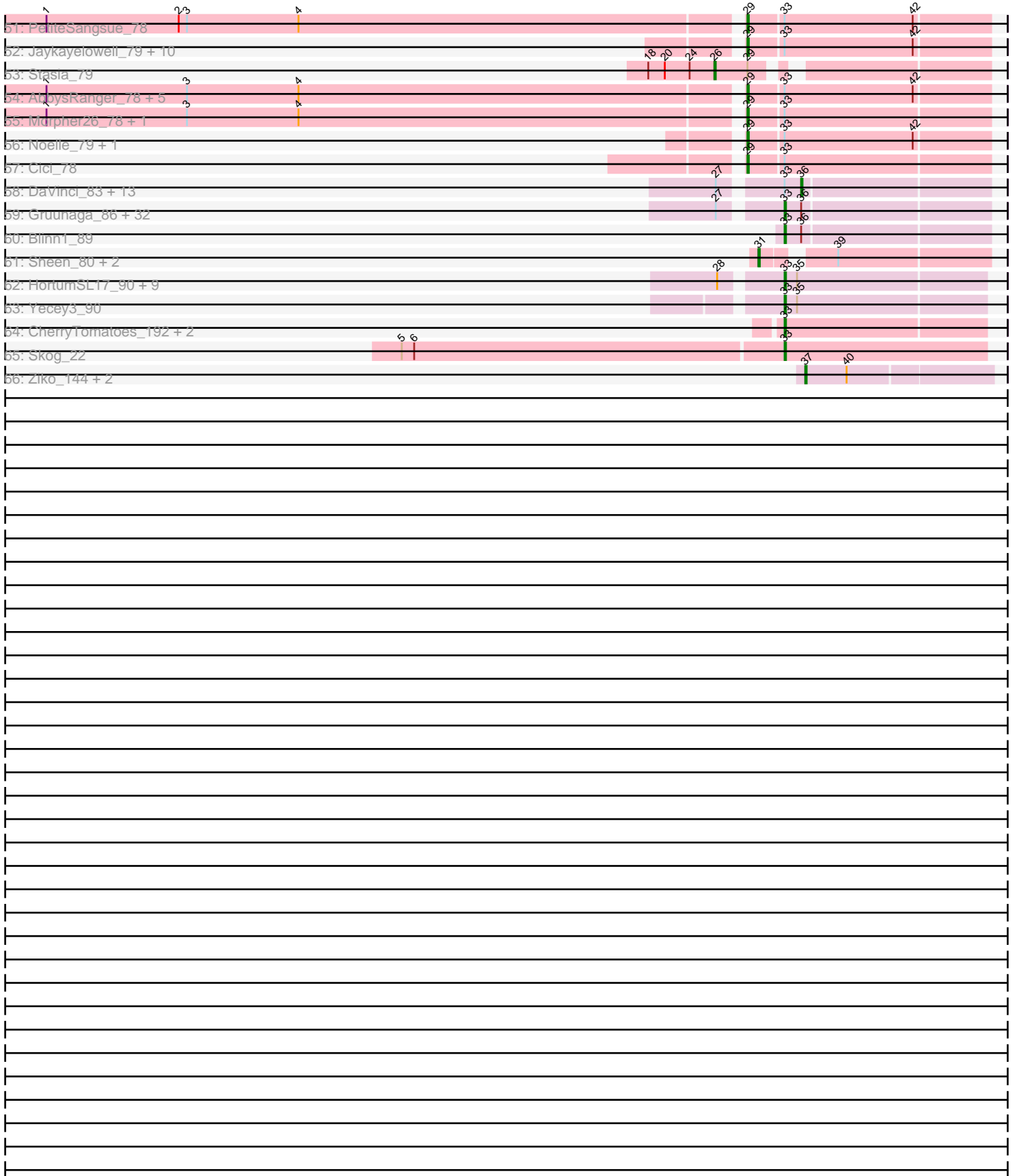


Pham 296181



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 296181 Report

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

Pham number 296181 has 291 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Kristoff_79, Rebeuca_82
- Track 2 : PeaceMeal1_78, Severus_79, Drake94_78
- Track 3 : Goose_82
- Track 4 : WalterMcMickey_81, Twister_82
- Track 5 : Rowdy_84, RhynO_69, DustyMartin_84, Shapes_84
- Track 6 : OKCentral2016_80
- Track 7 : Topanga_71
- Track 8 : Chupacabra_78
- Track 9 : DontArgue_76
- Track 10 : Poompha_78
- Track 11 : Aneem_89, Salz_84, Munch_87, Bowtie_84, Kimba_85, Et2Brutus_88, Lucivia_89, Joselito_86, Bachome_86, Insomnia_88, Ebony_87, Wolpertinger_88, Petersenfast_82, Saskia_85, Timothy_88
- Track 12 : Fibonacci_88, TinyTimmy_86, Sham4_85, MaCh_88, Jabith_88, Mulciber_87, Orange_88, Gilberta_86, Flaverint_89, Hutc2_85, Snape_88, Mabel_88
- Track 13 : Zimmer_86
- Track 14 : DARTHPhader_85
- Track 15 : Refuge_87
- Track 16 : Steamy_84
- Track 17 : Phlei_71
- Track 18 : Lucyedi_85
- Track 19 : EagleEye_86
- Track 20 : 40AC_81
- Track 21 : Kimona_82
- Track 22 : StarStuff_85, Duplo_86, Travvers_85
- Track 23 : Kerberos_85, Tomathan_85, DBQu4n_85, Pomar16_85
- Track 24 : Jsquared_89, Quokka_87, MajorMajor_82, Bradman_88, TopsytheTRex_84
- Track 25 : Trixie_85
- Track 26 : Superchunk_85, Caraxes_86
- Track 27 : AN9_84, VC3_83, ANI8_84
- Track 28 : ArcherNM_80
- Track 29 : L5_78
- Track 30 : Sknot_85, Equemioh13_85, Flare16_85, MiculUcigas_85, HarryHoudini_85, WideWale_86
- Track 31 : BabyBack_80
- Track 32 : Koduck_85

- Track 33 : Serenity_88
- Track 34 : Trooper_84
- Track 35 : GaugeLDP_79
- Track 36 : Colin_84
- Track 37 : Prudy_80
- Track 38 : C3_77
- Track 39 : Odin_84
- Track 40 : Chargerpower_85
- Track 41 : Hookmount_84, Lambert1_84, Caviar_73, Popcicle_84, Norbert_80, ResDef_82, Noella_85, Veracruz_81, Pocahontas_83, QuinnKiro_83, Margo_84, Todacoro_84, Texage_82
- Track 42 : Isca_80, Phantastic_85
- Track 43 : TNguyen7_86
- Track 44 : Scout_84, Heathen_84
- Track 45 : BabyRay_84
- Track 46 : Marchesa_84
- Track 47 : MA5_82
- Track 48 : Happiness_81, CentreCat_82, Eurydice_83, Romney_81, DirtyDunning_81, Ohfah_83, Cintron_82, Kampy_81, LochMonster_83, ChampagnePapi_85, Kyee_82, BangNhom_79, Spino_81, ICleared_81, PeterPeter_82, Maxo_84, Nebs_83, Ruin_82, Cerulean_84, TroyPia_83, Dhanush_82, Wilbur_82, LittleB_82, Sabertooth_82, Felipe_82, Scamp_82
- Track 49 : Anyong_81, LappelDuVide_82, Blackmoor_81, BubbleTrouble_81, Albee_82, Kratak_81, Baby16_82, Broseidon_82, LittleGuy_82, Iceman_80, TinaFeyge_80, YoSam321_82, Tinybot_81, Peaches_80, Miramae_82, Florean_82, Taquarus_81, Roosevelt_80, HamSlice_78, Polymorphads_83, Connomayer_82, Pumbaa_82, LHTSCC_84, Holli_81, Camperdownii_78, Morrow_84, TiroTheta9_81, Nyxis_81, Bartimeaus_82, BellusTerra_82, Phontbonne_82
- Track 50 : Burger_80, Flux_83, Clarenza_81, Funston_81, Thanksgivukkah_81, Koan_79, JoongJeon_81, Palestino_81, Maverick_81, Phighter1804_82, Melvin_84, Koreni_81, Bombshell_82, Chaph_82, Ulysses_81, Lorenzo_82, Mazhar510_82, Wander_82, Millski_81, Caelakin_80, OKaNui_81, Pipcraft_78, SeniorClean_83, Bruiser_81, KFPoly_81, Alberto7_83, Medusa_81, Phacado_82, Kremtemulon_79, Iracema64_82, Eris_81
- Track 51 : PetiteSangsue_78
- Track 52 : Jaykayelowell_79, Citius_82, Abdiel_81, Achebe_77, Lemur_82, Sparxx_83, Shaka_80, Shygu2_80, JetBlade_83, Lunsford_82, Xena_78
- Track 53 : Stasia_79
- Track 54 : AbbysRanger_78, Perplexer_78, Backyardigan_76, Wizard007_78, Bumblebee11_77, Druantia_80
- Track 55 : Morpher26_78, Wile_77
- Track 56 : Noelle_79, Mundrea_80
- Track 57 : Cici_78
- Track 58 : DaVinci_83, Pmask_84, McFly_85, DelvinSonDorr_80, Yokurt_86, Zaka_87, Isiphiwo_81, Candra_83, SuperCallie99_81, Artemis2UCLA_86, ToneTone_84, Priamo_86, Garak_88, Tucker_87
- Track 59 : Gruunaga_86, Chartreuse_84, CloudWang3_87, Indra_90, Roksolana_87, Hexamo_86, Kazan_86, BlessJoy_87, EricB_83, Rifter_87, Zulu_88, Hammer_87, Neeharika16_84, SuperAwesome_85, Jordennis_83, Koko_88, Hoot_80, Dorothea_85, Wiks_86, SmellyB_85, Blue7_88, WunderPhul_87, Lilbunny_86, Kipper29_85, BennyP_86, Gladiator_83, Cookiedough_85, JewelBug_77, Helmet_89, Temprado_88, BABullseye_78, Newrala_84, VohminGhazi_85

- Track 60 : Blinn1_89
- Track 61 : Sheen_80, FlyCatcher_83, Toro_81
- Track 62 : HortumSL17_90, Fayely_87, Tubs_89, PackMan_84, Catalina_91, Eidsmoe_87, Myxus_89, EmyBug_86, Aliter_82, Spouty_87
- Track 63 : Yecey3_90
- Track 64 : CherryTomatoes_192, Pupper_190, SCentae_189
- Track 65 : Skog_22
- Track 66 : Ziko_144, Volt_145, Ronaldo_142

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

The start number called the most often in the published annotations is 29, it was called in 116 of the 267 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger_78, Abdiel_81, Achebe_77, Albee_82, Alberto7_83, Annyong_81, Baby16_82, BabyRay_84, Backyardigan_76, BangNhom_79, Bartimeaus_82, BellusTerra_82, Blackmoor_81, Bombshell_82, Broseidon_82, Bruiser_81, BubbleTrouble_81, Bumblebee11_77, Burger_80, Caelakin_80, Camperdownii_78, CentreCat_82, Cerulean_84, ChampagnePapi_85, Chaph_82, Cici_78, Cintron_82, Citius_82, Clarenza_81, Connomayer_82, Dhanush_82, DirtyDunning_81, Druantia_80, Eris_81, Eurydice_83, Floean_82, Flux_83, Funston_81, HamSlice_78, Happiness_81, Heathen_84, Holli_81, ICleared_81, Iceman_80, Iracema64_82, Jaykayelowell_79, JetBlade_83, JoongJeon_81, KFPoly_81, Kampy_81, Kimona_82, Koan_79, Koreni_81, Kratark_81, Kremtemulon_79, Kyee_82, LHTSCC_84, LappelDuVide_82, Lemur_82, LittleB_82, LittleGuy_82, LochMonster_83, Lorenzo_82, Lunsford_82, MA5_82, Maverick_81, Maxo_84, Mazhar510_82, Medusa_81, Melvin_84, Millski_81, Miramae_82, Morpher26_78, Morrow_84, Mundrea_80, Nebs_83, Noelle_79, Nyxis_81, OKaNui_81, Ohfah_83, Palestino_81, Peaches_80, Perplexer_78, PeterPeter_82, PetiteSangsue_78, Phacado_82, Phelipe_82, Phighter1804_82, Phontbonne_82, Pipcraft_78, Polymorphads_83, Pumbaa_82, Romney_81, Roosevelt_80, Ruin_82, Sabertooth_82, Scamp_82, Scout_84, SeniorClean_83, Shaka_80, Shygu2_80, Sparxx_83, Spino_81, Taquarus_81, Thanksgivukkah_81, TinaFeyge_80, Tinybot_81, TiroTheta9_81, TroyPia_83, Ulysses_81, Wander_82, Wilbur_82, Wile_77, Wizard007_78, Xena_78, YoSam321_82,

