



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 169771 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169771 has 166 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Roots515_103, Atlantean_103, BackyardAgain_101, Colt_95, ValleyTerrace_104, Gamgam_104, JPickles_102, CharlieB_100, YemiJoy2021_105, Maby2021_104, Drazdys_103, Naija_103, Phox_101, Rizal_100, CindyLou_105, Delylah_107, NedWong_105, Patter_104, ArcherS7_103, Delilah_104, BananaFence_103, Naval22_109, Issimir_103, ChaylaJr_99, DTDevon_105, Ewok_105, BadAgartude_100, LifeSavor_103, Ngannou_100, Teardrop_103, Khaleesi_103, Phusco_104, Shelob_106, Megamind_103, Derek_104, Erdmann_105, Essence_101, Caravan_99, Cali_100, Quasimodo_105, Napoleon13_100, Melpomini_98, Grasshills_111, Kboogie_108, ScottMcG_101, LolaVinca_105, ShiaLabeouf_103, Catera_101, Ghost_103, Blubba_96, ChickenPhender_100, Mangeria_104, Bigswole_109, Ading_104, Shrimp_104, Yassified_101, Dietrick_96, Blackdragon_100, Phlegm_106, Amataga_104, EggyFarm_112, DrPhinkDaddy_103, TinyTim_104, MoMoMixon_105, Gizmo_108, JustHall_101, Burrough_104, Specks_109, Blackbrain_99, Koguma_101, Bonray_104, Trinitium_101, Jemmno_104, MikeLiesIn_105, Cane17_94, Pier_109, Zeenon_106, Sprinklers_100, Capablanca_106, YoungMoneyMata_105, Jaygup_104, FrayBell_109, McGee_106, Wally_103, SmallFry_104, Shnickers_104, Rahel_103, Bread_104, Asterius_101, Latch_104, Tonenili_119, Pivoine_103, Spud_104, Ava3_105, InigoMontoya_105, Morizzled23_104, StubbySaigey_107, BigCity_112, Janiyra_106, Kamryn_104, Nappy_107, Momo_103, Adlitam_104, Jessibeth14_103, Turret_99, ParkTD_105, QBert_98, NoodleTree_111, EmmaElysia_104, Jedediah_107, ZygoTaiga_103, Spec_100, Bipolarisk_103, Iota_99, Astraea_101, Zalkecks_105, McWolfish_102, Tortoise16_101, Tyke_105, Lukilu_95, Nidhogg_105, Littleton_104, Matsumoto_101, PurduePete_104, Cactojaque_99, Izajani_104, Gabriel_105, Bangla1971_105, Guwapp_103, Babyland_105, Daffodil_109, Chomp_102, DirtMonster_98, Mikro_102, Salacia_108, FoxtrotP1_104, Willis_105, Pio_108, LordLeafolot_108, NuevoMundo_110, Flabslab_98, Darko_104, Rabinovish_102, Bxz1_102, Yucca_104, InterFolia_112, SrishMeg2525_103, SilverDipper_105, Pleione_107, Audrick_106, Norm_105, Lee7_102, Breeniome_103
- Track 2 : BeanWater_96, RoMag_99, Halldule_98, StephanieG_103, ET08_93, Ronan_98, JulietS_99, Shaqnato_97, Grungle_92
- Track 3 : Pupper_100, SCentae_99, CherryTomatoes_100
- Track 4 : Skog_163

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

The start number called the most often in the published annotations is 2, it was called in 147 of the 151 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading_104, Adlitam_104, Amataga_104, ArcherS7_103, Asterius_101, Astraea_101, Atlantean_103, Audrick_106, Ava3_105, Babyland_105, BackyardAgain_101, BadAgartude_100, BananaFence_103, Bangla1971_105, BeanWater_96, BigCity_112, Bigswole_109, Bipolarisk_103, Blackbrain_99, Blackdragon_100, Blubba_96, Bonray_104, Bread_104, Breeniome_103, Burrough_104, Bxz1_102, Cactojaque_99, Cali_100, Cane17_94, Capablanca_106, Caravan_99, Catera_101, CharlieB_100, ChaylaJr_99, ChickenPhender_100, Chomp_102, CindyLou_105, Colt_95, DTDevon_105, Daffodil_109, Darko_104, Delilah_104, Delylah_107, Derek_104, Dietrick_96, DirtMonster_98, DrPhinkDaddy_103, Drazdys_103, ET08_93, EggyFarm_112, EmmaElysia_104, Erdmann_105, Essence_101, Ewok_105, Flabslab_98, FoxtrotP1_104, FrayBell_109, Gabriel_105, Gangam_104, Ghost_103, Gizmo_108, Grasshills_111, Grungle_92, Guwapp_103, Halldule_98, InigoMontoya_105, InterFolia_112, Iota_99, Issimir_103, Izajani_104, JPickles_102, Janiyra_106, Jaygup_104, Jedediah_107, Jemmno_104, Jessibeth14_103, JulietS_99, JustHall_101, Kamryn_104, Kboogie_108, Khaleesi_103, Koguma_101, Latch_104, Lee7_102, LifeSavor_103, Littleton_104, LolaVinca_105, LordLeafolot_108, Lukilu_95, Maby2021_104, Mangeria_104, Matsumoto_101, McGee_106, McWolfish_102, Megamind_103, Melpomini_98, MikeLiesIn_105, Mikro_102, MoMoMixon_105, Momo_103, Morizzled23_104, Naija_103, Napoleon13_100, Nappy_107, Naval22_109, NedWong_105, Ngannou_100, Nidhogg_105, NoodleTree_111, Norm_105, NuevoMundo_110, ParkTD_105, Patter_104, Phlegm_106, Phox_101, Phusco_104, Pier_109, Pio_108, Pivoine_103, Pleione_107, PurduePete_104, QBert_98, Quasimodo_105, Rabinovish_102, Rahel_103, Rizal_100, RoMag_99, Ronan_98, Roots515_103, Salacia_108, ScottMcG_101, Shaqnato_97, Shelob_106, ShiaLabeouf_103, Shnickers_104, Shrimp_104, SilverDipper_105, SmallFry_104, Spec_100, Specks_109, Sprinklers_100, Spud_104, SrishMeg2525_103, StephanieG_103, StubbySaigey_107, Teardrop_103, TinyTim_104, Tonenili_119, Tortoise16_101, Trinitium_101, Turret_99, Tyke_105, ValleyTerrace_104, Wally_103, Willis_105, Yassified_101, YemiJoy2021_105, YoungMoneyMata_105, Yucca_104, Zalkecks_105, Zeenon_106, ZygoTaiga_103,

