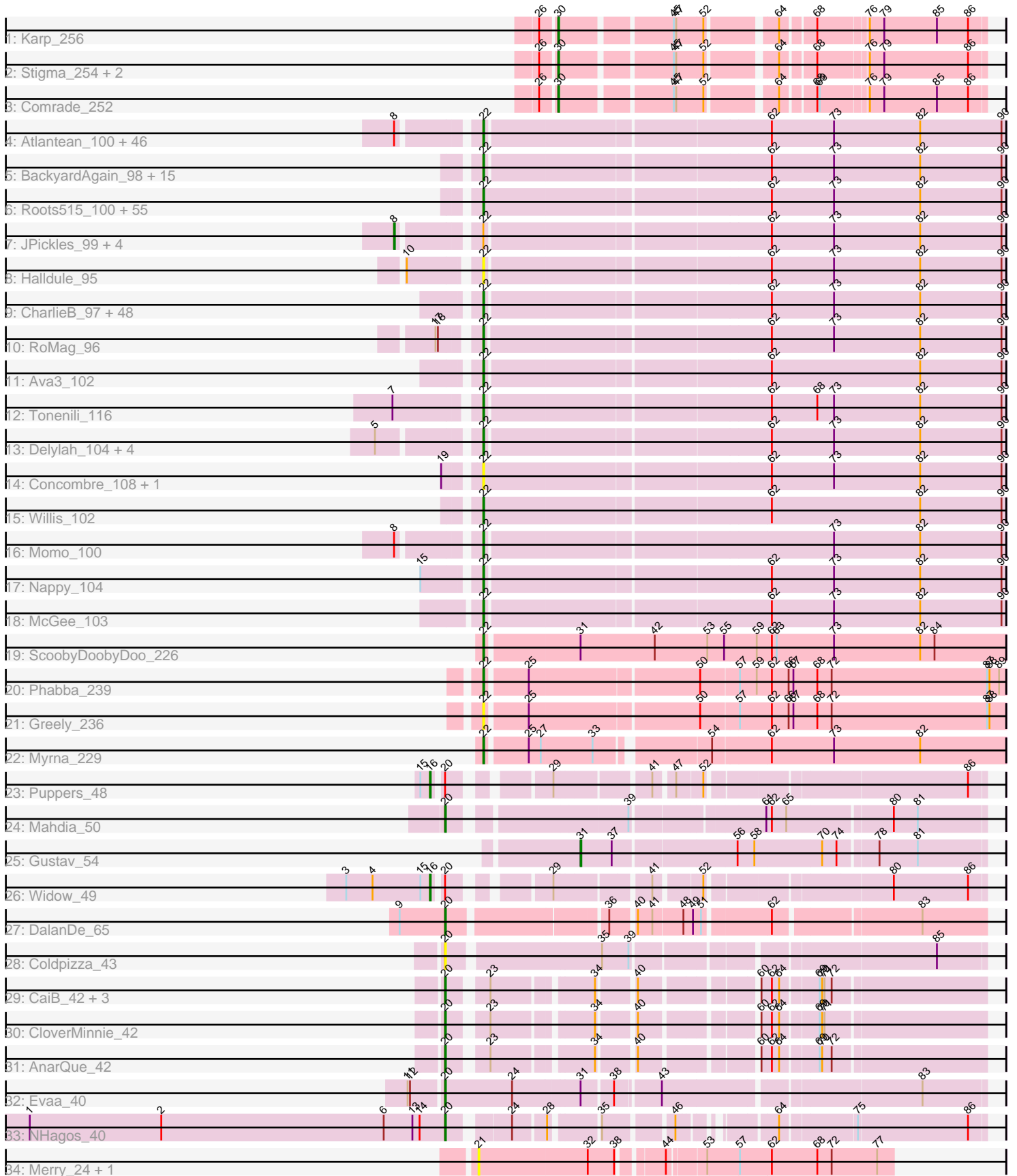


Pham 193729



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 193729 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193729 has 213 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Karp_256
- Track 2 : Stigma_254, Belfort_257, SparkleGoddess_256
- Track 3 : Comrade_252
- Track 4 : Atlantean_100, SilverDipper_102, Tyke_102, Naija_100, Gabriel_102, Shnickers_101, ValleyTerrace_101, Ngannou_97, Teardrop_100, Audrick_103, Tainan_105, Amataga_101, Rahel_100, CindyLou_102, ArcherS7_100, InigoMontoya_102, LolaVinca_102, Derek_101, ShiaLabeouf_100, Jemmno_101, Ghost_100, NoodleTree_108, BadAgartude_97, FrayBell_106, Guwapp_100, Adlitam_101, Essence_98, Pivoine_100, Drazdys_100, Jaygup_101, Phusco_101, Jedediah_104, Tortoise16_98, Spec_97, Matsumoto_98, Phlegm_103, SmallFry_101, Chomp_100, Patter_101, LordLeafolot_105, Flabslab_95, Specks_106, Ading_101, InterFolia_109, Breeniome_100, Bangla1971_102, Latch_101
- Track 5 : BackyardAgain_98, Phox_98, Babyland_102, Cali_97, StubbySaigey_104, Melpomini_95, Napoleon13_97, Dietrick_93, LRRHood_96, EmmaElysia_101, Lukilu_92, Grungle_89, Spud_101, Janiyra_103, Ronan_95, Koguma_98
- Track 6 : Roots515_100, Loanshark_101, IkeLoa_95, Dandelion_108, MoMoMixon_102, ChaylaJr_96, Khaleesi_100, Megamind_100, Blubba_90, Caravan_96, Shifa_90, DTDevon_102, Domi_95, ParkTD_102, FoxtrotP1_101, Catera_98, Pio_105, EggyFarm_109, YemiJoy2021_102, I3_107, Gizmo_105, Bonray_101, JustHall_98, NedWong_102, Pier_105, MikeLiesIn_102, DrPhinkDaddy_100, Bipolarisk_100, Asterius_98, Shelob_103, Zeenon_103, Erdmann_102, Cane17_90, BigCity_109, Norm_102, Izajani_101, Jessibeth14_100, Turret_96, ZygoTaiga_100, Morizzled23_101, McWolfish_99, Delilah_101, Daffodil_106, EmToTheThree_104, Grasshills_108, Mikro_99, Issimir_100, Trinitium_98, Bxz1_99, Colt_91, Shrimp_101, JigglyPuff_109, ErnieJ_97, PurduePete_101, Iota_96, StephanieG_100
- Track 7 : JPickles_99, Rizal_97, LifeSavor_100, Astraea_98, Gamgam_101
- Track 8 : Halldule_95
- Track 9 : CharlieB_97, Alice_94, Sebata_103, LinStu_101, BeanWater_93, BananaFence_100, Naval22_106, Chargie21_98, Sauce_102, FudgeTart_101, Nidhogg_102, QBert_95, Kboogie_105, ScottMcG_98, TinyTim_101, Yassified_98, Zalkecks_102, Blackdragon_97, Pleione_104, ET08_90, JulietS_96, Rabinovich_99, Ewok_102, Pinkcreek_92, Stubby_94, Darko_101, Sprinklers_97, Wally_100, Basquiat_98, JayJay_103, Quasimodo_102, Mangeria_101, HyRo_93, Burrough_101, ChickenPhender_97, Cactojaque_96, EasyJones_104, Shaqnato_94, SrishMeg2525_100, Salacia_105, Bread_101, Maby2021_101, DirtMonster_95,

NuevoMundo_107, YoungMoneyMata_102, Blackbrain_96, Yucca_101, Fludd_102, Lee7_99

- Track 10 : RoMag_96
- Track 11 : Ava3_102
- Track 12 : Tonenili_116
- Track 13 : Delylah_104, Bigswole_106, Kamryn_101, Littleton_101, Capablanca_103
- Track 14 : Concombre_108, Demodog_108
- Track 15 : Willis_102
- Track 16 : Momo_100
- Track 17 : Nappy_104
- Track 18 : McGee_103
- Track 19 : ScoobyDoobyDoo_226
- Track 20 : Phabba_239
- Track 21 : Greely_236
- Track 22 : Myrna_229
- Track 23 : Puppies_48
- Track 24 : Mahdia_50
- Track 25 : Gustav_54
- Track 26 : Widow_49
- Track 27 : DalanDe_65
- Track 28 : Coldpizza_43
- Track 29 : CaiB_42, Wooper_42, MossRose_42, MakoManhole_42
- Track 30 : CloverMinnie_42
- Track 31 : AnarQue_42
- Track 32 : Evaa_40
- Track 33 : NHagos_40
- Track 34 : Merry_24, Sunny_24

