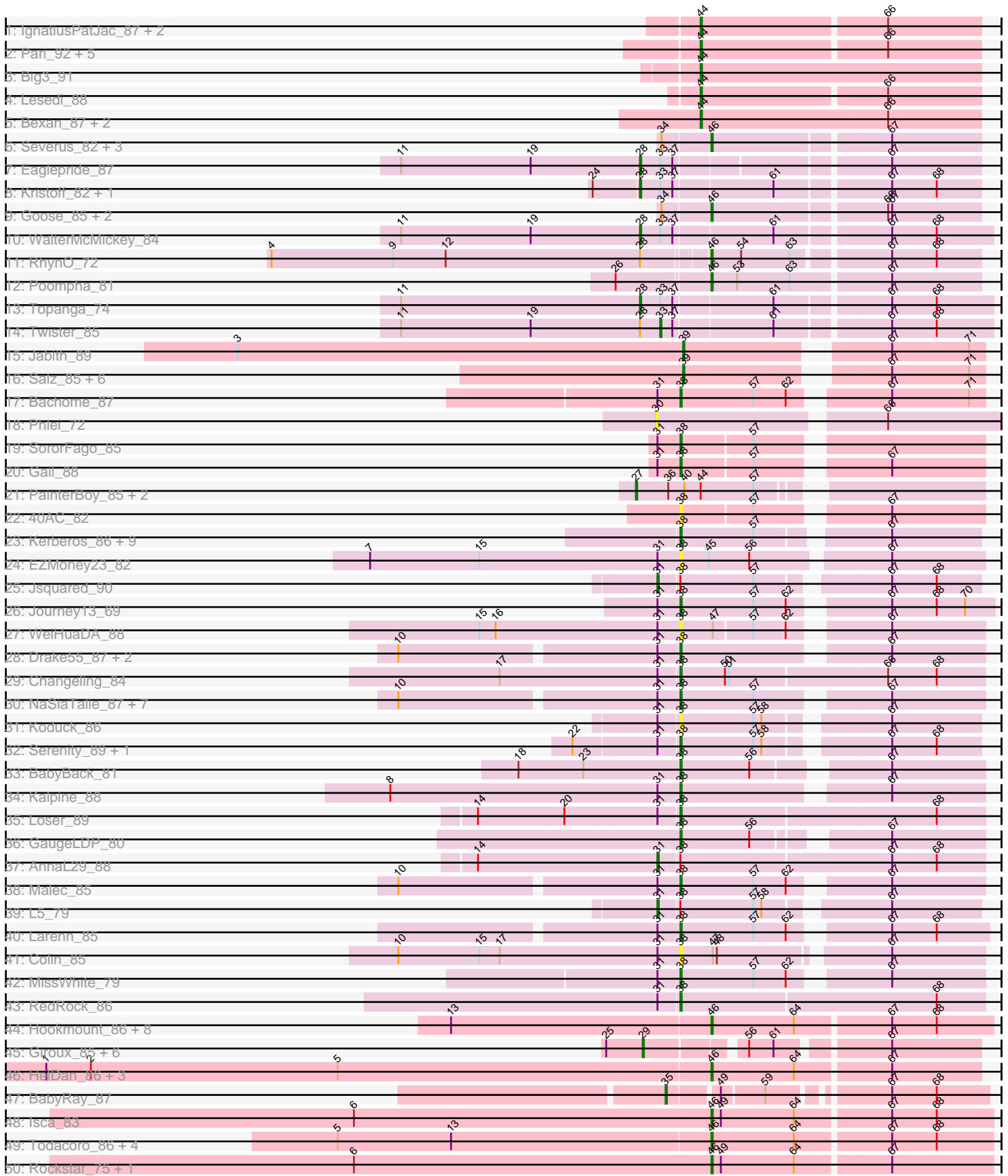
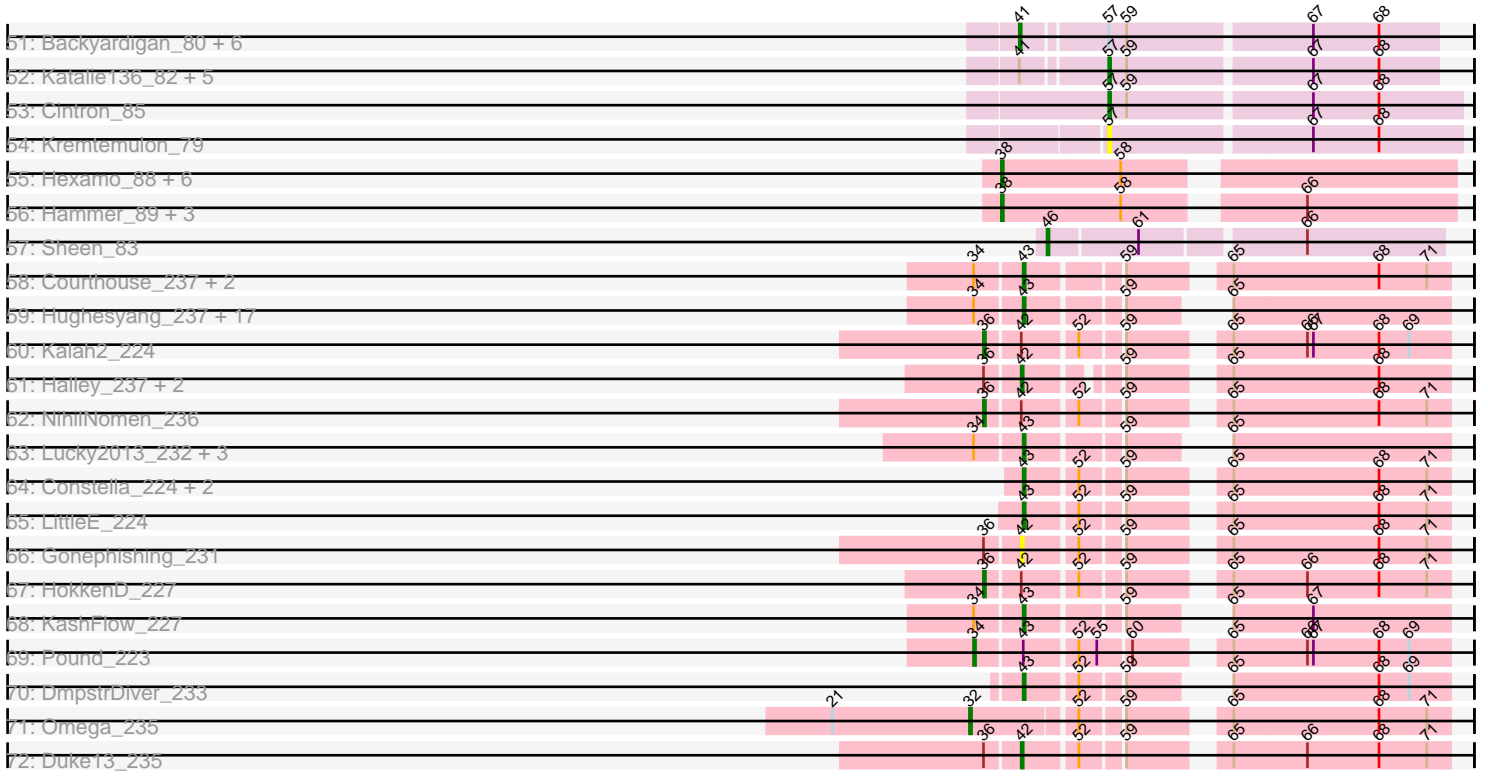


Pham 171233



Pham 171233



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 171233 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171233 has 182 members, 17 are drafts.

Phages represented in each track:

- Track 1 : IgnatiusPatJac_87, BluSpix_84, Alsfro_94
- Track 2 : Pari_92, A6_85, PherrisBueller_88, Killigrew_87, Zeeculate_91, BK1_85
- Track 3 : Big3_91
- Track 4 : Lesedi_88
- Track 5 : Bexan_87, StrongArm_88, Beatrix_89
- Track 6 : Severus_82, PeaceMeal1_81, KittenMittens_79, Drake94_81
- Track 7 : Eaglepride_87
- Track 8 : Kristoff_82, Rebeuca_85
- Track 9 : Goose_85, Chupacabra_81, OKCentral2016_83
- Track 10 : WalterMcMickey_84
- Track 11 : RhynO_72
- Track 12 : Poompha_81
- Track 13 : Topanga_74
- Track 14 : Twister_85
- Track 15 : Jabith_89
- Track 16 : Salz_85, Sham4_86, Et2Brutus_89, Insomnia_89, Mulciber_88, Hutc2_86, Fibonacci_89
- Track 17 : Bachome_87
- Track 18 : Phlei_72
- Track 19 : SororFago_85
- Track 20 : Gail_88
- Track 21 : PainterBoy_85, Lucyedi_86, EagleEye_87
- Track 22 : 40AC_82
- Track 23 : Kerberos_86, DBQu4n_86, Tomathan_86, Duplo_87, StarStuff_86, ANI8_85, Pomar16_86, VC3_84, AN9_85, C3_78
- Track 24 : EZMoney23_82
- Track 25 : Jsquared_90
- Track 26 : Journey13_69
- Track 27 : WeiHuaDA_88
- Track 28 : Drake55_87, HarryHoudini_86, Piro94_85
- Track 29 : Changeling_84
- Track 30 : NaSiaTalie_87, Baehexic_85, Flare16_86, WideWale_87, Equemioh13_86, MiculUcigas_86, Updawg_87, Centaur_86
- Track 31 : Koduck_86
- Track 32 : Serenity_89, TipsytheTRex_85
- Track 33 : BabyBack_81
- Track 34 : Kalpine_88