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

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

- CherryTomatoes_100, Pupper_100, SCentae_99, Skog_163,

Summary by start number:

Start 1:

- Found in 4 of 166 (2.4%) of genes in pham
- Manual Annotations of this start: 4 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes_100 (DO), Pupper_100 (DO), SCentae_99 (DO), Skog_163 (DO),

Start 2:

- Found in 162 of 166 (97.6%) of genes in pham
- Manual Annotations of this start: 147 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ading_104 (C1), Adlitam_104 (C1), Amataga_104 (C1), ArcherS7_103 (C1), Asterius_101 (C1), Astraea_101 (C1), Atlantean_103 (C1), Audrick_106 (C1), Ava3_105 (C1), Babyland_105 (C1), BackyardAgain_101 (C1), BadAgartude_100 (C1), BananaFence_103 (C1), Bangla1971_105 (C1), BeanWater_96 (C1), BigCity_112 (C1), Bigswole_109 (C1), Bipolarisk_103 (C1), Blackbrain_99 (C1), Blackdragon_100 (C1), Blubba_96 (C1), Bonray_104 (C1), Bread_104 (C1), Breeniome_103 (C1), Burrough_104 (C1), Bxz1_102 (C1), Cactojaque_99 (C1), Cali_100 (C1), Cane17_94 (C1), Capablanca_106 (C1), Caravan_99 (C1), Catera_101 (C1), CharlieB_100 (C1), ChaylaJr_99 (C1), ChickenPhender_100 (C1), Chomp_102 (C1), CindyLou_105 (C1), Colt_95 (C1), DTDevon_105 (C1), Daffodil_109 (C1), Darko_104 (C1), Delilah_104 (C1), Delylah_107 (C1), Derek_104 (C1), Dietrick_96 (C1), DirtMonster_98 (C1), DrPhinkDaddy_103 (C1), Drazdys_103 (C1), ET08_93 (C1), EggyFarm_112 (C1), EmmaElysia_104 (C1), Erdmann_105 (C1), Essence_101 (C1), Ewok_105 (C1), Flabslab_98 (C1), FoxtrotP1_104 (C1), FrayBell_109 (C1), Gabriel_105 (C1), Gamgam_104 (C1), Ghost_103 (C1), Gizmo_108 (C1), Grasshills_111 (C1), Grungle_92 (C1), Guwapp_103 (C1), Halldule_98 (C1), InigoMontoya_105 (C1), InterFolia_112 (C1), Iota_99 (C1), Issimir_103 (C1), Izajani_104 (C1), JPickles_102 (C1), Janiyr_106 (C1), Jaygup_104 (C1), Jedediah_107 (C1), Jemmno_104 (C1), Jessibeth14_103 (C1), JulietS_99 (C1), JustHall_101 (C1), Kamryn_104 (C1), Kboogie_108 (C1), Khaleesi_103 (C1), Koguma_101 (C1), Latch_104 (C1), Lee7_102 (C1), LifeSavor_103 (C1), Littleton_104 (C1), LolaVinca_105 (C1), LordLeafolot_108 (C1), Lukilu_95 (C1), Maby2021_104 (C1), Mangeria_104 (C1), Matsumoto_101 (C1), McGee_106 (C1), McWolfish_102 (C1), Megamind_103 (C1), Melpomini_98 (C1), MikeLiesIn_105 (C1), Mikro_102 (C1), MoMoMixon_105 (C1), Momo_103 (C1), Morizzled23_104 (C1), Naija_103 (C1), Napoleon13_100 (C1), Nappy_107 (C1), Naval22_109 (C1), NedWong_105 (C1), Ngannou_100 (C1), Nidhogg_105 (C1), NoodleTree_111 (C1), Norm_105 (C1), NuevoMundo_110 (C1), ParkTD_105 (C1), Patter_104 (C1), Phlegm_106 (C1), Phox_101 (C1), Phusco_104 (C1), Pier_109 (C1), Pio_108 (C1), Pivoine_103 (C1), Pleione_107 (C1), PurduePete_104 (C1), QBert_98 (C1), Quasimodo_105 (C1), Rabinovich_102 (C1), Rahel_103 (C1), Rizal_100 (C1), RoMag_99 (C1), Ronan_98 (C1), Roots515_103 (C1), Salacia_108 (C1), ScottMcG_101 (C1), Shaqnato_97 (C1), Shelob_106 (C1), ShiaLabeouf_103 (C1), Shnickers_104 (C1), Shrimp_104 (C1), SilverDipper_105 (C1), SmallFry_104 (C1), Spec_100 (C1), Specks_109 (C1), Sprinklers_100 (C1), Spud_104 (C1), SrishMeg2525_103 (C1), StephanieG_103 (C1), StubbySaigey_107 (C1), Teardrop_103 (C1), TinyTim_104 (C1), Tonenili_119 (C1), Tortoise16_101 (C1), Trinitium_101 (C1), Turret_99 (C1), Tyke_105 (C1), ValleyTerrace_104 (C1), Wally_103 (C1), Willis_105 (C1), Yassified_101 (C1), YemiJoy2021_105 (C1), YoungMoneyMata_105 (C1), Yucca_104 (C1), Zalkecks_105 (C1), Zeenon_106 (C1), ZygoTaiga_103 (C1),

Summary by clusters:

There are 2 clusters represented in this pham: DO, C1,

Info for manual annotations of cluster C1:

- Start number 2 was manually annotated 147 times for cluster C1.