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

The start number called the most often in the published annotations is 22, it was called in 168 of the 191 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading_101, Adlitam_101, Alice_94, Amataga_101, ArcherS7_100, Asterius_98, Atlantean_100, Audrick_103, Ava3_102, Babyland_102, BackyardAgain_98, BadAgartude_97, BananaFence_100, Bangla1971_102, Basquiat_98, BeanWater_93, BigCity_109, Bigswole_106, Bipolarisk_100, Blackbrain_96, Blackdragon_97, Blubba_90, Bonray_101, Bread_101, Breeniome_100, Burrough_101, Bxz1_99, Cactojaque_96, Cali_97, Cane17_90, Capablanca_103, Caravan_96, Catera_98, Chargie21_98, CharlieB_97, ChaylaJr_96, ChickenPhender_97, Chomp_100, CindyLou_102, Colt_91, Concombre_108, DTDevon_102, Daffodil_106, Dandelion_108, Darko_101, Delilah_101, Delylah_104, Demodog_108, Derek_101, Dietrick_93, DirtMonster_95, Domi_95, DrPhinkDaddy_100, Drazdys_100, ET08_90, EasyJones_104, EggyFarm_109, EmToTheThree_104, EmmaElysia_101, Erdmann_102, ErnieJ_97, Essence_98, Ewok_102, Flabslab_95, Fludd_102, FoxtrotP1_101, FrayBell_106, FudgeTart_101, Gabriel_102, Ghost_100, Gizmo_105, Grasshills_108, Greely_236, Grungle_89, Guwapp_100, Halldule_95, HyRo_93, I3_107, IkeLoa_95, InigoMontoya_102,

InterFolia_109, Iota_96, Issimir_100, Izajani_101, Janiyra_103, JayJay_103, Jaygup_101, Jedediah_104, Jemmno_101, Jessibeth14_100, JigglyPuff_109, JulietS_96, JustHall_98, Kamryn_101, Kboogie_105, Khaleesi_100, Koguma_98, LRRHood_96, Latch_101, Lee7_99, LinStu_101, Littleton_101, Loanshark_101, LolaVinca_102, LordLeafolot_105, Lukilu_92, Maby2021_101, Mangeria_101, Matsumoto_98, McGee_103, McWolfish_99, Megamind_100, Melpomini_95, MikeLiesIn_102, Mikro_99, MoMoMixon_102, Momo_100, Morizzled23_101, Myrna_229, Naija_100, Napoleon13_97, Nappy_104, Naval22_106, NedWong_102, Ngannou_97, Nidhogg_102, NoodleTree_108, Norm_102, NuevoMundo_107, ParkTD_102, Patter_101, Phabba_239, Phlegm_103, Phox_98, Phusco_101, Pier_105, Pinkcreek_92, Pio_105, Pivoine_100, Pleione_104, PurduePete_101, QBert_95, Quasimodo_102, Rabinovish_99, Rahel_100, RoMag_96, Ronan_95, Roots515_100, Salacia_105, Sauce_102, ScoobyDoobyDoo_226, ScottMcG_98, Sebata_103, Shaqnato_94, Shelob_103, ShiaLabeouf_100, Shifa_90, Shnickers_101, Shrimp_101, SilverDipper_102, SmallFry_101, Spec_97, Specks_106, Sprinklers_97, Spud_101, SrishMeg2525_100, StephanieG_100, StubbySaigey_104, Stubby_94, Tainan_105, Teardrop_100, TinyTim_101, Tonenili_116, Tortoise16_98, Trinitium_98, Turret_96, Tyke_102, ValleyTerrace_101, Wally_100, Willis_102, Yassified_98, YemiJoy2021_102, YoungMoneyMata_102, Yucca_101, Zalkecks_102, Zeenon_103, ZygoTaiga_100,

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

- Astraea_98, Gamgam_101, JPickles_99, LifeSavor_100, Rizal_97,

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

- AnarQue_42, Belfort_257, CaiB_42, CloverMinnie_42, Coldpizza_43, Comrade_252, DalanDe_65, Evaa_40, Gustav_54, Karp_256, Mahdia_50, MakoManhole_42, Merry_24, MossRose_42, NHagos_40, Puppies_48, SparkleGoddess_256, Stigma_254, Sunny_24, Widow_49, Wooper_42,

Summary by start number:

Start 8:

- Found in 53 of 213 (24.9%) of genes in pham
- Manual Annotations of this start: 5 of 191
- Called 9.4% of time when present
- Phage (with cluster) where this start called: Astraea_98 (C1), Gamgam_101 (C1), JPickles_99 (C1), LifeSavor_100 (C1), Rizal_97 (C1),

Start 16:

- Found in 2 of 213 (0.9%) of genes in pham
- Manual Annotations of this start: 2 of 191
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Puppies_48 (CD), Widow_49 (CD),

Start 20:

- Found in 13 of 213 (6.1%) of genes in pham
- Manual Annotations of this start: 10 of 191
- Called 84.6% of time when present
- Phage (with cluster) where this start called: AnarQue_42 (DR), CaiB_42 (DR), CloverMinnie_42 (DR), Coldpizza_43 (DR), DalanDe_65 (DQ), Evaa_40 (DR), Mahdia_50 (CD), MakoManhole_42 (DR), MossRose_42 (DR), NHagos_40 (DR), Wooper_42 (DR),

Start 21:

- Found in 2 of 213 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Merry_24 (EC), Sunny_24 (EC),

Start 22:

- Found in 192 of 213 (90.1%) of genes in pham
- Manual Annotations of this start: 168 of 191
- Called 97.4% of time when present
- Phage (with cluster) where this start called: Ading_101 (C1), Adlitam_101 (C1), Alice_94 (C1), Amataga_101 (C1), ArcherS7_100 (C1), Asterius_98 (C1), Atlantean_100 (C1), Audrick_103 (C1), Ava3_102 (C1), Babyland_102 (C1), BackyardAgain_98 (C1), BadAgartude_97 (C1), BananaFence_100 (C1), Bangla1971_102 (C1), Basquiat_98 (C1), BeanWater_93 (C1), BigCity_109 (C1), Bigswole_106 (C1), Bipolarisk_100 (C1), Blackbrain_96 (C1), Blackdragon_97 (C1), Blubba_90 (C1), Bonray_101 (C1), Bread_101 (C1), Breeniome_100 (C1), Burrough_101 (C1), Bxz1_99 (C1), Cactojaque_96 (C1), Cali_97 (C1), Cane17_90 (C1), Capablanca_103 (C1), Caravan_96 (C1), Catera_98 (C1), Chargie21_98 (C1), CharlieB_97 (C1), ChaylaJr_96 (C1), ChickenPhender_97 (C1), Chomp_100 (C1), CindyLou_102 (C1), Colt_91 (C1), Concombre_108 (C1), DTDevon_102 (C1), Daffodil_106 (C1), Dandelion_108 (C1), Darko_101 (C1), Delilah_101 (C1), Delylah_104 (C1), Demodog_108 (C1), Derek_101 (C1), Dietrick_93 (C1), DirtMonster_95 (C1), Domi_95 (C1), DrPhinkDaddy_100 (C1), Drazdys_100 (C1), ET08_90 (C1), EasyJones_104 (C1), EggyFarm_109 (C1), EmToTheThree_104 (C1), EmmaElysia_101 (C1), Erdmann_102 (C1), ErnieJ_97 (C1), Essence_98 (C1), Ewok_102 (C1), Flabslab_95 (C1), Fludd_102 (C1), FoxtrotP1_101 (C1), FrayBell_106 (C1), FudgeTart_101 (C1), Gabriel_102 (C1), Ghost_100 (C1), Gizmo_105 (C1), Grasshills_108 (C1), Greely_236 (C2), Grungle_89 (C1), Guwapp_100 (C1), Halldule_95 (C1), HyRo_93 (C1), I3_107 (C1), IkeLoa_95 (C1), InigoMontoya_102 (C1), InterFolia_109 (C1), Iota_96 (C1), Issimir_100 (C1), Izajani_101 (C1), Janiyra_103 (C1), JayJay_103 (C1), Jaygup_101 (C1), Jedediah_104 (C1), Jemmno_101 (C1), Jessibeth14_100 (C1), JigglyPuff_109 (C1), JulietS_96 (C1), JustHall_98 (C1), Kamryn_101 (C1), Kboogie_105 (C1), Khaleesi_100 (C1), Koguma_98 (C1), LRRHood_96 (C1), Latch_101 (C1), Lee7_99 (C1), LinStu_101 (C1), Littleton_101 (C1), Loanshark_101 (C1), LolaVinca_102 (C1), LordLeafolot_105 (C1), Lukilu_92 (C1), Maby2021_101 (C1), Mangeria_101 (C1), Matsumoto_98 (C1), McGee_103 (C1), McWolfish_99 (C1), Megamind_100 (C1), Melpomini_95 (C1), MikeLiesIn_102 (C1), Mikro_99 (C1), MoMoMixon_102 (C1), Momo_100 (C1), Morizzled23_101 (C1), Myrna_229 (C2), Naija_100 (C1), Napoleon13_97 (C1), Nappy_104 (C1), Naval22_106 (C1), NedWong_102 (C1), Ngannou_97 (C1), Nidhogg_102 (C1), NoodleTree_108 (C1), Norm_102 (C1), NuevoMundo_107 (C1), ParkTD_102 (C1), Patter_101 (C1), Phabba_239 (C2), Phlegm_103 (C1), Phox_98 (C1), Phusco_101 (C1), Pier_105 (C1), Pinkcreek_92 (C1), Pio_105 (C1), Pivoine_100 (C1), Pleione_104 (C1), PurduePete_101 (C1), QBert_95 (C1), Quasimodo_102 (C1), Rabinovish_99 (C1), Rahel_100 (C1), RoMag_96 (C1), Ronan_95 (C1), Roots515_100 (C1), Salacia_105 (C1), Sauce_102 (C1), ScoobyDoobyDoo_226 (C2), ScottMcG_98 (C1), Sebata_103 (C1), Shaq nato_94 (C1), Shelob_103 (C1), ShiaLabeouf_100 (C1), Shifa_90 (C1), Shnickers_101 (C1), Shrimp_101 (C1), SilverDipper_102 (C1), SmallFry_101 (C1), Spec_97 (C1), Specks_106 (C1), Sprinklers_97 (C1), Spud_101 (C1), SrishMeg2525_100 (C1), StephanieG_100 (C1), StubbySaigey_104 (C1), Stubby_94

(C1), Tainan_105 (C1), Teardrop_100 (C1), TinyTim_101 (C1), Tonenili_116 (C1), Tortoise16_98 (C1), Trinitium_98 (C1), Turret_96 (C1), Tyke_102 (C1), ValleyTerrace_101 (C1), Wally_100 (C1), Willis_102 (C1), Yassified_98 (C1), YemiJoy2021_102 (C1), YoungMoneyMata_102 (C1), Yucca_101 (C1), Zalkecks_102 (C1), Zeenon_103 (C1), ZygoTaiga_100 (C1),

Start 30:

- Found in 5 of 213 (2.3%) of genes in pham
- Manual Annotations of this start: 5 of 191
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Belfort_257 (BK1), Comrade_252 (BK1), Karp_256 (BK1), SparkleGoddess_256 (BK1), Stigma_254 (BK1),

Start 31:

- Found in 3 of 213 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 191
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Gustav_54 (CD),

Summary by clusters:

There are 7 clusters represented in this pham: EC, CD, BK1, C2, C1, DR, DQ,

Info for manual annotations of cluster BK1:

- Start number 30 was manually annotated 5 times for cluster BK1.

Info for manual annotations of cluster C1:

- Start number 8 was manually annotated 5 times for cluster C1.
- Start number 22 was manually annotated 165 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 22 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster CD:

- Start number 16 was manually annotated 2 times for cluster CD.
- Start number 20 was manually annotated 1 time for cluster CD.
- Start number 31 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster DQ:

- Start number 20 was manually annotated 1 time for cluster DQ.

Info for manual annotations of cluster DR:

- Start number 20 was manually annotated 8 times for cluster DR.

Gene Information:

Gene: Ading_101 Start: 51076, Stop: 51708, Start Num: 22

Candidate Starts for Ading_101:

(Start: 8 @50989 has 5 MA's), (Start: 22 @51076 has 168 MA's), (62, 51415), (73, 51493), (82, 51601), (90, 51703),

Gene: Adlitam_101 Start: 51093, Stop: 51725, Start Num: 22

Candidate Starts for Adlitam_101:

(Start: 8 @51006 has 5 MA's), (Start: 22 @51093 has 168 MA's), (62, 51432), (73, 51510), (82, 51618), (90, 51720),

Gene: Alice_94 Start: 49991, Stop: 50623, Start Num: 22

Candidate Starts for Alice_94:

(Start: 22 @49991 has 168 MA's), (62, 50330), (73, 50408), (82, 50516), (90, 50618),

Gene: Amataga_101 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Amataga_101:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: AnarQue_42 Start: 35868, Stop: 35293, Start Num: 20

Candidate Starts for AnarQue_42:

(Start: 20 @35868 has 10 MA's), (23, 35829), (34, 35718), (40, 35679), (60, 35556), (62, 35544), (64, 35535), (69, 35493), (70, 35490), (72, 35478),

Gene: ArcherS7_100 Start: 50656, Stop: 51288, Start Num: 22

Candidate Starts for ArcherS7_100:

(Start: 8 @50569 has 5 MA's), (Start: 22 @50656 has 168 MA's), (62, 50995), (73, 51073), (82, 51181), (90, 51283),

Gene: Asterius_98 Start: 51325, Stop: 51963, Start Num: 22

Candidate Starts for Asterius_98:

(Start: 22 @51325 has 168 MA's), (62, 51670), (73, 51748), (82, 51856), (90, 51958),

Gene: Astraea_98 Start: 50020, Stop: 50739, Start Num: 8

Candidate Starts for Astraea_98:

(Start: 8 @50020 has 5 MA's), (Start: 22 @50107 has 168 MA's), (62, 50446), (73, 50524), (82, 50632), (90, 50734),

Gene: Atlantean_100 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Atlantean_100:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Audrick_103 Start: 50317, Stop: 50949, Start Num: 22

Candidate Starts for Audrick_103:

(Start: 8 @50230 has 5 MA's), (Start: 22 @50317 has 168 MA's), (62, 50656), (73, 50734), (82, 50842), (90, 50944),

Gene: Ava3_102 Start: 51251, Stop: 51883, Start Num: 22

Candidate Starts for Ava3_102:

(Start: 22 @51251 has 168 MA's), (62, 51590), (82, 51776), (90, 51878),

Gene: Babyland_102 Start: 50426, Stop: 51058, Start Num: 22

Candidate Starts for Babyland_102:

(Start: 22 @50426 has 168 MA's), (62, 50765), (73, 50843), (82, 50951), (90, 51053),

Gene: BackyardAgain_98 Start: 50256, Stop: 50888, Start Num: 22

Candidate Starts for BackyardAgain_98:

(Start: 22 @50256 has 168 MA's), (62, 50595), (73, 50673), (82, 50781), (90, 50883),

Gene: BadAgartude_97 Start: 51776, Stop: 52408, Start Num: 22

Candidate Starts for BadAgartude_97:

(Start: 8 @51689 has 5 MA's), (Start: 22 @51776 has 168 MA's), (62, 52115), (73, 52193), (82, 52301), (90, 52403),