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

- Chupacabra_78, DontArgue_76, Drake94_78, DustyMartin_84, Goose_82, Isca_80, Kristoff_79, Marchesa_84, OKCentral2016_80, PeaceMeal1_78, Phantastic_85, Poompha_78, Rebeuca_82, RhynO_69, Rowdy_84, Severus_79, Shapes_84, Stasia_79, TNguyen7_86, Topanga_71, Twister_82, WalterMcMickey_81,

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

- 40AC_81, AN9_84, ANI8_84, Aliter_82, Aneem_89, ArcherNM_80, Artemis2UCLA_86, BABullseye_78, BabyBack_80, Bachome_86, BennyP_86, BlessJoy_87, Blinn1_89, Blue7_88, Bowtie_84, Bradman_88, C3_77, Candra_83, Caraxes_86, Catalina_91, Caviar_73, Chargerpower_85, Chartreuse_84, CherryTomatoes_192, CloudWang3_87, Colin_84, Cookiedough_85, DBQu4n_85, DaVinci_83, DarthPhader_85, DelvinSonDorr_80, Dorothea_85, Duplo_86,

EagleEye_86, Ebony_87, Eidsmoe_87, EmyBug_86, Equemioh13_85, EricB_83, Et2Brutus_88, Fayely_87, Fibonacci_88, Flare16_85, Flaverint_89, FlyCatcher_83, Garak_88, GaugeLDP_79, Gilberta_86, Gladiator_83, Gruunaga_86, Hammer_87, HarryHoudini_85, Helmet_89, Hexamo_86, Hookmount_84, Hoot_80, HortumSL17_90, Hutc2_85, Indra_90, Insomnia_88, Isiphiwo_81, Jabith_88, JewelBug_77, Jordennis_83, Joselito_86, Jsquared_89, Kazan_86, Kerberos_85, Kimba_85, Kipper29_85, Koduck_85, Koko_88, L5_78, Lambert1_84, Lilbunny_86, Lucivia_89, Lucyedi_85, MaCh_88, Mabel_88, MajorMajor_82, Margo_84, McFly_85, MiculUcigas_85, Mulciber_87, Munch_87, Myxus_89, Neeharika16_84, Newrala_84, Noella_85, Norbert_80, Odin_84, Orange_88, PackMan_84, Petersenfast_82, Phlei_71, Pmask_84, Pocahontas_83, Pomar16_85, Popcicle_84, Priamo_86, Prudy_80, Pupper_190, QuinnKiro_83, Quokka_87, Refuge_87, ResDef_82, Rifter_87, Roksolana_87, Ronaldo_142, SCentae_189, Salz_84, Saskia_85, Serenity_88, Sham4_85, Sheen_80, Sknot_85, Skog_22, SmellyB_85, Snape_88, Spouty_87, StarStuff_85, Steamy_84, SuperAwesome_85, SuperCallie99_81, Superchunk_85, Temprado_88, Texage_82, Timothy_88, TinyTimmy_86, TipsytheTRex_84, Todacoro_84, Tomathan_85, ToneTone_84, Toro_81, Travvers_85, Trixie_85, Trooper_84, Tubs_89, Tucker_87, VC3_83, Veracruz_81, VohminGhazi_85, Volt_145, WideWale_86, Wiks_86, Wolpertinger_88, WunderPhul_87, Yecey3_90, Yokurt_86, Zaka_87, Ziko_144, Zimmer_86, Zulu_88,

Summary by start number:

Start 26:

- Found in 38 of 291 (13.1%) of genes in pham
- Manual Annotations of this start: 29 of 267
- Called 86.8% of time when present
- Phage (with cluster) where this start called: Caviar_73 (A3), Chupacabra_78 (A10), DontArgue_76 (A10), Drake94_78 (A10), DustyMartin_84 (A10), Goose_82 (A10), Hookmount_84 (A3), Isca_80 (A3), Kristoff_79 (A10), Lambert1_84 (A3), Margo_84 (A3), Noella_85 (A3), Norbert_80 (A3), PeaceMeal1_78 (A10), Phantastic_85 (A3), Pocahontas_83 (A3), Poompha_78 (A10), Popcicle_84 (A3), QuinnKiro_83 (A3), Rebeuca_82 (A10), ResDef_82 (A3), RhynO_69 (A10), Rowdy_84 (A10), Severus_79 (A10), Shapes_84 (A10), Stasia_79 (A4), TNguyen7_86 (A3), Texage_82 (A3), Todacoro_84 (A3), Topanga_71 (A10), Twister_82 (A10), Veracruz_81 (A3), WalterMcMickey_81 (A10),

Start 29:

- Found in 138 of 291 (47.4%) of genes in pham
- Manual Annotations of this start: 116 of 267
- Called 84.1% of time when present
- Phage (with cluster) where this start called: AbbysRanger_78 (A4), Abdiel_81 (A4), Achebe_77 (A4), Albee_82 (A4), Alberto7_83 (A4), Annyong_81 (A4), Baby16_82 (A4), BabyRay_84 (A3), Backyardigan_76 (A4), BangNhom_79 (A4), Bartimeaus_82 (A4), BellusTerra_82 (A4), Blackmoor_81 (A4), Bombshell_82 (A4), Broseidon_82 (A4), Bruiser_81 (A4), BubbleTrouble_81 (A4), Bumblebee11_77 (A4), Burger_80 (A4), Caelakin_80 (A4), Camperdownii_78 (A4), CentreCat_82 (A4), Cerulean_84 (A4), ChampagnePapi_85 (A4), Chaph_82 (A4), Cici_78 (A4), Cintron_82 (A4), Citius_82 (A4), Clarenza_81 (A4), Connomayer_82 (A4), Dhanush_82 (A4), DirtyDunning_81 (A4), Druantia_80 (A4), Eris_81 (A4), Eurydice_83 (A4), Florean_82 (A4), Flux_83 (A4), Funston_81 (A4), HamSlice_78 (A4), Happiness_81 (A4), Heathen_84 (A3), Holli_81 (A4), ICleared_81 (A4), Iceman_80 (A4), Iracema64_82 (A4), Jaykayelowell_79 (A4), JetBlade_83 (A4), JoongJeon_81 (A4), KFPoly_81 (A4),

Kampy_81 (A4), Kimona_82 (A19), Koan_79 (A4), Koreni_81 (A4), Kratark_81 (A4), Kremtemulon_79 (A4), Kyee_82 (A4), LHTSCC_84 (A4), LappelDuVide_82 (A4), Lemur_82 (A4), LittleB_82 (A4), LittleGuy_82 (A4), LochMonster_83 (A4), Lorenzo_82 (A4), Lunsford_82 (A4), MA5_82 (A3), Maverick_81 (A4), Maxo_84 (A4), Mazhar510_82 (A4), Medusa_81 (A4), Melvin_84 (A4), Millski_81 (A4), Miramae_82 (A4), Morpher26_78 (A4), Morrow_84 (A4), Mundrea_80 (A4), Nebs_83 (A4), Noelle_79 (A4), Nyxis_81 (A4), OKaNui_81 (A4), Ohfah_83 (A4), Palestino_81 (A4), Peaches_80 (A4), Perplexer_78 (A4), PeterPeter_82 (A4), PetiteSangsue_78 (A4), Phacado_82 (A4), Phelipe_82 (A4), Phighter1804_82 (A4), Phontbonne_82 (A4), Pipcraft_78 (A4), Polymorphads_83 (A4), Pumbaa_82 (A4), Romney_81 (A4), Roosevelt_80 (A4), Ruin_82 (A4), Sabertooth_82 (A4), Scamp_82 (A4), Scout_84 (A3), SeniorClean_83 (A4), Shaka_80 (A4), Shygu2_80 (A4), Sparxx_83 (A4), Spino_81 (A4), Taquarus_81 (A4), Thanksgivukkah_81 (A4), TinaFeyge_80 (A4), Tinybot_81 (A4), TiroTheta9_81 (A4), TroyPia_83 (A4), Ulysses_81 (A4), Wander_82 (A4), Wilbur_82 (A4), Wile_77 (A4), Wizard007_78 (A4), Xena_78 (A4), YoSam321_82 (A4),

Start 30:

- Found in 7 of 291 (2.4%) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 14.3% of time when present
- Phage (with cluster) where this start called: OKCentral2016_80 (A10),

Start 31:

- Found in 3 of 291 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 267
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FlyCatcher_83 (A7), Sheen_80 (A7), Toro_81 (A7),

Start 32:

- Found in 1 of 291 (0.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phlei_71 (A13),

Start 33:

- Found in 228 of 291 (78.4%) of genes in pham
- Manual Annotations of this start: 73 of 267
- Called 32.9% of time when present
- Phage (with cluster) where this start called: Aliter_82 (A9), BABullseye_78 (A6), BennyP_86 (A6), BlessJoy_87 (A6), Blinn1_89 (A6), Blue7_88 (A6), Catalina_91 (A9), Chargerpower_85 (A22), Chartreuse_84 (A6), CherryTomatoes_192 (DO), CloudWang3_87 (A6), Cookiedough_85 (A6), DarthPhader_85 (A12), Dorothea_85 (A6), Eidsmoe_87 (A9), EmyBug_86 (A9), Equemioh13_85 (A2), EricB_83 (A6), Fayely_87 (A9), Fibonacci_88 (A11), Flare16_85 (A2), Flaverint_89 (A11), Gilberta_86 (A11), Gladiator_83 (A6), Gruunaga_86 (A6), Hammer_87 (A6), HarryHoudini_85 (A2), Helmet_89 (A6), Hexamo_86 (A6), Hoot_80 (A6), HortumSL17_90 (A9), Hutc2_85 (A11), Indra_90 (A6), Jabith_88 (A11), JewelBug_77 (A6), Jordennis_83 (A6), Kazan_86 (A6), Kipper29_85 (A6), Koko_88 (A6), Lilbunny_86 (A6), MaCh_88 (A11), Mabel_88 (A11), Marchesa_84 (A3), MiculUcigas_85 (A2), Mulciber_87 (A11), Myxus_89 (A9), Neeharika16_84 (A6), Newrala_84 (A6), Orange_88 (A11), PackMan_84 (A9), Pupper_190 (DO),

Refuge_87 (A12), Rifter_87 (A6), Roksolana_87 (A6), SCentae_189 (DO), Sham4_85 (A11), Sknot_85 (A2), Skog_22 (DO), SmellyB_85 (A6), Snape_88 (A11), Spouty_87 (A9), Steamy_84 (A12), SuperAwesome_85 (A6), Temprado_88 (A6), TinyTimmy_86 (A11), Trixie_85 (A2), Trooper_84 (A2), Tubs_89 (A9), VohminGhazi_85 (A6), WideWale_86 (A2), Wiks_86 (A6), WunderPhul_87 (A6), Yecey3_90 (A9), Zimmer_86 (A12), Zulu_88 (A6),

Start 34:

- Found in 24 of 291 (8.2%) of genes in pham
- Manual Annotations of this start: 12 of 267
- Called 66.7% of time when present
- Phage (with cluster) where this start called: AN9_84 (A2), ANI8_84 (A2), Bradman_88 (A2), Duplo_86 (A2), EagleEye_86 (A16), Jsquared_89 (A2), Koduck_85 (A2), L5_78 (A2), Lucyedi_85 (A16), MajorMajor_82 (A2), Odin_84 (A2), Quokka_87 (A2), StarStuff_85 (A2), TipsytheTRex_84 (A2), Travvers_85 (A2), VC3_83 (A2),

Start 36:

- Found in 111 of 291 (38.1%) of genes in pham
- Manual Annotations of this start: 32 of 267
- Called 38.7% of time when present
- Phage (with cluster) where this start called: 40AC_81 (A17), Aneem_89 (A11), ArcherNM_80 (A2), Artemis2UCLA_86 (A6), BabyBack_80 (A2), Bachome_86 (A11), Bowtie_84 (A11), C3_77 (A2), Candra_83 (A6), Caraxes_86 (A2), Colin_84 (A2), DBQu4n_85 (A2), DaVinci_83 (A6), DelvinSonDorr_80 (A6), Ebony_87 (A11), Et2Brutus_88 (A11), Garak_88 (A6), GaugeLDP_79 (A2), Insomnia_88 (A11), Isiphiwo_81 (A6), Joselito_86 (A11), Kerberos_85 (A2), Kimba_85 (A11), Lucivia_89 (A11), McFly_85 (A6), Munch_87 (A11), Petersenfast_82 (A11), Pmask_84 (A6), Pomar16_85 (A2), Priamo_86 (A6), Prudy_80 (A2), Salz_84 (A11), Saskia_85 (A11), Serenity_88 (A2), SuperCallie99_81 (A6), Superchunk_85 (A2), Timothy_88 (A11), Tomathan_85 (A2), ToneTone_84 (A6), Tucker_87 (A6), Wolpertinger_88 (A11), Yokurt_86 (A6), Zaka_87 (A6),

Start 37:

- Found in 4 of 291 (1.4%) of genes in pham
- Manual Annotations of this start: 3 of 267
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Ronaldo_142 (DP), Volt_145 (DP), Ziko_144 (DP),

Summary by clusters:

There are 16 clusters represented in this pham: DO, A17, A16, A11, A10, A13, A12, A19, A22, A3, A2, A4, A7, A6, A9, DP,

Info for manual annotations of cluster A10:

- Start number 26 was manually annotated 12 times for cluster A10.
- Start number 30 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A11:

- Start number 33 was manually annotated 12 times for cluster A11.
- Start number 36 was manually annotated 11 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 33 was manually annotated 4 times for cluster A12.

Info for manual annotations of cluster A16:

- Start number 34 was manually annotated 2 times for cluster A16.

Info for manual annotations of cluster A19:

- Start number 29 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 33 was manually annotated 8 times for cluster A2.
- Start number 34 was manually annotated 10 times for cluster A2.
- Start number 36 was manually annotated 10 times for cluster A2.

Info for manual annotations of cluster A22:

- Start number 33 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A3:

- Start number 26 was manually annotated 16 times for cluster A3.
- Start number 29 was manually annotated 4 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 26 was manually annotated 1 time for cluster A4.
- Start number 29 was manually annotated 111 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 33 was manually annotated 33 times for cluster A6.
- Start number 36 was manually annotated 11 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 31 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A9:

- Start number 33 was manually annotated 11 times for cluster A9.

Info for manual annotations of cluster DO:

- Start number 33 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DP:

- Start number 37 was manually annotated 3 times for cluster DP.

Gene Information:

Gene: 40AC_81 Start: 48267, Stop: 48139, Start Num: 36

Candidate Starts for 40AC_81:

(Start: 33 @48279 has 73 MA's), (Start: 36 @48267 has 32 MA's),

Gene: AN9_84 Start: 47045, Stop: 46908, Start Num: 34

Candidate Starts for AN9_84:

(12, 47204), (Start: 34 @47045 has 12 MA's), (Start: 36 @47036 has 32 MA's), (42, 46958),

Gene: ANI8_84 Start: 47045, Stop: 46908, Start Num: 34

Candidate Starts for ANI8_84:

(12, 47204), (Start: 34 @47045 has 12 MA's), (Start: 36 @47036 has 32 MA's), (42, 46958),

Gene: AbbysRanger_78 Start: 47702, Stop: 47532, Start Num: 29

Candidate Starts for AbbysRanger_78:

(1, 48197), (3, 48095), (4, 48014), (Start: 29 @47702 has 116 MA's), (Start: 33 @47678 has 73 MA's), (42, 47585),

Gene: Abdiel_81 Start: 48078, Stop: 47908, Start Num: 29

Candidate Starts for Abdiel_81:

(Start: 29 @48078 has 116 MA's), (Start: 33 @48054 has 73 MA's), (42, 47961),

Gene: Achebe_77 Start: 47681, Stop: 47511, Start Num: 29

Candidate Starts for Achebe_77:

(Start: 29 @47681 has 116 MA's), (Start: 33 @47657 has 73 MA's), (42, 47564),

Gene: Albee_82 Start: 48066, Stop: 47896, Start Num: 29

Candidate Starts for Albee_82:

(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's), (42, 47949),

Gene: Alberto7_83 Start: 48403, Stop: 48233, Start Num: 29

Candidate Starts for Alberto7_83:

(Start: 29 @48403 has 116 MA's), (Start: 33 @48379 has 73 MA's),

Gene: Aliter_82 Start: 46009, Stop: 45866, Start Num: 33

Candidate Starts for Aliter_82:

(28, 46048), (Start: 33 @46009 has 73 MA's), (35, 46000),

Gene: Aneem_89 Start: 48093, Stop: 47965, Start Num: 36

Candidate Starts for Aneem_89:

(Start: 33 @48105 has 73 MA's), (Start: 36 @48093 has 32 MA's), (42, 48015),

Gene: Annyong_81 Start: 48111, Stop: 47941, Start Num: 29

Candidate Starts for Annyong_81:

(Start: 29 @48111 has 116 MA's), (Start: 33 @48087 has 73 MA's), (42, 47994),

Gene: ArcherNM_80 Start: 48138, Stop: 48004, Start Num: 36

Candidate Starts for ArcherNM_80:

(13, 48261), (25, 48189), (Start: 33 @48150 has 73 MA's), (Start: 36 @48138 has 32 MA's), (42, 48057),

Gene: Artemis2UCLA_86 Start: 46158, Stop: 46027, Start Num: 36

Candidate Starts for Artemis2UCLA_86:

(27, 46209), (Start: 33 @46170 has 73 MA's), (Start: 36 @46158 has 32 MA's),

Gene: BABullseye_78 Start: 44490, Stop: 44347, Start Num: 33

Candidate Starts for BABullseye_78:

(27, 44529), (Start: 33 @44490 has 73 MA's), (Start: 36 @44478 has 32 MA's),

Gene: Baby16_82 Start: 48077, Stop: 47907, Start Num: 29

Candidate Starts for Baby16_82:
(Start: 29 @48077 has 116 MA's), (Start: 33 @48053 has 73 MA's), (42, 47960),

Gene: BabyBack_80 Start: 48059, Stop: 47931, Start Num: 36
Candidate Starts for BabyBack_80:
(Start: 33 @48071 has 73 MA's), (Start: 36 @48059 has 32 MA's),

Gene: BabyRay_84 Start: 47109, Stop: 46939, Start Num: 29
Candidate Starts for BabyRay_84:
(7, 47334), (11, 47265), (14, 47199), (22, 47160), (Start: 26 @47133 has 29 MA's), (Start: 29 @47109 has 116 MA's), (Start: 33 @47082 has 73 MA's),

Gene: Bachome_86 Start: 46976, Stop: 46848, Start Num: 36
Candidate Starts for Bachome_86:
(Start: 33 @46988 has 73 MA's), (Start: 36 @46976 has 32 MA's), (42, 46898),

Gene: Backyardigan_76 Start: 47718, Stop: 47548, Start Num: 29
Candidate Starts for Backyardigan_76:
(1, 48213), (3, 48111), (4, 48030), (Start: 29 @47718 has 116 MA's), (Start: 33 @47694 has 73 MA's), (42, 47601),

Gene: BangNhom_79 Start: 48503, Stop: 48333, Start Num: 29
Candidate Starts for BangNhom_79:
(Start: 29 @48503 has 116 MA's), (Start: 33 @48479 has 73 MA's),

Gene: Bartimeaus_82 Start: 48068, Stop: 47898, Start Num: 29
Candidate Starts for Bartimeaus_82:
(Start: 29 @48068 has 116 MA's), (Start: 33 @48044 has 73 MA's), (42, 47951),

Gene: BellusTerra_82 Start: 47931, Stop: 47761, Start Num: 29
Candidate Starts for BellusTerra_82:
(Start: 29 @47931 has 116 MA's), (Start: 33 @47907 has 73 MA's), (42, 47814),

Gene: BennyP_86 Start: 46335, Stop: 46192, Start Num: 33
Candidate Starts for BennyP_86:
(27, 46374), (Start: 33 @46335 has 73 MA's), (Start: 36 @46323 has 32 MA's),

Gene: Blackmoor_81 Start: 48068, Stop: 47898, Start Num: 29
Candidate Starts for Blackmoor_81:
(Start: 29 @48068 has 116 MA's), (Start: 33 @48044 has 73 MA's), (42, 47951),

Gene: BlessJoy_87 Start: 46691, Stop: 46548, Start Num: 33
Candidate Starts for BlessJoy_87:
(27, 46730), (Start: 33 @46691 has 73 MA's), (Start: 36 @46679 has 32 MA's),

Gene: Blinn1_89 Start: 47148, Stop: 47005, Start Num: 33
Candidate Starts for Blinn1_89:
(Start: 33 @47148 has 73 MA's), (Start: 36 @47136 has 32 MA's),

Gene: Blue7_88 Start: 46389, Stop: 46246, Start Num: 33
Candidate Starts for Blue7_88:
(27, 46428), (Start: 33 @46389 has 73 MA's), (Start: 36 @46377 has 32 MA's),

Gene: Bombshell_82 Start: 48063, Stop: 47893, Start Num: 29
Candidate Starts for Bombshell_82:
(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: Bowtie_84 Start: 46700, Stop: 46572, Start Num: 36
Candidate Starts for Bowtie_84:
(Start: 33 @46712 has 73 MA's), (Start: 36 @46700 has 32 MA's), (42, 46622),

Gene: Bradman_88 Start: 47715, Stop: 47578, Start Num: 34
Candidate Starts for Bradman_88:
(Start: 34 @47715 has 12 MA's), (Start: 36 @47706 has 32 MA's), (40, 47676), (42, 47628),

Gene: Broseidon_82 Start: 48069, Stop: 47899, Start Num: 29
Candidate Starts for Broseidon_82:
(Start: 29 @48069 has 116 MA's), (Start: 33 @48045 has 73 MA's), (42, 47952),

Gene: Bruiser_81 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for Bruiser_81:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's),

Gene: BubbleTrouble_81 Start: 48093, Stop: 47923, Start Num: 29
Candidate Starts for BubbleTrouble_81:
(Start: 29 @48093 has 116 MA's), (Start: 33 @48069 has 73 MA's), (42, 47976),

Gene: Bumblebee11_77 Start: 47684, Stop: 47514, Start Num: 29
Candidate Starts for Bumblebee11_77:
(1, 48179), (3, 48077), (4, 47996), (Start: 29 @47684 has 116 MA's), (Start: 33 @47660 has 73 MA's),
(42, 47567),

Gene: Burger_80 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for Burger_80:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's),

Gene: C3_77 Start: 47036, Stop: 46908, Start Num: 36
Candidate Starts for C3_77:
(12, 47204), (Start: 34 @47045 has 12 MA's), (Start: 36 @47036 has 32 MA's), (42, 46958),

