunshine924_60, Switzer_59, Thor_55, Tourach_100, Tubs_68, Turj99_56, U2_57, Vanisoa_66, Wilder_100, Yecey3_69, ZhongYanYuan_96,

Summary by start number:

Start 14:

- Found in 9 of 306 (2.9%) of genes in pham
- Manual Annotations of this start: 4 of 256
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Breezona_99 (L2), Bromden_100 (L4), Miley16_99 (L2), Winky_99 (L2),

Start 15:

- Found in 48 of 306 (15.7%) of genes in pham
- Manual Annotations of this start: 28 of 256
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Archie_96 (L2), Baoshan_96 (L2), Bazzle_96 (L2), BigCheese_99 (L2), BobsGarage_98 (L2), BrainDrainer_101 (L4), Chaser_99 (L4), Claus_99 (L2), Crossroads_99 (L2), DHan_102 (L2), DanBing_98 (L2), Douge_100 (L4), Douzhi_100 (L4), DrSeegs_98 (L2), DyoEdafos_103 (L4), Faith1_99 (L2), FarmResident_101 (L4), Finemlucis_100 (L2), Gabriela_99 (L2), Gardann_99 (L2), GuuelaD_96 (L2), Hafay_100 (L2), Itos_99 (L2), Kahlid_98 (L2), Kropertea_95 (L4), Lewan_100 (L2), LilDestine_97 (L2), Loadrie_98 (L2), MkaliMitinis3_101 (L2), Netyap_98 (L2), Nicholasp3_99 (L2), PYPDinur_100 (L4), Quby_100 (L4), Rumpelstiltskin_95 (L2), Sarshaun_100 (L2), Sheng711_101 (L4), SoJulia_101 (L2), Soap141_99 (L2), Tourach_100 (L2), Underpass_89 (L2), Vetrrix_97 (L2), Wigglewiggles_99 (L2), Wilder_100 (L2), Zakai_100 (L2), ZhongYanYuan_96 (L2),

Start 16:

- Found in 1 of 306 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 256
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MyraDee_64 (A18),

Start 20:

- Found in 17 of 306 (5.6%) of genes in pham
- Manual Annotations of this start: 1 of 256
- Called 5.9% of time when present
- Phage (with cluster) where this start called: MiniMac_101 (L3),

Start 21:

- Found in 1 of 306 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 256
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Yecey3_69 (A9),

Start 22:

- Found in 62 of 306 (20.3%) of genes in pham
- Manual Annotations of this start: 53 of 256
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Aliter_69 (A9), Alsfro_63 (A1), Anglerfish_59 (A1), Arissanae_65 (A9), Beemo_69 (A9), Carlyle_57 (A1), Catalina_70 (A9), Charm_64 (A9), Corvo_59 (A1), DD5_57 (A1), DreamTeam1_64 (A9), Dynamix_60 (A1), EdogawaKiddo_66 (A9), Euphoria_56 (A1), Froghopper_55 (A1), Gail_67 (A14), Homines_50 (A1), HortumSL17_69 (A9), Ichabod_62 (A1), Jeeves_69 (A14), KSSJEB_58 (A1), Keziacharles14_66 (A9), KyMonks1A_61 (A1), LilBib_58 (A1), Lilleskat_64 (A9), Lockley_56 (A1), Luchador_68 (A14), Makemake_59 (A1), Manatee_59 (A1), Marco3_61 (A1), MaryBeth_57 (A1), MetalQZJ_56 (A1), Myxus_68 (A9), Onglai_66 (A9), PSullivan_58 (A1), PackMan_67 (A9), Paraselene_56 (A1), Pepe_55 (A1), Phaeder_68 (A9), Phonnegut_69 (A9), Pioneer_69 (A9), Pita2_61 (A1), ProMouse_58 (A1), QTRlifeCrisis_58 (A1), RyeScarlet_70 (A9), STLscum_61 (A1), Sachima_64 (A9), Sandaddy_55 (A1), SarFire_55 (A1), Scowl_59 (A1), SheaKeira_63 (A9), SkiPole_63 (A1), SororFago_67 (A14), Sorpresa_56 (A1), Sunshine924_60 (A1), Switzer_59 (A1), Thor_55 (A1), Tubs_68 (A9), Turj99_56 (A1), U2_57 (A1), Vanisoa_66 (A9),

Start 25:

- Found in 4 of 306 (1.3%) of genes in pham
- Manual Annotations of this start: 3 of 256
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Atkinbua_62 (A1), Pinto_59 (A1), Rubeus_58 (A1),

Start 26:

- Found in 2 of 306 (0.7%) of genes in pham
- Manual Annotations of this start: 2 of 256
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus_107 (L5), Baudelaire_107 (L5),

Start 27:

- Found in 233 of 306 (76.1%) of genes in pham
- Manual Annotations of this start: 163 of 256
- Called 80.7% of time when present
- Phage (with cluster) where this start called: A6_52 (A1), AFIS_55 (A1), Abbyshoes_61 (A1), Abrogate_570 (A1), Acme_59 (A1), Adahisdi_58 (A1), Aeneas_61 (A1), Agaliana_53 (A1), Ajay_59 (A1), Altman_61 (A1), Alvin_57 (A1), Applejack_53 (A1), Arcanine_60 (A1), Arlo_56 (A1), BK1_52 (A1), BPBiebs31_60 (A1), BaconJack_63 (A1), Barriga_59 (A1), BarrowTuph_58 (A1), BeesKnees_61 (A1), Bellis_94 (L3), Big3_57 (A1), BigMau_60 (A1), BigPaolini_57 (A1), Bigchungi_57 (A1), Bigfoot_52 (A1), Bircsak_57 (A1), BluSpix_56 (A1), Blue_57 (A1), Bob3_57 (A1), BourbonZero_97 (L3), Briton15_62 (A1), Bruns_57 (A1), Burton_58 (A1), Buttons_56 (A1), Bxb1_53 (A1), CactusRose_56 (A1), Chanagan_54 (A1), Ciao_57 (A1), Clautastrophe_94 (L3), ConceptII_61 (A1), Crispicous1_55 (A1), Dexes_58 (A1), DrFeelGood_56 (A1), DreamCatcher_62 (A1), DuncansLeg_97 (L3), Dussy_60 (A1), Edtherson_57 (A1), Ellson_95 (L3), EnzoK_57 (A1), Espresso_57 (A1), Eyeball_59 (A1), Fajezeel_59 (A1), Fascinus_54 (A1), Fenn_61 (A1), Finnry_96 (L3), Forsytheast_57 (A1), Francis47_57 (A1), Fushigi_55 (A1), GMonster_54 (A1),

Gandalf20_61 (A1), Gompeii16_57 (A1), GrecoEtereo_58 (A1), Greg_59 (A1), Gyzlar_54 (A1), Hami1_53 (A1), HanShotFirst_59 (A1), HarryOW_57 (A1), Hermia_58 (A1), HermioneGrange_59 (A1), Hope4ever_60 (A1), ILeeKay_61 (A1), IgnatiusPatJac_58 (A1), Inyanga_53 (A1), Iqorha_53 (A1), JackSparrow_61 (A1), Jerm2_59 (A1), Jobypre_96 (L3), Jorgensen_59 (A1), Jubie_95 (L3), JuliaChild_59 (A1), KBG_59 (A1), Kanely_60 (A1), Kenmech_63 (A1), Killigrew_58 (A1), Kingsolomon_94 (L3), KirDoubleO7_94 (L3), Krypton555_99 (L3), Kugel_58 (A1), Kykar_58 (A1), Lamina13_60 (A1), Lesedi_54 (A1), Levia_54 (A1), LiyuLake_95 (L3), Lolly9_96 (L3), Lopton_58 (A1), Lumos_96 (L3), LunarLander_61 (A1), MPlant7149_57 (A1), Magnar_56 (A1), Magnito_57 (A1), Marcell_55 (A1), Marchy_53 (A1), Marge_57 (A1), Maroc7_56 (A1), Marsha_57 (A1), McGuire_60 (A1), McSinger_57 (A1), Michley_58 (A1), MiniLon_101 (L3), Mkhuseleli_56 (A1), Molly_59 (A1), Monet_61 (A1), Moose_57 (A1), Moostard_93 (L3), MrGordo_58 (A1), Mryolo_55 (A1), MsGreen_96 (L3), Mule_56 (A1), Museum_59 (A1), NEHalo_56 (A1), Naira_61 (A1), Nerujay_60 (A1), Nhonho_57 (A1), Nicholas_94 (L3), Niza_60 (A1), Oogway_57 (A1), PacerPaul_58 (A1), Papez_61 (A1), Paphu_57 (A1), Parliament_58 (A1), PascalRango_58 (A1), PattyP_60 (A1), Payneful_58 (A1), Perseus_58 (A1), Peterson_62 (A1), Petp2012_59 (A1), Petruccio_57 (A1), PhineBark_58 (A1), Phlippers_56 (A1), PhrostyMug_58 (A1), PinkPlastic_58 (A1), Pippin_59 (A1), Raid_57 (A1), Rajelicia_59 (A1), Red305_97 (L3), Rhynn_56 (A1), RidgeCB_58 (A1), Ringer_58 (A1), Rohr_59 (A1), Rufus_59 (A1), Rutherford_59 (A1), Sagefire_60 (A1), Samty_95 (L3), Sanya_54 (A1), Seabiscuit_62 (A1), ShortQueendom_51 (A1), Sibs6_60 (A1), Slagathor_60 (A1), Smairt_61 (A1), Smeagol_60 (A1), Snazzy_57 (A1), Snenia_95 (L3), Solon_56 (A1), Squee_59 (A1), StewieG_55 (A1), Sumter_54 (A1), SwissCheese_59 (A1), Swole_59 (A1), Target_59 (A1), Tasp14_61 (A1), Teodoridan_56 (A1), TheloniousMonk_59 (A1), Topgun_57 (A1), Tote_54 (A1), Treddle_59 (A1), TriFive_96 (L3), Tripl3t_60 (A1), Trouble_60 (A1), TwoPeat_60 (A1), Violet_56 (A1), Watermelon_59 (A1), Wheeler_58 (A1), Whirlwind_98 (L3), Wilkins_57 (A1), Zeeculate_56 (A1), Zephyr_59 (A1), Zeuska_57 (A1),

Summary by clusters:

There are 8 clusters represented in this pham: A14, A18, A1, L4, L5, L2, L3, A9,

Info for manual annotations of cluster A1:

- Start number 22 was manually annotated 33 times for cluster A1.
- Start number 25 was manually annotated 3 times for cluster A1.
- Start number 27 was manually annotated 147 times for cluster A1.