Gene: BananaFence_100 Start: 51510, Stop: 52142, Start Num: 22

Candidate Starts for BananaFence_100:

(Start: 22 @51510 has 168 MA's), (62, 51849), (73, 51927), (82, 52035), (90, 52137),

Gene: Bangla1971_102 Start: 50786, Stop: 51418, Start Num: 22

Candidate Starts for Bangla1971_102:

(Start: 8 @50699 has 5 MA's), (Start: 22 @50786 has 168 MA's), (62, 51125), (73, 51203), (82, 51311), (90, 51413),

Gene: Basquiat_98 Start: 50225, Stop: 50857, Start Num: 22

Candidate Starts for Basquiat_98:

(Start: 22 @50225 has 168 MA's), (62, 50564), (73, 50642), (82, 50750), (90, 50852),

Gene: BeanWater_93 Start: 51106, Stop: 51738, Start Num: 22

Candidate Starts for BeanWater_93:

(Start: 22 @51106 has 168 MA's), (62, 51445), (73, 51523), (82, 51631), (90, 51733),

Gene: Belfort_257 Start: 123112, Stop: 123585, Start Num: 30

Candidate Starts for Belfort_257:

(26, 123094), (Start: 30 @123112 has 5 MA's), (45, 123238), (47, 123241), (52, 123274), (64, 123349), (68, 123385), (76, 123442), (79, 123460), (86, 123565),

Gene: BigCity_109 Start: 53767, Stop: 54399, Start Num: 22

Candidate Starts for BigCity_109:

(Start: 22 @53767 has 168 MA's), (62, 54106), (73, 54184), (82, 54292), (90, 54394),

Gene: Bigswole_106 Start: 54293, Stop: 54931, Start Num: 22

Candidate Starts for Bigswole_106:

(5, 54182), (Start: 22 @54293 has 168 MA's), (62, 54638), (73, 54716), (82, 54824), (90, 54926),

Gene: Bipolarisk_100 Start: 51503, Stop: 52141, Start Num: 22

Candidate Starts for Bipolarisk_100:

(Start: 22 @51503 has 168 MA's), (62, 51848), (73, 51926), (82, 52034), (90, 52136),

Gene: Blackbrain_96 Start: 49803, Stop: 50435, Start Num: 22

Candidate Starts for Blackbrain_96:

(Start: 22 @49803 has 168 MA's), (62, 50142), (73, 50220), (82, 50328), (90, 50430),

Gene: Blackdragon_97 Start: 50933, Stop: 51565, Start Num: 22

Candidate Starts for Blackdragon_97:

(Start: 22 @50933 has 168 MA's), (62, 51272), (73, 51350), (82, 51458), (90, 51560),

Gene: Blubba_90 Start: 49899, Stop: 50531, Start Num: 22

Candidate Starts for Blubba_90:

(Start: 22 @49899 has 168 MA's), (62, 50238), (73, 50316), (82, 50424), (90, 50526),

Gene: Bonray_101 Start: 51676, Stop: 52314, Start Num: 22

Candidate Starts for Bonray_101:

(Start: 22 @51676 has 168 MA's), (62, 52021), (73, 52099), (82, 52207), (90, 52309),

Gene: Bread_101 Start: 51337, Stop: 51969, Start Num: 22

Candidate Starts for Bread_101:

(Start: 22 @51337 has 168 MA's), (62, 51676), (73, 51754), (82, 51862), (90, 51964),

Gene: Breeniome_100 Start: 49919, Stop: 50551, Start Num: 22

Candidate Starts for Breeniome_100:

(Start: 8 @49832 has 5 MA's), (Start: 22 @49919 has 168 MA's), (62, 50258), (73, 50336), (82, 50444), (90, 50546),

Gene: Burrough_101 Start: 51836, Stop: 52468, Start Num: 22

Candidate Starts for Burrough_101:

(Start: 22 @51836 has 168 MA's), (62, 52175), (73, 52253), (82, 52361), (90, 52463),

Gene: Bxz1_99 Start: 53274, Stop: 53906, Start Num: 22

Candidate Starts for Bxz1_99:

(Start: 22 @53274 has 168 MA's), (62, 53613), (73, 53691), (82, 53799), (90, 53901),

Gene: Cactojaque_96 Start: 49910, Stop: 50542, Start Num: 22

Candidate Starts for Cactojaque_96:

(Start: 22 @49910 has 168 MA's), (62, 50249), (73, 50327), (82, 50435), (90, 50537),

Gene: CaiB_42 Start: 35854, Stop: 35279, Start Num: 20

Candidate Starts for CaiB_42:

(Start: 20 @35854 has 10 MA's), (23, 35815), (34, 35704), (40, 35665), (60, 35542), (62, 35530), (64, 35521), (69, 35479), (70, 35476), (71, 35473), (72, 35464),

Gene: Cali_97 Start: 51838, Stop: 52470, Start Num: 22

Candidate Starts for Cali_97:

(Start: 22 @51838 has 168 MA's), (62, 52177), (73, 52255), (82, 52363), (90, 52465),

Gene: Cane17_90 Start: 49972, Stop: 50604, Start Num: 22

Candidate Starts for Cane17_90:

(Start: 22 @49972 has 168 MA's), (62, 50311), (73, 50389), (82, 50497), (90, 50599),

Gene: Capablanca_103 Start: 52088, Stop: 52720, Start Num: 22

Candidate Starts for Capablanca_103:

(5, 51977), (Start: 22 @52088 has 168 MA's), (62, 52427), (73, 52505), (82, 52613), (90, 52715),

Gene: Caravan_96 Start: 51189, Stop: 51827, Start Num: 22

Candidate Starts for Caravan_96:

(Start: 22 @51189 has 168 MA's), (62, 51534), (73, 51612), (82, 51720), (90, 51822),

Gene: Catera_98 Start: 50105, Stop: 50743, Start Num: 22

Candidate Starts for Catera_98:

(Start: 22 @50105 has 168 MA's), (62, 50450), (73, 50528), (82, 50636), (90, 50738),

Gene: Chargie21_98 Start: 50225, Stop: 50857, Start Num: 22

Candidate Starts for Chargie21_98:

(Start: 22 @50225 has 168 MA's), (62, 50564), (73, 50642), (82, 50750), (90, 50852),

Gene: CharlieB_97 Start: 50240, Stop: 50872, Start Num: 22

Candidate Starts for CharlieB_97:

(Start: 22 @50240 has 168 MA's), (62, 50579), (73, 50657), (82, 50765), (90, 50867),

Gene: ChaylaJr_96 Start: 49731, Stop: 50363, Start Num: 22

Candidate Starts for ChaylaJr_96:

(Start: 22 @49731 has 168 MA's), (62, 50070), (73, 50148), (82, 50256), (90, 50358),

Gene: ChickenPhender_97 Start: 50034, Stop: 50666, Start Num: 22

Candidate Starts for ChickenPhender_97:

(Start: 22 @50034 has 168 MA's), (62, 50373), (73, 50451), (82, 50559), (90, 50661),

Gene: Chomp_100 Start: 51626, Stop: 52258, Start Num: 22

Candidate Starts for Chomp_100:

(Start: 8 @51539 has 5 MA's), (Start: 22 @51626 has 168 MA's), (62, 51965), (73, 52043), (82, 52151), (90, 52253),

Gene: CindyLou_102 Start: 51667, Stop: 52299, Start Num: 22

Candidate Starts for CindyLou_102:

(Start: 8 @51580 has 5 MA's), (Start: 22 @51667 has 168 MA's), (62, 52006), (73, 52084), (82, 52192), (90, 52294),

Gene: CloverMinnie_42 Start: 35794, Stop: 35219, Start Num: 20

Candidate Starts for CloverMinnie_42:

(Start: 20 @35794 has 10 MA's), (23, 35755), (34, 35644), (40, 35605), (60, 35482), (62, 35470), (64, 35461), (69, 35419), (70, 35416), (71, 35413),

Gene: Coldpizza_43 Start: 38676, Stop: 38062, Start Num: 20

Candidate Starts for Coldpizza_43:

(Start: 20 @38676 has 10 MA's), (35, 38496), (39, 38463), (85, 38121),

Gene: Colt_91 Start: 50568, Stop: 51200, Start Num: 22

Candidate Starts for Colt_91:

(Start: 22 @50568 has 168 MA's), (62, 50907), (73, 50985), (82, 51093), (90, 51195),

Gene: Comrade_252 Start: 123254, Stop: 123727, Start Num: 30

Candidate Starts for Comrade_252:

(26, 123236), (Start: 30 @123254 has 5 MA's), (45, 123380), (47, 123383), (52, 123416), (64, 123491), (68, 123527), (69, 123530), (76, 123584), (79, 123602), (85, 123668), (86, 123707),

Gene: Concombres_108 Start: 54002, Stop: 54640, Start Num: 22

Candidate Starts for Concombres_108:

(19, 53966), (Start: 22 @54002 has 168 MA's), (62, 54347), (73, 54425), (82, 54533), (90, 54635),

Gene: DTDevon_102 Start: 52106, Stop: 52744, Start Num: 22

Candidate Starts for DTDevon_102:

(Start: 22 @52106 has 168 MA's), (62, 52451), (73, 52529), (82, 52637), (90, 52739),

Gene: Daffodil_106 Start: 51803, Stop: 52441, Start Num: 22

Candidate Starts for Daffodil_106:

(Start: 22 @51803 has 168 MA's), (62, 52148), (73, 52226), (82, 52334), (90, 52436),

Gene: DalanDe_65 Start: 59026, Stop: 59634, Start Num: 20

Candidate Starts for DalanDe_65:

(9, 58969), (Start: 20 @59026 has 10 MA's), (36, 59206), (40, 59233), (41, 59251), (48, 59287), (49, 59299), (51, 59308), (62, 59386), (83, 59554),

Gene: Dandelion_108 Start: 54240, Stop: 54878, Start Num: 22

Candidate Starts for Dandelion_108:

(Start: 22 @54240 has 168 MA's), (62, 54585), (73, 54663), (82, 54771), (90, 54873),

Gene: Darko_101 Start: 51745, Stop: 52377, Start Num: 22

Candidate Starts for Darko_101:

(Start: 22 @51745 has 168 MA's), (62, 52084), (73, 52162), (82, 52270), (90, 52372),

Gene: Delilah_101 Start: 51957, Stop: 52595, Start Num: 22

Candidate Starts for Delilah_101:

(Start: 22 @51957 has 168 MA's), (62, 52302), (73, 52380), (82, 52488), (90, 52590),

Gene: Delylah_104 Start: 51502, Stop: 52134, Start Num: 22

Candidate Starts for Delylah_104:

(5, 51391), (Start: 22 @51502 has 168 MA's), (62, 51841), (73, 51919), (82, 52027), (90, 52129),

Gene: Demodog_108 Start: 54002, Stop: 54640, Start Num: 22

Candidate Starts for Demodog_108:

(19, 53966), (Start: 22 @54002 has 168 MA's), (62, 54347), (73, 54425), (82, 54533), (90, 54635),

Gene: Derek_101 Start: 51428, Stop: 52060, Start Num: 22

Candidate Starts for Derek_101:

(Start: 8 @51341 has 5 MA's), (Start: 22 @51428 has 168 MA's), (62, 51767), (73, 51845), (82, 51953), (90, 52055),

Gene: Dietrick_93 Start: 49504, Stop: 50136, Start Num: 22

Candidate Starts for Dietrick_93:

(Start: 22 @49504 has 168 MA's), (62, 49843), (73, 49921), (82, 50029), (90, 50131),

Gene: DirtMonster_95 Start: 50996, Stop: 51628, Start Num: 22

Candidate Starts for DirtMonster_95:

(Start: 22 @50996 has 168 MA's), (62, 51335), (73, 51413), (82, 51521), (90, 51623),

Gene: Domi_95 Start: 50853, Stop: 51485, Start Num: 22

Candidate Starts for Domi_95:

(Start: 22 @50853 has 168 MA's), (62, 51192), (73, 51270), (82, 51378), (90, 51480),

Gene: DrPhinkDaddy_100 Start: 52023, Stop: 52661, Start Num: 22

Candidate Starts for DrPhinkDaddy_100:

(Start: 22 @52023 has 168 MA's), (62, 52368), (73, 52446), (82, 52554), (90, 52656),

Gene: Drazdys_100 Start: 50726, Stop: 51358, Start Num: 22

Candidate Starts for Drazdys_100:

(Start: 8 @50639 has 5 MA's), (Start: 22 @50726 has 168 MA's), (62, 51065), (73, 51143), (82, 51251), (90, 51353),

Gene: ET08_90 Start: 50495, Stop: 51127, Start Num: 22

Candidate Starts for ET08_90:

(Start: 22 @50495 has 168 MA's), (62, 50834), (73, 50912), (82, 51020), (90, 51122),

Gene: EasyJones_104 Start: 50888, Stop: 51520, Start Num: 22

Candidate Starts for EasyJones_104:

(Start: 22 @50888 has 168 MA's), (62, 51227), (73, 51305), (82, 51413), (90, 51515),

Gene: EggyFarm_109 Start: 53767, Stop: 54399, Start Num: 22

Candidate Starts for EggyFarm_109:

(Start: 22 @53767 has 168 MA's), (62, 54106), (73, 54184), (82, 54292), (90, 54394),

Gene: EmToTheThree_104 Start: 53020, Stop: 53658, Start Num: 22

Candidate Starts for EmToTheThree_104:

(Start: 22 @53020 has 168 MA's), (62, 53365), (73, 53443), (82, 53551), (90, 53653),

Gene: EmmaElysia_101 Start: 50554, Stop: 51186, Start Num: 22

Candidate Starts for EmmaElysia_101:

(Start: 22 @50554 has 168 MA's), (62, 50893), (73, 50971), (82, 51079), (90, 51181),

Gene: Erdmann_102 Start: 51804, Stop: 52442, Start Num: 22

Candidate Starts for Erdmann_102:

(Start: 22 @51804 has 168 MA's), (62, 52149), (73, 52227), (82, 52335), (90, 52437),

Gene: ErnieJ_97 Start: 50014, Stop: 50652, Start Num: 22

Candidate Starts for ErnieJ_97:

(Start: 22 @50014 has 168 MA's), (62, 50359), (73, 50437), (82, 50545), (90, 50647),

Gene: Essence_98 Start: 50892, Stop: 51524, Start Num: 22

Candidate Starts for Essence_98:

(Start: 8 @50805 has 5 MA's), (Start: 22 @50892 has 168 MA's), (62, 51231), (73, 51309), (82, 51417), (90, 51519),

Gene: Evaa_40 Start: 34989, Stop: 34357, Start Num: 20

Candidate Starts for Evaa_40:

(11, 35028), (12, 35025), (Start: 20 @34989 has 10 MA's), (24, 34905), (Start: 31 @34824 has 1 MA's), (38, 34788), (43, 34737), (83, 34434),

Gene: Ewok_102 Start: 51197, Stop: 51829, Start Num: 22

Candidate Starts for Ewok_102:

(Start: 22 @51197 has 168 MA's), (62, 51536), (73, 51614), (82, 51722), (90, 51824),

Gene: Flabslab_95 Start: 48889, Stop: 49521, Start Num: 22

Candidate Starts for Flabslab_95:

(Start: 8 @48802 has 5 MA's), (Start: 22 @48889 has 168 MA's), (62, 49228), (73, 49306), (82, 49414), (90, 49516),

Gene: Fludd_102 Start: 50660, Stop: 51292, Start Num: 22

Candidate Starts for Fludd_102:

(Start: 22 @50660 has 168 MA's), (62, 50999), (73, 51077), (82, 51185), (90, 51287),

Gene: FoxtrotP1_101 Start: 52974, Stop: 53612, Start Num: 22

Candidate Starts for FoxtrotP1_101:

(Start: 22 @52974 has 168 MA's), (62, 53319), (73, 53397), (82, 53505), (90, 53607),

Gene: FrayBell_106 Start: 52378, Stop: 53010, Start Num: 22

Candidate Starts for FrayBell_106:

(Start: 8 @52291 has 5 MA's), (Start: 22 @52378 has 168 MA's), (62, 52717), (73, 52795), (82, 52903), (90, 53005),

Gene: FudgeTart_101 Start: 51094, Stop: 51726, Start Num: 22

Candidate Starts for FudgeTart_101:

(Start: 22 @51094 has 168 MA's), (62, 51433), (73, 51511), (82, 51619), (90, 51721),

Gene: Gabriel_102 Start: 50298, Stop: 50930, Start Num: 22

Candidate Starts for Gabriel_102:

(Start: 8 @50211 has 5 MA's), (Start: 22 @50298 has 168 MA's), (62, 50637), (73, 50715), (82, 50823), (90, 50925),

Gene: Gamgam_101 Start: 50251, Stop: 50970, Start Num: 8

Candidate Starts for Gamgam_101:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Ghost_100 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Ghost_100:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Gizmo_105 Start: 52954, Stop: 53592, Start Num: 22

Candidate Starts for Gizmo_105:

(Start: 22 @52954 has 168 MA's), (62, 53299), (73, 53377), (82, 53485), (90, 53587),

Gene: Grasshills_108 Start: 53767, Stop: 54399, Start Num: 22

Candidate Starts for Grasshills_108:

(Start: 22 @53767 has 168 MA's), (62, 54106), (73, 54184), (82, 54292), (90, 54394),

Gene: Greely_236 Start: 133749, Stop: 134378, Start Num: 22

Candidate Starts for Greely_236:

(Start: 22 @133749 has 168 MA's), (25, 133797), (50, 134001), (57, 134046), (62, 134085), (66, 134106), (67, 134112), (68, 134142), (72, 134160), (87, 134355), (88, 134358),

Gene: Grungle_89 Start: 48153, Stop: 48785, Start Num: 22

Candidate Starts for Grungle_89:

(Start: 22 @48153 has 168 MA's), (62, 48492), (73, 48570), (82, 48678), (90, 48780),

Gene: Gustav_54 Start: 38579, Stop: 38097, Start Num: 31

Candidate Starts for Gustav_54:

(Start: 31 @38579 has 1 MA's), (37, 38540), (56, 38393), (58, 38372), (70, 38291), (74, 38273), (78, 38228), (81, 38180),

Gene: Guwapp_100 Start: 50463, Stop: 51095, Start Num: 22

Candidate Starts for Guwapp_100:

(Start: 8 @50376 has 5 MA's), (Start: 22 @50463 has 168 MA's), (62, 50802), (73, 50880), (82, 50988), (90, 51090),

Gene: Halldule_95 Start: 49179, Stop: 49811, Start Num: 22

Candidate Starts for Halldule_95:

(10, 49101), (Start: 22 @49179 has 168 MA's), (62, 49518), (73, 49596), (82, 49704), (90, 49806),

Gene: HyRo_93 Start: 50590, Stop: 51222, Start Num: 22

Candidate Starts for HyRo_93:

(Start: 22 @50590 has 168 MA's), (62, 50929), (73, 51007), (82, 51115), (90, 51217),

Gene: I3_107 Start: 52305, Stop: 52937, Start Num: 22

Candidate Starts for I3_107:

(Start: 22 @52305 has 168 MA's), (62, 52644), (73, 52722), (82, 52830), (90, 52932),

Gene: IkeLoa_95 Start: 50415, Stop: 51053, Start Num: 22

Candidate Starts for IkeLoa_95:

(Start: 22 @50415 has 168 MA's), (62, 50760), (73, 50838), (82, 50946), (90, 51048),

Gene: InigoMontoya_102 Start: 50299, Stop: 50931, Start Num: 22

Candidate Starts for InigoMontoya_102:

(Start: 8 @50212 has 5 MA's), (Start: 22 @50299 has 168 MA's), (62, 50638), (73, 50716), (82, 50824), (90, 50926),

Gene: InterFolia_109 Start: 53313, Stop: 53945, Start Num: 22

Candidate Starts for InterFolia_109:

(Start: 8 @53226 has 5 MA's), (Start: 22 @53313 has 168 MA's), (62, 53652), (73, 53730), (82, 53838), (90, 53940),

Gene: Iota_96 Start: 50775, Stop: 51407, Start Num: 22

Candidate Starts for Iota_96:

(Start: 22 @50775 has 168 MA's), (62, 51114), (73, 51192), (82, 51300), (90, 51402),

Gene: Issimir_100 Start: 51778, Stop: 52416, Start Num: 22

Candidate Starts for Issimir_100:

(Start: 22 @51778 has 168 MA's), (62, 52123), (73, 52201), (82, 52309), (90, 52411),

Gene: Izajani_101 Start: 51984, Stop: 52622, Start Num: 22

Candidate Starts for Izajani_101:

(Start: 22 @51984 has 168 MA's), (62, 52329), (73, 52407), (82, 52515), (90, 52617),

Gene: JPickles_99 Start: 49482, Stop: 50201, Start Num: 8

Candidate Starts for JPickles_99:

(Start: 8 @49482 has 5 MA's), (Start: 22 @49569 has 168 MA's), (62, 49908), (73, 49986), (82, 50094), (90, 50196),

Gene: Janiyra_103 Start: 51265, Stop: 51897, Start Num: 22

Candidate Starts for Janiyra_103:

(Start: 22 @51265 has 168 MA's), (62, 51604), (73, 51682), (82, 51790), (90, 51892),

Gene: JayJay_103 Start: 53030, Stop: 53662, Start Num: 22

Candidate Starts for JayJay_103:

(Start: 22 @53030 has 168 MA's), (62, 53369), (73, 53447), (82, 53555), (90, 53657),

Gene: Jaygup_101 Start: 51094, Stop: 51726, Start Num: 22

Candidate Starts for Jaygup_101:

(Start: 8 @51007 has 5 MA's), (Start: 22 @51094 has 168 MA's), (62, 51433), (73, 51511), (82, 51619), (90, 51721),

Gene: Jedediah_104 Start: 51627, Stop: 52259, Start Num: 22

Candidate Starts for Jedediah_104:

(Start: 8 @51540 has 5 MA's), (Start: 22 @51627 has 168 MA's), (62, 51966), (73, 52044), (82, 52152), (90, 52254),

Gene: Jemmno_101 Start: 51074, Stop: 51706, Start Num: 22

Candidate Starts for Jemmno_101:

(Start: 8 @50987 has 5 MA's), (Start: 22 @51074 has 168 MA's), (62, 51413), (73, 51491), (82, 51599), (90, 51701),

Gene: Jessibeth14_100 Start: 51589, Stop: 52227, Start Num: 22

Candidate Starts for Jessibeth14_100:

(Start: 22 @51589 has 168 MA's), (62, 51934), (73, 52012), (82, 52120), (90, 52222),

Gene: JigglyPuff_109 Start: 53918, Stop: 54556, Start Num: 22

Candidate Starts for JigglyPuff_109:

(Start: 22 @53918 has 168 MA's), (62, 54263), (73, 54341), (82, 54449), (90, 54551),

Gene: JulietS_96 Start: 49032, Stop: 49664, Start Num: 22

Candidate Starts for JulietS_96:

(Start: 22 @49032 has 168 MA's), (62, 49371), (73, 49449), (82, 49557), (90, 49659),

Gene: JustHall_98 Start: 51127, Stop: 51765, Start Num: 22

Candidate Starts for JustHall_98:

(Start: 22 @51127 has 168 MA's), (62, 51472), (73, 51550), (82, 51658), (90, 51760),

Gene: Kamryn_101 Start: 52411, Stop: 53043, Start Num: 22

Candidate Starts for Kamryn_101:

(5, 52300), (Start: 22 @52411 has 168 MA's), (62, 52750), (73, 52828), (82, 52936), (90, 53038),

Gene: Karp_256 Start: 124709, Stop: 125182, Start Num: 30

Candidate Starts for Karp_256:

(26, 124691), (Start: 30 @124709 has 5 MA's), (45, 124835), (47, 124838), (52, 124871), (64, 124946), (68, 124982), (76, 125039), (79, 125057), (85, 125123), (86, 125162),