- Track 35 : Loser_89
- Track 36 : GaugeLDP_80
- Track 37 : AnnaL29_88
- Track 38 : Malec_85
- Track 39 : L5_79
- Track 40 : Larenn_85
- Track 41 : Colin_85
- Track 42 : MissWhite_79
- Track 43 : RedRock_86
- Track 44 : Hookmount_86, Caviar_75, Popcicle_86, ResDef_84, Noella_87, Panamaxus_82, Pocahontas_85, Norbert_82, Texage_84
- Track 45 : Giroux_85, BlueBird_89, Pistachio_87, SaturnRing_88, TNguyen7_88, Puppy_88, Bugatti_88
- Track 46 : HelDan_86, Heathen_86, Fred313_84, Scout_86
- Track 47 : BabyRay_87
- Track 48 : Isca_83
- Track 49 : Todacoro_86, Veracruz_83, Margo_86, QuinnKiro_85, Lambert1_86
- Track 50 : Rockstar_75, Phantastic_87
- Track 51 : Backyardigan_80, Badger_81, Achebe_81, Cici_82, Wile_81, Wizard007_82, Druantia_84
- Track 52 : Katalie136_82, PetiteSangsue_82, Perplexer_82, Morpher26_82, Bumblebee11_81, AbbysRanger_82
- Track 53 : Cintron_85
- Track 54 : Kremtemulon_79
- Track 55 : Hexamo_88, CloudWang3_89, Roksolana_89, Rifter_89, Gruunaga_88, Artemis2UCLA_88, Gladiator_85
- Track 56 : Hammer_89, ToneTone_86, Tucker_89, Lilbunny_86
- Track 57 : Sheen_83
- Track 58 : Courthouse_237, Ariel_241, Superphikiman_233
- Track 59 : Hughesyang_237, Beem_238, Squint_233, Klein_242, JuicyJay_230, Hannaconda_225, ThreeRngTarjay_234, Schatzie_227, Yeet_229, Bombitas_219, Bagrid_240, EricMillard_232, Redno2_226, Ejimix_226, Zelink_228, Phoebus_233, Odette_234, Dove_226
- Track 60 : Kalah2_224
- Track 61 : Halley_237, Dallas_233, Minerva_233
- Track 62 : NihilNomen_236
- Track 63 : Lucky2013_232, Porcelain_236, MiaZeal_245, Wanda_234
- Track 64 : Constella_224, Bobby_213, Thibault_209
- Track 65 : LittleE_224
- Track 66 : Gonephishing_231
- Track 67 : HokkenD_227
- Track 68 : KashFlow_227
- Track 69 : Pound_223
- Track 70 : DmpstrDiver_233
- Track 71 : Omega_235
- Track 72 : Duke13_235

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

The start number called the most often in the published annotations is 38, it was called in 46 of the 165 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 40AC_82, AN9_85, ANI8_85, Artemis2UCLA_88, BabyBack_81, Bachome_87, Baehexic_85, C3_78, Centaur_86, Changeling_84, CloudWang3_89, Colin_85, DBQu4n_86, Drake55_87, Duplo_87, EZMoney23_82, Equemioh13_86, Flare16_86, Gail_88, GaugeLDP_80, Gladiator_85, Gruunaga_88, Hammer_89, HarryHoudini_86, Hexamo_88, Journey13_69, Kalpine_88, Kerberos_86, Koduck_86, Larenn_85, Lilbunny_86, Loser_89, Malec_85, MiculUcigas_86, MissWhite_79, NaSiaTalie_87, Piro94_85, Pomar16_86, RedRock_86, Rifter_89, Roksolana_89, Serenity_89, SororFago_85, StarStuff_86, TipsytheTRex_85, Tomathan_86, ToneTone_86, Tucker_89, Updawg_87, VC3_84, WeiHuaDA_88, WideWale_87,

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

- AnnaL29_88, Jsquared_90, L5_79,

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

- A6_85, AbbysRanger_82, Achebe_81, Alsfro_94, Ariel_241, BK1_85, BabyRay_87, Backyardigan_80, Badger_81, Bagrid_240, Beatrix_89, Beem_238, Bexan_87, Big3_91, BluSpix_84, BlueBird_89, Bobby_213, Bombitas_219, Bugatti_88, Bumblebee11_81, Caviar_75, Chupacabra_81, Cici_82, Cintron_85, Constella_224, Courthouse_237, Dallas_233, DmpstrDiver_233, Dove_226, Drake94_81, Druantia_84, Duke13_235, EagleEye_87, Eaglepride_87, Ejimix_226, EricMillard_232, Et2Brutus_89, Fibonacci_89, Fred313_84, Giroux_85, Gonephishing_231, Goose_85, Halley_237, Hannaconda_225, Heathen_86, HelDan_86, HokkenD_227, Hookmount_86, Hughesyang_237, Hutc2_86, IgnatiusPatJac_87, Insomnia_89, Isca_83, Jabith_89, JuicyJay_230, Kalah2_224, KashFlow_227, Katalie136_82, Killigrew_87, KittenMittens_79, Klein_242, Kremtemulon_79, Kristoff_82, Lambert1_86, Lesedi_88, LittleE_224, Lucky2013_232, Lucyedi_86, Margo_86, MiaZeal_245, Minerva_233, Morpher26_82, Mulciber_88, NihilNomen_236, Noella_87, Norbert_82, OKCentral2016_83, Odette_234, Omega_235, PainterBoy_85, Panamaxus_82, Pari_92, PeaceMeal1_81, Perplexer_82, PetiteSangsue_82, Phantastic_87, PherrisBueller_88, Phlei_72, Phoebus_233, Pistachio_87, Pocahontas_85, Poompha_81, Popcicle_86, Porcelain_236, Pound_223, Puppy_88, QuinnKiro_85, Rebeuca_85, Redno2_226, ResDef_84, RhynO_72, Rockstar_75, Salz_85, SaturnRing_88, Schatzie_227, Scout_86, Severus_82, Sham4_86, Sheen_83, Squint_233, StrongArm_88, Superphikiman_233, TNguyen7_88, Texage_84, Thibault_209, ThreeRngTarjay_234, Todacoro_86, Topanga_74, Twister_85, Veracruz_83, WalterMcMickey_84, Wanda_234, Wile_81, Wizard007_82, Yeet_229, Zeeculate_91, Zelink_228,

Summary by start number:

Start 27:

- Found in 3 of 182 (1.6%) of genes in pham
- Manual Annotations of this start: 3 of 165
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EagleEye_87 (A16), Lucyedi_86 (A16), PainterBoy_85 (A16),

Start 28:

- Found in 7 of 182 (3.8%) of genes in pham

- Manual Annotations of this start: 5 of 165
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Eaglepride_87 (A10), Kristoff_82 (A10), Rebeuca_85 (A10), Topanga_74 (A10), WalterMcMickey_84 (A10),

Start 29:

- Found in 7 of 182 (3.8%) of genes in pham
- Manual Annotations of this start: 4 of 165
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueBird_89 (A3), Bugatti_88 (A3), Giroux_85 (A3), Pistachio_87 (A3), Puppy_88 (A3), SaturnRing_88 (A3), TNguyen7_88 (A3),

Start 30:

- Found in 1 of 182 (0.5%) 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_72 (A13),

Start 31:

- Found in 31 of 182 (17.0%) of genes in pham
- Manual Annotations of this start: 3 of 165
- Called 9.7% of time when present
- Phage (with cluster) where this start called: AnnaL29_88 (A2), Jsquared_90 (A2), L5_79 (A2),

Start 32:

- Found in 1 of 182 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 165
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Omega_235 (J),

Start 33:

- Found in 6 of 182 (3.3%) of genes in pham
- Manual Annotations of this start: 1 of 165
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Twister_85 (A10),

Start 34:

- Found in 34 of 182 (18.7%) of genes in pham
- Manual Annotations of this start: 1 of 165
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Pound_223 (J),

Start 35:

- Found in 1 of 182 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 165
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyRay_87 (A3),

Start 36:

- Found in 11 of 182 (6.0%) of genes in pham
- Manual Annotations of this start: 3 of 165

- Called 27.3% of time when present
- Phage (with cluster) where this start called: HokkenD_227 (J), Kalah2_224 (J), NihilNomen_236 (J),

Start 38:

- Found in 55 of 182 (30.2%) of genes in pham
- Manual Annotations of this start: 46 of 165
- Called 94.5% of time when present
- Phage (with cluster) where this start called: 40AC_82 (A17), AN9_85 (A2), ANI8_85 (A2), Artemis2UCLA_88 (A6), BabyBack_81 (A2), Bachome_87 (A11), Baehexic_85 (A2), C3_78 (A2), Centaur_86 (A2), Changeling_84 (A2), CloudWang3_89 (A6), Colin_85 (A2), DBQu4n_86 (A2), Drake55_87 (A2), Duplo_87 (A2), EZMoney23_82 (A2), Equemioh13_86 (A2), Flare16_86 (A2), Gail_88 (A14), GaugeLDP_80 (A2), Gladiator_85 (A6), Gruunaga_88 (A6), Hammer_89 (A6), HarryHoudini_86 (A2), Hexamo_88 (A6), Journey13_69 (A2), Kalpine_88 (A2), Kerberos_86 (A2), Koduck_86 (A2), Larenn_85 (A2), Lilbunny_86 (A6), Loser_89 (A2), Malec_85 (A2), MiculUcigas_86 (A2), MissWhite_79 (A2), NaSiaTalie_87 (A2), Piro94_85 (A2), Pomar16_86 (A2), RedRock_86 (A2), Rifter_89 (A6), Roksolana_89 (A6), Serenity_89 (A2), SororFago_85 (A14), StarStuff_86 (A2), TopsytheTRex_85 (A2), Tomathan_86 (A2), ToneTone_86 (A6), Tucker_89 (A6), Updawg_87 (A2), VC3_84 (A2), WeiHuaDA_88 (A2), WideWale_87 (A2),

Start 39:

- Found in 8 of 182 (4.4%) of genes in pham
- Manual Annotations of this start: 8 of 165
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Et2Brutus_89 (A11), Fibonacci_89 (A11), Hutc2_86 (A11), Insomnia_89 (A11), Jabith_89 (A11), Mulciber_88 (A11), Salz_85 (A11), Sham4_86 (A11),

Start 41:

- Found in 13 of 182 (7.1%) of genes in pham
- Manual Annotations of this start: 7 of 165
- Called 53.8% of time when present
- Phage (with cluster) where this start called: Achebe_81 (A4), Backyardigan_80 (A4), Badger_81 (A4), Cici_82 (A4), Druantia_84 (A4), Wile_81 (A4), Wizard007_82 (A4),

Start 42:

- Found in 8 of 182 (4.4%) of genes in pham
- Manual Annotations of this start: 4 of 165
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Dallas_233 (J), Duke13_235 (J), Gonephishing_231 (J), Halley_237 (J), Minerva_233 (J),

Start 43:

- Found in 32 of 182 (17.6%) of genes in pham
- Manual Annotations of this start: 28 of 165
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Ariel_241 (J), Bagrid_240 (J), Beem_238 (J), Bobby_213 (J), Bombitas_219 (J), Constella_224 (J), Courthouse_237 (J), DmpstrDiver_233 (J), Dove_226 (J), Ejimix_226 (J), EricMillard_232 (J), Hannaconda_225 (J), Hughesyang_237 (J), JuicyJay_230 (J), KashFlow_227 (J), Klein_242 (J), LittleE_224 (J), Lucky2013_232 (J), MiaZeal_245

(J), Odette_234 (J), Phoebus_233 (J), Porcelain_236 (J), Redno2_226 (J), Schatzie_227 (J), Squint_233 (J), Superphikiman_233 (J), Thibault_209 (J), ThreeRngTarjay_234 (J), Wanda_234 (J), Yeet_229 (J), Zelink_228 (J),

Start 44:

- Found in 17 of 182 (9.3%) of genes in pham
- Manual Annotations of this start: 13 of 165
- Called 82.4% of time when present
- Phage (with cluster) where this start called: A6_85 (A1), Alsfro_94 (A1), BK1_85 (A1), Beatrix_89 (A1), Bexan_87 (A1), Big3_91 (A1), BluSpix_84 (A1), IgnatiusPatJac_87 (A1), Killigrew_87 (A1), Lesedi_88 (A1), Pari_92 (A1), PherrisBueller_88 (A1), StrongArm_88 (A1), Zeeculate_91 (A1),

Start 46:

- Found in 31 of 182 (17.0%) of genes in pham
- Manual Annotations of this start: 30 of 165
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caviar_75 (A3), Chupacabra_81 (A10), Drake94_81 (A10), Fred313_84 (A3), Goose_85 (A10), Heathen_86 (A3), HelDan_86 (A3), Hookmount_86 (A3), Isca_83 (A3), KittenMittens_79 (A10), Lambert1_86 (A3), Margo_86 (A3), Noella_87 (A3), Norbert_82 (A3), OKCentral2016_83 (A10), Panamaxus_82 (A3), PeaceMeal1_81 (A10), Phantastic_87 (A3), Pocahontas_85 (A3), Poompha_81 (A10), Popcicle_86 (A3), QuinnKiro_85 (A3), ResDef_84 (A3), RhynO_72 (A10), Rockstar_75 (A3), Scout_86 (A3), Severus_82 (A10), Sheen_83 (A7), Texage_84 (A3), Todacoro_86 (A3), Veracruz_83 (A3),

Start 57:

- Found in 50 of 182 (27.5%) of genes in pham
- Manual Annotations of this start: 7 of 165
- Called 16.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger_82 (A4), Bumblebee11_81 (A4), Cintron_85 (A4), Katalie136_82 (A4), Kremtemulon_79 (A4), Morpher26_82 (A4), Perplexer_82 (A4), PetiteSangsue_82 (A4),

Summary by clusters:

There are 13 clusters represented in this pham: A14, A17, A16, A11, A10, A13, J, A1, A3, A2, A4, A7, A6,

Info for manual annotations of cluster A1:

- Start number 44 was manually annotated 13 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 28 was manually annotated 5 times for cluster A10.
- Start number 33 was manually annotated 1 time for cluster A10.
- Start number 46 was manually annotated 9 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 38 was manually annotated 1 time for cluster A11.
- Start number 39 was manually annotated 8 times for cluster A11.

Info for manual annotations of cluster A14:

- Start number 38 was manually annotated 2 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 27 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 31 was manually annotated 3 times for cluster A2.
- Start number 38 was manually annotated 33 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 29 was manually annotated 4 times for cluster A3.
- Start number 35 was manually annotated 1 time for cluster A3.
- Start number 46 was manually annotated 20 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 41 was manually annotated 7 times for cluster A4.
- Start number 57 was manually annotated 7 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 38 was manually annotated 10 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 46 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster J:

- Start number 32 was manually annotated 1 time for cluster J.
- Start number 34 was manually annotated 1 time for cluster J.
- Start number 36 was manually annotated 3 times for cluster J.
- Start number 42 was manually annotated 4 times for cluster J.
- Start number 43 was manually annotated 28 times for cluster J.

Gene Information:

Gene: 40AC_82 Start: 48479, Stop: 48276, Start Num: 38

Candidate Starts for 40AC_82:

(Start: 38 @48479 has 46 MA's), (Start: 57 @48428 has 7 MA's), (67, 48344),

Gene: A6_85 Start: 49336, Stop: 49130, Start Num: 44

Candidate Starts for A6_85:

(Start: 44 @49336 has 13 MA's), (66, 49198),

Gene: AN9_85 Start: 47253, Stop: 47056, Start Num: 38

Candidate Starts for AN9_85:

(Start: 38 @47253 has 46 MA's), (Start: 57 @47199 has 7 MA's), (67, 47121),

Gene: ANI8_85 Start: 47253, Stop: 47056, Start Num: 38

Candidate Starts for ANI8_85:

(Start: 38 @47253 has 46 MA's), (Start: 57 @47199 has 7 MA's), (67, 47121),

Gene: AbbysRanger_82 Start: 48599, Stop: 48441, Start Num: 57

Candidate Starts for AbbysRanger_82:

(Start: 41 @48638 has 7 MA's), (Start: 57 @48599 has 7 MA's), (59, 48590), (67, 48503), (68, 48470),

Gene: Achebe_81 Start: 48782, Stop: 48585, Start Num: 41

Candidate Starts for Achebe_81:

(Start: 41 @48782 has 7 MA's), (Start: 57 @48743 has 7 MA's), (59, 48734), (67, 48647), (68, 48614),

Gene: Alsfro_94 Start: 49646, Stop: 49846, Start Num: 44

Candidate Starts for Alsfro_94:

(Start: 44 @49646 has 13 MA's), (66, 49778),

Gene: AnnaL29_88 Start: 49242, Stop: 49006, Start Num: 31

Candidate Starts for AnnaL29_88:

(14, 49371), (Start: 31 @49242 has 3 MA's), (Start: 38 @49227 has 46 MA's), (67, 49074), (68, 49041),

Gene: Ariel_241 Start: 107734, Stop: 107546, Start Num: 43

Candidate Starts for Ariel_241:

(Start: 34 @107755 has 1 MA's), (Start: 43 @107734 has 28 MA's), (59, 107692), (65, 107653), (68, 107581), (71, 107557),