Gene: Caelakin_80 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for Caelakin_80:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's),

Gene: Camperdownii_78 Start: 47309, Stop: 47139, Start Num: 29
Candidate Starts for Camperdownii_78:
(Start: 29 @47309 has 116 MA's), (Start: 33 @47285 has 73 MA's), (42, 47192),

Gene: Candra_83 Start: 46183, Stop: 46052, Start Num: 36
Candidate Starts for Candra_83:
(27, 46234), (Start: 33 @46195 has 73 MA's), (Start: 36 @46183 has 32 MA's),

Gene: Caraxes_86 Start: 47335, Stop: 47207, Start Num: 36
Candidate Starts for Caraxes_86:
(Start: 34 @47344 has 12 MA's), (Start: 36 @47335 has 32 MA's), (40, 47305), (42, 47257),

Gene: Catalina_91 Start: 48956, Stop: 48813, Start Num: 33
Candidate Starts for Catalina_91:
(28, 48995), (Start: 33 @48956 has 73 MA's), (35, 48947),

Gene: Caviar_73 Start: 44224, Stop: 44060, Start Num: 26
Candidate Starts for Caviar_73:
(15, 44284), (Start: 26 @44224 has 29 MA's), (42, 44110),

Gene: CentreCat_82 Start: 48106, Stop: 47936, Start Num: 29
Candidate Starts for CentreCat_82:
(Start: 29 @48106 has 116 MA's), (Start: 33 @48082 has 73 MA's),

Gene: Cerulean_84 Start: 48504, Stop: 48334, Start Num: 29
Candidate Starts for Cerulean_84:
(Start: 29 @48504 has 116 MA's), (Start: 33 @48480 has 73 MA's),

Gene: ChampagnePapi_85 Start: 48506, Stop: 48336, Start Num: 29
Candidate Starts for ChampagnePapi_85:
(Start: 29 @48506 has 116 MA's), (Start: 33 @48482 has 73 MA's),

Gene: Chaph_82 Start: 48077, Stop: 47907, Start Num: 29
Candidate Starts for Chaph_82:
(Start: 29 @48077 has 116 MA's), (Start: 33 @48053 has 73 MA's),

Gene: Chargerpower_85 Start: 46897, Stop: 46760, Start Num: 33
Candidate Starts for Chargerpower_85:
(25, 46936), (Start: 33 @46897 has 73 MA's), (Start: 37 @46888 has 3 MA's), (41, 46837),

Gene: Chartreuse_84 Start: 45496, Stop: 45353, Start Num: 33
Candidate Starts for Chartreuse_84:
(27, 45535), (Start: 33 @45496 has 73 MA's), (Start: 36 @45484 has 32 MA's),

Gene: CherryTomatoes_192 Start: 134867, Stop: 135010, Start Num: 33
Candidate Starts for CherryTomatoes_192:
(Start: 33 @134867 has 73 MA's),

Gene: Chupacabra_78 Start: 47676, Stop: 47506, Start Num: 26
Candidate Starts for Chupacabra_78:
(9, 47844), (15, 47736), (Start: 26 @47676 has 29 MA's), (Start: 29 @47652 has 116 MA's), (Start: 30 @47646 has 1 MA's), (42, 47556),

Gene: Cici_78 Start: 47697, Stop: 47527, Start Num: 29
Candidate Starts for Cici_78:
(Start: 29 @47697 has 116 MA's), (Start: 33 @47673 has 73 MA's),

Gene: Cintron_82 Start: 48182, Stop: 48012, Start Num: 29
Candidate Starts for Cintron_82:
(Start: 29 @48182 has 116 MA's), (Start: 33 @48158 has 73 MA's),

Gene: Citius_82 Start: 48087, Stop: 47917, Start Num: 29
Candidate Starts for Citius_82:
(Start: 29 @48087 has 116 MA's), (Start: 33 @48063 has 73 MA's), (42, 47970),

Gene: Clarenza_81 Start: 48063, Stop: 47893, Start Num: 29
Candidate Starts for Clarenza_81:
(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: CloudWang3_87 Start: 46699, Stop: 46556, Start Num: 33
Candidate Starts for CloudWang3_87:
(27, 46738), (Start: 33 @46699 has 73 MA's), (Start: 36 @46687 has 32 MA's),

Gene: Colin_84 Start: 49181, Stop: 49047, Start Num: 36
Candidate Starts for Colin_84:
(19, 49277), (Start: 33 @49193 has 73 MA's), (Start: 36 @49181 has 32 MA's),

Gene: Connomayer_82 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for Connomayer_82:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's), (42, 47949),

Gene: Cookiedough_85 Start: 46803, Stop: 46660, Start Num: 33
Candidate Starts for Cookiedough_85:
(27, 46842), (Start: 33 @46803 has 73 MA's), (Start: 36 @46791 has 32 MA's),

Gene: DBQu4n_85 Start: 48081, Stop: 47953, Start Num: 36
Candidate Starts for DBQu4n_85:
(12, 48255), (Start: 34 @48090 has 12 MA's), (Start: 36 @48081 has 32 MA's), (42, 48003),

Gene: DaVinci_83 Start: 45538, Stop: 45407, Start Num: 36
Candidate Starts for DaVinci_83:
(27, 45589), (Start: 33 @45550 has 73 MA's), (Start: 36 @45538 has 32 MA's),

Gene: DarthPhader_85 Start: 49743, Stop: 49600, Start Num: 33
Candidate Starts for DarthPhader_85:
(Start: 33 @49743 has 73 MA's), (Start: 36 @49734 has 32 MA's),

Gene: DelvinSonDorr_80 Start: 45747, Stop: 45616, Start Num: 36
Candidate Starts for DelvinSonDorr_80:
(27, 45798), (Start: 33 @45759 has 73 MA's), (Start: 36 @45747 has 32 MA's),

Gene: Dhanush_82 Start: 48069, Stop: 47899, Start Num: 29
Candidate Starts for Dhanush_82:
(Start: 29 @48069 has 116 MA's), (Start: 33 @48045 has 73 MA's),

Gene: DirtyDunning_81 Start: 48078, Stop: 47908, Start Num: 29
Candidate Starts for DirtyDunning_81:
(Start: 29 @48078 has 116 MA's), (Start: 33 @48054 has 73 MA's),

Gene: DontArgue_76 Start: 46542, Stop: 46369, Start Num: 26
Candidate Starts for DontArgue_76:
(8, 46716), (Start: 26 @46542 has 29 MA's), (Start: 29 @46518 has 116 MA's), (42, 46422),

Gene: Dorothea_85 Start: 46796, Stop: 46653, Start Num: 33
Candidate Starts for Dorothea_85:
(27, 46835), (Start: 33 @46796 has 73 MA's), (Start: 36 @46784 has 32 MA's),

Gene: Drake94_78 Start: 46836, Stop: 46663, Start Num: 26

Candidate Starts for Drake94_78:
(9, 47004), (15, 46896), (Start: 26 @46836 has 29 MA's), (Start: 29 @46812 has 116 MA's), (42, 46716),

Gene: Druantia_80 Start: 47893, Stop: 47723, Start Num: 29
Candidate Starts for Druantia_80:
(1, 48388), (3, 48286), (4, 48205), (Start: 29 @47893 has 116 MA's), (Start: 33 @47869 has 73 MA's),
(42, 47776),

Gene: Duplo_86 Start: 48147, Stop: 48010, Start Num: 34
Candidate Starts for Duplo_86:
(12, 48312), (Start: 34 @48147 has 12 MA's), (Start: 36 @48138 has 32 MA's), (42, 48060),

Gene: DustyMartin_84 Start: 47933, Stop: 47763, Start Num: 26
Candidate Starts for DustyMartin_84:
(24, 47951), (Start: 26 @47933 has 29 MA's), (Start: 29 @47909 has 116 MA's), (42, 47813),

Gene: EagleEye_86 Start: 47944, Stop: 47807, Start Num: 34
Candidate Starts for EagleEye_86:
(Start: 34 @47944 has 12 MA's), (Start: 36 @47935 has 32 MA's),

Gene: Ebony_87 Start: 47664, Stop: 47536, Start Num: 36
Candidate Starts for Ebony_87:
(Start: 33 @47676 has 73 MA's), (Start: 36 @47664 has 32 MA's), (42, 47586),

Gene: Eidsmoe_87 Start: 48610, Stop: 48467, Start Num: 33
Candidate Starts for Eidsmoe_87:
(28, 48649), (Start: 33 @48610 has 73 MA's), (35, 48601),

Gene: EmyBug_86 Start: 48612, Stop: 48469, Start Num: 33
Candidate Starts for EmyBug_86:
(28, 48651), (Start: 33 @48612 has 73 MA's), (35, 48603),

Gene: Equemioh13_85 Start: 48350, Stop: 48207, Start Num: 33
Candidate Starts for Equemioh13_85:
(Start: 33 @48350 has 73 MA's), (35, 48341), (42, 48257),

Gene: EricB_83 Start: 45693, Stop: 45550, Start Num: 33
Candidate Starts for EricB_83:
(27, 45732), (Start: 33 @45693 has 73 MA's), (Start: 36 @45681 has 32 MA's),

Gene: Eris_81 Start: 48078, Stop: 47908, Start Num: 29
Candidate Starts for Eris_81:
(Start: 29 @48078 has 116 MA's), (Start: 33 @48054 has 73 MA's),

Gene: Et2Brutus_88 Start: 47941, Stop: 47813, Start Num: 36
Candidate Starts for Et2Brutus_88:
(Start: 33 @47953 has 73 MA's), (Start: 36 @47941 has 32 MA's), (42, 47863),

Gene: Eurydice_83 Start: 48103, Stop: 47933, Start Num: 29
Candidate Starts for Eurydice_83:
(Start: 29 @48103 has 116 MA's), (Start: 33 @48079 has 73 MA's),

Gene: Fayely_87 Start: 48586, Stop: 48443, Start Num: 33

Candidate Starts for Fayely_87:

(28, 48625), (Start: 33 @48586 has 73 MA's), (35, 48577),

Gene: Fibonacci_88 Start: 47959, Stop: 47819, Start Num: 33

Candidate Starts for Fibonacci_88:

(Start: 33 @47959 has 73 MA's), (Start: 36 @47947 has 32 MA's), (42, 47869),

Gene: Flare16_85 Start: 48165, Stop: 48022, Start Num: 33

Candidate Starts for Flare16_85:

(Start: 33 @48165 has 73 MA's), (35, 48156), (42, 48072),

Gene: Flaverint_89 Start: 48103, Stop: 47963, Start Num: 33

Candidate Starts for Flaverint_89:

(Start: 33 @48103 has 73 MA's), (Start: 36 @48091 has 32 MA's), (42, 48013),

Gene: Florean_82 Start: 48065, Stop: 47895, Start Num: 29

Candidate Starts for Florean_82:

(Start: 29 @48065 has 116 MA's), (Start: 33 @48041 has 73 MA's), (42, 47948),

Gene: Flux_83 Start: 48064, Stop: 47894, Start Num: 29

Candidate Starts for Flux_83:

(Start: 29 @48064 has 116 MA's), (Start: 33 @48040 has 73 MA's),

Gene: FlyCatcher_83 Start: 50768, Stop: 50619, Start Num: 31

Candidate Starts for FlyCatcher_83:

(Start: 31 @50768 has 1 MA's), (39, 50726),

Gene: Funston_81 Start: 48063, Stop: 47893, Start Num: 29

Candidate Starts for Funston_81:

(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: Garak_88 Start: 46620, Stop: 46489, Start Num: 36

Candidate Starts for Garak_88:

(27, 46671), (Start: 33 @46632 has 73 MA's), (Start: 36 @46620 has 32 MA's),

Gene: GaugeLDP_79 Start: 47615, Stop: 47487, Start Num: 36

Candidate Starts for GaugeLDP_79:

(Start: 33 @47627 has 73 MA's), (Start: 36 @47615 has 32 MA's),

Gene: Gilberta_86 Start: 46979, Stop: 46839, Start Num: 33

Candidate Starts for Gilberta_86:

(Start: 33 @46979 has 73 MA's), (Start: 36 @46967 has 32 MA's), (42, 46889),

Gene: Gladiator_83 Start: 46355, Stop: 46212, Start Num: 33

Candidate Starts for Gladiator_83:

(27, 46394), (Start: 33 @46355 has 73 MA's), (Start: 36 @46343 has 32 MA's),

Gene: Goose_82 Start: 47487, Stop: 47317, Start Num: 26

Candidate Starts for Goose_82:

(9, 47655), (Start: 26 @47487 has 29 MA's), (Start: 29 @47463 has 116 MA's), (Start: 30 @47457 has 1 MA's), (42, 47367),

Gene: Gruunaga_86 Start: 46310, Stop: 46167, Start Num: 33
Candidate Starts for Gruunaga_86:
(27, 46349), (Start: 33 @46310 has 73 MA's), (Start: 36 @46298 has 32 MA's),

Gene: HamSlice_78 Start: 48065, Stop: 47895, Start Num: 29
Candidate Starts for HamSlice_78:
(Start: 29 @48065 has 116 MA's), (Start: 33 @48041 has 73 MA's), (42, 47948),

Gene: Hammer_87 Start: 46017, Stop: 45874, Start Num: 33
Candidate Starts for Hammer_87:
(27, 46056), (Start: 33 @46017 has 73 MA's), (Start: 36 @46005 has 32 MA's),

Gene: Happiness_81 Start: 48089, Stop: 47919, Start Num: 29
Candidate Starts for Happiness_81:
(Start: 29 @48089 has 116 MA's), (Start: 33 @48065 has 73 MA's),

Gene: HarryHoudini_85 Start: 48375, Stop: 48232, Start Num: 33
Candidate Starts for HarryHoudini_85:
(Start: 33 @48375 has 73 MA's), (35, 48366), (42, 48282),

Gene: Heathen_84 Start: 47262, Stop: 47092, Start Num: 29
Candidate Starts for Heathen_84:
(7, 47487), (11, 47418), (22, 47313), (Start: 26 @47286 has 29 MA's), (Start: 29 @47262 has 116 MA's), (Start: 33 @47235 has 73 MA's),

Gene: Helmet_89 Start: 46632, Stop: 46489, Start Num: 33
Candidate Starts for Helmet_89:
(27, 46671), (Start: 33 @46632 has 73 MA's), (Start: 36 @46620 has 32 MA's),

Gene: Hexamo_86 Start: 46185, Stop: 46042, Start Num: 33
Candidate Starts for Hexamo_86:
(27, 46224), (Start: 33 @46185 has 73 MA's), (Start: 36 @46173 has 32 MA's),

Gene: Holli_81 Start: 47856, Stop: 47686, Start Num: 29
Candidate Starts for Holli_81:
(Start: 29 @47856 has 116 MA's), (Start: 33 @47832 has 73 MA's), (42, 47739),

Gene: Hookmount_84 Start: 47227, Stop: 47063, Start Num: 26
Candidate Starts for Hookmount_84:
(15, 47287), (Start: 26 @47227 has 29 MA's), (42, 47113),

Gene: Hoot_80 Start: 44010, Stop: 43867, Start Num: 33
Candidate Starts for Hoot_80:
(27, 44049), (Start: 33 @44010 has 73 MA's), (Start: 36 @43998 has 32 MA's),

Gene: HortumSL17_90 Start: 48954, Stop: 48811, Start Num: 33
Candidate Starts for HortumSL17_90:
(28, 48993), (Start: 33 @48954 has 73 MA's), (35, 48945),

Gene: Hutc2_85 Start: 46843, Stop: 46703, Start Num: 33
Candidate Starts for Hutc2_85:
(Start: 33 @46843 has 73 MA's), (Start: 36 @46831 has 32 MA's), (42, 46753),

Gene: ICleared_81 Start: 48134, Stop: 47964, Start Num: 29
Candidate Starts for ICleared_81:
(Start: 29 @48134 has 116 MA's), (Start: 33 @48110 has 73 MA's),

Gene: Iceman_80 Start: 48356, Stop: 48186, Start Num: 29
Candidate Starts for Iceman_80:
(Start: 29 @48356 has 116 MA's), (Start: 33 @48332 has 73 MA's), (42, 48239),

Gene: Indra_90 Start: 46633, Stop: 46490, Start Num: 33
Candidate Starts for Indra_90:
(27, 46672), (Start: 33 @46633 has 73 MA's), (Start: 36 @46621 has 32 MA's),

Gene: Insomnia_88 Start: 48125, Stop: 47997, Start Num: 36
Candidate Starts for Insomnia_88:
(Start: 33 @48137 has 73 MA's), (Start: 36 @48125 has 32 MA's), (42, 48047),

Gene: Iracema64_82 Start: 48330, Stop: 48160, Start Num: 29
Candidate Starts for Iracema64_82:
(Start: 29 @48330 has 116 MA's), (Start: 33 @48306 has 73 MA's),

Gene: Isca_80 Start: 46413, Stop: 46216, Start Num: 26
Candidate Starts for Isca_80:
(11, 46545), (22, 46440), (Start: 26 @46413 has 29 MA's), (Start: 29 @46389 has 116 MA's), (Start: 33 @46362 has 73 MA's),

Gene: Isiphiwo_81 Start: 45709, Stop: 45578, Start Num: 36
Candidate Starts for Isiphiwo_81:
(27, 45760), (Start: 33 @45721 has 73 MA's), (Start: 36 @45709 has 32 MA's),

Gene: Jabith_88 Start: 48151, Stop: 48011, Start Num: 33
Candidate Starts for Jabith_88:
(Start: 33 @48151 has 73 MA's), (Start: 36 @48139 has 32 MA's), (42, 48061),

Gene: Jaykayelowell_79 Start: 48059, Stop: 47889, Start Num: 29
Candidate Starts for Jaykayelowell_79:
(Start: 29 @48059 has 116 MA's), (Start: 33 @48035 has 73 MA's), (42, 47942),

Gene: JetBlade_83 Start: 48094, Stop: 47924, Start Num: 29
Candidate Starts for JetBlade_83:
(Start: 29 @48094 has 116 MA's), (Start: 33 @48070 has 73 MA's), (42, 47977),

Gene: JewelBug_77 Start: 44488, Stop: 44333, Start Num: 33
Candidate Starts for JewelBug_77:
(27, 44527), (Start: 33 @44488 has 73 MA's), (Start: 36 @44476 has 32 MA's),

Gene: JoongJeon_81 Start: 48060, Stop: 47890, Start Num: 29
Candidate Starts for JoongJeon_81:
(Start: 29 @48060 has 116 MA's), (Start: 33 @48036 has 73 MA's),

Gene: Jordennis_83 Start: 46392, Stop: 46249, Start Num: 33
Candidate Starts for Jordennis_83:
(27, 46431), (Start: 33 @46392 has 73 MA's), (Start: 36 @46380 has 32 MA's),

Gene: Joselito_86 Start: 47845, Stop: 47717, Start Num: 36
Candidate Starts for Joselito_86:
(Start: 33 @47857 has 73 MA's), (Start: 36 @47845 has 32 MA's), (42, 47767),

Gene: Jsquared_89 Start: 47958, Stop: 47821, Start Num: 34
Candidate Starts for Jsquared_89:
(Start: 34 @47958 has 12 MA's), (Start: 36 @47949 has 32 MA's), (40, 47919), (42, 47871),

Gene: KFPoly_81 Start: 48060, Stop: 47890, Start Num: 29
Candidate Starts for KFPoly_81:
(Start: 29 @48060 has 116 MA's), (Start: 33 @48036 has 73 MA's),

Gene: Kamy_81 Start: 48069, Stop: 47899, Start Num: 29
Candidate Starts for Kamy_81:
(Start: 29 @48069 has 116 MA's), (Start: 33 @48045 has 73 MA's),

Gene: Kazan_86 Start: 46165, Stop: 46022, Start Num: 33
Candidate Starts for Kazan_86:
(27, 46204), (Start: 33 @46165 has 73 MA's), (Start: 36 @46153 has 32 MA's),

Gene: Kerberos_85 Start: 48101, Stop: 47973, Start Num: 36
Candidate Starts for Kerberos_85:
(12, 48275), (Start: 34 @48110 has 12 MA's), (Start: 36 @48101 has 32 MA's), (42, 48023),

Gene: Kimba_85 Start: 47148, Stop: 47020, Start Num: 36
Candidate Starts for Kimba_85:
(Start: 33 @47160 has 73 MA's), (Start: 36 @47148 has 32 MA's), (42, 47070),

Gene: Kimona_82 Start: 46840, Stop: 46682, Start Num: 29
Candidate Starts for Kimona_82:
(Start: 29 @46840 has 116 MA's),

Gene: Kipper29_85 Start: 46168, Stop: 46025, Start Num: 33
Candidate Starts for Kipper29_85:
(27, 46207), (Start: 33 @46168 has 73 MA's), (Start: 36 @46156 has 32 MA's),

Gene: Koan_79 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for Koan_79:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's),

Gene: Koduck_85 Start: 47297, Stop: 47160, Start Num: 34
Candidate Starts for Koduck_85:
(10, 47483), (17, 47387), (Start: 34 @47297 has 12 MA's), (Start: 36 @47288 has 32 MA's), (40, 47258), (42, 47210),

Gene: Koko_88 Start: 47022, Stop: 46879, Start Num: 33
Candidate Starts for Koko_88:
(27, 47061), (Start: 33 @47022 has 73 MA's), (Start: 36 @47010 has 32 MA's),

Gene: Koreni_81 Start: 47747, Stop: 47577, Start Num: 29
Candidate Starts for Koreni_81:
(Start: 29 @47747 has 116 MA's), (Start: 33 @47723 has 73 MA's),

Gene: Kratark_81 Start: 48100, Stop: 47930, Start Num: 29
Candidate Starts for Kratark_81:
(Start: 29 @48100 has 116 MA's), (Start: 33 @48076 has 73 MA's), (42, 47983),

Gene: Kremtemulon_79 Start: 47946, Stop: 47776, Start Num: 29
Candidate Starts for Kremtemulon_79:
(Start: 29 @47946 has 116 MA's), (Start: 33 @47922 has 73 MA's),

Gene: Kristoff_79 Start: 48111, Stop: 47938, Start Num: 26
Candidate Starts for Kristoff_79:
(15, 48171), (Start: 26 @48111 has 29 MA's), (Start: 29 @48087 has 116 MA's), (Start: 30 @48081 has 1 MA's), (42, 47991), (43, 47946),

Gene: Kyee_82 Start: 48061, Stop: 47891, Start Num: 29
Candidate Starts for Kyee_82:
(Start: 29 @48061 has 116 MA's), (Start: 33 @48037 has 73 MA's),

Gene: L5_78 Start: 47188, Stop: 47051, Start Num: 34
Candidate Starts for L5_78:
(10, 47374), (Start: 34 @47188 has 12 MA's), (Start: 36 @47179 has 32 MA's), (40, 47149), (42, 47101),

Gene: LHTSCC_84 Start: 48506, Stop: 48336, Start Num: 29
Candidate Starts for LHTSCC_84:
(Start: 29 @48506 has 116 MA's), (Start: 33 @48482 has 73 MA's), (42, 48389),

Gene: Lambert1_84 Start: 47228, Stop: 47064, Start Num: 26
Candidate Starts for Lambert1_84:
(15, 47288), (Start: 26 @47228 has 29 MA's), (42, 47114),

Gene: LappelDuVide_82 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for LappelDuVide_82:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's), (42, 47949),

Gene: Lemur_82 Start: 48063, Stop: 47893, Start Num: 29
Candidate Starts for Lemur_82:
(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's), (42, 47946),