Gene: Kboogie_105 Start: 50769, Stop: 51401, Start Num: 22

Candidate Starts for Kboogie_105:

(Start: 22 @50769 has 168 MA's), (62, 51108), (73, 51186), (82, 51294), (90, 51396),

Gene: Khaleesi_100 Start: 51704, Stop: 52342, Start Num: 22

Candidate Starts for Khaleesi_100:

(Start: 22 @51704 has 168 MA's), (62, 52049), (73, 52127), (82, 52235), (90, 52337),

Gene: Koguma_98 Start: 49254, Stop: 49886, Start Num: 22

Candidate Starts for Koguma_98:

(Start: 22 @49254 has 168 MA's), (62, 49593), (73, 49671), (82, 49779), (90, 49881),

Gene: LRRHood_96 Start: 51308, Stop: 51940, Start Num: 22

Candidate Starts for LRRHood_96:

(Start: 22 @51308 has 168 MA's), (62, 51647), (73, 51725), (82, 51833), (90, 51935),

Gene: Latch_101 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Latch_101:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Lee7_99 Start: 52340, Stop: 52972, Start Num: 22

Candidate Starts for Lee7_99:

(Start: 22 @52340 has 168 MA's), (62, 52679), (73, 52757), (82, 52865), (90, 52967),

Gene: LifeSavor_100 Start: 50939, Stop: 51658, Start Num: 8

Candidate Starts for LifeSavor_100:

(Start: 8 @50939 has 5 MA's), (Start: 22 @51026 has 168 MA's), (62, 51365), (73, 51443), (82, 51551), (90, 51653),

Gene: LinStu_101 Start: 51916, Stop: 52548, Start Num: 22

Candidate Starts for LinStu_101:

(Start: 22 @51916 has 168 MA's), (62, 52255), (73, 52333), (82, 52441), (90, 52543),

Gene: Littleton_101 Start: 51158, Stop: 51790, Start Num: 22

Candidate Starts for Littleton_101:

(5, 51047), (Start: 22 @51158 has 168 MA's), (62, 51497), (73, 51575), (82, 51683), (90, 51785),

Gene: Loanshark_101 Start: 51927, Stop: 52565, Start Num: 22

Candidate Starts for Loanshark_101:

(Start: 22 @51927 has 168 MA's), (62, 52272), (73, 52350), (82, 52458), (90, 52560),

Gene: LolaVinca_102 Start: 52032, Stop: 52664, Start Num: 22

Candidate Starts for LolaVinca_102:

(Start: 8 @51945 has 5 MA's), (Start: 22 @52032 has 168 MA's), (62, 52371), (73, 52449), (82, 52557), (90, 52659),

Gene: LordLeafolot_105 Start: 52996, Stop: 53628, Start Num: 22

Candidate Starts for LordLeafolot_105:

(Start: 8 @52909 has 5 MA's), (Start: 22 @52996 has 168 MA's), (62, 53335), (73, 53413), (82, 53521), (90, 53623),

Gene: Lukilu_92 Start: 51439, Stop: 52071, Start Num: 22

Candidate Starts for Lukilu_92:

(Start: 22 @51439 has 168 MA's), (62, 51778), (73, 51856), (82, 51964), (90, 52066),

Gene: Maby2021_101 Start: 51803, Stop: 52435, Start Num: 22

Candidate Starts for Maby2021_101:

(Start: 22 @51803 has 168 MA's), (62, 52142), (73, 52220), (82, 52328), (90, 52430),

Gene: Mahdia_50 Start: 37783, Stop: 37172, Start Num: 20

Candidate Starts for Mahdia_50:

(Start: 20 @37783 has 10 MA's), (39, 37585), (61, 37432), (62, 37426), (65, 37408), (80, 37285), (81, 37255),

Gene: MakoManhole_42 Start: 35872, Stop: 35297, Start Num: 20

Candidate Starts for MakoManhole_42:

(Start: 20 @35872 has 10 MA's), (23, 35833), (34, 35722), (40, 35683), (60, 35560), (62, 35548), (64, 35539), (69, 35497), (70, 35494), (71, 35491), (72, 35482),

Gene: Mangeria_101 Start: 51872, Stop: 52504, Start Num: 22

Candidate Starts for Mangeria_101:

(Start: 22 @51872 has 168 MA's), (62, 52211), (73, 52289), (82, 52397), (90, 52499),

Gene: Matsumoto_98 Start: 50654, Stop: 51286, Start Num: 22

Candidate Starts for Matsumoto_98:

(Start: 8 @50567 has 5 MA's), (Start: 22 @50654 has 168 MA's), (62, 50993), (73, 51071), (82, 51179), (90, 51281),

Gene: McGee_103 Start: 50410, Stop: 51042, Start Num: 22

Candidate Starts for McGee_103:

(Start: 22 @50410 has 168 MA's), (62, 50749), (73, 50827), (82, 50935), (90, 51037),

Gene: McWolfish_99 Start: 51587, Stop: 52225, Start Num: 22

Candidate Starts for McWolfish_99:

(Start: 22 @51587 has 168 MA's), (62, 51932), (73, 52010), (82, 52118), (90, 52220),

Gene: Megamind_100 Start: 51470, Stop: 52108, Start Num: 22

Candidate Starts for Megamind_100:

(Start: 22 @51470 has 168 MA's), (62, 51815), (73, 51893), (82, 52001), (90, 52103),

Gene: Melpomini_95 Start: 48945, Stop: 49577, Start Num: 22

Candidate Starts for Melpomini_95:

(Start: 22 @48945 has 168 MA's), (62, 49284), (73, 49362), (82, 49470), (90, 49572),

Gene: Merry_24 Start: 11517, Stop: 12002, Start Num: 21

Candidate Starts for Merry_24:

(21, 11517), (32, 11652), (38, 11685), (44, 11730), (53, 11772), (57, 11811), (62, 11850), (68, 11907), (72, 11925), (77, 11982),

Gene: MikeLiesIn_102 Start: 51817, Stop: 52455, Start Num: 22

Candidate Starts for MikeLiesIn_102:

(Start: 22 @51817 has 168 MA's), (62, 52162), (73, 52240), (82, 52348), (90, 52450),

Gene: Mikro_99 Start: 53045, Stop: 53677, Start Num: 22

Candidate Starts for Mikro_99:

(Start: 22 @53045 has 168 MA's), (62, 53384), (73, 53462), (82, 53570), (90, 53672),

Gene: MoMoMixon_102 Start: 51293, Stop: 51931, Start Num: 22

Candidate Starts for MoMoMixon_102:

(Start: 22 @51293 has 168 MA's), (62, 51638), (73, 51716), (82, 51824), (90, 51926),

Gene: Momo_100 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Momo_100:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (73, 50755), (82, 50863), (90, 50965),

Gene: Morizzled23_101 Start: 50697, Stop: 51335, Start Num: 22

Candidate Starts for Morizzled23_101:

(Start: 22 @50697 has 168 MA's), (62, 51042), (73, 51120), (82, 51228), (90, 51330),

Gene: MossRose_42 Start: 35851, Stop: 35276, Start Num: 20

Candidate Starts for MossRose_42:

(Start: 20 @35851 has 10 MA's), (23, 35812), (34, 35701), (40, 35662), (60, 35539), (62, 35527), (64, 35518), (69, 35476), (70, 35473), (71, 35470), (72, 35461),

Gene: Myrna_229 Start: 133429, Stop: 134043, Start Num: 22

Candidate Starts for Myrna_229:

(Start: 22 @133429 has 168 MA's), (25, 133477), (27, 133492), (33, 133555), (54, 133681), (62, 133750), (73, 133828), (82, 133936),

Gene: NHagos_40 Start: 34451, Stop: 33894, Start Num: 20

Candidate Starts for NHagos_40:

(1, 34970), (2, 34805), (6, 34526), (13, 34490), (14, 34481), (Start: 20 @34451 has 10 MA's), (24, 34388), (28, 34352), (35, 34301), (46, 34226), (64, 34136), (75, 34049), (86, 33914),