Gene: Artemis2UCLA_88 Start: 46537, Stop: 46328, Start Num: 38

Candidate Starts for Artemis2UCLA_88:

(Start: 38 @46537 has 46 MA's), (58, 46477),

Gene: BK1_85 Start: 49336, Stop: 49130, Start Num: 44

Candidate Starts for BK1_85:

(Start: 44 @49336 has 13 MA's), (66, 49198),

Gene: BabyBack_81 Start: 48271, Stop: 48068, Start Num: 38

Candidate Starts for BabyBack_81:

(18, 48391), (23, 48343), (Start: 38 @48271 has 46 MA's), (56, 48220), (67, 48136),

Gene: BabyRay_87 Start: 47952, Stop: 47743, Start Num: 35

Candidate Starts for BabyRay_87:

(Start: 35 @47952 has 1 MA's), (49, 47919), (59, 47889), (67, 47814), (68, 47781),

Gene: Bachome_87 Start: 47191, Stop: 46985, Start Num: 38

Candidate Starts for Bachome_87:

(Start: 31 @47206 has 3 MA's), (Start: 38 @47191 has 46 MA's), (Start: 57 @47137 has 7 MA's), (62, 47113), (67, 47053), (71, 46996),

Gene: Backyardigan_80 Start: 48654, Stop: 48457, Start Num: 41

Candidate Starts for Backyardigan_80:

(Start: 41 @48654 has 7 MA's), (Start: 57 @48615 has 7 MA's), (59, 48606), (67, 48519), (68, 48486),

Gene: Badger_81 Start: 48620, Stop: 48423, Start Num: 41

Candidate Starts for Badger_81:

(Start: 41 @48620 has 7 MA's), (Start: 57 @48581 has 7 MA's), (59, 48572), (67, 48485), (68, 48452),

Gene: Baehexic_85 Start: 48457, Stop: 48251, Start Num: 38

Candidate Starts for Baehexic_85:

(10, 48655), (Start: 31 @48472 has 3 MA's), (Start: 38 @48457 has 46 MA's), (Start: 57 @48403 has 7 MA's), (67, 48319),

Gene: Bagrid_240 Start: 111821, Stop: 111645, Start Num: 43

Candidate Starts for Bagrid_240:

(Start: 34 @111842 has 1 MA's), (Start: 43 @111821 has 28 MA's), (59, 111779), (65, 111752),

Gene: Beatrix_89 Start: 50789, Stop: 50995, Start Num: 44

Candidate Starts for Beatrix_89:

(Start: 44 @50789 has 13 MA's), (66, 50927),

Gene: Beem_238 Start: 110940, Stop: 110764, Start Num: 43

Candidate Starts for Beem_238:

(Start: 34 @110961 has 1 MA's), (Start: 43 @110940 has 28 MA's), (59, 110898), (65, 110871),

Gene: Bexan_87 Start: 50565, Stop: 50771, Start Num: 44

Candidate Starts for Bexan_87:

(Start: 44 @50565 has 13 MA's), (66, 50703),

Gene: Big3_91 Start: 53046, Stop: 52840, Start Num: 44

Candidate Starts for Big3_91:

(Start: 44 @53046 has 13 MA's),

Gene: BluSpix_84 Start: 44982, Stop: 45182, Start Num: 44

Candidate Starts for BluSpix_84:

(Start: 44 @44982 has 13 MA's), (66, 45114),

Gene: BlueBird_89 Start: 48203, Stop: 47985, Start Num: 29

Candidate Starts for BlueBird_89:

(25, 48230), (Start: 29 @48203 has 4 MA's), (56, 48140), (61, 48122), (67, 48050),

Gene: Bobby_213 Start: 108407, Stop: 108219, Start Num: 43

Candidate Starts for Bobby_213:

(Start: 43 @108407 has 28 MA's), (52, 108383), (59, 108365), (65, 108326), (68, 108254), (71, 108230),

Gene: Bombitas_219 Start: 107223, Stop: 107050, Start Num: 43

Candidate Starts for Bombitas_219:

(Start: 34 @107244 has 1 MA's), (Start: 43 @107223 has 28 MA's), (59, 107181), (65, 107154),

Gene: Bugatti_88 Start: 48203, Stop: 47985, Start Num: 29

Candidate Starts for Bugatti_88:

(25, 48230), (Start: 29 @48203 has 4 MA's), (56, 48140), (61, 48122), (67, 48050),

Gene: Bumblebee11_81 Start: 48581, Stop: 48423, Start Num: 57

Candidate Starts for Bumblebee11_81:

(Start: 41 @48620 has 7 MA's), (Start: 57 @48581 has 7 MA's), (59, 48572), (67, 48485), (68, 48452),

Gene: C3_78 Start: 47253, Stop: 47056, Start Num: 38

Candidate Starts for C3_78:

(Start: 38 @47253 has 46 MA's), (Start: 57 @47199 has 7 MA's), (67, 47121),

Gene: Caviar_75 Start: 44830, Stop: 44630, Start Num: 46

Candidate Starts for Caviar_75:

(13, 45019), (Start: 46 @44830 has 30 MA's), (64, 44770), (67, 44704), (68, 44671),

Gene: Centaur_86 Start: 48324, Stop: 48118, Start Num: 38

Candidate Starts for Centaur_86:

(10, 48522), (Start: 31 @48339 has 3 MA's), (Start: 38 @48324 has 46 MA's), (Start: 57 @48270 has 7 MA's), (67, 48186),

Gene: Changeling_84 Start: 49033, Stop: 48812, Start Num: 38

Candidate Starts for Changeling_84:

(17, 49165), (Start: 31 @49048 has 3 MA's), (Start: 38 @49033 has 46 MA's), (50, 49000), (51, 48997), (66, 48883), (68, 48847),

Gene: Chupacabra_81 Start: 48564, Stop: 48376, Start Num: 46

Candidate Starts for Chupacabra_81:

(Start: 34 @48597 has 1 MA's), (Start: 46 @48564 has 30 MA's), (66, 48444), (67, 48441),

Gene: Cici_82 Start: 48633, Stop: 48436, Start Num: 41

Candidate Starts for Cici_82:

(Start: 41 @48633 has 7 MA's), (Start: 57 @48594 has 7 MA's), (59, 48585), (67, 48498), (68, 48465),

Gene: Cintron_85 Start: 48872, Stop: 48702, Start Num: 57

Candidate Starts for Cintron_85:

(Start: 57 @48872 has 7 MA's), (59, 48863), (67, 48776), (68, 48743),

Gene: CloudWang3_89 Start: 47066, Stop: 46857, Start Num: 38

Candidate Starts for CloudWang3_89:

(Start: 38 @47066 has 46 MA's), (58, 47006),

Gene: Colin_85 Start: 49399, Stop: 49190, Start Num: 38

Candidate Starts for Colin_85:

(10, 49606), (15, 49546), (17, 49531), (Start: 31 @49414 has 3 MA's), (Start: 38 @49399 has 46 MA's), (47, 49375), (48, 49372), (67, 49258),

Gene: Constella_224 Start: 108319, Stop: 108131, Start Num: 43

Candidate Starts for Constella_224:

(Start: 43 @108319 has 28 MA's), (52, 108295), (59, 108277), (65, 108238), (68, 108166), (71, 108142),

Gene: Courthouse_237 Start: 108498, Stop: 108310, Start Num: 43

Candidate Starts for Courthouse_237:

(Start: 34 @108519 has 1 MA's), (Start: 43 @108498 has 28 MA's), (59, 108456), (65, 108417), (68, 108345), (71, 108321),

Gene: DBQu4n_86 Start: 48304, Stop: 48101, Start Num: 38

Candidate Starts for DBQu4n_86:

(Start: 38 @48304 has 46 MA's), (Start: 57 @48250 has 7 MA's), (67, 48166),

Gene: Dallas_233 Start: 109177, Stop: 108995, Start Num: 42

Candidate Starts for Dallas_233:

(Start: 36 @109192 has 3 MA's), (Start: 42 @109177 has 4 MA's), (59, 109141), (65, 109102), (68, 109030),

Gene: DmpstrDiver_233 Start: 109198, Stop: 109022, Start Num: 43
Candidate Starts for DmpstrDiver_233:
(Start: 43 @109198 has 28 MA's), (52, 109174), (59, 109156), (65, 109129), (68, 109057), (69, 109042),

Gene: Dove_226 Start: 105704, Stop: 105528, Start Num: 43
Candidate Starts for Dove_226:
(Start: 34 @105725 has 1 MA's), (Start: 43 @105704 has 28 MA's), (59, 105662), (65, 105635),

Gene: Drake55_87 Start: 48575, Stop: 48369, Start Num: 38
Candidate Starts for Drake55_87:
(10, 48773), (Start: 31 @48590 has 3 MA's), (Start: 38 @48575 has 46 MA's), (67, 48437),

Gene: Drake94_81 Start: 47718, Stop: 47530, Start Num: 46
Candidate Starts for Drake94_81:
(Start: 34 @47751 has 1 MA's), (Start: 46 @47718 has 30 MA's), (67, 47595),