Info for manual annotations of cluster A14:

- Start number 22 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A18:

- Start number 16 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A9:

- Start number 21 was manually annotated 1 time for cluster A9.
- Start number 22 was manually annotated 16 times for cluster A9.

Info for manual annotations of cluster L2:

- Start number 14 was manually annotated 3 times for cluster L2.
- Start number 15 was manually annotated 25 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 20 was manually annotated 1 time for cluster L3.
- Start number 27 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 14 was manually annotated 1 time for cluster L4.
- Start number 15 was manually annotated 3 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 26 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: A6_52 Start: 38092, Stop: 37958, Start Num: 27

Candidate Starts for A6_52:

(Start: 27 @38092 has 163 MA's), (47, 37990),

Gene: AFIS_55 Start: 38799, Stop: 38665, Start Num: 27

Candidate Starts for AFIS_55:

(Start: 27 @38799 has 163 MA's), (47, 38697),

Gene: Abbysshoes_61 Start: 40860, Stop: 40726, Start Num: 27

Candidate Starts for Abbysshoes_61:

(Start: 27 @40860 has 163 MA's), (47, 40758),

Gene: Abrogate_570 Start: 40665, Stop: 40531, Start Num: 27

Candidate Starts for Abrogate_570:

(Start: 27 @40665 has 163 MA's), (47, 40563),

Gene: Acme_59 Start: 39262, Stop: 39128, Start Num: 27

Candidate Starts for Acme_59:

(Start: 27 @39262 has 163 MA's), (47, 39160),

Gene: Adahisdi_58 Start: 40395, Stop: 40261, Start Num: 27

Candidate Starts for Adahisdi_58:

(Start: 27 @40395 has 163 MA's), (47, 40293),

Gene: Aegeus_107 Start: 62949, Stop: 63086, Start Num: 26

Candidate Starts for Aegeus_107:

(24, 62946), (Start: 26 @62949 has 2 MA's), (32, 62976), (37, 62991), (38, 62994), (43, 63009), (45, 63039), (49, 63063), (50, 63066),

Gene: Aeneas_61 Start: 41102, Stop: 40968, Start Num: 27

Candidate Starts for Aeneas_61:

(Start: 27 @41102 has 163 MA's), (47, 41000),

Gene: Agaliana_53 Start: 37073, Stop: 36939, Start Num: 27

Candidate Starts for Agaliana_53:

(Start: 27 @37073 has 163 MA's), (47, 36971),

Gene: Ajay_59 Start: 40476, Stop: 40342, Start Num: 27
Candidate Starts for Ajay_59:
(Start: 27 @40476 has 163 MA's), (47, 40374),

Gene: Aliter_69 Start: 40655, Stop: 40506, Start Num: 22
Candidate Starts for Aliter_69:
(Start: 22 @40655 has 53 MA's), (29, 40637), (42, 40589),

Gene: Alsfro_63 Start: 40052, Stop: 39909, Start Num: 22
Candidate Starts for Alsfro_63:
(Start: 22 @40052 has 53 MA's),

Gene: Altman_61 Start: 40582, Stop: 40448, Start Num: 27
Candidate Starts for Altman_61:
(Start: 27 @40582 has 163 MA's), (47, 40480),

Gene: Alvin_57 Start: 39789, Stop: 39655, Start Num: 27
Candidate Starts for Alvin_57:
(Start: 27 @39789 has 163 MA's),

Gene: Anglerfish_59 Start: 40711, Stop: 40568, Start Num: 22
Candidate Starts for Anglerfish_59:
(Start: 22 @40711 has 53 MA's),

Gene: Applejack_53 Start: 36632, Stop: 36498, Start Num: 27
Candidate Starts for Applejack_53:
(Start: 27 @36632 has 163 MA's), (47, 36530),

Gene: Arcanine_60 Start: 40322, Stop: 40188, Start Num: 27
Candidate Starts for Arcanine_60:
(Start: 27 @40322 has 163 MA's), (47, 40220),

Gene: Archie_96 Start: 60983, Stop: 61165, Start Num: 15
Candidate Starts for Archie_96:
(Start: 15 @60983 has 28 MA's), (23, 61019), (Start: 27 @61025 has 163 MA's), (31, 61052), (39, 61076), (44, 61106), (45, 61118), (47, 61133),

Gene: Arissanae_65 Start: 40920, Stop: 40774, Start Num: 22
Candidate Starts for Arissanae_65:
(Start: 22 @40920 has 53 MA's), (29, 40902), (42, 40854), (49, 40794),

Gene: Arlo_56 Start: 38792, Stop: 38658, Start Num: 27
Candidate Starts for Arlo_56:
(Start: 27 @38792 has 163 MA's), (47, 38690),

Gene: Atkinbua_62 Start: 40268, Stop: 40131, Start Num: 25
Candidate Starts for Atkinbua_62:
(Start: 25 @40268 has 3 MA's), (Start: 27 @40265 has 163 MA's), (47, 40163),

Gene: BK1_52 Start: 38092, Stop: 37958, Start Num: 27
Candidate Starts for BK1_52:
(Start: 27 @38092 has 163 MA's), (47, 37990),

Gene: BPBiibs31_60 Start: 40754, Stop: 40620, Start Num: 27
Candidate Starts for BPBiibs31_60:
(Start: 27 @40754 has 163 MA's), (47, 40652),

Gene: BaconJack_63 Start: 41853, Stop: 41719, Start Num: 27
Candidate Starts for BaconJack_63:
(Start: 27 @41853 has 163 MA's), (47, 41751),

Gene: Baoshan_96 Start: 61599, Stop: 61781, Start Num: 15
Candidate Starts for Baoshan_96:
(Start: 15 @61599 has 28 MA's), (17, 61608), (Start: 20 @61626 has 1 MA's), (23, 61635), (31, 61668),
(39, 61692), (44, 61722), (45, 61734), (47, 61749),

Gene: Barriga_59 Start: 38979, Stop: 38845, Start Num: 27
Candidate Starts for Barriga_59:
(Start: 27 @38979 has 163 MA's),

Gene: BarrowTuph_58 Start: 39907, Stop: 39773, Start Num: 27
Candidate Starts for BarrowTuph_58:
(Start: 27 @39907 has 163 MA's), (47, 39805),

Gene: Baudelaire_107 Start: 62949, Stop: 63086, Start Num: 26
Candidate Starts for Baudelaire_107:
(24, 62946), (Start: 26 @62949 has 2 MA's), (32, 62976), (37, 62991), (38, 62994), (43, 63009), (45,
63039), (49, 63063), (50, 63066),

Gene: Bazzle_96 Start: 61539, Stop: 61721, Start Num: 15
Candidate Starts for Bazzle_96:
(Start: 15 @61539 has 28 MA's), (23, 61575), (Start: 27 @61581 has 163 MA's), (31, 61608), (39,
61632), (44, 61662), (45, 61674), (47, 61689),

Gene: Beemo_69 Start: 40825, Stop: 40676, Start Num: 22
Candidate Starts for Beemo_69:
(Start: 22 @40825 has 53 MA's), (29, 40807), (42, 40759),

Gene: BeesKnees_61 Start: 39847, Stop: 39713, Start Num: 27
Candidate Starts for BeesKnees_61:
(Start: 27 @39847 has 163 MA's), (47, 39745),

Gene: Bellis_94 Start: 61101, Stop: 61235, Start Num: 27
Candidate Starts for Bellis_94:
(Start: 27 @61101 has 163 MA's), (35, 61137), (36, 61140), (41, 61152), (47, 61203),

Gene: Big3_57 Start: 40553, Stop: 40419, Start Num: 27
Candidate Starts for Big3_57:
(Start: 27 @40553 has 163 MA's), (47, 40451),

Gene: BigCheese_99 Start: 61757, Stop: 61939, Start Num: 15
Candidate Starts for BigCheese_99:
(Start: 15 @61757 has 28 MA's), (23, 61793), (Start: 27 @61799 has 163 MA's), (31, 61826), (34,
61832), (39, 61850), (44, 61880), (45, 61892),

Gene: BigMau_60 Start: 39207, Stop: 39073, Start Num: 27

Candidate Starts for BigMau_60:
(Start: 27 @39207 has 163 MA's), (47, 39105),

Gene: BigPaolini_57 Start: 38390, Stop: 38256, Start Num: 27
Candidate Starts for BigPaolini_57:
(Start: 27 @38390 has 163 MA's), (47, 38288),

Gene: Bigchungj_57 Start: 39152, Stop: 39018, Start Num: 27
Candidate Starts for Bigchungj_57:
(Start: 27 @39152 has 163 MA's), (47, 39050),

Gene: Bigfoot_52 Start: 39345, Stop: 39211, Start Num: 27
Candidate Starts for Bigfoot_52:
(Start: 27 @39345 has 163 MA's), (47, 39243),

Gene: Bircsak_57 Start: 40580, Stop: 40446, Start Num: 27
Candidate Starts for Bircsak_57:
(Start: 27 @40580 has 163 MA's),

Gene: BluSpix_56 Start: 35839, Stop: 35705, Start Num: 27
Candidate Starts for BluSpix_56:
(Start: 27 @35839 has 163 MA's), (47, 35737),

Gene: Blue_57 Start: 40422, Stop: 40288, Start Num: 27
Candidate Starts for Blue_57:
(Start: 27 @40422 has 163 MA's), (47, 40320),

Gene: Bob3_57 Start: 38473, Stop: 38339, Start Num: 27
Candidate Starts for Bob3_57:
(Start: 27 @38473 has 163 MA's), (47, 38371),