Gene: Lilbunny_86 Start: 46264, Stop: 46121, Start Num: 33
Candidate Starts for Lilbunny_86:
(27, 46303), (Start: 33 @46264 has 73 MA's), (Start: 36 @46252 has 32 MA's),

Gene: LittleB_82 Start: 48067, Stop: 47897, Start Num: 29
Candidate Starts for LittleB_82:
(Start: 29 @48067 has 116 MA's), (Start: 33 @48043 has 73 MA's),

Gene: LittleGuy_82 Start: 47957, Stop: 47784, Start Num: 29
Candidate Starts for LittleGuy_82:
(Start: 29 @47957 has 116 MA's), (Start: 33 @47930 has 73 MA's), (42, 47837),

Gene: LochMonster_83 Start: 48303, Stop: 48133, Start Num: 29
Candidate Starts for LochMonster_83:
(Start: 29 @48303 has 116 MA's), (Start: 33 @48279 has 73 MA's),

Gene: Lorenzo_82 Start: 48064, Stop: 47894, Start Num: 29
Candidate Starts for Lorenzo_82:
(Start: 29 @48064 has 116 MA's), (Start: 33 @48040 has 73 MA's),

Gene: Lucivia_89 Start: 48124, Stop: 47996, Start Num: 36
Candidate Starts for Lucivia_89:
(Start: 33 @48136 has 73 MA's), (Start: 36 @48124 has 32 MA's), (42, 48046),

Gene: Lucyedi_85 Start: 48143, Stop: 48006, Start Num: 34
Candidate Starts for Lucyedi_85:
(Start: 34 @48143 has 12 MA's), (Start: 36 @48134 has 32 MA's), (42, 48056),

Gene: Lunsford_82 Start: 48059, Stop: 47889, Start Num: 29
Candidate Starts for Lunsford_82:
(Start: 29 @48059 has 116 MA's), (Start: 33 @48035 has 73 MA's), (42, 47942),

Gene: MA5_82 Start: 46285, Stop: 46112, Start Num: 29
Candidate Starts for MA5_82:
(15, 46369), (23, 46330), (Start: 29 @46285 has 116 MA's), (Start: 33 @46258 has 73 MA's),

Gene: MaCh_88 Start: 48100, Stop: 47960, Start Num: 33
Candidate Starts for MaCh_88:
(Start: 33 @48100 has 73 MA's), (Start: 36 @48088 has 32 MA's), (42, 48010),

Gene: Mabel_88 Start: 48101, Stop: 47961, Start Num: 33
Candidate Starts for Mabel_88:
(Start: 33 @48101 has 73 MA's), (Start: 36 @48089 has 32 MA's), (42, 48011),

Gene: MajorMajor_82 Start: 46007, Stop: 45870, Start Num: 34
Candidate Starts for MajorMajor_82:
(Start: 34 @46007 has 12 MA's), (Start: 36 @45998 has 32 MA's), (40, 45968), (42, 45920),

Gene: Marchesa_84 Start: 47349, Stop: 47203, Start Num: 33
Candidate Starts for Marchesa_84:
(7, 47601), (11, 47532), (22, 47427), (Start: 26 @47400 has 29 MA's), (Start: 29 @47376 has 116 MA's), (Start: 33 @47349 has 73 MA's),

Gene: Margo_84 Start: 47253, Stop: 47089, Start Num: 26
Candidate Starts for Margo_84:
(15, 47313), (Start: 26 @47253 has 29 MA's), (42, 47139),

Gene: Maverick_81 Start: 48063, Stop: 47893, Start Num: 29
Candidate Starts for Maverick_81:
(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: Maxo_84 Start: 48069, Stop: 47899, Start Num: 29
Candidate Starts for Maxo_84:
(Start: 29 @48069 has 116 MA's), (Start: 33 @48045 has 73 MA's),

Gene: Mazhar510_82 Start: 48064, Stop: 47894, Start Num: 29
Candidate Starts for Mazhar510_82:
(Start: 29 @48064 has 116 MA's), (Start: 33 @48040 has 73 MA's),

Gene: McFly_85 Start: 46492, Stop: 46361, Start Num: 36
Candidate Starts for McFly_85:
(27, 46543), (Start: 33 @46504 has 73 MA's), (Start: 36 @46492 has 32 MA's),

Gene: Medusa_81 Start: 48079, Stop: 47909, Start Num: 29
Candidate Starts for Medusa_81:
(Start: 29 @48079 has 116 MA's), (Start: 33 @48055 has 73 MA's),

Gene: Melvin_84 Start: 48061, Stop: 47891, Start Num: 29
Candidate Starts for Melvin_84:
(Start: 29 @48061 has 116 MA's), (Start: 33 @48037 has 73 MA's),

Gene: MiculUcigas_85 Start: 48068, Stop: 47925, Start Num: 33
Candidate Starts for MiculUcigas_85:
(Start: 33 @48068 has 73 MA's), (35, 48059), (42, 47975),

Gene: Millski_81 Start: 48067, Stop: 47897, Start Num: 29
Candidate Starts for Millski_81:
(Start: 29 @48067 has 116 MA's), (Start: 33 @48043 has 73 MA's),

Gene: Miramae_82 Start: 47982, Stop: 47812, Start Num: 29
Candidate Starts for Miramae_82:
(Start: 29 @47982 has 116 MA's), (Start: 33 @47958 has 73 MA's), (42, 47865),

Gene: Morpher26_78 Start: 47705, Stop: 47535, Start Num: 29
Candidate Starts for Morpher26_78:
(1, 48200), (3, 48098), (4, 48017), (Start: 29 @47705 has 116 MA's), (Start: 33 @47681 has 73 MA's),

Gene: Morrow_84 Start: 48106, Stop: 47936, Start Num: 29
Candidate Starts for Morrow_84:
(Start: 29 @48106 has 116 MA's), (Start: 33 @48082 has 73 MA's), (42, 47989),

Gene: Mulciber_87 Start: 47956, Stop: 47816, Start Num: 33
Candidate Starts for Mulciber_87:
(Start: 33 @47956 has 73 MA's), (Start: 36 @47944 has 32 MA's), (42, 47866),

Gene: Munch_87 Start: 48093, Stop: 47965, Start Num: 36
Candidate Starts for Munch_87:
(Start: 33 @48105 has 73 MA's), (Start: 36 @48093 has 32 MA's), (42, 48015),

Gene: Mundrea_80 Start: 47944, Stop: 47774, Start Num: 29
Candidate Starts for Mundrea_80:
(Start: 29 @47944 has 116 MA's), (Start: 33 @47920 has 73 MA's), (42, 47827),

Gene: Myxus_89 Start: 48954, Stop: 48811, Start Num: 33
Candidate Starts for Myxus_89:
(28, 48993), (Start: 33 @48954 has 73 MA's), (35, 48945),

Gene: Nebs_83 Start: 48106, Stop: 47936, Start Num: 29
Candidate Starts for Nebs_83:
(Start: 29 @48106 has 116 MA's), (Start: 33 @48082 has 73 MA's),

Gene: Neeharika16_84 Start: 46254, Stop: 46111, Start Num: 33
Candidate Starts for Neeharika16_84:
(27, 46293), (Start: 33 @46254 has 73 MA's), (Start: 36 @46242 has 32 MA's),

Gene: Newrala_84 Start: 46600, Stop: 46457, Start Num: 33
Candidate Starts for Newrala_84:
(27, 46639), (Start: 33 @46600 has 73 MA's), (Start: 36 @46588 has 32 MA's),

Gene: Noella_85 Start: 47229, Stop: 47065, Start Num: 26
Candidate Starts for Noella_85:
(15, 47289), (Start: 26 @47229 has 29 MA's), (42, 47115),

Gene: Noelle_79 Start: 47911, Stop: 47741, Start Num: 29
Candidate Starts for Noelle_79:
(Start: 29 @47911 has 116 MA's), (Start: 33 @47887 has 73 MA's), (42, 47794),

Gene: Norbert_80 Start: 47226, Stop: 47062, Start Num: 26
Candidate Starts for Norbert_80:
(15, 47286), (Start: 26 @47226 has 29 MA's), (42, 47112),

Gene: Nyxis_81 Start: 47951, Stop: 47778, Start Num: 29
Candidate Starts for Nyxis_81:
(Start: 29 @47951 has 116 MA's), (Start: 33 @47924 has 73 MA's), (42, 47831),

Gene: OKCentral2016_80 Start: 46884, Stop: 46744, Start Num: 30
Candidate Starts for OKCentral2016_80:
(9, 47082), (15, 46974), (Start: 26 @46914 has 29 MA's), (Start: 29 @46890 has 116 MA's), (Start: 30 @46884 has 1 MA's), (42, 46794),

Gene: OKaNui_81 Start: 48117, Stop: 47947, Start Num: 29
Candidate Starts for OKaNui_81:
(Start: 29 @48117 has 116 MA's), (Start: 33 @48093 has 73 MA's),

Gene: Odin_84 Start: 47817, Stop: 47680, Start Num: 34
Candidate Starts for Odin_84:
(Start: 34 @47817 has 12 MA's), (Start: 36 @47808 has 32 MA's), (40, 47778), (42, 47730),

Gene: Ohfah_83 Start: 48106, Stop: 47936, Start Num: 29
Candidate Starts for Ohfah_83:
(Start: 29 @48106 has 116 MA's), (Start: 33 @48082 has 73 MA's),

Gene: Orange_88 Start: 47655, Stop: 47515, Start Num: 33
Candidate Starts for Orange_88:
(Start: 33 @47655 has 73 MA's), (Start: 36 @47643 has 32 MA's), (42, 47565),

Gene: PackMan_84 Start: 46868, Stop: 46725, Start Num: 33
Candidate Starts for PackMan_84:
(28, 46907), (Start: 33 @46868 has 73 MA's), (35, 46859),

Gene: Palestino_81 Start: 48063, Stop: 47893, Start Num: 29
Candidate Starts for Palestino_81:
(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: PeaceMeal1_78 Start: 46844, Stop: 46671, Start Num: 26
Candidate Starts for PeaceMeal1_78:
(9, 47012), (15, 46904), (Start: 26 @46844 has 29 MA's), (Start: 29 @46820 has 116 MA's), (42, 46724),

Gene: Peaches_80 Start: 48071, Stop: 47898, Start Num: 29
Candidate Starts for Peaches_80:
(Start: 29 @48071 has 116 MA's), (Start: 33 @48044 has 73 MA's), (42, 47951),

Gene: Perplexer_78 Start: 47685, Stop: 47515, Start Num: 29
Candidate Starts for Perplexer_78:
(1, 48180), (3, 48078), (4, 47997), (Start: 29 @47685 has 116 MA's), (Start: 33 @47661 has 73 MA's), (42, 47568),

Gene: PeterPeter_82 Start: 48060, Stop: 47890, Start Num: 29
Candidate Starts for PeterPeter_82:
(Start: 29 @48060 has 116 MA's), (Start: 33 @48036 has 73 MA's),

Gene: Petersenfast_82 Start: 46524, Stop: 46396, Start Num: 36
Candidate Starts for Petersenfast_82:
(Start: 33 @46536 has 73 MA's), (Start: 36 @46524 has 32 MA's), (42, 46446),

Gene: PetiteSangsue_78 Start: 47688, Stop: 47518, Start Num: 29
Candidate Starts for PetiteSangsue_78:
(1, 48183), (2, 48087), (3, 48081), (4, 48000), (Start: 29 @47688 has 116 MA's), (Start: 33 @47664 has 73 MA's), (42, 47571),

Gene: Phacado_82 Start: 48062, Stop: 47892, Start Num: 29
Candidate Starts for Phacado_82:
(Start: 29 @48062 has 116 MA's), (Start: 33 @48038 has 73 MA's),