Gene: Druantia_84 Start: 48829, Stop: 48632, Start Num: 41
Candidate Starts for Druantia_84:
(Start: 41 @48829 has 7 MA's), (Start: 57 @48790 has 7 MA's), (59, 48781), (67, 48694), (68, 48661),

Gene: Duke13_235 Start: 110008, Stop: 109820, Start Num: 42
Candidate Starts for Duke13_235:
(Start: 36 @110023 has 3 MA's), (Start: 42 @110008 has 4 MA's), (52, 109984), (59, 109966), (65, 109927), (66, 109891), (68, 109855), (71, 109831),

Gene: Duplo_87 Start: 48361, Stop: 48158, Start Num: 38
Candidate Starts for Duplo_87:
(Start: 38 @48361 has 46 MA's), (Start: 57 @48307 has 7 MA's), (67, 48223),

Gene: EZMoney23_82 Start: 48034, Stop: 47822, Start Num: 38
Candidate Starts for EZMoney23_82:
(7, 48262), (15, 48181), (Start: 31 @48049 has 3 MA's), (Start: 38 @48034 has 46 MA's), (45, 48013), (56, 47983), (67, 47890),

Gene: EagleEye_87 Start: 48171, Stop: 47941, Start Num: 27
Candidate Starts for EagleEye_87:
(Start: 27 @48171 has 3 MA's), (Start: 36 @48147 has 3 MA's), (40, 48135), (Start: 44 @48123 has 13 MA's), (Start: 57 @48084 has 7 MA's),

Gene: Eaglepride_87 Start: 48695, Stop: 48462, Start Num: 28
Candidate Starts for Eaglepride_87:
(11, 48872), (19, 48776), (Start: 28 @48695 has 5 MA's), (Start: 33 @48680 has 1 MA's), (37, 48671), (67, 48527),

Gene: Ejimix_226 Start: 109183, Stop: 109007, Start Num: 43
Candidate Starts for Ejimix_226:
(Start: 34 @109204 has 1 MA's), (Start: 43 @109183 has 28 MA's), (59, 109141), (65, 109114),

Gene: Equemioh13_86 Start: 48553, Stop: 48347, Start Num: 38
Candidate Starts for Equemioh13_86:
(10, 48751), (Start: 31 @48568 has 3 MA's), (Start: 38 @48553 has 46 MA's), (Start: 57 @48499 has 7 MA's), (67, 48415),

Gene: EricMillard_232 Start: 111027, Stop: 110851, Start Num: 43
Candidate Starts for EricMillard_232:
(Start: 34 @111048 has 1 MA's), (Start: 43 @111027 has 28 MA's), (59, 110985), (65, 110958),

Gene: Et2Brutus_89 Start: 48147, Stop: 47950, Start Num: 39
Candidate Starts for Et2Brutus_89:
(Start: 39 @48147 has 8 MA's), (67, 48018), (71, 47961),

Gene: Fibonacci_89 Start: 48153, Stop: 47956, Start Num: 39
Candidate Starts for Fibonacci_89:
(Start: 39 @48153 has 8 MA's), (67, 48024), (71, 47967),

Gene: Flare16_86 Start: 48368, Stop: 48162, Start Num: 38
Candidate Starts for Flare16_86:
(10, 48566), (Start: 31 @48383 has 3 MA's), (Start: 38 @48368 has 46 MA's), (Start: 57 @48314 has 7 MA's), (67, 48230),

Gene: Fred313_84 Start: 47806, Stop: 47615, Start Num: 46
Candidate Starts for Fred313_84:
(1, 48295), (2, 48262), (5, 48079), (Start: 46 @47806 has 30 MA's), (64, 47746), (67, 47680),

Gene: Gail_88 Start: 48344, Stop: 48141, Start Num: 38
Candidate Starts for Gail_88:
(Start: 31 @48359 has 3 MA's), (Start: 38 @48344 has 46 MA's), (Start: 57 @48293 has 7 MA's), (67, 48209),

Gene: GaugeLDP_80 Start: 47824, Stop: 47624, Start Num: 38
Candidate Starts for GaugeLDP_80:
(Start: 38 @47824 has 46 MA's), (56, 47773), (67, 47692),

Gene: Giroux_85 Start: 48202, Stop: 47984, Start Num: 29
Candidate Starts for Giroux_85:
(25, 48229), (Start: 29 @48202 has 4 MA's), (56, 48139), (61, 48121), (67, 48049),

Gene: Gladiator_85 Start: 46722, Stop: 46513, Start Num: 38
Candidate Starts for Gladiator_85:
(Start: 38 @46722 has 46 MA's), (58, 46662),

Gene: Gonephishing_231 Start: 108727, Stop: 108539, Start Num: 42
Candidate Starts for Gonephishing_231:
(Start: 36 @108742 has 3 MA's), (Start: 42 @108727 has 4 MA's), (52, 108703), (59, 108685), (65, 108646), (68, 108574), (71, 108550),

Gene: Goose_85 Start: 48375, Stop: 48187, Start Num: 46
Candidate Starts for Goose_85:
(Start: 34 @48408 has 1 MA's), (Start: 46 @48375 has 30 MA's), (66, 48255), (67, 48252),

Gene: Gruunaga_88 Start: 46677, Stop: 46468, Start Num: 38
Candidate Starts for Gruunaga_88:
(Start: 38 @46677 has 46 MA's), (58, 46617),

Gene: Halley_237 Start: 109664, Stop: 109482, Start Num: 42

Candidate Starts for Halley_237:

(Start: 36 @109679 has 3 MA's), (Start: 42 @109664 has 4 MA's), (59, 109628), (65, 109589), (68, 109517),

Gene: Hammer_89 Start: 46384, Stop: 46175, Start Num: 38

Candidate Starts for Hammer_89:

(Start: 38 @46384 has 46 MA's), (58, 46324), (66, 46249),

Gene: Hannaconda_225 Start: 109232, Stop: 109056, Start Num: 43

Candidate Starts for Hannaconda_225:

(Start: 34 @109253 has 1 MA's), (Start: 43 @109232 has 28 MA's), (59, 109190), (65, 109163),

Gene: HarryHoudini_86 Start: 48578, Stop: 48372, Start Num: 38

Candidate Starts for HarryHoudini_86:

(10, 48776), (Start: 31 @48593 has 3 MA's), (Start: 38 @48578 has 46 MA's), (67, 48440),

Gene: Heathen_86 Start: 47894, Stop: 47703, Start Num: 46

Candidate Starts for Heathen_86:

(1, 48383), (2, 48350), (5, 48167), (Start: 46 @47894 has 30 MA's), (64, 47834), (67, 47768),

Gene: HelDan_86 Start: 48117, Stop: 47926, Start Num: 46

Candidate Starts for HelDan_86:

(1, 48606), (2, 48573), (5, 48390), (Start: 46 @48117 has 30 MA's), (64, 48057), (67, 47991),

Gene: Hexamo_88 Start: 46552, Stop: 46343, Start Num: 38

Candidate Starts for Hexamo_88:

(Start: 38 @46552 has 46 MA's), (58, 46492),

Gene: HokkenD_227 Start: 110994, Stop: 110791, Start Num: 36

Candidate Starts for HokkenD_227:

(Start: 36 @110994 has 3 MA's), (Start: 42 @110979 has 4 MA's), (52, 110955), (59, 110937), (65, 110898), (66, 110862), (68, 110826), (71, 110802),

Gene: Hookmount_86 Start: 47833, Stop: 47633, Start Num: 46

Candidate Starts for Hookmount_86:

(13, 48022), (Start: 46 @47833 has 30 MA's), (64, 47773), (67, 47707), (68, 47674),

Gene: Hughesyang_237 Start: 110914, Stop: 110738, Start Num: 43

Candidate Starts for Hughesyang_237:

(Start: 34 @110935 has 1 MA's), (Start: 43 @110914 has 28 MA's), (59, 110872), (65, 110845),

Gene: Hutc2_86 Start: 47037, Stop: 46840, Start Num: 39

Candidate Starts for Hutc2_86:

(Start: 39 @47037 has 8 MA's), (67, 46908), (71, 46851),

Gene: IgnatiusPatJac_87 Start: 48927, Stop: 49127, Start Num: 44

Candidate Starts for IgnatiusPatJac_87:

(Start: 44 @48927 has 13 MA's), (66, 49059),

Gene: Insomnia_89 Start: 48331, Stop: 48134, Start Num: 39

Candidate Starts for Insomnia_89:

(Start: 39 @48331 has 8 MA's), (67, 48202), (71, 48145),

Gene: Isca_83 Start: 47223, Stop: 47023, Start Num: 46
Candidate Starts for Isca_83:
(6, 47487), (Start: 46 @47223 has 30 MA's), (49, 47217), (64, 47163), (67, 47097), (68, 47064),

Gene: Jabith_89 Start: 48345, Stop: 48148, Start Num: 39
Candidate Starts for Jabith_89:
(3, 48675), (Start: 39 @48345 has 8 MA's), (67, 48216), (71, 48159),