Gene: BobsGarage_98 Start: 61757, Stop: 61939, Start Num: 15
Candidate Starts for BobsGarage_98:
(Start: 15 @61757 has 28 MA's), (23, 61793), (Start: 27 @61799 has 163 MA's), (31, 61826), (34, 61832), (39, 61850), (44, 61880), (45, 61892),

Gene: BourbonZero_97 Start: 61299, Stop: 61433, Start Num: 27
Candidate Starts for BourbonZero_97:
(Start: 20 @61284 has 1 MA's), (Start: 27 @61299 has 163 MA's), (35, 61335), (36, 61338), (41, 61350), (47, 61401),

Gene: BrainDrainer_101 Start: 61531, Stop: 61704, Start Num: 15
Candidate Starts for BrainDrainer_101:
(4, 61438), (7, 61453), (9, 61477), (12, 61489), (Start: 15 @61531 has 28 MA's), (19, 61555), (Start: 27 @61573 has 163 MA's), (30, 61585), (31, 61600), (34, 61606), (44, 61645), (47, 61672),

Gene: Breezona_99 Start: 61842, Stop: 62027, Start Num: 14
Candidate Starts for Breezona_99:
(Start: 14 @61842 has 4 MA's), (Start: 15 @61845 has 28 MA's), (19, 61869), (23, 61881), (Start: 27 @61887 has 163 MA's), (39, 61938), (44, 61968), (45, 61980), (47, 61995),

Gene: Briton15_62 Start: 40265, Stop: 40131, Start Num: 27
Candidate Starts for Briton15_62:

(Start: 27 @40265 has 163 MA's), (47, 40163),

Gene: Bromden_100 Start: 62267, Stop: 62440, Start Num: 14

Candidate Starts for Bromden_100:

(Start: 14 @62267 has 4 MA's), (19, 62291), (Start: 27 @62309 has 163 MA's), (30, 62321), (31, 62336), (34, 62342), (44, 62381), (45, 62393), (47, 62408),

Gene: Bruns_57 Start: 38964, Stop: 38830, Start Num: 27

Candidate Starts for Bruns_57:

(Start: 27 @38964 has 163 MA's), (47, 38862),

Gene: Burton_58 Start: 40146, Stop: 40012, Start Num: 27

Candidate Starts for Burton_58:

(Start: 27 @40146 has 163 MA's), (47, 40044),

Gene: Buttons_56 Start: 37913, Stop: 37779, Start Num: 27

Candidate Starts for Buttons_56:

(Start: 27 @37913 has 163 MA's), (47, 37811),

Gene: Bxb1_53 Start: 38664, Stop: 38530, Start Num: 27

Candidate Starts for Bxb1_53:

(Start: 27 @38664 has 163 MA's), (47, 38562),

Gene: CactusRose_56 Start: 39341, Stop: 39207, Start Num: 27

Candidate Starts for CactusRose_56:

(Start: 27 @39341 has 163 MA's), (47, 39239),

Gene: Carlyle_57 Start: 37358, Stop: 37215, Start Num: 22

Candidate Starts for Carlyle_57:

(Start: 22 @37358 has 53 MA's), (47, 37247),

Gene: Catalina_70 Start: 40728, Stop: 40579, Start Num: 22

Candidate Starts for Catalina_70:

(Start: 22 @40728 has 53 MA's), (29, 40710), (42, 40662),

Gene: Chanagan_54 Start: 37998, Stop: 37864, Start Num: 27

Candidate Starts for Chanagan_54:

(Start: 27 @37998 has 163 MA's), (47, 37896),

Gene: Charm_64 Start: 40061, Stop: 39918, Start Num: 22

Candidate Starts for Charm_64:

(5, 40181), (6, 40175), (10, 40136), (13, 40094), (Start: 22 @40061 has 53 MA's), (29, 40043), (33, 40022), (37, 40010), (41, 39998), (51, 39926),

Gene: Chaser_99 Start: 60883, Stop: 61056, Start Num: 15

Candidate Starts for Chaser_99:

(4, 60790), (7, 60805), (8, 60820), (Start: 15 @60883 has 28 MA's), (19, 60907), (Start: 27 @60925 has 163 MA's), (30, 60937), (31, 60952), (34, 60958), (44, 60997),

Gene: Ciao_57 Start: 39371, Stop: 39237, Start Num: 27

Candidate Starts for Ciao_57:

(Start: 27 @39371 has 163 MA's), (47, 39269),

Gene: Claus_99 Start: 61500, Stop: 61682, Start Num: 15
Candidate Starts for Claus_99:
(11, 61455), (Start: 14 @61497 has 4 MA's), (Start: 15 @61500 has 28 MA's), (Start: 20 @61527 has 1 MA's), (23, 61536), (31, 61569), (39, 61593), (44, 61623), (45, 61635), (47, 61650),

Gene: Clautastrophe_94 Start: 61096, Stop: 61230, Start Num: 27
Candidate Starts for Clautastrophe_94:
(Start: 27 @61096 has 163 MA's), (35, 61132), (36, 61135), (41, 61147), (47, 61198),

Gene: ConceptII_61 Start: 41437, Stop: 41303, Start Num: 27
Candidate Starts for ConceptII_61:
(Start: 27 @41437 has 163 MA's), (47, 41335),

Gene: Corvo_59 Start: 40902, Stop: 40759, Start Num: 22
Candidate Starts for Corvo_59:
(Start: 22 @40902 has 53 MA's),

Gene: Crispicous1_55 Start: 38394, Stop: 38260, Start Num: 27
Candidate Starts for Crispicous1_55:
(Start: 27 @38394 has 163 MA's), (47, 38292),

Gene: Crossroads_99 Start: 61475, Stop: 61657, Start Num: 15
Candidate Starts for Crossroads_99:
(Start: 15 @61475 has 28 MA's), (23, 61511), (Start: 27 @61517 has 163 MA's), (31, 61544), (39, 61568), (44, 61598), (45, 61610), (47, 61625),

Gene: DD5_57 Start: 40238, Stop: 40095, Start Num: 22
Candidate Starts for DD5_57:
(Start: 22 @40238 has 53 MA's), (47, 40127),

Gene: DHan_102 Start: 61776, Stop: 61958, Start Num: 15
Candidate Starts for DHan_102:
(11, 61731), (Start: 14 @61773 has 4 MA's), (Start: 15 @61776 has 28 MA's), (Start: 20 @61803 has 1 MA's), (23, 61812), (31, 61845), (39, 61869), (44, 61899), (45, 61911), (47, 61926),

Gene: DanBing_98 Start: 61291, Stop: 61473, Start Num: 15
Candidate Starts for DanBing_98:
(Start: 15 @61291 has 28 MA's), (17, 61300), (Start: 20 @61318 has 1 MA's), (23, 61327), (28, 61342), (31, 61360), (39, 61384), (44, 61414), (45, 61426), (47, 61441),

Gene: Dexes_58 Start: 40275, Stop: 40141, Start Num: 27
Candidate Starts for Dexes_58:
(Start: 27 @40275 has 163 MA's), (47, 40173),

Gene: Douge_100 Start: 60951, Stop: 61124, Start Num: 15
Candidate Starts for Douge_100:
(4, 60858), (7, 60873), (12, 60909), (Start: 15 @60951 has 28 MA's), (19, 60975), (Start: 27 @60993 has 163 MA's), (30, 61005), (31, 61020), (34, 61026), (44, 61065), (47, 61092),

Gene: Douzhi_100 Start: 61220, Stop: 61393, Start Num: 15
Candidate Starts for Douzhi_100:
(4, 61127), (7, 61142), (9, 61166), (12, 61178), (Start: 15 @61220 has 28 MA's), (19, 61244), (Start: 27 @61262 has 163 MA's), (30, 61274), (31, 61289), (34, 61295), (44, 61334), (47, 61361),

Gene: DrFeelGood_56 Start: 39234, Stop: 39100, Start Num: 27

Candidate Starts for DrFeelGood_56:

(Start: 27 @39234 has 163 MA's), (47, 39132),

Gene: DrSeegs_98 Start: 61845, Stop: 62027, Start Num: 15

Candidate Starts for DrSeegs_98:

(Start: 14 @61842 has 4 MA's), (Start: 15 @61845 has 28 MA's), (19, 61869), (23, 61881), (Start: 27 @61887 has 163 MA's), (39, 61938), (44, 61968), (45, 61980), (47, 61995),

Gene: DreamCatcher_62 Start: 40897, Stop: 40763, Start Num: 27

Candidate Starts for DreamCatcher_62:

(Start: 25 @40900 has 3 MA's), (Start: 27 @40897 has 163 MA's), (47, 40795),

Gene: DreamTeam1_64 Start: 39893, Stop: 39750, Start Num: 22

Candidate Starts for DreamTeam1_64:

(5, 40013), (6, 40007), (10, 39968), (13, 39926), (Start: 22 @39893 has 53 MA's), (29, 39875), (33, 39854), (37, 39842), (41, 39830), (51, 39758),

Gene: DuncansLeg_97 Start: 61287, Stop: 61421, Start Num: 27

Candidate Starts for DuncansLeg_97:

(Start: 20 @61272 has 1 MA's), (Start: 27 @61287 has 163 MA's), (35, 61323), (36, 61326), (41, 61338), (47, 61389),

Gene: Dussy_60 Start: 40880, Stop: 40746, Start Num: 27

Candidate Starts for Dussy_60:

(Start: 27 @40880 has 163 MA's), (47, 40778),

Gene: Dynamix_60 Start: 39645, Stop: 39502, Start Num: 22

Candidate Starts for Dynamix_60:

(Start: 22 @39645 has 53 MA's),

Gene: DyoEdafos_103 Start: 61511, Stop: 61684, Start Num: 15

Candidate Starts for DyoEdafos_103:

(13, 61508), (Start: 15 @61511 has 28 MA's), (19, 61535), (23, 61547), (Start: 27 @61553 has 163 MA's), (28, 61562), (30, 61565), (31, 61580), (44, 61625), (47, 61652),

Gene: EdogawaKiddo_66 Start: 40695, Stop: 40546, Start Num: 22

Candidate Starts for EdogawaKiddo_66:

(Start: 22 @40695 has 53 MA's), (29, 40677), (42, 40629),

Gene: Edtherson_57 Start: 39654, Stop: 39520, Start Num: 27

Candidate Starts for Edtherson_57:

(Start: 27 @39654 has 163 MA's), (47, 39552),

Gene: Ellson_95 Start: 61602, Stop: 61736, Start Num: 27

Candidate Starts for Ellson_95:

(Start: 20 @61587 has 1 MA's), (Start: 27 @61602 has 163 MA's), (35, 61638), (36, 61641), (41, 61653), (47, 61704),

Gene: EnzoK_57 Start: 37486, Stop: 37352, Start Num: 27

Candidate Starts for EnzoK_57:

(Start: 27 @37486 has 163 MA's),

Gene: Espresso_57 Start: 40290, Stop: 40156, Start Num: 27

Candidate Starts for Espresso_57:

(Start: 27 @40290 has 163 MA's), (47, 40188),

Gene: Euphoria_56 Start: 39547, Stop: 39404, Start Num: 22

Candidate Starts for Euphoria_56:

(Start: 22 @39547 has 53 MA's),

Gene: Eyeball_59 Start: 39749, Stop: 39615, Start Num: 27

Candidate Starts for Eyeball_59:

(Start: 27 @39749 has 163 MA's), (47, 39647),

Gene: Faith1_99 Start: 61400, Stop: 61582, Start Num: 15

Candidate Starts for Faith1_99:

(Start: 15 @61400 has 28 MA's), (23, 61436), (Start: 27 @61442 has 163 MA's), (31, 61469), (34, 61475), (39, 61493), (44, 61523), (45, 61535),

Gene: Fajezeel_59 Start: 39720, Stop: 39586, Start Num: 27

Candidate Starts for Fajezeel_59:

(Start: 27 @39720 has 163 MA's), (47, 39618),

Gene: FarmResident_101 Start: 61107, Stop: 61280, Start Num: 15

Candidate Starts for FarmResident_101:

(4, 61014), (7, 61029), (9, 61053), (12, 61065), (Start: 15 @61107 has 28 MA's), (19, 61131), (Start: 27 @61149 has 163 MA's), (30, 61161), (31, 61176), (34, 61182), (44, 61221), (47, 61248),

Gene: Fascinus_54 Start: 39859, Stop: 39725, Start Num: 27

Candidate Starts for Fascinus_54:

(Start: 27 @39859 has 163 MA's), (47, 39757),

Gene: Fenn_61 Start: 41648, Stop: 41514, Start Num: 27

Candidate Starts for Fenn_61:

(Start: 27 @41648 has 163 MA's), (47, 41546),

Gene: Finemlucis_100 Start: 62460, Stop: 62642, Start Num: 15

Candidate Starts for Finemlucis_100:

(Start: 15 @62460 has 28 MA's), (23, 62496), (Start: 27 @62502 has 163 MA's), (31, 62529), (34, 62535), (39, 62553), (44, 62583), (45, 62595),

Gene: Finnry_96 Start: 61449, Stop: 61583, Start Num: 27

Candidate Starts for Finnry_96:

(Start: 27 @61449 has 163 MA's), (35, 61485), (36, 61488), (41, 61500), (47, 61551),

Gene: Forsytheast_57 Start: 39132, Stop: 38998, Start Num: 27

Candidate Starts for Forsytheast_57:

(Start: 27 @39132 has 163 MA's), (47, 39030),

Gene: Francis47_57 Start: 40917, Stop: 40783, Start Num: 27

Candidate Starts for Francis47_57:

(Start: 27 @40917 has 163 MA's), (47, 40815),

Gene: Froghopper_55 Start: 38579, Stop: 38436, Start Num: 22

Candidate Starts for Froghopper_55:

(Start: 22 @38579 has 53 MA's),

Gene: Fushigi_55 Start: 38393, Stop: 38259, Start Num: 27

Candidate Starts for Fushigi_55:

(Start: 27 @38393 has 163 MA's), (47, 38291),

Gene: GMonster_54 Start: 38356, Stop: 38222, Start Num: 27

Candidate Starts for GMonster_54:

(Start: 27 @38356 has 163 MA's), (47, 38254),

Gene: Gabriela_99 Start: 60746, Stop: 60928, Start Num: 15

Candidate Starts for Gabriela_99:

(Start: 15 @60746 has 28 MA's), (23, 60782), (Start: 27 @60788 has 163 MA's), (31, 60815), (34, 60821), (39, 60839), (44, 60869), (45, 60881),

Gene: Gail_67 Start: 41407, Stop: 41258, Start Num: 22

Candidate Starts for Gail_67:

(Start: 22 @41407 has 53 MA's), (29, 41389), (33, 41368),

Gene: Gandalf20_61 Start: 41575, Stop: 41441, Start Num: 27

Candidate Starts for Gandalf20_61:

(Start: 27 @41575 has 163 MA's), (47, 41473),

Gene: Gardann_99 Start: 61193, Stop: 61375, Start Num: 15

Candidate Starts for Gardann_99:

(Start: 15 @61193 has 28 MA's), (23, 61229), (Start: 27 @61235 has 163 MA's), (31, 61262), (34, 61268), (39, 61286), (44, 61316), (45, 61328),

Gene: Gompeii16_57 Start: 40581, Stop: 40447, Start Num: 27

Candidate Starts for Gompeii16_57:

(Start: 27 @40581 has 163 MA's),

Gene: GrecoEtereo_58 Start: 39479, Stop: 39345, Start Num: 27

Candidate Starts for GrecoEtereo_58:

(Start: 27 @39479 has 163 MA's), (47, 39377),

Gene: Greg_59 Start: 39720, Stop: 39586, Start Num: 27

Candidate Starts for Greg_59:

(Start: 27 @39720 has 163 MA's), (47, 39618),

Gene: GuuelaD_96 Start: 61359, Stop: 61541, Start Num: 15

Candidate Starts for GuuelaD_96:

(Start: 15 @61359 has 28 MA's), (23, 61395), (Start: 27 @61401 has 163 MA's), (31, 61428), (34, 61434), (39, 61452), (44, 61482), (45, 61494),

Gene: Gyzlar_54 Start: 37793, Stop: 37659, Start Num: 27

Candidate Starts for Gyzlar_54:

(Start: 27 @37793 has 163 MA's), (47, 37691),

Gene: Hafay_100 Start: 61495, Stop: 61677, Start Num: 15

Candidate Starts for Hafay_100:

(11, 61450), (Start: 14 @61492 has 4 MA's), (Start: 15 @61495 has 28 MA's), (Start: 20 @61522 has 1 MA's), (23, 61531), (31, 61564), (39, 61588), (44, 61618), (45, 61630), (47, 61645),

Gene: Hami1_53 Start: 34833, Stop: 34699, Start Num: 27
Candidate Starts for Hami1_53:
(Start: 27 @34833 has 163 MA's), (47, 34731),

Gene: HanShotFirst_59 Start: 40295, Stop: 40161, Start Num: 27
Candidate Starts for HanShotFirst_59:
(Start: 27 @40295 has 163 MA's), (47, 40193),

Gene: HarryOW_57 Start: 38977, Stop: 38843, Start Num: 27
Candidate Starts for HarryOW_57:
(Start: 27 @38977 has 163 MA's), (47, 38875),

Gene: Hermia_58 Start: 40152, Stop: 40018, Start Num: 27
Candidate Starts for Hermia_58:
(Start: 27 @40152 has 163 MA's), (47, 40050),

Gene: HermioneGrange_59 Start: 39701, Stop: 39567, Start Num: 27
Candidate Starts for HermioneGrange_59:
(Start: 27 @39701 has 163 MA's), (47, 39599),

Gene: Homines_50 Start: 35670, Stop: 35527, Start Num: 22
Candidate Starts for Homines_50:
(Start: 22 @35670 has 53 MA's), (47, 35559),

Gene: Hope4ever_60 Start: 40461, Stop: 40327, Start Num: 27
Candidate Starts for Hope4ever_60:
(Start: 27 @40461 has 163 MA's), (47, 40359),

Gene: HortumSL17_69 Start: 40727, Stop: 40578, Start Num: 22
Candidate Starts for HortumSL17_69:
(Start: 22 @40727 has 53 MA's), (29, 40709), (42, 40661),

Gene: ILeeKay_61 Start: 40319, Stop: 40185, Start Num: 27
Candidate Starts for ILeeKay_61:
(Start: 27 @40319 has 163 MA's), (47, 40217),

Gene: Ichabod_62 Start: 41147, Stop: 41004, Start Num: 22
Candidate Starts for Ichabod_62:
(Start: 22 @41147 has 53 MA's), (47, 41036),

Gene: IgnatiusPatJac_58 Start: 39784, Stop: 39650, Start Num: 27
Candidate Starts for IgnatiusPatJac_58:
(Start: 27 @39784 has 163 MA's), (47, 39682),

Gene: Inyanga_53 Start: 38018, Stop: 37884, Start Num: 27
Candidate Starts for Inyanga_53:
(Start: 27 @38018 has 163 MA's), (47, 37916),

Gene: Iqorha_53 Start: 38017, Stop: 37883, Start Num: 27
Candidate Starts for Iqorha_53:

(Start: 27 @38017 has 163 MA's), (47, 37915),

Gene: Itos_99 Start: 60306, Stop: 60488, Start Num: 15

Candidate Starts for Itos_99:

(Start: 15 @60306 has 28 MA's), (23, 60342), (Start: 27 @60348 has 163 MA's), (31, 60375), (34, 60381), (39, 60399), (44, 60429), (45, 60441),

Gene: JackSparrow_61 Start: 40371, Stop: 40237, Start Num: 27

Candidate Starts for JackSparrow_61:

(Start: 27 @40371 has 163 MA's), (47, 40269),

Gene: Jeeves_69 Start: 40401, Stop: 40252, Start Num: 22

Candidate Starts for Jeeves_69:

(Start: 22 @40401 has 53 MA's), (29, 40383), (33, 40362),

Gene: Jerm2_59 Start: 39956, Stop: 39822, Start Num: 27

Candidate Starts for Jerm2_59:

(Start: 27 @39956 has 163 MA's), (47, 39854),

Gene: Jobypre_96 Start: 61096, Stop: 61230, Start Num: 27

Candidate Starts for Jobypre_96:

(Start: 27 @61096 has 163 MA's), (35, 61132), (36, 61135), (41, 61147), (47, 61198),

Gene: Jorgensen_59 Start: 39780, Stop: 39646, Start Num: 27

Candidate Starts for Jorgensen_59:

(Start: 27 @39780 has 163 MA's), (47, 39678),

Gene: Jubie_95 Start: 61231, Stop: 61365, Start Num: 27

Candidate Starts for Jubie_95:

(Start: 27 @61231 has 163 MA's), (35, 61267), (36, 61270), (41, 61282), (47, 61333),

Gene: JuliaChild_59 Start: 39638, Stop: 39504, Start Num: 27

Candidate Starts for JuliaChild_59:

(Start: 27 @39638 has 163 MA's), (47, 39536),

Gene: KBG_59 Start: 41762, Stop: 41628, Start Num: 27

Candidate Starts for KBG_59:

(Start: 27 @41762 has 163 MA's), (47, 41660),

Gene: KSSJEB_58 Start: 39422, Stop: 39279, Start Num: 22

Candidate Starts for KSSJEB_58:

(Start: 22 @39422 has 53 MA's), (47, 39311),

Gene: Kahlid_98 Start: 61111, Stop: 61293, Start Num: 15

Candidate Starts for Kahlid_98:

(Start: 15 @61111 has 28 MA's), (23, 61147), (Start: 27 @61153 has 163 MA's), (31, 61180), (34, 61186), (39, 61204), (44, 61234), (45, 61246),

Gene: Kanely_60 Start: 40359, Stop: 40225, Start Num: 27

Candidate Starts for Kanely_60:

(Start: 27 @40359 has 163 MA's), (47, 40257),

Gene: Kenmech_63 Start: 42006, Stop: 41872, Start Num: 27

Candidate Starts for Kenmech_63:
(Start: 27 @42006 has 163 MA's), (47, 41904),

Gene: Keziacharles14_66 Start: 41498, Stop: 41355, Start Num: 22
Candidate Starts for Keziacharles14_66:
(Start: 22 @41498 has 53 MA's), (29, 41480), (37, 41447), (51, 41363),

Gene: Killigrew_58 Start: 40539, Stop: 40405, Start Num: 27
Candidate Starts for Killigrew_58:
(Start: 27 @40539 has 163 MA's), (47, 40437),

Gene: Kingsolomon_94 Start: 61205, Stop: 61339, Start Num: 27
Candidate Starts for Kingsolomon_94:
(Start: 27 @61205 has 163 MA's), (35, 61241), (36, 61244), (41, 61256), (47, 61307),

Gene: KirDoubleO7_94 Start: 61289, Stop: 61423, Start Num: 27
Candidate Starts for KirDoubleO7_94:
(Start: 20 @61274 has 1 MA's), (Start: 27 @61289 has 163 MA's), (35, 61325), (36, 61328), (41, 61340), (47, 61391),

Gene: Kropertea_95 Start: 60713, Stop: 60886, Start Num: 15
Candidate Starts for Kropertea_95:
(Start: 15 @60713 has 28 MA's), (19, 60737), (Start: 27 @60755 has 163 MA's), (28, 60764), (30, 60767), (31, 60782), (44, 60827), (47, 60854),

Gene: Krypton555_99 Start: 61780, Stop: 61914, Start Num: 27
Candidate Starts for Krypton555_99:
(Start: 20 @61765 has 1 MA's), (Start: 27 @61780 has 163 MA's), (35, 61816), (36, 61819), (41, 61831), (47, 61882), (48, 61888),

Gene: Kugel_58 Start: 40607, Stop: 40473, Start Num: 27
Candidate Starts for Kugel_58:
(Start: 27 @40607 has 163 MA's), (47, 40505),

Gene: KyMonks1A_61 Start: 40000, Stop: 39857, Start Num: 22
Candidate Starts for KyMonks1A_61:
(Start: 22 @40000 has 53 MA's), (47, 39889),

Gene: Kykar_58 Start: 39437, Stop: 39303, Start Num: 27
Candidate Starts for Kykar_58:
(Start: 27 @39437 has 163 MA's), (47, 39335),

Gene: Lamina13_60 Start: 39739, Stop: 39605, Start Num: 27
Candidate Starts for Lamina13_60:
(Start: 27 @39739 has 163 MA's), (47, 39637),

Gene: Lesedi_54 Start: 38344, Stop: 38210, Start Num: 27
Candidate Starts for Lesedi_54:
(Start: 27 @38344 has 163 MA's), (47, 38242),

Gene: Levia_54 Start: 39458, Stop: 39324, Start Num: 27
Candidate Starts for Levia_54:
(Start: 27 @39458 has 163 MA's), (47, 39356),

Gene: Lewan_100 Start: 61399, Stop: 61581, Start Num: 15

Candidate Starts for Lewan_100:

(Start: 15 @61399 has 28 MA's), (23, 61435), (Start: 27 @61441 has 163 MA's), (31, 61468), (34, 61474), (39, 61492), (44, 61522), (45, 61534),

Gene: LilBib_58 Start: 41131, Stop: 40988, Start Num: 22

Candidate Starts for LilBib_58:

(Start: 22 @41131 has 53 MA's), (47, 41020),

Gene: LilDestine_97 Start: 61070, Stop: 61252, Start Num: 15

Candidate Starts for LilDestine_97:

(Start: 15 @61070 has 28 MA's), (23, 61106), (Start: 27 @61112 has 163 MA's), (31, 61139), (34, 61145), (39, 61163), (44, 61193), (45, 61205),

Gene: Lilleskat_64 Start: 40511, Stop: 40362, Start Num: 22

Candidate Starts for Lilleskat_64:

(Start: 22 @40511 has 53 MA's), (29, 40493), (42, 40445),

Gene: LiyuLake_95 Start: 61362, Stop: 61496, Start Num: 27

Candidate Starts for LiyuLake_95:

(Start: 20 @61347 has 1 MA's), (Start: 27 @61362 has 163 MA's), (35, 61398), (36, 61401), (41, 61413), (47, 61464),

Gene: Loadrie_98 Start: 61561, Stop: 61743, Start Num: 15

Candidate Starts for Loadrie_98:

(Start: 15 @61561 has 28 MA's), (23, 61597), (Start: 27 @61603 has 163 MA's), (31, 61630), (34, 61636), (39, 61654), (44, 61684), (45, 61696),

Gene: Lockley_56 Start: 39400, Stop: 39257, Start Num: 22

Candidate Starts for Lockley_56:

(Start: 22 @39400 has 53 MA's), (47, 39289),

Gene: Lolly9_96 Start: 61453, Stop: 61587, Start Num: 27

Candidate Starts for Lolly9_96:

(Start: 20 @61438 has 1 MA's), (Start: 27 @61453 has 163 MA's), (35, 61489), (36, 61492), (41, 61504), (47, 61555),

Gene: Lopton_58 Start: 41812, Stop: 41678, Start Num: 27

Candidate Starts for Lopton_58:

(Start: 27 @41812 has 163 MA's), (47, 41710),

Gene: Luchador_68 Start: 41978, Stop: 41829, Start Num: 22

Candidate Starts for Luchador_68:

(13, 42008), (Start: 22 @41978 has 53 MA's), (29, 41960), (33, 41939),

Gene: Lumos_96 Start: 61093, Stop: 61227, Start Num: 27

Candidate Starts for Lumos_96:

(Start: 27 @61093 has 163 MA's), (35, 61129), (36, 61132), (41, 61144), (47, 61195),

Gene: LunarLander_61 Start: 39641, Stop: 39507, Start Num: 27

Candidate Starts for LunarLander_61:

(Start: 27 @39641 has 163 MA's), (47, 39539),

Gene: MPlant7149_57 Start: 38517, Stop: 38383, Start Num: 27
Candidate Starts for MPlant7149_57:
(Start: 27 @38517 has 163 MA's), (47, 38415),

Gene: Magnar_56 Start: 39959, Stop: 39825, Start Num: 27
Candidate Starts for Magnar_56:
(Start: 27 @39959 has 163 MA's), (47, 39857),

Gene: Magnito_57 Start: 39684, Stop: 39550, Start Num: 27
Candidate Starts for Magnito_57:
(Start: 27 @39684 has 163 MA's), (47, 39582),

Gene: Makemake_59 Start: 40359, Stop: 40216, Start Num: 22
Candidate Starts for Makemake_59:
(Start: 22 @40359 has 53 MA's), (47, 40248),

Gene: Manatee_59 Start: 40057, Stop: 39914, Start Num: 22
Candidate Starts for Manatee_59:
(Start: 22 @40057 has 53 MA's),

Gene: Marcell_55 Start: 38966, Stop: 38832, Start Num: 27
Candidate Starts for Marcell_55:
(Start: 27 @38966 has 163 MA's), (47, 38864),

Gene: Marchy_53 Start: 37054, Stop: 36920, Start Num: 27
Candidate Starts for Marchy_53:
(Start: 27 @37054 has 163 MA's), (47, 36952),

Gene: Marco3_61 Start: 41738, Stop: 41595, Start Num: 22
Candidate Starts for Marco3_61:
(Start: 22 @41738 has 53 MA's),

Gene: Marge_57 Start: 39855, Stop: 39721, Start Num: 27
Candidate Starts for Marge_57:
(Start: 27 @39855 has 163 MA's), (47, 39753),

Gene: Maroc7_56 Start: 40254, Stop: 40120, Start Num: 27
Candidate Starts for Maroc7_56:
(Start: 27 @40254 has 163 MA's), (47, 40152),

Gene: Marsha_57 Start: 40396, Stop: 40262, Start Num: 27
Candidate Starts for Marsha_57:
(Start: 27 @40396 has 163 MA's), (47, 40294),

Gene: MaryBeth_57 Start: 40279, Stop: 40136, Start Num: 22
Candidate Starts for MaryBeth_57:
(Start: 22 @40279 has 53 MA's),