Info for manual annotations of cluster DO:

•Start number 1 was manually annotated 4 times for cluster DO.

Gene Information:

Gene: Ading_104 Start: 52636, Stop: 52800, Start Num: 2

Candidate Starts for Ading_104:

(Start: 2 @52636 has 147 MA's), (3, 52666), (4, 52693),

Gene: Adlitam_104 Start: 52653, Stop: 52817, Start Num: 2

Candidate Starts for Adlitam_104:

(Start: 2 @52653 has 147 MA's), (3, 52683), (4, 52710),

Gene: Amataga_104 Start: 51898, Stop: 52062, Start Num: 2

Candidate Starts for Amataga_104:

(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: ArcherS7_103 Start: 52216, Stop: 52380, Start Num: 2

Candidate Starts for ArcherS7_103:

(Start: 2 @52216 has 147 MA's), (3, 52246), (4, 52273),

Gene: Asterius_101 Start: 52891, Stop: 53055, Start Num: 2

Candidate Starts for Asterius_101:

(Start: 2 @52891 has 147 MA's), (3, 52921), (4, 52948),

Gene: Astraea_101 Start: 51667, Stop: 51831, Start Num: 2

Candidate Starts for Astraea_101:

(Start: 2 @51667 has 147 MA's), (3, 51697), (4, 51724),

Gene: Atlantean_103 Start: 51898, Stop: 52062, Start Num: 2

Candidate Starts for Atlantean_103:

(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Audrick_106 Start: 51877, Stop: 52041, Start Num: 2

Candidate Starts for Audrick_106:

(Start: 2 @51877 has 147 MA's), (3, 51907), (4, 51934),

Gene: Ava3_105 Start: 52811, Stop: 52975, Start Num: 2

Candidate Starts for Ava3_105:

(Start: 2 @52811 has 147 MA's), (3, 52841), (4, 52868),

Gene: Babyland_105 Start: 51986, Stop: 52150, Start Num: 2

Candidate Starts for Babyland_105:

(Start: 2 @51986 has 147 MA's), (3, 52016), (4, 52043),

Gene: BackyardAgain_101 Start: 51813, Stop: 51977, Start Num: 2

Candidate Starts for BackyardAgain_101:

(Start: 2 @51813 has 147 MA's), (3, 51843), (4, 51870),

Gene: BadAgartude_100 Start: 53336, Stop: 53500, Start Num: 2

Candidate Starts for BadAgartude_100:
(Start: 2 @53336 has 147 MA's), (3, 53366), (4, 53393),

Gene: BananaFence_103 Start: 53067, Stop: 53231, Start Num: 2
Candidate Starts for BananaFence_103:
(Start: 2 @53067 has 147 MA's), (3, 53097), (4, 53124),

Gene: Bangla1971_105 Start: 52346, Stop: 52510, Start Num: 2
Candidate Starts for Bangla1971_105:
(Start: 2 @52346 has 147 MA's), (3, 52376), (4, 52403),

Gene: BeanWater_96 Start: 52663, Stop: 52827, Start Num: 2
Candidate Starts for BeanWater_96:
(Start: 2 @52663 has 147 MA's), (3, 52693),

Gene: BigCity_112 Start: 55327, Stop: 55491, Start Num: 2
Candidate Starts for BigCity_112:
(Start: 2 @55327 has 147 MA's), (3, 55357), (4, 55384),

Gene: Bigswole_109 Start: 55856, Stop: 56020, Start Num: 2
Candidate Starts for Bigswole_109:
(Start: 2 @55856 has 147 MA's), (3, 55886), (4, 55913),

Gene: Bipolarisk_103 Start: 53069, Stop: 53233, Start Num: 2
Candidate Starts for Bipolarisk_103:
(Start: 2 @53069 has 147 MA's), (3, 53099), (4, 53126),

Gene: Blackbrain_99 Start: 51360, Stop: 51524, Start Num: 2
Candidate Starts for Blackbrain_99:
(Start: 2 @51360 has 147 MA's), (3, 51390), (4, 51417),

Gene: Blackdragon_100 Start: 52493, Stop: 52657, Start Num: 2
Candidate Starts for Blackdragon_100:
(Start: 2 @52493 has 147 MA's), (3, 52523), (4, 52550),

Gene: Blubba_96 Start: 53103, Stop: 53267, Start Num: 2
Candidate Starts for Blubba_96:
(Start: 2 @53103 has 147 MA's), (3, 53133), (4, 53160),

Gene: Bonray_104 Start: 53242, Stop: 53406, Start Num: 2
Candidate Starts for Bonray_104:
(Start: 2 @53242 has 147 MA's), (3, 53272), (4, 53299),

Gene: Bread_104 Start: 52897, Stop: 53061, Start Num: 2
Candidate Starts for Bread_104:
(Start: 2 @52897 has 147 MA's), (3, 52927), (4, 52954),

Gene: Breeniome_103 Start: 51479, Stop: 51643, Start Num: 2
Candidate Starts for Breeniome_103:
(Start: 2 @51479 has 147 MA's), (3, 51509), (4, 51536),

Gene: Burrough_104 Start: 53396, Stop: 53560, Start Num: 2
Candidate Starts for Burrough_104:

(Start: 2 @53396 has 147 MA's), (3, 53426), (4, 53453),

Gene: Bxz1_102 Start: 54834, Stop: 54998, Start Num: 2

Candidate Starts for Bxz1_102:

(Start: 2 @54834 has 147 MA's), (3, 54864), (4, 54891),

Gene: Cactojaque_99 Start: 51467, Stop: 51631, Start Num: 2

Candidate Starts for Cactojaque_99:

(Start: 2 @51467 has 147 MA's), (3, 51497), (4, 51524),

Gene: Cali_100 Start: 53398, Stop: 53562, Start Num: 2

Candidate Starts for Cali_100:

(Start: 2 @53398 has 147 MA's), (3, 53428), (4, 53455),

Gene: Cane17_94 Start: 53161, Stop: 53325, Start Num: 2

Candidate Starts for Cane17_94:

(Start: 2 @53161 has 147 MA's), (3, 53191), (4, 53218),

Gene: Capablanca_106 Start: 53648, Stop: 53812, Start Num: 2

Candidate Starts for Capablanca_106:

(Start: 2 @53648 has 147 MA's), (3, 53678), (4, 53705),

Gene: Caravan_99 Start: 52755, Stop: 52919, Start Num: 2

Candidate Starts for Caravan_99:

(Start: 2 @52755 has 147 MA's), (3, 52785), (4, 52812),

Gene: Catera_101 Start: 51671, Stop: 51835, Start Num: 2

Candidate Starts for Catera_101:

(Start: 2 @51671 has 147 MA's), (3, 51701), (4, 51728),

Gene: CharlieB_100 Start: 51800, Stop: 51964, Start Num: 2

Candidate Starts for CharlieB_100:

(Start: 2 @51800 has 147 MA's), (3, 51830), (4, 51857),

Gene: ChaylaJr_99 Start: 51294, Stop: 51458, Start Num: 2

Candidate Starts for ChaylaJr_99:

(Start: 2 @51294 has 147 MA's), (3, 51324), (4, 51351),

Gene: CherryTomatoes_100 Start: 56885, Stop: 57067, Start Num: 1

Candidate Starts for CherryTomatoes_100:

(Start: 1 @56885 has 4 MA's), (6, 57032), (7, 57062),

Gene: ChickenPhender_100 Start: 51597, Stop: 51761, Start Num: 2

Candidate Starts for ChickenPhender_100:

(Start: 2 @51597 has 147 MA's), (3, 51627), (4, 51654),

Gene: Chomp_102 Start: 53186, Stop: 53350, Start Num: 2

Candidate Starts for Chomp_102:

(Start: 2 @53186 has 147 MA's), (3, 53216), (4, 53243),

Gene: CindyLou_105 Start: 53227, Stop: 53391, Start Num: 2

Candidate Starts for CindyLou_105:

(Start: 2 @53227 has 147 MA's), (3, 53257), (4, 53284),

Gene: Colt_95 Start: 53757, Stop: 53921, Start Num: 2

Candidate Starts for Colt_95:

(Start: 2 @53757 has 147 MA's), (3, 53787), (4, 53814),

Gene: DTDevon_105 Start: 53672, Stop: 53836, Start Num: 2

Candidate Starts for DTDevon_105:

(Start: 2 @53672 has 147 MA's), (3, 53702), (4, 53729),

Gene: Daffodil_109 Start: 53369, Stop: 53533, Start Num: 2

Candidate Starts for Daffodil_109:

(Start: 2 @53369 has 147 MA's), (3, 53399), (4, 53426),

Gene: Darko_104 Start: 53305, Stop: 53469, Start Num: 2

Candidate Starts for Darko_104:

(Start: 2 @53305 has 147 MA's), (3, 53335), (4, 53362),

Gene: Delilah_104 Start: 53523, Stop: 53687, Start Num: 2

Candidate Starts for Delilah_104:

(Start: 2 @53523 has 147 MA's), (3, 53553), (4, 53580),

Gene: Delylah_107 Start: 53062, Stop: 53226, Start Num: 2

Candidate Starts for Delylah_107:

(Start: 2 @53062 has 147 MA's), (3, 53092), (4, 53119),

Gene: Derek_104 Start: 52988, Stop: 53152, Start Num: 2

Candidate Starts for Derek_104:

(Start: 2 @52988 has 147 MA's), (3, 53018), (4, 53045),

Gene: Dietrick_96 Start: 51064, Stop: 51228, Start Num: 2

Candidate Starts for Dietrick_96:

(Start: 2 @51064 has 147 MA's), (3, 51094), (4, 51121),

Gene: DirtMonster_98 Start: 52556, Stop: 52720, Start Num: 2

Candidate Starts for DirtMonster_98:

(Start: 2 @52556 has 147 MA's), (3, 52586), (4, 52613),

Gene: DrPhinkDaddy_103 Start: 53591, Stop: 53755, Start Num: 2

Candidate Starts for DrPhinkDaddy_103:

(Start: 2 @53591 has 147 MA's), (3, 53621), (4, 53648),

Gene: Drazdys_103 Start: 52286, Stop: 52450, Start Num: 2

Candidate Starts for Drazdys_103:

(Start: 2 @52286 has 147 MA's), (3, 52316), (4, 52343),

Gene: ET08_93 Start: 52052, Stop: 52216, Start Num: 2

Candidate Starts for ET08_93:

(Start: 2 @52052 has 147 MA's), (3, 52082),

Gene: EggyFarm_112 Start: 55327, Stop: 55491, Start Num: 2

Candidate Starts for EggyFarm_112:

(Start: 2 @55327 has 147 MA's), (3, 55357), (4, 55384),

Gene: EmmaElysia_104 Start: 52117, Stop: 52281, Start Num: 2
Candidate Starts for EmmaElysia_104:
(Start: 2 @52117 has 147 MA's), (3, 52147), (4, 52174),