Gene: Journey13_69 Start: 43468, Stop: 43256, Start Num: 38
Candidate Starts for Journey13_69:
(Start: 31 @43483 has 3 MA's), (Start: 38 @43468 has 46 MA's), (Start: 57 @43414 has 7 MA's), (62, 43390), (67, 43330), (68, 43297), (70, 43276),

Gene: Jsquared_90 Start: 48187, Stop: 47969, Start Num: 31
Candidate Starts for Jsquared_90:
(Start: 31 @48187 has 3 MA's), (Start: 38 @48172 has 46 MA's), (Start: 57 @48118 has 7 MA's), (67, 48034), (68, 48001),

Gene: JuicyJay_230 Start: 110889, Stop: 110713, Start Num: 43
Candidate Starts for JuicyJay_230:
(Start: 34 @110910 has 1 MA's), (Start: 43 @110889 has 28 MA's), (59, 110847), (65, 110820),

Gene: Kalah2_224 Start: 108578, Stop: 108375, Start Num: 36
Candidate Starts for Kalah2_224:
(Start: 36 @108578 has 3 MA's), (Start: 42 @108563 has 4 MA's), (52, 108539), (59, 108521), (65, 108482), (66, 108446), (67, 108443), (68, 108410), (69, 108395),

Gene: Kalpine_88 Start: 49294, Stop: 49088, Start Num: 38
Candidate Starts for Kalpine_88:
(8, 49507), (Start: 31 @49309 has 3 MA's), (Start: 38 @49294 has 46 MA's), (67, 49156),

Gene: KashFlow_227 Start: 109125, Stop: 108949, Start Num: 43
Candidate Starts for KashFlow_227:
(Start: 34 @109146 has 1 MA's), (Start: 43 @109125 has 28 MA's), (59, 109083), (65, 109056), (67, 109017),

Gene: Katalie136_82 Start: 48581, Stop: 48423, Start Num: 57
Candidate Starts for Katalie136_82:
(Start: 41 @48620 has 7 MA's), (Start: 57 @48581 has 7 MA's), (59, 48572), (67, 48485), (68, 48452),

Gene: Kerberos_86 Start: 48324, Stop: 48121, Start Num: 38
Candidate Starts for Kerberos_86:
(Start: 38 @48324 has 46 MA's), (Start: 57 @48270 has 7 MA's), (67, 48186),

Gene: Killigrew_87 Start: 50774, Stop: 50574, Start Num: 44
Candidate Starts for Killigrew_87:
(Start: 44 @50774 has 13 MA's), (66, 50642),

Gene: KittenMittens_79 Start: 47725, Stop: 47537, Start Num: 46
Candidate Starts for KittenMittens_79:
(Start: 34 @47758 has 1 MA's), (Start: 46 @47725 has 30 MA's), (67, 47602),

Gene: Klein_242 Start: 109911, Stop: 109735, Start Num: 43

Candidate Starts for Klein_242:

(Start: 34 @109932 has 1 MA's), (Start: 43 @109911 has 28 MA's), (59, 109869), (65, 109842),

Gene: Koduck_86 Start: 47511, Stop: 47308, Start Num: 38

Candidate Starts for Koduck_86:

(Start: 31 @47526 has 3 MA's), (Start: 38 @47511 has 46 MA's), (Start: 57 @47457 has 7 MA's), (58, 47451), (67, 47373),

Gene: Kremtemulon_79 Start: 48636, Stop: 48466, Start Num: 57

Candidate Starts for Kremtemulon_79:

(Start: 57 @48636 has 7 MA's), (67, 48540), (68, 48507),

Gene: Kristoff_82 Start: 49033, Stop: 48797, Start Num: 28

Candidate Starts for Kristoff_82:

(24, 49066), (Start: 28 @49033 has 5 MA's), (Start: 33 @49018 has 1 MA's), (37, 49009), (61, 48940), (67, 48862), (68, 48829),

Gene: L5_79 Start: 47417, Stop: 47199, Start Num: 31

Candidate Starts for L5_79:

(Start: 31 @47417 has 3 MA's), (Start: 38 @47402 has 46 MA's), (Start: 57 @47348 has 7 MA's), (58, 47342), (67, 47264),

Gene: Lambert1_86 Start: 47834, Stop: 47634, Start Num: 46

Candidate Starts for Lambert1_86:

(5, 48107), (13, 48023), (Start: 46 @47834 has 30 MA's), (64, 47774), (67, 47708), (68, 47675),

Gene: Larenn_85 Start: 48736, Stop: 48527, Start Num: 38

Candidate Starts for Larenn_85:

(Start: 31 @48751 has 3 MA's), (Start: 38 @48736 has 46 MA's), (Start: 57 @48682 has 7 MA's), (62, 48658), (67, 48598), (68, 48565),

Gene: Lesedi_88 Start: 50089, Stop: 49889, Start Num: 44

Candidate Starts for Lesedi_88:

(Start: 44 @50089 has 13 MA's), (66, 49957),

Gene: Lilbunny_86 Start: 46631, Stop: 46422, Start Num: 38

Candidate Starts for Lilbunny_86:

(Start: 38 @46631 has 46 MA's), (58, 46571), (66, 46496),

Gene: LittleE_224 Start: 106916, Stop: 106728, Start Num: 43

Candidate Starts for LittleE_224:

(Start: 43 @106916 has 28 MA's), (52, 106892), (59, 106874), (65, 106835), (68, 106763), (71, 106739),

Gene: Loser_89 Start: 49477, Stop: 49256, Start Num: 38

Candidate Starts for Loser_89:

(14, 49621), (20, 49558), (Start: 31 @49492 has 3 MA's), (Start: 38 @49477 has 46 MA's), (68, 49291),

Gene: Lucky2013_232 Start: 106413, Stop: 106237, Start Num: 43

Candidate Starts for Lucky2013_232:

(Start: 34 @106434 has 1 MA's), (Start: 43 @106413 has 28 MA's), (59, 106371), (65, 106344),

Gene: Lucyedi_86 Start: 48370, Stop: 48140, Start Num: 27

Candidate Starts for Lucyedi_86:

(Start: 27 @48370 has 3 MA's), (Start: 36 @48346 has 3 MA's), (40, 48334), (Start: 44 @48322 has 13 MA's), (Start: 57 @48283 has 7 MA's),

Gene: Malec_85 Start: 49144, Stop: 48938, Start Num: 38

Candidate Starts for Malec_85:

(10, 49342), (Start: 31 @49159 has 3 MA's), (Start: 38 @49144 has 46 MA's), (Start: 57 @49090 has 7 MA's), (62, 49066), (67, 49006),

Gene: Margo_86 Start: 47859, Stop: 47659, Start Num: 46

Candidate Starts for Margo_86:

(5, 48132), (13, 48048), (Start: 46 @47859 has 30 MA's), (64, 47799), (67, 47733), (68, 47700),

Gene: MiaZeal_245 Start: 108550, Stop: 108374, Start Num: 43

Candidate Starts for MiaZeal_245:

(Start: 34 @108571 has 1 MA's), (Start: 43 @108550 has 28 MA's), (59, 108508), (65, 108481),

Gene: MiculUcigas_86 Start: 48271, Stop: 48065, Start Num: 38

Candidate Starts for MiculUcigas_86:

(10, 48469), (Start: 31 @48286 has 3 MA's), (Start: 38 @48271 has 46 MA's), (Start: 57 @48217 has 7 MA's), (67, 48133),

Gene: Minerva_233 Start: 107908, Stop: 107726, Start Num: 42

Candidate Starts for Minerva_233:

(Start: 36 @107923 has 3 MA's), (Start: 42 @107908 has 4 MA's), (59, 107872), (65, 107833), (68, 107761),

Gene: MissWhite_79 Start: 45139, Stop: 44933, Start Num: 38

Candidate Starts for MissWhite_79:

(Start: 31 @45154 has 3 MA's), (Start: 38 @45139 has 46 MA's), (Start: 57 @45085 has 7 MA's), (62, 45061), (67, 45001),

Gene: Morpher26_82 Start: 48602, Stop: 48444, Start Num: 57

Candidate Starts for Morpher26_82:

(Start: 41 @48641 has 7 MA's), (Start: 57 @48602 has 7 MA's), (59, 48593), (67, 48506), (68, 48473),

Gene: Mulciber_88 Start: 48150, Stop: 47953, Start Num: 39

Candidate Starts for Mulciber_88:

(Start: 39 @48150 has 8 MA's), (67, 48021), (71, 47964),

Gene: NaSiaTalie_87 Start: 48558, Stop: 48352, Start Num: 38

Candidate Starts for NaSiaTalie_87:

(10, 48756), (Start: 31 @48573 has 3 MA's), (Start: 38 @48558 has 46 MA's), (Start: 57 @48504 has 7 MA's), (67, 48420),

Gene: NihilNomen_236 Start: 108748, Stop: 108545, Start Num: 36

Candidate Starts for NihilNomen_236:

(Start: 36 @108748 has 3 MA's), (Start: 42 @108733 has 4 MA's), (52, 108709), (59, 108691), (65, 108652), (68, 108580), (71, 108556),

Gene: Noella_87 Start: 47835, Stop: 47635, Start Num: 46

Candidate Starts for Noella_87:

(13, 48024), (Start: 46 @47835 has 30 MA's), (64, 47775), (67, 47709), (68, 47676),

Gene: Norbert_82 Start: 47832, Stop: 47632, Start Num: 46

Candidate Starts for Norbert_82:

(13, 48021), (Start: 46 @47832 has 30 MA's), (64, 47772), (67, 47706), (68, 47673),

Gene: OKCentral2016_83 Start: 47802, Stop: 47614, Start Num: 46

Candidate Starts for OKCentral2016_83:

(Start: 34 @47835 has 1 MA's), (Start: 46 @47802 has 30 MA's), (66, 47682), (67, 47679),

Gene: Odette_234 Start: 110012, Stop: 109836, Start Num: 43

Candidate Starts for Odette_234:

(Start: 34 @110033 has 1 MA's), (Start: 43 @110012 has 28 MA's), (59, 109970), (65, 109943),

Gene: Omega_235 Start: 109887, Stop: 109675, Start Num: 32

Candidate Starts for Omega_235:

(21, 109956), (Start: 32 @109887 has 1 MA's), (52, 109839), (59, 109821), (65, 109782), (68, 109710), (71, 109686),

Gene: PainterBoy_85 Start: 48081, Stop: 47851, Start Num: 27

Candidate Starts for PainterBoy_85:

(Start: 27 @48081 has 3 MA's), (Start: 36 @48057 has 3 MA's), (40, 48045), (Start: 44 @48033 has 13 MA's), (Start: 57 @47994 has 7 MA's),

Gene: Panamaxus_82 Start: 47834, Stop: 47634, Start Num: 46

Candidate Starts for Panamaxus_82:

(13, 48023), (Start: 46 @47834 has 30 MA's), (64, 47774), (67, 47708), (68, 47675),

Gene: Pari_92 Start: 50227, Stop: 50027, Start Num: 44

Candidate Starts for Pari_92:

(Start: 44 @50227 has 13 MA's), (66, 50095),

Gene: PeaceMeal1_81 Start: 47729, Stop: 47541, Start Num: 46

Candidate Starts for PeaceMeal1_81:

(Start: 34 @47762 has 1 MA's), (Start: 46 @47729 has 30 MA's), (67, 47606),

Gene: Perplexer_82 Start: 48582, Stop: 48424, Start Num: 57

Candidate Starts for Perplexer_82:

(Start: 41 @48621 has 7 MA's), (Start: 57 @48582 has 7 MA's), (59, 48573), (67, 48486), (68, 48453),

Gene: PetiteSangsue_82 Start: 48585, Stop: 48427, Start Num: 57

Candidate Starts for PetiteSangsue_82:

(Start: 41 @48624 has 7 MA's), (Start: 57 @48585 has 7 MA's), (59, 48576), (67, 48489), (68, 48456),

Gene: Phantastic_87 Start: 47341, Stop: 47150, Start Num: 46

Candidate Starts for Phantastic_87:

(6, 47605), (Start: 46 @47341 has 30 MA's), (49, 47335), (64, 47281), (67, 47215),

Gene: PherrisBueller_88 Start: 48812, Stop: 48612, Start Num: 44

Candidate Starts for PherrisBueller_88:

(Start: 44 @48812 has 13 MA's), (66, 48680),

Gene: Phlei_72 Start: 46175, Stop: 45936, Start Num: 30

Candidate Starts for Phlei_72:

(30, 46175), (66, 46019),

Gene: Phoebus_233 Start: 112122, Stop: 111946, Start Num: 43

Candidate Starts for Phoebus_233:

(Start: 34 @112143 has 1 MA's), (Start: 43 @112122 has 28 MA's), (59, 112080), (65, 112053),

Gene: Piro94_85 Start: 48506, Stop: 48300, Start Num: 38

Candidate Starts for Piro94_85:

(10, 48704), (Start: 31 @48521 has 3 MA's), (Start: 38 @48506 has 46 MA's), (67, 48368),

Gene: Pistachio_87 Start: 47750, Stop: 47532, Start Num: 29

Candidate Starts for Pistachio_87:

(25, 47777), (Start: 29 @47750 has 4 MA's), (56, 47687), (61, 47669), (67, 47597),

Gene: Pocahontas_85 Start: 47830, Stop: 47630, Start Num: 46

Candidate Starts for Pocahontas_85:

(13, 48019), (Start: 46 @47830 has 30 MA's), (64, 47770), (67, 47704), (68, 47671),

Gene: Pomar16_86 Start: 48397, Stop: 48194, Start Num: 38

Candidate Starts for Pomar16_86:

(Start: 38 @48397 has 46 MA's), (Start: 57 @48343 has 7 MA's), (67, 48259),

Gene: Poompha_81 Start: 47730, Stop: 47539, Start Num: 46

Candidate Starts for Poompha_81:

(26, 47796), (Start: 46 @47730 has 30 MA's), (53, 47712), (63, 47673), (67, 47604),

Gene: Popcicle_86 Start: 47830, Stop: 47630, Start Num: 46

Candidate Starts for Popcicle_86:

(13, 48019), (Start: 46 @47830 has 30 MA's), (64, 47770), (67, 47704), (68, 47671),

Gene: Porcelain_236 Start: 107360, Stop: 107184, Start Num: 43

Candidate Starts for Porcelain_236:

(Start: 34 @107381 has 1 MA's), (Start: 43 @107360 has 28 MA's), (59, 107318), (65, 107291),

Gene: Pound_223 Start: 107829, Stop: 107617, Start Num: 34

Candidate Starts for Pound_223:

(Start: 34 @107829 has 1 MA's), (Start: 43 @107808 has 28 MA's), (52, 107784), (55, 107775), (60, 107760), (65, 107724), (66, 107688), (67, 107685), (68, 107652), (69, 107637),

Gene: Puppy_88 Start: 47820, Stop: 47602, Start Num: 29

Candidate Starts for Puppy_88:

(25, 47847), (Start: 29 @47820 has 4 MA's), (56, 47757), (61, 47739), (67, 47667),

Gene: QuinnKiro_85 Start: 47833, Stop: 47633, Start Num: 46

Candidate Starts for QuinnKiro_85:

(5, 48106), (13, 48022), (Start: 46 @47833 has 30 MA's), (64, 47773), (67, 47707), (68, 47674),

Gene: Rebeuca_85 Start: 49034, Stop: 48798, Start Num: 28

Candidate Starts for Rebeuca_85:

(24, 49067), (Start: 28 @49034 has 5 MA's), (Start: 33 @49019 has 1 MA's), (37, 49010), (61, 48941), (67, 48863), (68, 48830),

Gene: RedRock_86 Start: 49130, Stop: 48909, Start Num: 38
Candidate Starts for RedRock_86:
(Start: 31 @49145 has 3 MA's), (Start: 38 @49130 has 46 MA's), (68, 48944),

Gene: Redno2_226 Start: 106231, Stop: 106055, Start Num: 43
Candidate Starts for Redno2_226:
(Start: 34 @106252 has 1 MA's), (Start: 43 @106231 has 28 MA's), (59, 106189), (65, 106162),

Gene: ResDef_84 Start: 47836, Stop: 47636, Start Num: 46
Candidate Starts for ResDef_84:
(13, 48025), (Start: 46 @47836 has 30 MA's), (64, 47776), (67, 47710), (68, 47677),

Gene: RhynO_72 Start: 44427, Stop: 44242, Start Num: 46
Candidate Starts for RhynO_72:
(4, 44745), (9, 44655), (12, 44616), (Start: 28 @44472 has 5 MA's), (Start: 46 @44427 has 30 MA's),
(54, 44406), (63, 44370), (67, 44307), (68, 44274),

Gene: Rifter_89 Start: 46179, Stop: 45970, Start Num: 38
Candidate Starts for Rifter_89:
(Start: 38 @46179 has 46 MA's), (58, 46119),

Gene: Rockstar_75 Start: 45031, Stop: 44831, Start Num: 46
Candidate Starts for Rockstar_75:
(6, 45295), (Start: 46 @45031 has 30 MA's), (49, 45025), (64, 44971), (67, 44905),

Gene: Roksolana_89 Start: 46895, Stop: 46686, Start Num: 38
Candidate Starts for Roksolana_89:
(Start: 38 @46895 has 46 MA's), (58, 46835),

Gene: Salz_85 Start: 46959, Stop: 46762, Start Num: 39
Candidate Starts for Salz_85:
(Start: 39 @46959 has 8 MA's), (67, 46830), (71, 46773),

Gene: SaturnRing_88 Start: 48203, Stop: 47985, Start Num: 29
Candidate Starts for SaturnRing_88:
(25, 48230), (Start: 29 @48203 has 4 MA's), (56, 48140), (61, 48122), (67, 48050),