Gene: McGuire_60 Start: 39619, Stop: 39485, Start Num: 27
Candidate Starts for McGuire_60:
(Start: 27 @39619 has 163 MA's), (47, 39517),

Gene: McSinger_57 Start: 39589, Stop: 39455, Start Num: 27
Candidate Starts for McSinger_57:
(Start: 27 @39589 has 163 MA's), (47, 39487),

Gene: MetalQZJ_56 Start: 40279, Stop: 40136, Start Num: 22
Candidate Starts for MetalQZJ_56:
(Start: 22 @40279 has 53 MA's),

Gene: Michley_58 Start: 39990, Stop: 39856, Start Num: 27
Candidate Starts for Michley_58:
(18, 40020), (Start: 27 @39990 has 163 MA's), (47, 39888),

Gene: Miley16_99 Start: 61842, Stop: 62027, Start Num: 14
Candidate Starts for Miley16_99:
(Start: 14 @61842 has 4 MA's), (Start: 15 @61845 has 28 MA's), (19, 61869), (23, 61881), (Start: 27 @61887 has 163 MA's), (39, 61938), (44, 61968), (45, 61980), (47, 61995),

Gene: MiniLon_101 Start: 61454, Stop: 61588, Start Num: 27
Candidate Starts for MiniLon_101:
(Start: 20 @61439 has 1 MA's), (Start: 27 @61454 has 163 MA's), (35, 61490), (36, 61493), (41, 61505), (47, 61556),

Gene: MiniMac_101 Start: 61434, Stop: 61583, Start Num: 20
Candidate Starts for MiniMac_101:
(Start: 20 @61434 has 1 MA's), (Start: 27 @61449 has 163 MA's), (35, 61485), (36, 61488), (41, 61500), (47, 61551),

Gene: MkaliMitinis3_101 Start: 61525, Stop: 61707, Start Num: 15
Candidate Starts for MkaliMitinis3_101:
(Start: 15 @61525 has 28 MA's), (23, 61561), (Start: 27 @61567 has 163 MA's), (31, 61594), (34, 61600), (39, 61618), (44, 61648), (45, 61660),

Gene: Mkhuseli_56 Start: 38717, Stop: 38583, Start Num: 27
Candidate Starts for Mkhuseli_56:
(Start: 27 @38717 has 163 MA's), (47, 38615),

Gene: Molly_59 Start: 38935, Stop: 38801, Start Num: 27
Candidate Starts for Molly_59:
(Start: 27 @38935 has 163 MA's), (47, 38833),

Gene: Monet_61 Start: 41021, Stop: 40887, Start Num: 27
Candidate Starts for Monet_61:
(Start: 27 @41021 has 163 MA's), (47, 40919),

Gene: Moose_57 Start: 39132, Stop: 38998, Start Num: 27
Candidate Starts for Moose_57:
(Start: 27 @39132 has 163 MA's), (47, 39030),

Gene: Moostard_93 Start: 61200, Stop: 61334, Start Num: 27
Candidate Starts for Moostard_93:
(Start: 27 @61200 has 163 MA's), (35, 61236), (36, 61239), (41, 61251), (47, 61302),

Gene: MrGordo_58 Start: 39793, Stop: 39659, Start Num: 27

Candidate Starts for MrGordo_58:
(Start: 27 @39793 has 163 MA's), (47, 39691),

Gene: Mryolo_55 Start: 39838, Stop: 39704, Start Num: 27
Candidate Starts for Mryolo_55:
(Start: 27 @39838 has 163 MA's),

Gene: MsGreen_96 Start: 61095, Stop: 61229, Start Num: 27
Candidate Starts for MsGreen_96:
(Start: 27 @61095 has 163 MA's), (35, 61131), (36, 61134), (41, 61146), (47, 61197),

Gene: Mule_56 Start: 38388, Stop: 38254, Start Num: 27
Candidate Starts for Mule_56:
(Start: 27 @38388 has 163 MA's), (47, 38286),

Gene: Museum_59 Start: 40085, Stop: 39951, Start Num: 27
Candidate Starts for Museum_59:
(Start: 27 @40085 has 163 MA's), (47, 39983),

Gene: MyraDee_64 Start: 37954, Stop: 37787, Start Num: 16
Candidate Starts for MyraDee_64:
(1, 38476), (2, 38458), (3, 38206), (Start: 16 @37954 has 1 MA's), (Start: 22 @37930 has 53 MA's),
(38, 37882), (44, 37846), (46, 37825),

Gene: Myxus_68 Start: 40727, Stop: 40578, Start Num: 22
Candidate Starts for Myxus_68:
(Start: 22 @40727 has 53 MA's), (29, 40709), (42, 40661),

Gene: NEHalo_56 Start: 39867, Stop: 39733, Start Num: 27
Candidate Starts for NEHalo_56:
(Start: 27 @39867 has 163 MA's), (47, 39765),

Gene: Naira_61 Start: 41695, Stop: 41561, Start Num: 27
Candidate Starts for Naira_61:
(Start: 27 @41695 has 163 MA's), (47, 41593),

Gene: Nerujay_60 Start: 40434, Stop: 40300, Start Num: 27
Candidate Starts for Nerujay_60:
(Start: 27 @40434 has 163 MA's), (47, 40332),

Gene: Netyap_98 Start: 61401, Stop: 61583, Start Num: 15
Candidate Starts for Netyap_98:
(Start: 15 @61401 has 28 MA's), (23, 61437), (Start: 27 @61443 has 163 MA's), (31, 61470), (34,
61476), (39, 61494), (44, 61524), (45, 61536),

Gene: Nhonho_57 Start: 40780, Stop: 40646, Start Num: 27
Candidate Starts for Nhonho_57:
(Start: 27 @40780 has 163 MA's), (47, 40678),

Gene: Nicholas_94 Start: 61205, Stop: 61339, Start Num: 27
Candidate Starts for Nicholas_94:
(Start: 27 @61205 has 163 MA's), (35, 61241), (36, 61244), (41, 61256), (47, 61307),

Gene: Nicholasp3_99 Start: 61193, Stop: 61375, Start Num: 15
Candidate Starts for Nicholasp3_99:
(Start: 15 @61193 has 28 MA's), (23, 61229), (Start: 27 @61235 has 163 MA's), (31, 61262), (34, 61268), (39, 61286), (44, 61316), (45, 61328),

Gene: Niza_60 Start: 41442, Stop: 41308, Start Num: 27
Candidate Starts for Niza_60:
(Start: 27 @41442 has 163 MA's), (47, 41340),

Gene: Onglai_66 Start: 38931, Stop: 38782, Start Num: 22
Candidate Starts for Onglai_66:
(Start: 22 @38931 has 53 MA's), (29, 38913), (42, 38865),

Gene: Oogway_57 Start: 39790, Stop: 39656, Start Num: 27
Candidate Starts for Oogway_57:
(Start: 27 @39790 has 163 MA's), (47, 39688),

Gene: PSullivan_58 Start: 38828, Stop: 38685, Start Num: 22
Candidate Starts for PSullivan_58:
(Start: 22 @38828 has 53 MA's),

Gene: PYPDinur_100 Start: 61783, Stop: 61956, Start Num: 15
Candidate Starts for PYPDinur_100:
(4, 61690), (7, 61705), (9, 61729), (Start: 15 @61783 has 28 MA's), (19, 61807), (Start: 27 @61825 has 163 MA's), (30, 61837), (31, 61852), (34, 61858), (44, 61897), (47, 61924),

Gene: PacerPaul_58 Start: 40284, Stop: 40150, Start Num: 27
Candidate Starts for PacerPaul_58:
(Start: 27 @40284 has 163 MA's), (47, 40182),

Gene: PackMan_67 Start: 40602, Stop: 40453, Start Num: 22
Candidate Starts for PackMan_67:
(Start: 22 @40602 has 53 MA's), (29, 40584), (42, 40536),

Gene: Papez_61 Start: 41812, Stop: 41678, Start Num: 27
Candidate Starts for Papez_61:
(Start: 27 @41812 has 163 MA's), (47, 41710),

Gene: Paphu_57 Start: 39421, Stop: 39287, Start Num: 27
Candidate Starts for Paphu_57:
(Start: 27 @39421 has 163 MA's), (47, 39319),

Gene: Paraselene_56 Start: 40336, Stop: 40193, Start Num: 22
Candidate Starts for Paraselene_56:
(Start: 22 @40336 has 53 MA's),

Gene: Parliament_58 Start: 40049, Stop: 39915, Start Num: 27
Candidate Starts for Parliament_58:
(Start: 27 @40049 has 163 MA's),

Gene: PascalRango_58 Start: 40088, Stop: 39954, Start Num: 27
Candidate Starts for PascalRango_58:
(Start: 27 @40088 has 163 MA's), (47, 39986),

Gene: PattyP_60 Start: 40478, Stop: 40344, Start Num: 27
Candidate Starts for PattyP_60:
(Start: 27 @40478 has 163 MA's), (47, 40376),

Gene: Payneful_58 Start: 39771, Stop: 39637, Start Num: 27
Candidate Starts for Payneful_58:
(Start: 27 @39771 has 163 MA's), (47, 39669),

Gene: Pepe_55 Start: 38549, Stop: 38406, Start Num: 22
Candidate Starts for Pepe_55:
(Start: 22 @38549 has 53 MA's),

Gene: Perseus_58 Start: 40793, Stop: 40659, Start Num: 27
Candidate Starts for Perseus_58:
(Start: 27 @40793 has 163 MA's), (47, 40691),

Gene: Peterson_62 Start: 42031, Stop: 41897, Start Num: 27
Candidate Starts for Peterson_62:
(Start: 27 @42031 has 163 MA's), (47, 41929),

Gene: Petp2012_59 Start: 40827, Stop: 40693, Start Num: 27
Candidate Starts for Petp2012_59:
(Start: 27 @40827 has 163 MA's), (47, 40725),

Gene: Petruccio_57 Start: 39237, Stop: 39103, Start Num: 27
Candidate Starts for Petruccio_57:
(Start: 27 @39237 has 163 MA's), (47, 39135),