Gene: Phantastic_85 Start: 46741, Stop: 46544, Start Num: 26
Candidate Starts for Phantastic_85:
(11, 46873), (22, 46768), (Start: 26 @46741 has 29 MA's), (Start: 29 @46717 has 116 MA's), (Start: 33 @46690 has 73 MA's),

Gene: Phelipe_82 Start: 48027, Stop: 47857, Start Num: 29
Candidate Starts for Phelipe_82:
(Start: 29 @48027 has 116 MA's), (Start: 33 @48003 has 73 MA's),

Gene: Phighter1804_82 Start: 48127, Stop: 47957, Start Num: 29
Candidate Starts for Phighter1804_82:
(Start: 29 @48127 has 116 MA's), (Start: 33 @48103 has 73 MA's),

Gene: Phlei_71 Start: 45865, Stop: 45713, Start Num: 32
Candidate Starts for Phlei_71:
(32, 45865), (Start: 36 @45844 has 32 MA's), (38, 45832), (43, 45721),

Gene: Phontbonne_82 Start: 47967, Stop: 47794, Start Num: 29
Candidate Starts for Phontbonne_82:
(Start: 29 @47967 has 116 MA's), (Start: 33 @47940 has 73 MA's), (42, 47847),

Gene: Pipcraft_78 Start: 48067, Stop: 47897, Start Num: 29

Candidate Starts for Pipcraft_78:
(Start: 29 @48067 has 116 MA's), (Start: 33 @48043 has 73 MA's),

Gene: Pmask_84 Start: 46789, Stop: 46658, Start Num: 36
Candidate Starts for Pmask_84:
(27, 46840), (Start: 33 @46801 has 73 MA's), (Start: 36 @46789 has 32 MA's),

Gene: Pocahontas_83 Start: 47224, Stop: 47060, Start Num: 26
Candidate Starts for Pocahontas_83:
(15, 47284), (Start: 26 @47224 has 29 MA's), (42, 47110),

Gene: Polymorphads_83 Start: 48087, Stop: 47917, Start Num: 29
Candidate Starts for Polymorphads_83:
(Start: 29 @48087 has 116 MA's), (Start: 33 @48063 has 73 MA's), (42, 47970),

Gene: Pomar16_85 Start: 48174, Stop: 48046, Start Num: 36
Candidate Starts for Pomar16_85:
(12, 48348), (Start: 34 @48183 has 12 MA's), (Start: 36 @48174 has 32 MA's), (42, 48096),

Gene: Poompha_78 Start: 46842, Stop: 46669, Start Num: 26
Candidate Starts for Poompha_78:
(9, 47010), (15, 46902), (24, 46860), (Start: 26 @46842 has 29 MA's), (Start: 29 @46818 has 116 MA's), (42, 46722),

Gene: Popcicle_84 Start: 47224, Stop: 47060, Start Num: 26
Candidate Starts for Popcicle_84:
(15, 47284), (Start: 26 @47224 has 29 MA's), (42, 47110),

Gene: Priamo_86 Start: 46033, Stop: 45902, Start Num: 36
Candidate Starts for Priamo_86:
(27, 46084), (Start: 33 @46045 has 73 MA's), (Start: 36 @46033 has 32 MA's),

Gene: Prudy_80 Start: 48638, Stop: 48504, Start Num: 36
Candidate Starts for Prudy_80:
(13, 48761), (25, 48689), (Start: 33 @48650 has 73 MA's), (Start: 36 @48638 has 32 MA's), (42, 48557),

Gene: Pumbaa_82 Start: 48011, Stop: 47841, Start Num: 29
Candidate Starts for Pumbaa_82:
(Start: 29 @48011 has 116 MA's), (Start: 33 @47987 has 73 MA's), (42, 47894),

Gene: Pupper_190 Start: 134729, Stop: 134872, Start Num: 33
Candidate Starts for Pupper_190:
(Start: 33 @134729 has 73 MA's),

Gene: QuinnKiro_83 Start: 47227, Stop: 47063, Start Num: 26
Candidate Starts for QuinnKiro_83:
(15, 47287), (Start: 26 @47227 has 29 MA's), (42, 47113),

Gene: Quokka_87 Start: 47716, Stop: 47579, Start Num: 34
Candidate Starts for Quokka_87:
(Start: 34 @47716 has 12 MA's), (Start: 36 @47707 has 32 MA's), (40, 47677), (42, 47629),

Gene: Rebeuca_82 Start: 48112, Stop: 47939, Start Num: 26
Candidate Starts for Rebeuca_82:
(15, 48172), (Start: 26 @48112 has 29 MA's), (Start: 29 @48088 has 116 MA's), (Start: 30 @48082 has 1 MA's), (42, 47992), (43, 47947),

Gene: Refuge_87 Start: 50587, Stop: 50444, Start Num: 33
Candidate Starts for Refuge_87:
(Start: 33 @50587 has 73 MA's), (Start: 36 @50578 has 32 MA's),

Gene: ResDef_82 Start: 47230, Stop: 47066, Start Num: 26
Candidate Starts for ResDef_82:
(15, 47290), (Start: 26 @47230 has 29 MA's), (42, 47116),

Gene: RhynO_69 Start: 43547, Stop: 43377, Start Num: 26
Candidate Starts for RhynO_69:
(24, 43565), (Start: 26 @43547 has 29 MA's), (Start: 29 @43523 has 116 MA's), (42, 43427),

Gene: Rifter_87 Start: 45812, Stop: 45669, Start Num: 33
Candidate Starts for Rifter_87:
(27, 45851), (Start: 33 @45812 has 73 MA's), (Start: 36 @45800 has 32 MA's),

Gene: Roksolana_87 Start: 46528, Stop: 46385, Start Num: 33
Candidate Starts for Roksolana_87:
(27, 46567), (Start: 33 @46528 has 73 MA's), (Start: 36 @46516 has 32 MA's),

Gene: Romney_81 Start: 48063, Stop: 47893, Start Num: 29
Candidate Starts for Romney_81:
(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: Ronaldo_142 Start: 66482, Stop: 66613, Start Num: 37
Candidate Starts for Ronaldo_142:
(Start: 37 @66482 has 3 MA's), (40, 66512),

Gene: Roosevelt_80 Start: 48068, Stop: 47898, Start Num: 29
Candidate Starts for Roosevelt_80:
(Start: 29 @48068 has 116 MA's), (Start: 33 @48044 has 73 MA's), (42, 47951),

Gene: Rowdy_84 Start: 47933, Stop: 47763, Start Num: 26
Candidate Starts for Rowdy_84:
(24, 47951), (Start: 26 @47933 has 29 MA's), (Start: 29 @47909 has 116 MA's), (42, 47813),

Gene: Ruin_82 Start: 48059, Stop: 47889, Start Num: 29
Candidate Starts for Ruin_82:
(Start: 29 @48059 has 116 MA's), (Start: 33 @48035 has 73 MA's),

Gene: SCentae_189 Start: 134921, Stop: 135064, Start Num: 33
Candidate Starts for SCentae_189:
(Start: 33 @134921 has 73 MA's),

Gene: Sabertooth_82 Start: 48071, Stop: 47901, Start Num: 29
Candidate Starts for Sabertooth_82:
(Start: 29 @48071 has 116 MA's), (Start: 33 @48047 has 73 MA's),

Gene: Salz_84 Start: 46753, Stop: 46625, Start Num: 36
Candidate Starts for Salz_84:
(Start: 33 @46765 has 73 MA's), (Start: 36 @46753 has 32 MA's), (42, 46675),

Gene: Saskia_85 Start: 46990, Stop: 46862, Start Num: 36
Candidate Starts for Saskia_85:
(Start: 33 @47002 has 73 MA's), (Start: 36 @46990 has 32 MA's), (42, 46912),

Gene: Scamp_82 Start: 48068, Stop: 47898, Start Num: 29
Candidate Starts for Scamp_82:
(Start: 29 @48068 has 116 MA's), (Start: 33 @48044 has 73 MA's),

Gene: Scout_84 Start: 46725, Stop: 46555, Start Num: 29
Candidate Starts for Scout_84:
(7, 46950), (11, 46881), (22, 46776), (Start: 26 @46749 has 29 MA's), (Start: 29 @46725 has 116 MA's), (Start: 33 @46698 has 73 MA's),

Gene: SenorClean_83 Start: 48066, Stop: 47896, Start Num: 29
Candidate Starts for SenorClean_83:
(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's),

Gene: Serenity_88 Start: 47747, Stop: 47619, Start Num: 36
Candidate Starts for Serenity_88:
(Start: 34 @47756 has 12 MA's), (Start: 36 @47747 has 32 MA's), (40, 47717), (42, 47669),

Gene: Severus_79 Start: 46842, Stop: 46669, Start Num: 26
Candidate Starts for Severus_79:
(9, 47010), (15, 46902), (Start: 26 @46842 has 29 MA's), (Start: 29 @46818 has 116 MA's), (42, 46722),

Gene: Shaka_80 Start: 48064, Stop: 47894, Start Num: 29
Candidate Starts for Shaka_80:
(Start: 29 @48064 has 116 MA's), (Start: 33 @48040 has 73 MA's), (42, 47947),

Gene: Sham4_85 Start: 46851, Stop: 46711, Start Num: 33
Candidate Starts for Sham4_85:
(Start: 33 @46851 has 73 MA's), (Start: 36 @46839 has 32 MA's), (42, 46761),

Gene: Shapes_84 Start: 47933, Stop: 47763, Start Num: 26
Candidate Starts for Shapes_84:
(24, 47951), (Start: 26 @47933 has 29 MA's), (Start: 29 @47909 has 116 MA's), (42, 47813),

Gene: Sheen_80 Start: 50105, Stop: 49956, Start Num: 31
Candidate Starts for Sheen_80:
(Start: 31 @50105 has 1 MA's), (39, 50063),

Gene: Shygu2_80 Start: 48010, Stop: 47840, Start Num: 29
Candidate Starts for Shygu2_80:
(Start: 29 @48010 has 116 MA's), (Start: 33 @47986 has 73 MA's), (42, 47893),

Gene: Sknot_85 Start: 48162, Stop: 48019, Start Num: 33
Candidate Starts for Sknot_85:
(Start: 33 @48162 has 73 MA's), (35, 48153), (42, 48069),

Gene: Skog_22 Start: 10918, Stop: 11064, Start Num: 33

Candidate Starts for Skog_22:

(5, 10645), (6, 10654), (Start: 33 @10918 has 73 MA's),

Gene: SmellyB_85 Start: 46159, Stop: 46016, Start Num: 33

Candidate Starts for SmellyB_85:

(27, 46198), (Start: 33 @46159 has 73 MA's), (Start: 36 @46147 has 32 MA's),

Gene: Snape_88 Start: 47644, Stop: 47504, Start Num: 33

Candidate Starts for Snape_88:

(Start: 33 @47644 has 73 MA's), (Start: 36 @47632 has 32 MA's), (42, 47554),

Gene: Sparxx_83 Start: 48062, Stop: 47892, Start Num: 29

Candidate Starts for Sparxx_83:

(Start: 29 @48062 has 116 MA's), (Start: 33 @48038 has 73 MA's), (42, 47945),

Gene: Spino_81 Start: 48066, Stop: 47896, Start Num: 29

Candidate Starts for Spino_81:

(Start: 29 @48066 has 116 MA's), (Start: 33 @48042 has 73 MA's),

Gene: Spouty_87 Start: 48612, Stop: 48469, Start Num: 33

Candidate Starts for Spouty_87:

(28, 48651), (Start: 33 @48612 has 73 MA's), (35, 48603),

Gene: StarStuff_85 Start: 48145, Stop: 48008, Start Num: 34

Candidate Starts for StarStuff_85:

(12, 48310), (Start: 34 @48145 has 12 MA's), (Start: 36 @48136 has 32 MA's), (42, 48058),

Gene: Stasia_79 Start: 48019, Stop: 47846, Start Num: 26

Candidate Starts for Stasia_79:

(18, 48067), (20, 48055), (24, 48037), (Start: 26 @48019 has 29 MA's), (Start: 29 @47995 has 116 MA's),

Gene: Steamy_84 Start: 49557, Stop: 49414, Start Num: 33

Candidate Starts for Steamy_84:

(16, 49653), (21, 49623), (25, 49596), (Start: 33 @49557 has 73 MA's), (Start: 36 @49548 has 32 MA's),

Gene: SuperAwesome_85 Start: 46840, Stop: 46697, Start Num: 33

Candidate Starts for SuperAwesome_85:

(27, 46879), (Start: 33 @46840 has 73 MA's), (Start: 36 @46828 has 32 MA's),

Gene: SuperCallie99_81 Start: 46210, Stop: 46079, Start Num: 36

Candidate Starts for SuperCallie99_81:

(27, 46261), (Start: 33 @46222 has 73 MA's), (Start: 36 @46210 has 32 MA's),

Gene: Superchunk_85 Start: 47335, Stop: 47207, Start Num: 36

Candidate Starts for Superchunk_85:

(Start: 34 @47344 has 12 MA's), (Start: 36 @47335 has 32 MA's), (40, 47305), (42, 47257),

Gene: TNguyen7_86 Start: 47526, Stop: 47332, Start Num: 26

Candidate Starts for TNguyen7_86:

(7, 47727), (9, 47700), (11, 47658), (22, 47553), (24, 47544), (Start: 26 @47526 has 29 MA's), (Start: 29 @47502 has 116 MA's), (Start: 33 @47475 has 73 MA's),

Gene: Taquarus_81 Start: 48075, Stop: 47902, Start Num: 29

Candidate Starts for Taquarus_81:

(Start: 29 @48075 has 116 MA's), (Start: 33 @48048 has 73 MA's), (42, 47955),

Gene: Temprado_88 Start: 46632, Stop: 46489, Start Num: 33

Candidate Starts for Temprado_88:

(27, 46671), (Start: 33 @46632 has 73 MA's), (Start: 36 @46620 has 32 MA's),

Gene: Texage_82 Start: 47228, Stop: 47064, Start Num: 26

Candidate Starts for Texage_82:

(15, 47288), (Start: 26 @47228 has 29 MA's), (42, 47114),

Gene: Thanksgivukkah_81 Start: 48064, Stop: 47894, Start Num: 29

Candidate Starts for Thanksgivukkah_81:

(Start: 29 @48064 has 116 MA's), (Start: 33 @48040 has 73 MA's),

Gene: Timothy_88 Start: 47609, Stop: 47481, Start Num: 36

Candidate Starts for Timothy_88:

(Start: 33 @47621 has 73 MA's), (Start: 36 @47609 has 32 MA's), (42, 47531),

Gene: TinaFeyge_80 Start: 48061, Stop: 47891, Start Num: 29

Candidate Starts for TinaFeyge_80:

(Start: 29 @48061 has 116 MA's), (Start: 33 @48037 has 73 MA's), (42, 47944),

Gene: TinyTimmy_86 Start: 47350, Stop: 47210, Start Num: 33

Candidate Starts for TinyTimmy_86:

(Start: 33 @47350 has 73 MA's), (Start: 36 @47338 has 32 MA's), (42, 47260),

Gene: Tinybot_81 Start: 48093, Stop: 47923, Start Num: 29

Candidate Starts for Tinybot_81:

(Start: 29 @48093 has 116 MA's), (Start: 33 @48069 has 73 MA's), (42, 47976),

Gene: TopsytheTRex_84 Start: 47758, Stop: 47621, Start Num: 34

Candidate Starts for TopsytheTRex_84:

(Start: 34 @47758 has 12 MA's), (Start: 36 @47749 has 32 MA's), (40, 47719), (42, 47671),

Gene: TiroTheta9_81 Start: 48060, Stop: 47890, Start Num: 29

Candidate Starts for TiroTheta9_81:

(Start: 29 @48060 has 116 MA's), (Start: 33 @48036 has 73 MA's), (42, 47943),

Gene: Todacoro_84 Start: 47227, Stop: 47063, Start Num: 26

Candidate Starts for Todacoro_84:

(15, 47287), (Start: 26 @47227 has 29 MA's), (42, 47113),

Gene: Tomathan_85 Start: 48214, Stop: 48086, Start Num: 36

Candidate Starts for Tomathan_85:

(12, 48388), (Start: 34 @48223 has 12 MA's), (Start: 36 @48214 has 32 MA's), (42, 48136),

Gene: ToneTone_84 Start: 46180, Stop: 46049, Start Num: 36

Candidate Starts for ToneTone_84:

(27, 46231), (Start: 33 @46192 has 73 MA's), (Start: 36 @46180 has 32 MA's),

Gene: Topanga_71 Start: 44568, Stop: 44395, Start Num: 26

Candidate Starts for Topanga_71:

(Start: 26 @44568 has 29 MA's), (Start: 29 @44544 has 116 MA's), (42, 44448),

Gene: Toro_81 Start: 50768, Stop: 50619, Start Num: 31

Candidate Starts for Toro_81:

(Start: 31 @50768 has 1 MA's), (39, 50726),

Gene: Travvers_85 Start: 48140, Stop: 48003, Start Num: 34

Candidate Starts for Travvers_85:

(12, 48305), (Start: 34 @48140 has 12 MA's), (Start: 36 @48131 has 32 MA's), (42, 48053),

Gene: Trixie_85 Start: 49116, Stop: 48976, Start Num: 33

Candidate Starts for Trixie_85:

(Start: 33 @49116 has 73 MA's), (Start: 36 @49104 has 32 MA's), (42, 49026),

Gene: Trooper_84 Start: 48107, Stop: 47961, Start Num: 33

Candidate Starts for Trooper_84:

(Start: 33 @48107 has 73 MA's), (35, 48098),

Gene: TroyPia_83 Start: 48101, Stop: 47931, Start Num: 29

Candidate Starts for TroyPia_83:

(Start: 29 @48101 has 116 MA's), (Start: 33 @48077 has 73 MA's),

Gene: Tubs_89 Start: 48829, Stop: 48686, Start Num: 33

Candidate Starts for Tubs_89:

(28, 48868), (Start: 33 @48829 has 73 MA's), (35, 48820),

Gene: Tucker_87 Start: 46383, Stop: 46252, Start Num: 36

Candidate Starts for Tucker_87:

(27, 46434), (Start: 33 @46395 has 73 MA's), (Start: 36 @46383 has 32 MA's),

Gene: Twister_82 Start: 47776, Stop: 47606, Start Num: 26

Candidate Starts for Twister_82:

(24, 47794), (Start: 26 @47776 has 29 MA's), (Start: 29 @47752 has 116 MA's), (Start: 30 @47746 has 1 MA's), (42, 47656), (43, 47611),

Gene: Ulysses_81 Start: 47749, Stop: 47579, Start Num: 29

Candidate Starts for Ulysses_81:

(Start: 29 @47749 has 116 MA's), (Start: 33 @47725 has 73 MA's),

Gene: VC3_83 Start: 47045, Stop: 46908, Start Num: 34

Candidate Starts for VC3_83:

(12, 47204), (Start: 34 @47045 has 12 MA's), (Start: 36 @47036 has 32 MA's), (42, 46958),

Gene: Veracruz_81 Start: 47228, Stop: 47064, Start Num: 26

Candidate Starts for Veracruz_81:

(15, 47288), (Start: 26 @47228 has 29 MA's), (42, 47114),

Gene: VohminGhazi_85 Start: 46160, Stop: 46017, Start Num: 33

Candidate Starts for VohminGhazi_85:

(27, 46199), (Start: 33 @46160 has 73 MA's), (Start: 36 @46148 has 32 MA's),

Gene: Volt_145 Start: 66646, Stop: 66777, Start Num: 37

Candidate Starts for Volt_145:

(Start: 37 @66646 has 3 MA's), (40, 66676),

Gene: WalterMcMickey_81 Start: 47776, Stop: 47606, Start Num: 26

Candidate Starts for WalterMcMickey_81:

(24, 47794), (Start: 26 @47776 has 29 MA's), (Start: 29 @47752 has 116 MA's), (Start: 30 @47746 has 1 MA's), (42, 47656), (43, 47611),

Gene: Wander_82 Start: 48060, Stop: 47890, Start Num: 29

Candidate Starts for Wander_82:

(Start: 29 @48060 has 116 MA's), (Start: 33 @48036 has 73 MA's),

Gene: WideWale_86 Start: 48350, Stop: 48207, Start Num: 33

Candidate Starts for WideWale_86:

(Start: 33 @48350 has 73 MA's), (35, 48341), (42, 48257),

Gene: Wiks_86 Start: 46263, Stop: 46120, Start Num: 33

Candidate Starts for Wiks_86:

(27, 46302), (Start: 33 @46263 has 73 MA's), (Start: 36 @46251 has 32 MA's),

Gene: Wilbur_82 Start: 48063, Stop: 47893, Start Num: 29

Candidate Starts for Wilbur_82:

(Start: 29 @48063 has 116 MA's), (Start: 33 @48039 has 73 MA's),

Gene: Wile_77 Start: 47714, Stop: 47544, Start Num: 29

Candidate Starts for Wile_77:

(1, 48209), (3, 48107), (4, 48026), (Start: 29 @47714 has 116 MA's), (Start: 33 @47690 has 73 MA's),

Gene: Wizard007_78 Start: 47440, Stop: 47270, Start Num: 29

Candidate Starts for Wizard007_78:

(1, 47935), (3, 47833), (4, 47752), (Start: 29 @47440 has 116 MA's), (Start: 33 @47416 has 73 MA's), (42, 47323),

Gene: Wolpertinger_88 Start: 47958, Stop: 47830, Start Num: 36

Candidate Starts for Wolpertinger_88:

(Start: 33 @47970 has 73 MA's), (Start: 36 @47958 has 32 MA's), (42, 47880),

Gene: WunderPhul_87 Start: 46261, Stop: 46118, Start Num: 33

Candidate Starts for WunderPhul_87:

(27, 46300), (Start: 33 @46261 has 73 MA's), (Start: 36 @46249 has 32 MA's),

Gene: Xena_78 Start: 47885, Stop: 47715, Start Num: 29

Candidate Starts for Xena_78:

(Start: 29 @47885 has 116 MA's), (Start: 33 @47861 has 73 MA's), (42, 47768),

Gene: Yecey3_90 Start: 48586, Stop: 48443, Start Num: 33

Candidate Starts for Yecey3_90:

(Start: 33 @48586 has 73 MA's), (35, 48577),

Gene: YoSam321_82 Start: 48061, Stop: 47891, Start Num: 29

Candidate Starts for YoSam321_82:

(Start: 29 @48061 has 116 MA's), (Start: 33 @48037 has 73 MA's), (42, 47944),

Gene: Yokurt_86 Start: 46251, Stop: 46120, Start Num: 36

Candidate Starts for Yokurt_86:

(27, 46302), (Start: 33 @46263 has 73 MA's), (Start: 36 @46251 has 32 MA's),

Gene: Zaka_87 Start: 46251, Stop: 46120, Start Num: 36

Candidate Starts for Zaka_87:

(27, 46302), (Start: 33 @46263 has 73 MA's), (Start: 36 @46251 has 32 MA's),

Gene: Ziko_144 Start: 66950, Stop: 67081, Start Num: 37

Candidate Starts for Ziko_144:

(Start: 37 @66950 has 3 MA's), (40, 66980),

Gene: Zimmer_86 Start: 50022, Stop: 49876, Start Num: 33

Candidate Starts for Zimmer_86:

(21, 50088), (Start: 33 @50022 has 73 MA's), (Start: 36 @50010 has 32 MA's), (38, 49995),

Gene: Zulu_88 Start: 46641, Stop: 46498, Start Num: 33

Candidate Starts for Zulu_88:

(27, 46680), (Start: 33 @46641 has 73 MA's), (Start: 36 @46629 has 32 MA's),