Gene: Schatzie_227 Start: 109153, Stop: 108977, Start Num: 43
Candidate Starts for Schatzie_227:
(Start: 34 @109174 has 1 MA's), (Start: 43 @109153 has 28 MA's), (59, 109111), (65, 109084),

Gene: Scout_86 Start: 47357, Stop: 47166, Start Num: 46
Candidate Starts for Scout_86:
(1, 47846), (2, 47813), (5, 47630), (Start: 46 @47357 has 30 MA's), (64, 47297), (67, 47231),

Gene: Serenity_89 Start: 47970, Stop: 47767, Start Num: 38
Candidate Starts for Serenity_89:
(22, 48045), (Start: 31 @47985 has 3 MA's), (Start: 38 @47970 has 46 MA's), (Start: 57 @47916 has
7 MA's), (58, 47910), (67, 47832), (68, 47799),

Gene: Severus_82 Start: 47724, Stop: 47536, Start Num: 46
Candidate Starts for Severus_82:
(Start: 34 @47757 has 1 MA's), (Start: 46 @47724 has 30 MA's), (67, 47601),

Gene: Sham4_86 Start: 47045, Stop: 46848, Start Num: 39

Candidate Starts for Sham4_86:

(Start: 39 @47045 has 8 MA's), (67, 46916), (71, 46859),

Gene: Sheen_83 Start: 50900, Stop: 50715, Start Num: 46

Candidate Starts for Sheen_83:

(Start: 46 @50900 has 30 MA's), (61, 50858), (66, 50783),

Gene: SororFago_85 Start: 48106, Stop: 47903, Start Num: 38

Candidate Starts for SororFago_85:

(Start: 31 @48121 has 3 MA's), (Start: 38 @48106 has 46 MA's), (Start: 57 @48055 has 7 MA's),

Gene: Squint_233 Start: 108166, Stop: 107990, Start Num: 43

Candidate Starts for Squint_233:

(Start: 34 @108187 has 1 MA's), (Start: 43 @108166 has 28 MA's), (59, 108124), (65, 108097),

Gene: StarStuff_86 Start: 48359, Stop: 48156, Start Num: 38

Candidate Starts for StarStuff_86:

(Start: 38 @48359 has 46 MA's), (Start: 57 @48305 has 7 MA's), (67, 48221),

Gene: StrongArm_88 Start: 50693, Stop: 50899, Start Num: 44

Candidate Starts for StrongArm_88:

(Start: 44 @50693 has 13 MA's), (66, 50831),

Gene: Superphikiman_233 Start: 107294, Stop: 107106, Start Num: 43

Candidate Starts for Superphikiman_233:

(Start: 34 @107315 has 1 MA's), (Start: 43 @107294 has 28 MA's), (59, 107252), (65, 107213), (68, 107141), (71, 107117),

Gene: TNguyen7_88 Start: 48161, Stop: 47943, Start Num: 29

Candidate Starts for TNguyen7_88:

(25, 48188), (Start: 29 @48161 has 4 MA's), (56, 48098), (61, 48080), (67, 48008),

Gene: Texage_84 Start: 47834, Stop: 47634, Start Num: 46

Candidate Starts for Texage_84:

(13, 48023), (Start: 46 @47834 has 30 MA's), (64, 47774), (67, 47708), (68, 47675),

Gene: Thibault_209 Start: 104098, Stop: 103910, Start Num: 43

Candidate Starts for Thibault_209:

(Start: 43 @104098 has 28 MA's), (52, 104074), (59, 104056), (65, 104017), (68, 103945), (71, 103921),

Gene: ThreeRngTarjay_234 Start: 111335, Stop: 111162, Start Num: 43

Candidate Starts for ThreeRngTarjay_234:

(Start: 34 @111356 has 1 MA's), (Start: 43 @111335 has 28 MA's), (59, 111293), (65, 111266),

Gene: TipsytheTRex_85 Start: 47972, Stop: 47769, Start Num: 38

Candidate Starts for TipsytheTRex_85:

(22, 48047), (Start: 31 @47987 has 3 MA's), (Start: 38 @47972 has 46 MA's), (Start: 57 @47918 has 7 MA's), (58, 47912), (67, 47834), (68, 47801),

Gene: Todacoro_86 Start: 47833, Stop: 47633, Start Num: 46

Candidate Starts for Todacoro_86:

(5, 48106), (13, 48022), (Start: 46 @47833 has 30 MA's), (64, 47773), (67, 47707), (68, 47674),

Gene: Tomathan_86 Start: 48437, Stop: 48234, Start Num: 38

Candidate Starts for Tomathan_86:

(Start: 38 @48437 has 46 MA's), (Start: 57 @48383 has 7 MA's), (67, 48299),

Gene: ToneTone_86 Start: 46559, Stop: 46350, Start Num: 38

Candidate Starts for ToneTone_86:

(Start: 38 @46559 has 46 MA's), (58, 46499), (66, 46424),

Gene: Topanga_74 Start: 45508, Stop: 45263, Start Num: 28

Candidate Starts for Topanga_74:

(11, 45685), (Start: 28 @45508 has 5 MA's), (Start: 33 @45493 has 1 MA's), (37, 45484), (61, 45415), (67, 45337), (68, 45304),

Gene: Tucker_89 Start: 46762, Stop: 46553, Start Num: 38

Candidate Starts for Tucker_89:

(Start: 38 @46762 has 46 MA's), (58, 46702), (66, 46627),

Gene: Twister_85 Start: 48707, Stop: 48477, Start Num: 33

Candidate Starts for Twister_85:

(11, 48899), (19, 48803), (Start: 28 @48722 has 5 MA's), (Start: 33 @48707 has 1 MA's), (37, 48698), (61, 48629), (67, 48551), (68, 48518),

Gene: Updawg_87 Start: 48553, Stop: 48347, Start Num: 38

Candidate Starts for Updawg_87:

(10, 48751), (Start: 31 @48568 has 3 MA's), (Start: 38 @48553 has 46 MA's), (Start: 57 @48499 has 7 MA's), (67, 48415),

Gene: VC3_84 Start: 47253, Stop: 47056, Start Num: 38

Candidate Starts for VC3_84:

(Start: 38 @47253 has 46 MA's), (Start: 57 @47199 has 7 MA's), (67, 47121),

Gene: Veracruz_83 Start: 47834, Stop: 47634, Start Num: 46

Candidate Starts for Veracruz_83:

(5, 48107), (13, 48023), (Start: 46 @47834 has 30 MA's), (64, 47774), (67, 47708), (68, 47675),

Gene: WalterMcMickey_84 Start: 48722, Stop: 48477, Start Num: 28

Candidate Starts for WalterMcMickey_84:

(11, 48899), (19, 48803), (Start: 28 @48722 has 5 MA's), (Start: 33 @48707 has 1 MA's), (37, 48698), (61, 48629), (67, 48551), (68, 48518),

Gene: Wanda_234 Start: 107541, Stop: 107365, Start Num: 43

Candidate Starts for Wanda_234:

(Start: 34 @107562 has 1 MA's), (Start: 43 @107541 has 28 MA's), (59, 107499), (65, 107472),

Gene: WeiHuaDA_88 Start: 49575, Stop: 49372, Start Num: 38

Candidate Starts for WeiHuaDA_88:

(15, 49722), (16, 49710), (Start: 31 @49590 has 3 MA's), (Start: 38 @49575 has 46 MA's), (47, 49551), (Start: 57 @49524 has 7 MA's), (62, 49500), (67, 49440),

Gene: WideWale_87 Start: 48553, Stop: 48347, Start Num: 38

Candidate Starts for WideWale_87:

(10, 48751), (Start: 31 @48568 has 3 MA's), (Start: 38 @48553 has 46 MA's), (Start: 57 @48499 has 7 MA's), (67, 48415),

Gene: Wile_81 Start: 48650, Stop: 48453, Start Num: 41

Candidate Starts for Wile_81:

(Start: 41 @48650 has 7 MA's), (Start: 57 @48611 has 7 MA's), (59, 48602), (67, 48515), (68, 48482),

Gene: Wizard007_82 Start: 48376, Stop: 48179, Start Num: 41

Candidate Starts for Wizard007_82:

(Start: 41 @48376 has 7 MA's), (Start: 57 @48337 has 7 MA's), (59, 48328), (67, 48241), (68, 48208),

Gene: Yeet_229 Start: 109251, Stop: 109075, Start Num: 43

Candidate Starts for Yeet_229:

(Start: 34 @109272 has 1 MA's), (Start: 43 @109251 has 28 MA's), (59, 109209), (65, 109182),

Gene: Zeeculate_91 Start: 53471, Stop: 53271, Start Num: 44

Candidate Starts for Zeeculate_91:

(Start: 44 @53471 has 13 MA's), (66, 53339),

Gene: Zelink_228 Start: 108839, Stop: 108663, Start Num: 43

Candidate Starts for Zelink_228:

(Start: 34 @108860 has 1 MA's), (Start: 43 @108839 has 28 MA's), (59, 108797), (65, 108770),