Gene: Phaeder_68 Start: 40602, Stop: 40453, Start Num: 22
Candidate Starts for Phaeder_68:
(Start: 22 @40602 has 53 MA's), (29, 40584), (42, 40536),

Gene: PhineBark_58 Start: 40476, Stop: 40342, Start Num: 27
Candidate Starts for PhineBark_58:
(Start: 27 @40476 has 163 MA's), (47, 40374),

Gene: Phlippers_56 Start: 40591, Stop: 40457, Start Num: 27
Candidate Starts for Phlippers_56:
(Start: 27 @40591 has 163 MA's), (47, 40489),

Gene: Phonnegut_69 Start: 40824, Stop: 40675, Start Num: 22
Candidate Starts for Phonnegut_69:
(Start: 22 @40824 has 53 MA's), (29, 40806), (42, 40758),

Gene: PhrostyMug_58 Start: 40562, Stop: 40428, Start Num: 27
Candidate Starts for PhrostyMug_58:
(Start: 27 @40562 has 163 MA's), (47, 40460),

Gene: PinkPlastic_58 Start: 39549, Stop: 39415, Start Num: 27
Candidate Starts for PinkPlastic_58:
(Start: 27 @39549 has 163 MA's), (47, 39447),

Gene: Pinto_59 Start: 40150, Stop: 40013, Start Num: 25
Candidate Starts for Pinto_59:
(Start: 25 @40150 has 3 MA's), (Start: 27 @40147 has 163 MA's), (47, 40045),

Gene: Pioneer_69 Start: 40824, Stop: 40675, Start Num: 22
Candidate Starts for Pioneer_69:
(Start: 22 @40824 has 53 MA's), (29, 40806), (42, 40758),

Gene: Pippin_59 Start: 39764, Stop: 39630, Start Num: 27
Candidate Starts for Pippin_59:
(Start: 27 @39764 has 163 MA's), (47, 39662),

Gene: Pita2_61 Start: 40325, Stop: 40182, Start Num: 22
Candidate Starts for Pita2_61:
(Start: 22 @40325 has 53 MA's),

Gene: ProMouse_58 Start: 40099, Stop: 39956, Start Num: 22
Candidate Starts for ProMouse_58:
(Start: 22 @40099 has 53 MA's), (47, 39988),

Gene: QTRlifeCrisis_58 Start: 40342, Stop: 40199, Start Num: 22
Candidate Starts for QTRlifeCrisis_58:
(Start: 22 @40342 has 53 MA's),

Gene: Quby_100 Start: 61112, Stop: 61285, Start Num: 15
Candidate Starts for Quby_100:
(13, 61109), (Start: 15 @61112 has 28 MA's), (19, 61136), (Start: 27 @61154 has 163 MA's), (30, 61166), (31, 61181), (34, 61187), (44, 61226), (47, 61253),

Gene: Raid_57 Start: 39512, Stop: 39378, Start Num: 27
Candidate Starts for Raid_57:
(Start: 27 @39512 has 163 MA's), (47, 39410),

Gene: Rajelicia_59 Start: 40856, Stop: 40722, Start Num: 27
Candidate Starts for Rajelicia_59:
(Start: 27 @40856 has 163 MA's), (47, 40754),

Gene: Red305_97 Start: 61096, Stop: 61230, Start Num: 27
Candidate Starts for Red305_97:
(Start: 27 @61096 has 163 MA's), (35, 61132), (36, 61135), (41, 61147), (47, 61198),

Gene: Rhynn_56 Start: 38880, Stop: 38746, Start Num: 27
Candidate Starts for Rhynn_56:
(Start: 27 @38880 has 163 MA's), (47, 38778),

Gene: RidgeCB_58 Start: 40123, Stop: 39989, Start Num: 27
Candidate Starts for RidgeCB_58:
(Start: 27 @40123 has 163 MA's), (47, 40021),

Gene: Ringer_58 Start: 41030, Stop: 40896, Start Num: 27
Candidate Starts for Ringer_58:
(Start: 27 @41030 has 163 MA's), (47, 40928),

Gene: Rohr_59 Start: 40002, Stop: 39868, Start Num: 27

Candidate Starts for Rohr_59:

(Start: 27 @40002 has 163 MA's), (47, 39900),

Gene: Rubeus_58 Start: 37943, Stop: 37806, Start Num: 25

Candidate Starts for Rubeus_58:

(Start: 25 @37943 has 3 MA's), (Start: 27 @37940 has 163 MA's), (47, 37838),

Gene: Rufus_59 Start: 39468, Stop: 39334, Start Num: 27

Candidate Starts for Rufus_59:

(Start: 27 @39468 has 163 MA's), (47, 39366),

Gene: Rumpelstiltskin_95 Start: 60986, Stop: 61168, Start Num: 15

Candidate Starts for Rumpelstiltskin_95:

(Start: 15 @60986 has 28 MA's), (23, 61022), (Start: 27 @61028 has 163 MA's), (31, 61055), (34, 61061), (39, 61079), (44, 61109), (45, 61121),

Gene: Rutherferd_59 Start: 40099, Stop: 39965, Start Num: 27

Candidate Starts for Rutherferd_59:

(Start: 27 @40099 has 163 MA's), (47, 39997),

Gene: RyeScarlet_70 Start: 40799, Stop: 40650, Start Num: 22

Candidate Starts for RyeScarlet_70:

(Start: 22 @40799 has 53 MA's), (29, 40781), (42, 40733),

Gene: STLscum_61 Start: 40923, Stop: 40780, Start Num: 22

Candidate Starts for STLscum_61:

(Start: 22 @40923 has 53 MA's),

Gene: Sachima_64 Start: 40628, Stop: 40479, Start Num: 22

Candidate Starts for Sachima_64:

(Start: 22 @40628 has 53 MA's), (29, 40610), (42, 40562),

Gene: Sagefire_60 Start: 40676, Stop: 40542, Start Num: 27

Candidate Starts for Sagefire_60:

(Start: 27 @40676 has 163 MA's), (47, 40574),

Gene: Samty_95 Start: 61193, Stop: 61327, Start Num: 27

Candidate Starts for Samty_95:

(Start: 27 @61193 has 163 MA's), (35, 61229), (36, 61232), (41, 61244), (47, 61295),

Gene: Sandaddy_55 Start: 39509, Stop: 39366, Start Num: 22

Candidate Starts for Sandaddy_55:

(Start: 22 @39509 has 53 MA's), (47, 39398),

Gene: Sanya_54 Start: 39790, Stop: 39656, Start Num: 27

Candidate Starts for Sanya_54:

(Start: 27 @39790 has 163 MA's), (47, 39688),

Gene: SarFire_55 Start: 39071, Stop: 38928, Start Num: 22

Candidate Starts for SarFire_55:

(Start: 22 @39071 has 53 MA's), (47, 38960),

Gene: Sarshaun_100 Start: 62153, Stop: 62335, Start Num: 15
Candidate Starts for Sarshaun_100:
(Start: 15 @62153 has 28 MA's), (23, 62189), (Start: 27 @62195 has 163 MA's), (31, 62222), (34, 62228), (39, 62246), (44, 62276), (45, 62288),

Gene: Scowl_59 Start: 39900, Stop: 39757, Start Num: 22
Candidate Starts for Scowl_59:
(Start: 22 @39900 has 53 MA's),

Gene: Seabiscuit_62 Start: 39881, Stop: 39747, Start Num: 27
Candidate Starts for Seabiscuit_62:
(Start: 27 @39881 has 163 MA's), (47, 39779),

Gene: SheaKeira_63 Start: 39912, Stop: 39769, Start Num: 22
Candidate Starts for SheaKeira_63:
(Start: 22 @39912 has 53 MA's), (29, 39894), (37, 39861), (41, 39849), (51, 39777),

Gene: Sheng711_101 Start: 61307, Stop: 61480, Start Num: 15
Candidate Starts for Sheng711_101:
(4, 61214), (7, 61229), (9, 61253), (Start: 15 @61307 has 28 MA's), (19, 61331), (Start: 27 @61349 has 163 MA's), (30, 61361), (31, 61376), (34, 61382), (44, 61421), (47, 61448),

Gene: ShortQueendom_51 Start: 36829, Stop: 36695, Start Num: 27
Candidate Starts for ShortQueendom_51:
(Start: 27 @36829 has 163 MA's), (47, 36727),

Gene: Sibs6_60 Start: 38579, Stop: 38445, Start Num: 27
Candidate Starts for Sibs6_60:
(Start: 27 @38579 has 163 MA's), (47, 38477),

Gene: SkiPole_63 Start: 40593, Stop: 40450, Start Num: 22
Candidate Starts for SkiPole_63:
(Start: 22 @40593 has 53 MA's),

Gene: Slagathor_60 Start: 40909, Stop: 40775, Start Num: 27
Candidate Starts for Slagathor_60:
(Start: 27 @40909 has 163 MA's), (47, 40807),

Gene: Smairt_61 Start: 41555, Stop: 41421, Start Num: 27
Candidate Starts for Smairt_61:
(Start: 27 @41555 has 163 MA's), (47, 41453),

Gene: Smeagol_60 Start: 41059, Stop: 40925, Start Num: 27
Candidate Starts for Smeagol_60:
(Start: 27 @41059 has 163 MA's), (44, 40984), (47, 40957),

Gene: Snazzy_57 Start: 39444, Stop: 39310, Start Num: 27
Candidate Starts for Snazzy_57:
(Start: 27 @39444 has 163 MA's), (47, 39342),

Gene: Snenia_95 Start: 61097, Stop: 61231, Start Num: 27
Candidate Starts for Snenia_95:
(Start: 27 @61097 has 163 MA's), (35, 61133), (36, 61136), (41, 61148), (47, 61199),

Gene: SoJulia_101 Start: 62917, Stop: 63099, Start Num: 15

Candidate Starts for SoJulia_101:

(Start: 15 @62917 has 28 MA's), (23, 62953), (Start: 27 @62959 has 163 MA's), (31, 62986), (34, 62992), (39, 63010), (44, 63040), (45, 63052),