Gene: Erdmann_105 Start: 53370, Stop: 53534, Start Num: 2
Candidate Starts for Erdmann_105:
(Start: 2 @53370 has 147 MA's), (3, 53400), (4, 53427),

Gene: Essence_101 Start: 52452, Stop: 52616, Start Num: 2
Candidate Starts for Essence_101:
(Start: 2 @52452 has 147 MA's), (3, 52482), (4, 52509),

Gene: Ewok_105 Start: 52757, Stop: 52921, Start Num: 2
Candidate Starts for Ewok_105:
(Start: 2 @52757 has 147 MA's), (3, 52787), (4, 52814),

Gene: Flabslab_98 Start: 50449, Stop: 50613, Start Num: 2
Candidate Starts for Flabslab_98:
(Start: 2 @50449 has 147 MA's), (3, 50479), (4, 50506),

Gene: FoxtrotP1_104 Start: 54540, Stop: 54704, Start Num: 2
Candidate Starts for FoxtrotP1_104:
(Start: 2 @54540 has 147 MA's), (3, 54570), (4, 54597),

Gene: FrayBell_109 Start: 53938, Stop: 54102, Start Num: 2
Candidate Starts for FrayBell_109:
(Start: 2 @53938 has 147 MA's), (3, 53968), (4, 53995),

Gene: Gabriel_105 Start: 51858, Stop: 52022, Start Num: 2
Candidate Starts for Gabriel_105:
(Start: 2 @51858 has 147 MA's), (3, 51888), (4, 51915),

Gene: Gamgam_104 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for Gamgam_104:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Ghost_103 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for Ghost_103:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Gizmo_108 Start: 54520, Stop: 54684, Start Num: 2
Candidate Starts for Gizmo_108:
(Start: 2 @54520 has 147 MA's), (3, 54550), (4, 54577),

Gene: Grasshills_111 Start: 55327, Stop: 55491, Start Num: 2
Candidate Starts for Grasshills_111:
(Start: 2 @55327 has 147 MA's), (3, 55357), (4, 55384),

Gene: Grungle_92 Start: 49710, Stop: 49874, Start Num: 2
Candidate Starts for Grungle_92:
(Start: 2 @49710 has 147 MA's), (3, 49740),

Gene: Guwapp_103 Start: 52023, Stop: 52187, Start Num: 2

Candidate Starts for Guwapp_103:
(Start: 2 @52023 has 147 MA's), (3, 52053), (4, 52080),

Gene: Halldule_98 Start: 50736, Stop: 50900, Start Num: 2
Candidate Starts for Halldule_98:
(Start: 2 @50736 has 147 MA's), (3, 50766),

Gene: InigoMontoya_105 Start: 51859, Stop: 52023, Start Num: 2
Candidate Starts for InigoMontoya_105:
(Start: 2 @51859 has 147 MA's), (3, 51889), (4, 51916),

Gene: InterFolia_112 Start: 54873, Stop: 55037, Start Num: 2
Candidate Starts for InterFolia_112:
(Start: 2 @54873 has 147 MA's), (3, 54903), (4, 54930),

Gene: Iota_99 Start: 52335, Stop: 52499, Start Num: 2
Candidate Starts for Iota_99:
(Start: 2 @52335 has 147 MA's), (3, 52365), (4, 52392),

Gene: Issimir_103 Start: 53344, Stop: 53508, Start Num: 2
Candidate Starts for Issimir_103:
(Start: 2 @53344 has 147 MA's), (3, 53374), (4, 53401),

Gene: Izajani_104 Start: 53550, Stop: 53714, Start Num: 2
Candidate Starts for Izajani_104:
(Start: 2 @53550 has 147 MA's), (3, 53580), (4, 53607),

Gene: JPickles_102 Start: 51129, Stop: 51293, Start Num: 2
Candidate Starts for JPickles_102:
(Start: 2 @51129 has 147 MA's), (3, 51159), (4, 51186),

Gene: Janiyra_106 Start: 52825, Stop: 52989, Start Num: 2
Candidate Starts for Janiyra_106:
(Start: 2 @52825 has 147 MA's), (3, 52855), (4, 52882),

Gene: Jaygup_104 Start: 52654, Stop: 52818, Start Num: 2
Candidate Starts for Jaygup_104:
(Start: 2 @52654 has 147 MA's), (3, 52684), (4, 52711),

Gene: Jedediah_107 Start: 53187, Stop: 53351, Start Num: 2
Candidate Starts for Jedediah_107:
(Start: 2 @53187 has 147 MA's), (3, 53217), (4, 53244),

Gene: Jemmno_104 Start: 52634, Stop: 52798, Start Num: 2
Candidate Starts for Jemmno_104:
(Start: 2 @52634 has 147 MA's), (3, 52664), (4, 52691),

Gene: Jessibeth14_103 Start: 53155, Stop: 53319, Start Num: 2
Candidate Starts for Jessibeth14_103:
(Start: 2 @53155 has 147 MA's), (3, 53185), (4, 53212),

Gene: JulietS_99 Start: 50589, Stop: 50753, Start Num: 2
Candidate Starts for JulietS_99:

(Start: 2 @50589 has 147 MA's), (3, 50619),

Gene: JustHall_101 Start: 52693, Stop: 52857, Start Num: 2

Candidate Starts for JustHall_101:

(Start: 2 @52693 has 147 MA's), (3, 52723), (4, 52750),

Gene: Kamryn_104 Start: 53970, Stop: 54134, Start Num: 2

Candidate Starts for Kamryn_104:

(Start: 2 @53970 has 147 MA's), (3, 54000), (4, 54027),

Gene: Kboogie_108 Start: 52326, Stop: 52490, Start Num: 2

Candidate Starts for Kboogie_108:

(Start: 2 @52326 has 147 MA's), (3, 52356), (4, 52383),

Gene: Khaleesi_103 Start: 53269, Stop: 53433, Start Num: 2

Candidate Starts for Khaleesi_103:

(Start: 2 @53269 has 147 MA's), (3, 53299), (4, 53326),

Gene: Koguma_101 Start: 50814, Stop: 50978, Start Num: 2

Candidate Starts for Koguma_101:

(Start: 2 @50814 has 147 MA's), (3, 50844), (4, 50871),

Gene: Latch_104 Start: 51898, Stop: 52062, Start Num: 2

Candidate Starts for Latch_104:

(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Lee7_102 Start: 53903, Stop: 54067, Start Num: 2

Candidate Starts for Lee7_102:

(Start: 2 @53903 has 147 MA's), (3, 53933), (4, 53960),

Gene: LifeSavor_103 Start: 52586, Stop: 52750, Start Num: 2

Candidate Starts for LifeSavor_103:

(Start: 2 @52586 has 147 MA's), (3, 52616), (4, 52643),

Gene: Littleton_104 Start: 52715, Stop: 52879, Start Num: 2

Candidate Starts for Littleton_104:

(Start: 2 @52715 has 147 MA's), (3, 52745), (4, 52772),

Gene: LolaVinca_105 Start: 53589, Stop: 53753, Start Num: 2

Candidate Starts for LolaVinca_105:

(Start: 2 @53589 has 147 MA's), (3, 53619), (4, 53646),

Gene: LordLeafolot_108 Start: 54556, Stop: 54720, Start Num: 2

Candidate Starts for LordLeafolot_108:

(Start: 2 @54556 has 147 MA's), (3, 54586), (4, 54613),

Gene: Lukilu_95 Start: 53002, Stop: 53166, Start Num: 2

Candidate Starts for Lukilu_95:

(Start: 2 @53002 has 147 MA's), (3, 53032), (4, 53059),

Gene: Maby2021_104 Start: 53363, Stop: 53527, Start Num: 2

Candidate Starts for Maby2021_104:

(Start: 2 @53363 has 147 MA's), (3, 53393), (4, 53420),

Gene: Mangeria_104 Start: 53432, Stop: 53596, Start Num: 2
Candidate Starts for Mangeria_104:
(Start: 2 @53432 has 147 MA's), (3, 53462), (4, 53489),

Gene: Matsumoto_101 Start: 52214, Stop: 52378, Start Num: 2
Candidate Starts for Matsumoto_101:
(Start: 2 @52214 has 147 MA's), (3, 52244), (4, 52271),

Gene: McGee_106 Start: 51967, Stop: 52131, Start Num: 2
Candidate Starts for McGee_106:
(Start: 2 @51967 has 147 MA's), (3, 51997), (4, 52024),

Gene: McWolfish_102 Start: 53152, Stop: 53316, Start Num: 2
Candidate Starts for McWolfish_102:
(Start: 2 @53152 has 147 MA's), (3, 53182), (4, 53209),

Gene: Megamind_103 Start: 53036, Stop: 53200, Start Num: 2
Candidate Starts for Megamind_103:
(Start: 2 @53036 has 147 MA's), (3, 53066), (4, 53093),

Gene: Melpomini_98 Start: 50502, Stop: 50666, Start Num: 2
Candidate Starts for Melpomini_98:
(Start: 2 @50502 has 147 MA's), (3, 50532), (4, 50559),

Gene: MikeLiesIn_105 Start: 53383, Stop: 53547, Start Num: 2
Candidate Starts for MikeLiesIn_105:
(Start: 2 @53383 has 147 MA's), (3, 53413), (4, 53440),

Gene: Mikro_102 Start: 54605, Stop: 54769, Start Num: 2
Candidate Starts for Mikro_102:
(Start: 2 @54605 has 147 MA's), (3, 54635), (4, 54662),

Gene: MoMoMixon_105 Start: 52859, Stop: 53023, Start Num: 2
Candidate Starts for MoMoMixon_105:
(Start: 2 @52859 has 147 MA's), (3, 52889), (4, 52916),

Gene: Momo_103 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for Momo_103:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Morizzled23_104 Start: 52263, Stop: 52427, Start Num: 2
Candidate Starts for Morizzled23_104:
(Start: 2 @52263 has 147 MA's), (3, 52293), (4, 52320),

Gene: Naija_103 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for Naija_103:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Napoleon13_100 Start: 50940, Stop: 51104, Start Num: 2
Candidate Starts for Napoleon13_100:
(Start: 2 @50940 has 147 MA's), (3, 50970), (4, 50997),

Gene: Nappy_107 Start: 54293, Stop: 54457, Start Num: 2
Candidate Starts for Nappy_107:
(Start: 2 @54293 has 147 MA's), (3, 54323), (4, 54350),

Gene: Naval22_109 Start: 54874, Stop: 55038, Start Num: 2
Candidate Starts for Naval22_109:
(Start: 2 @54874 has 147 MA's), (3, 54904), (4, 54931),

Gene: NedWong_105 Start: 53370, Stop: 53534, Start Num: 2
Candidate Starts for NedWong_105:
(Start: 2 @53370 has 147 MA's), (3, 53400), (4, 53427),

Gene: Ngannou_100 Start: 50880, Stop: 51044, Start Num: 2
Candidate Starts for Ngannou_100:
(Start: 2 @50880 has 147 MA's), (3, 50910), (4, 50937),

Gene: Nidhogg_105 Start: 53104, Stop: 53268, Start Num: 2
Candidate Starts for Nidhogg_105:
(Start: 2 @53104 has 147 MA's), (3, 53134), (4, 53161),

Gene: NoodleTree_111 Start: 53696, Stop: 53860, Start Num: 2
Candidate Starts for NoodleTree_111:
(Start: 2 @53696 has 147 MA's), (3, 53726), (4, 53753),

Gene: Norm_105 Start: 54299, Stop: 54463, Start Num: 2
Candidate Starts for Norm_105:
(Start: 2 @54299 has 147 MA's), (3, 54329), (4, 54356),

Gene: NuevoMundo_110 Start: 55644, Stop: 55808, Start Num: 2
Candidate Starts for NuevoMundo_110:
(Start: 2 @55644 has 147 MA's), (3, 55674), (4, 55701),

Gene: ParkTD_105 Start: 53366, Stop: 53530, Start Num: 2
Candidate Starts for ParkTD_105:
(Start: 2 @53366 has 147 MA's), (3, 53396), (4, 53423),

Gene: Patter_104 Start: 51915, Stop: 52079, Start Num: 2
Candidate Starts for Patter_104:
(Start: 2 @51915 has 147 MA's), (3, 51945), (4, 51972),

Gene: Phlegm_106 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for Phlegm_106:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Phox_101 Start: 53646, Stop: 53810, Start Num: 2
Candidate Starts for Phox_101:
(Start: 2 @53646 has 147 MA's), (3, 53676), (4, 53703),

Gene: Phusco_104 Start: 52663, Stop: 52827, Start Num: 2
Candidate Starts for Phusco_104:
(Start: 2 @52663 has 147 MA's), (3, 52693), (4, 52720),

Gene: Pier_109 Start: 55652, Stop: 55816, Start Num: 2

Candidate Starts for Pier_109:
(Start: 2 @55652 has 147 MA's), (3, 55682), (4, 55709),

Gene: Pio_108 Start: 55256, Stop: 55420, Start Num: 2
Candidate Starts for Pio_108:
(Start: 2 @55256 has 147 MA's), (3, 55286), (4, 55313),

Gene: Pivoine_103 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for Pivoine_103:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Pleione_107 Start: 53533, Stop: 53697, Start Num: 2
Candidate Starts for Pleione_107:
(Start: 2 @53533 has 147 MA's), (3, 53563), (4, 53590),

Gene: Pupper_100 Start: 57006, Stop: 57188, Start Num: 1
Candidate Starts for Pupper_100:
(Start: 1 @57006 has 4 MA's), (6, 57153), (7, 57183),

Gene: PurduePete_104 Start: 53790, Stop: 53954, Start Num: 2
Candidate Starts for PurduePete_104:
(Start: 2 @53790 has 147 MA's), (3, 53820), (4, 53847),

Gene: QBert_98 Start: 52438, Stop: 52602, Start Num: 2
Candidate Starts for QBert_98:
(Start: 2 @52438 has 147 MA's), (3, 52468), (4, 52495),

Gene: Quasimodo_105 Start: 53325, Stop: 53489, Start Num: 2
Candidate Starts for Quasimodo_105:
(Start: 2 @53325 has 147 MA's), (3, 53355), (4, 53382),

Gene: Rabinovish_102 Start: 53562, Stop: 53726, Start Num: 2
Candidate Starts for Rabinovish_102:
(Start: 2 @53562 has 147 MA's), (3, 53592), (4, 53619),

Gene: Rahel_103 Start: 52255, Stop: 52419, Start Num: 2
Candidate Starts for Rahel_103:
(Start: 2 @52255 has 147 MA's), (3, 52285), (4, 52312),

Gene: Rizal_100 Start: 51403, Stop: 51567, Start Num: 2
Candidate Starts for Rizal_100:
(Start: 2 @51403 has 147 MA's), (3, 51433), (4, 51460),

Gene: RoMag_99 Start: 52575, Stop: 52739, Start Num: 2
Candidate Starts for RoMag_99:
(Start: 2 @52575 has 147 MA's), (3, 52605),

Gene: Ronan_98 Start: 50526, Stop: 50690, Start Num: 2
Candidate Starts for Ronan_98:
(Start: 2 @50526 has 147 MA's), (3, 50556),

Gene: Roots515_103 Start: 53563, Stop: 53727, Start Num: 2
Candidate Starts for Roots515_103:

(Start: 2 @53563 has 147 MA's), (3, 53593), (4, 53620),

Gene: SCentae_99 Start: 57152, Stop: 57334, Start Num: 1

Candidate Starts for SCentae_99:

(Start: 1 @57152 has 4 MA's), (6, 57299), (7, 57329),

Gene: Salacia_108 Start: 53704, Stop: 53868, Start Num: 2

Candidate Starts for Salacia_108:

(Start: 2 @53704 has 147 MA's), (3, 53734), (4, 53761),

Gene: ScottMcG_101 Start: 52325, Stop: 52489, Start Num: 2

Candidate Starts for ScottMcG_101:

(Start: 2 @52325 has 147 MA's), (3, 52355), (4, 52382),

Gene: Shaqnato_97 Start: 51438, Stop: 51602, Start Num: 2

Candidate Starts for Shaqnato_97:

(Start: 2 @51438 has 147 MA's), (3, 51468),

Gene: Shelob_106 Start: 54151, Stop: 54315, Start Num: 2

Candidate Starts for Shelob_106:

(Start: 2 @54151 has 147 MA's), (3, 54181), (4, 54208),

Gene: ShiaLabeouf_103 Start: 52690, Stop: 52854, Start Num: 2

Candidate Starts for ShiaLabeouf_103:

(Start: 2 @52690 has 147 MA's), (3, 52720), (4, 52747),

Gene: Shnickers_104 Start: 52654, Stop: 52818, Start Num: 2

Candidate Starts for Shnickers_104:

(Start: 2 @52654 has 147 MA's), (3, 52684), (4, 52711),

Gene: Shrimp_104 Start: 53374, Stop: 53538, Start Num: 2

Candidate Starts for Shrimp_104:

(Start: 2 @53374 has 147 MA's), (3, 53404), (4, 53431),

Gene: SilverDipper_105 Start: 51898, Stop: 52062, Start Num: 2

Candidate Starts for SilverDipper_105:

(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Skog_163 Start: 87702, Stop: 87884, Start Num: 1

Candidate Starts for Skog_163:

(Start: 1 @87702 has 4 MA's), (5, 87846), (6, 87849), (7, 87879),

Gene: SmallFry_104 Start: 51879, Stop: 52043, Start Num: 2

Candidate Starts for SmallFry_104:

(Start: 2 @51879 has 147 MA's), (3, 51909), (4, 51936),

Gene: Spec_100 Start: 52419, Stop: 52583, Start Num: 2

Candidate Starts for Spec_100:

(Start: 2 @52419 has 147 MA's), (3, 52449), (4, 52476),

Gene: Specks_109 Start: 54553, Stop: 54717, Start Num: 2

Candidate Starts for Specks_109:

(Start: 2 @54553 has 147 MA's), (3, 54583), (4, 54610),

Gene: Sprinklers_100 Start: 51935, Stop: 52099, Start Num: 2
Candidate Starts for Sprinklers_100:
(Start: 2 @51935 has 147 MA's), (3, 51965), (4, 51992),

Gene: Spud_104 Start: 53450, Stop: 53614, Start Num: 2
Candidate Starts for Spud_104:
(Start: 2 @53450 has 147 MA's), (3, 53480), (4, 53507),

Gene: SrishMeg2525_103 Start: 53472, Stop: 53636, Start Num: 2
Candidate Starts for SrishMeg2525_103:
(Start: 2 @53472 has 147 MA's), (3, 53502), (4, 53529),

Gene: StephanieG_103 Start: 54280, Stop: 54444, Start Num: 2
Candidate Starts for StephanieG_103:
(Start: 2 @54280 has 147 MA's), (3, 54310),

Gene: StubbySaigey_107 Start: 52067, Stop: 52231, Start Num: 2
Candidate Starts for StubbySaigey_107:
(Start: 2 @52067 has 147 MA's), (3, 52097), (4, 52124),

Gene: Teardrop_103 Start: 51877, Stop: 52041, Start Num: 2
Candidate Starts for Teardrop_103:
(Start: 2 @51877 has 147 MA's), (3, 51907), (4, 51934),

Gene: TinyTim_104 Start: 53130, Stop: 53294, Start Num: 2
Candidate Starts for TinyTim_104:
(Start: 2 @53130 has 147 MA's), (3, 53160), (4, 53187),

Gene: Tonenili_119 Start: 56876, Stop: 57040, Start Num: 2
Candidate Starts for Tonenili_119:
(Start: 2 @56876 has 147 MA's), (3, 56906), (4, 56933),

Gene: Tortoise16_101 Start: 52478, Stop: 52642, Start Num: 2
Candidate Starts for Tortoise16_101:
(Start: 2 @52478 has 147 MA's), (3, 52508), (4, 52535),

Gene: Trinitium_101 Start: 51833, Stop: 51997, Start Num: 2
Candidate Starts for Trinitium_101:
(Start: 2 @51833 has 147 MA's), (3, 51863), (4, 51890),

Gene: Turret_99 Start: 51278, Stop: 51442, Start Num: 2
Candidate Starts for Turret_99:
(Start: 2 @51278 has 147 MA's), (3, 51308), (4, 51335),

Gene: Tyke_105 Start: 54019, Stop: 54183, Start Num: 2
Candidate Starts for Tyke_105:
(Start: 2 @54019 has 147 MA's), (3, 54049), (4, 54076),

Gene: ValleyTerrace_104 Start: 51898, Stop: 52062, Start Num: 2
Candidate Starts for ValleyTerrace_104:
(Start: 2 @51898 has 147 MA's), (3, 51928), (4, 51955),

Gene: Wally_103 Start: 51908, Stop: 52072, Start Num: 2
Candidate Starts for Wally_103:
(Start: 2 @51908 has 147 MA's), (3, 51938), (4, 51965),

Gene: Willis_105 Start: 53265, Stop: 53429, Start Num: 2
Candidate Starts for Willis_105:
(Start: 2 @53265 has 147 MA's), (3, 53295), (4, 53322),

Gene: Yassified_101 Start: 51985, Stop: 52149, Start Num: 2
Candidate Starts for Yassified_101:
(Start: 2 @51985 has 147 MA's), (3, 52015), (4, 52042),

Gene: YemiJoy2021_105 Start: 53367, Stop: 53531, Start Num: 2
Candidate Starts for YemiJoy2021_105:
(Start: 2 @53367 has 147 MA's), (3, 53397), (4, 53424),

Gene: YoungMoneyMata_105 Start: 52534, Stop: 52698, Start Num: 2
Candidate Starts for YoungMoneyMata_105:
(Start: 2 @52534 has 147 MA's), (3, 52564), (4, 52591),

Gene: Yucca_104 Start: 53049, Stop: 53213, Start Num: 2
Candidate Starts for Yucca_104:
(Start: 2 @53049 has 147 MA's), (3, 53079), (4, 53106),

Gene: Zalkecks_105 Start: 53050, Stop: 53214, Start Num: 2
Candidate Starts for Zalkecks_105:
(Start: 2 @53050 has 147 MA's), (3, 53080), (4, 53107),

Gene: Zeenon_106 Start: 53135, Stop: 53299, Start Num: 2
Candidate Starts for Zeenon_106:
(Start: 2 @53135 has 147 MA's), (3, 53165), (4, 53192),

Gene: ZygoTaiga_103 Start: 54295, Stop: 54459, Start Num: 2
Candidate Starts for ZygoTaiga_103:
(Start: 2 @54295 has 147 MA's), (3, 54325), (4, 54352),