Gene: Soap141_99 Start: 62153, Stop: 62335, Start Num: 15

Candidate Starts for Soap141_99:

(Start: 15 @62153 has 28 MA's), (23, 62189), (Start: 27 @62195 has 163 MA's), (31, 62222), (34, 62228), (39, 62246), (44, 62276), (45, 62288),

Gene: Solon_56 Start: 39316, Stop: 39182, Start Num: 27

Candidate Starts for Solon_56:

(Start: 27 @39316 has 163 MA's), (47, 39214),

Gene: SororFago_67 Start: 41621, Stop: 41472, Start Num: 22

Candidate Starts for SororFago_67:

(13, 41651), (Start: 22 @41621 has 53 MA's), (29, 41603), (33, 41582), (42, 41555),

Gene: Sorpresa_56 Start: 39511, Stop: 39368, Start Num: 22

Candidate Starts for Sorpresa_56:

(Start: 22 @39511 has 53 MA's), (47, 39400),

Gene: Squee_59 Start: 40162, Stop: 40028, Start Num: 27

Candidate Starts for Squee_59:

(Start: 27 @40162 has 163 MA's), (47, 40060),

Gene: StewieG_55 Start: 36836, Stop: 36702, Start Num: 27

Candidate Starts for StewieG_55:

(Start: 27 @36836 has 163 MA's), (47, 36734),

Gene: Sumter_54 Start: 40052, Stop: 39918, Start Num: 27

Candidate Starts for Sumter_54:

(Start: 27 @40052 has 163 MA's), (47, 39950),

Gene: Sunshine924_60 Start: 39199, Stop: 39056, Start Num: 22

Candidate Starts for Sunshine924_60:

(Start: 22 @39199 has 53 MA's),

Gene: SwissCheese_59 Start: 39632, Stop: 39498, Start Num: 27

Candidate Starts for SwissCheese_59:

(Start: 27 @39632 has 163 MA's), (47, 39530),

Gene: Switzer_59 Start: 41665, Stop: 41522, Start Num: 22

Candidate Starts for Switzer_59:

(Start: 22 @41665 has 53 MA's),

Gene: Swole_59 Start: 39113, Stop: 38979, Start Num: 27

Candidate Starts for Swole_59:

(Start: 27 @39113 has 163 MA's), (47, 39011),

Gene: Target_59 Start: 38402, Stop: 38268, Start Num: 27

Candidate Starts for Target_59:

(Start: 27 @38402 has 163 MA's), (47, 38300),

Gene: Tasp14_61 Start: 40363, Stop: 40229, Start Num: 27

Candidate Starts for Tasp14_61:

(Start: 27 @40363 has 163 MA's), (47, 40261),

Gene: Teodoridan_56 Start: 39136, Stop: 39002, Start Num: 27

Candidate Starts for Teodoridan_56:

(Start: 27 @39136 has 163 MA's),

Gene: TheloniousMonk_59 Start: 41765, Stop: 41631, Start Num: 27

Candidate Starts for TheloniousMonk_59:

(Start: 27 @41765 has 163 MA's), (47, 41663),

Gene: Thor_55 Start: 38429, Stop: 38286, Start Num: 22

Candidate Starts for Thor_55:

(Start: 22 @38429 has 53 MA's), (47, 38318),

Gene: Topgun_57 Start: 39202, Stop: 39068, Start Num: 27

Candidate Starts for Topgun_57:

(Start: 27 @39202 has 163 MA's), (47, 39100),

Gene: Tote_54 Start: 36380, Stop: 36246, Start Num: 27

Candidate Starts for Tote_54:

(Start: 27 @36380 has 163 MA's), (47, 36278),

Gene: Tourach_100 Start: 62232, Stop: 62414, Start Num: 15

Candidate Starts for Tourach_100:

(4, 62139), (8, 62169), (Start: 15 @62232 has 28 MA's), (17, 62241), (Start: 20 @62259 has 1 MA's), (23, 62268), (31, 62301), (39, 62325), (44, 62355), (45, 62367), (47, 62382),

Gene: Treddle_59 Start: 40533, Stop: 40399, Start Num: 27

Candidate Starts for Treddle_59:

(Start: 27 @40533 has 163 MA's), (47, 40431),

Gene: TriFive_96 Start: 61209, Stop: 61343, Start Num: 27

Candidate Starts for TriFive_96:

(Start: 27 @61209 has 163 MA's), (35, 61245), (36, 61248), (41, 61260), (47, 61311),

Gene: Tripl3t_60 Start: 41504, Stop: 41370, Start Num: 27

Candidate Starts for Tripl3t_60:

(Start: 27 @41504 has 163 MA's), (47, 41402),

Gene: Trouble_60 Start: 40856, Stop: 40722, Start Num: 27

Candidate Starts for Trouble_60:

(Start: 27 @40856 has 163 MA's), (47, 40754),

Gene: Tubs_68 Start: 40602, Stop: 40453, Start Num: 22

Candidate Starts for Tubs_68:

(Start: 22 @40602 has 53 MA's), (29, 40584), (42, 40536),

Gene: Turj99_56 Start: 40896, Stop: 40753, Start Num: 22

Candidate Starts for Turj99_56:

(Start: 22 @40896 has 53 MA's), (47, 40785),

Gene: TwoPeat_60 Start: 39599, Stop: 39465, Start Num: 27

Candidate Starts for TwoPeat_60:

(Start: 27 @39599 has 163 MA's), (47, 39497),

Gene: U2_57 Start: 40613, Stop: 40470, Start Num: 22

Candidate Starts for U2_57:

(Start: 22 @40613 has 53 MA's), (47, 40502),

Gene: Underpass_89 Start: 56229, Stop: 56411, Start Num: 15

Candidate Starts for Underpass_89:

(Start: 15 @56229 has 28 MA's), (23, 56265), (Start: 27 @56271 has 163 MA's), (31, 56298), (34, 56304), (39, 56322), (44, 56352), (45, 56364),

Gene: Vanisoa_66 Start: 41485, Stop: 41339, Start Num: 22

Candidate Starts for Vanisoa_66:

(Start: 22 @41485 has 53 MA's), (29, 41467), (40, 41425), (49, 41359),

Gene: Vatrix_97 Start: 61015, Stop: 61197, Start Num: 15

Candidate Starts for Vatrix_97:

(Start: 15 @61015 has 28 MA's), (23, 61051), (Start: 27 @61057 has 163 MA's), (31, 61084), (34, 61090), (39, 61108), (44, 61138), (45, 61150),

Gene: Violet_56 Start: 40459, Stop: 40325, Start Num: 27

Candidate Starts for Violet_56:

(Start: 27 @40459 has 163 MA's), (47, 40357),

Gene: Watermelon_59 Start: 39819, Stop: 39685, Start Num: 27

Candidate Starts for Watermelon_59:

(Start: 27 @39819 has 163 MA's), (47, 39717),

Gene: Wheeler_58 Start: 39624, Stop: 39490, Start Num: 27

Candidate Starts for Wheeler_58:

(Start: 27 @39624 has 163 MA's), (47, 39522),

Gene: Whirlwind_98 Start: 61608, Stop: 61742, Start Num: 27

Candidate Starts for Whirlwind_98:

(Start: 20 @61593 has 1 MA's), (Start: 27 @61608 has 163 MA's), (35, 61644), (36, 61647), (41, 61659), (47, 61710), (48, 61716),

Gene: Wigglewobble_99 Start: 61323, Stop: 61505, Start Num: 15

Candidate Starts for Wigglewobble_99:

(Start: 15 @61323 has 28 MA's), (23, 61359), (Start: 27 @61365 has 163 MA's), (31, 61392), (34, 61398), (39, 61416), (44, 61446), (45, 61458),

Gene: Wilder_100 Start: 61159, Stop: 61341, Start Num: 15

Candidate Starts for Wilder_100:

(Start: 15 @61159 has 28 MA's), (23, 61195), (31, 61228), (34, 61234), (39, 61252), (44, 61282), (45, 61294), (47, 61309),

Gene: Wilkins_57 Start: 39132, Stop: 38998, Start Num: 27

Candidate Starts for Wilkins_57:

(Start: 27 @39132 has 163 MA's), (47, 39030),

Gene: Winky_99 Start: 61842, Stop: 62027, Start Num: 14

Candidate Starts for Winky_99:

(Start: 14 @61842 has 4 MA's), (Start: 15 @61845 has 28 MA's), (19, 61869), (23, 61881), (Start: 27 @61887 has 163 MA's), (39, 61938), (44, 61968), (45, 61980), (47, 61995),

Gene: Yecey3_69 Start: 40709, Stop: 40557, Start Num: 21

Candidate Starts for Yecey3_69:

(Start: 21 @40709 has 1 MA's), (29, 40688), (49, 40580), (51, 40565),

Gene: Zakai_100 Start: 61802, Stop: 61984, Start Num: 15

Candidate Starts for Zakai_100:

(Start: 15 @61802 has 28 MA's), (23, 61838), (Start: 27 @61844 has 163 MA's), (31, 61871), (34, 61877), (39, 61895), (44, 61925), (45, 61937),

Gene: Zeeculate_56 Start: 40569, Stop: 40435, Start Num: 27

Candidate Starts for Zeeculate_56:

(Start: 27 @40569 has 163 MA's), (47, 40467),

Gene: Zephyr_59 Start: 39575, Stop: 39441, Start Num: 27

Candidate Starts for Zephyr_59:

(Start: 27 @39575 has 163 MA's), (47, 39473),

Gene: Zeuska_57 Start: 40195, Stop: 40061, Start Num: 27

Candidate Starts for Zeuska_57:

(Start: 27 @40195 has 163 MA's), (47, 40093),

Gene: ZhongYanYuan_96 Start: 61296, Stop: 61478, Start Num: 15

Candidate Starts for ZhongYanYuan_96:

(11, 61251), (Start: 14 @61293 has 4 MA's), (Start: 15 @61296 has 28 MA's), (Start: 20 @61323 has 1 MA's), (23, 61332), (31, 61365), (39, 61389), (44, 61419), (45, 61431), (47, 61446),