Gene: Naija_100 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Naija_100:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Napoleon13_97 Start: 49383, Stop: 50015, Start Num: 22

Candidate Starts for Napoleon13_97:

(Start: 22 @49383 has 168 MA's), (62, 49722), (73, 49800), (82, 49908), (90, 50010),

Gene: Nappy_104 Start: 52733, Stop: 53365, Start Num: 22

Candidate Starts for Nappy_104:

(15, 52670), (Start: 22 @52733 has 168 MA's), (62, 53072), (73, 53150), (82, 53258), (90, 53360),

Gene: Naval22_106 Start: 53313, Stop: 53945, Start Num: 22

Candidate Starts for Naval22_106:

(Start: 22 @53313 has 168 MA's), (62, 53652), (73, 53730), (82, 53838), (90, 53940),

Gene: NedWong_102 Start: 51804, Stop: 52442, Start Num: 22

Candidate Starts for NedWong_102:

(Start: 22 @51804 has 168 MA's), (62, 52149), (73, 52227), (82, 52335), (90, 52437),

Gene: Ngannou_97 Start: 49320, Stop: 49952, Start Num: 22

Candidate Starts for Ngannou_97:

(Start: 8 @49233 has 5 MA's), (Start: 22 @49320 has 168 MA's), (62, 49659), (73, 49737), (82, 49845), (90, 49947),

Gene: Nidhogg_102 Start: 51544, Stop: 52176, Start Num: 22

Candidate Starts for Nidhogg_102:

(Start: 22 @51544 has 168 MA's), (62, 51883), (73, 51961), (82, 52069), (90, 52171),

Gene: NoodleTree_108 Start: 52136, Stop: 52768, Start Num: 22

Candidate Starts for NoodleTree_108:

(Start: 8 @52049 has 5 MA's), (Start: 22 @52136 has 168 MA's), (62, 52475), (73, 52553), (82, 52661), (90, 52763),

Gene: Norm_102 Start: 52733, Stop: 53371, Start Num: 22

Candidate Starts for Norm_102:

(Start: 22 @52733 has 168 MA's), (62, 53078), (73, 53156), (82, 53264), (90, 53366),

Gene: NuevoMundo_107 Start: 54087, Stop: 54719, Start Num: 22

Candidate Starts for NuevoMundo_107:

(Start: 22 @54087 has 168 MA's), (62, 54426), (73, 54504), (82, 54612), (90, 54714),

Gene: ParkTD_102 Start: 51800, Stop: 52438, Start Num: 22

Candidate Starts for ParkTD_102:

(Start: 22 @51800 has 168 MA's), (62, 52145), (73, 52223), (82, 52331), (90, 52433),

Gene: Patter_101 Start: 50355, Stop: 50987, Start Num: 22

Candidate Starts for Patter_101:

(Start: 8 @50268 has 5 MA's), (Start: 22 @50355 has 168 MA's), (62, 50694), (73, 50772), (82, 50880), (90, 50982),

Gene: Phabba_239 Start: 133129, Stop: 133758, Start Num: 22

Candidate Starts for Phabba_239:

(Start: 22 @133129 has 168 MA's), (25, 133177), (50, 133381), (57, 133426), (59, 133447), (62, 133465), (66, 133486), (67, 133492), (68, 133522), (72, 133540), (87, 133735), (88, 133738), (89, 133750),

Gene: Phlegm_103 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Phlegm_103:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Phox_98 Start: 52086, Stop: 52718, Start Num: 22

Candidate Starts for Phox_98:

(Start: 22 @52086 has 168 MA's), (62, 52425), (73, 52503), (82, 52611), (90, 52713),

Gene: Phusco_101 Start: 51103, Stop: 51735, Start Num: 22

Candidate Starts for Phusco_101:

(Start: 8 @51016 has 5 MA's), (Start: 22 @51103 has 168 MA's), (62, 51442), (73, 51520), (82, 51628), (90, 51730),

Gene: Pier_105 Start: 52448, Stop: 53080, Start Num: 22

Candidate Starts for Pier_105:

(Start: 22 @52448 has 168 MA's), (62, 52787), (73, 52865), (82, 52973), (90, 53075),

Gene: Pinkcreek_92 Start: 48897, Stop: 49529, Start Num: 22

Candidate Starts for Pinkcreek_92:

(Start: 22 @48897 has 168 MA's), (62, 49236), (73, 49314), (82, 49422), (90, 49524),

Gene: Pio_105 Start: 53696, Stop: 54328, Start Num: 22

Candidate Starts for Pio_105:

(Start: 22 @53696 has 168 MA's), (62, 54035), (73, 54113), (82, 54221), (90, 54323),

Gene: Pivoine_100 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for Pivoine_100:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Pleione_104 Start: 51973, Stop: 52605, Start Num: 22

Candidate Starts for Pleione_104:

(Start: 22 @51973 has 168 MA's), (62, 52312), (73, 52390), (82, 52498), (90, 52600),

Gene: Puppies_48 Start: 36822, Stop: 36238, Start Num: 16

Candidate Starts for Puppies_48:

(15, 36834), (Start: 16 @36822 has 2 MA's), (Start: 20 @36813 has 10 MA's), (29, 36717), (41, 36612), (47, 36591), (52, 36561), (86, 36258),

Gene: PurduePete_101 Start: 52225, Stop: 52863, Start Num: 22

Candidate Starts for PurduePete_101:

(Start: 22 @52225 has 168 MA's), (62, 52570), (73, 52648), (82, 52756), (90, 52858),

Gene: QBert_95 Start: 50881, Stop: 51513, Start Num: 22

Candidate Starts for QBert_95:

(Start: 22 @50881 has 168 MA's), (62, 51220), (73, 51298), (82, 51406), (90, 51508),

Gene: Quasimodo_102 Start: 51762, Stop: 52394, Start Num: 22

Candidate Starts for Quasimodo_102:

(Start: 22 @51762 has 168 MA's), (62, 52101), (73, 52179), (82, 52287), (90, 52389),

Gene: Rabinovish_99 Start: 51861, Stop: 52493, Start Num: 22

Candidate Starts for Rabinovish_99:

(Start: 22 @51861 has 168 MA's), (62, 52200), (73, 52278), (82, 52386), (90, 52488),

Gene: Rahel_100 Start: 50695, Stop: 51327, Start Num: 22

Candidate Starts for Rahel_100:

(Start: 8 @50608 has 5 MA's), (Start: 22 @50695 has 168 MA's), (62, 51034), (73, 51112), (82, 51220), (90, 51322),

Gene: Rizal_97 Start: 49756, Stop: 50475, Start Num: 8

Candidate Starts for Rizal_97:

(Start: 8 @49756 has 5 MA's), (Start: 22 @49843 has 168 MA's), (62, 50182), (73, 50260), (82, 50368), (90, 50470),

Gene: RoMag_96 Start: 51018, Stop: 51650, Start Num: 22

Candidate Starts for RoMag_96:

(17, 50976), (18, 50979), (Start: 22 @51018 has 168 MA's), (62, 51357), (73, 51435), (82, 51543), (90, 51645),

Gene: Ronan_95 Start: 48969, Stop: 49601, Start Num: 22

Candidate Starts for Ronan_95:

(Start: 22 @48969 has 168 MA's), (62, 49308), (73, 49386), (82, 49494), (90, 49596),

Gene: Roots515_100 Start: 51997, Stop: 52635, Start Num: 22

Candidate Starts for Roots515_100:

(Start: 22 @51997 has 168 MA's), (62, 52342), (73, 52420), (82, 52528), (90, 52630),

Gene: Salacia_105 Start: 52144, Stop: 52776, Start Num: 22

Candidate Starts for Salacia_105:

(Start: 22 @52144 has 168 MA's), (62, 52483), (73, 52561), (82, 52669), (90, 52771),

Gene: Sauce_102 Start: 51006, Stop: 51638, Start Num: 22

Candidate Starts for Sauce_102:

(Start: 22 @51006 has 168 MA's), (62, 51345), (73, 51423), (82, 51531), (90, 51633),

Gene: ScoobyDoobyDoo_226 Start: 130612, Stop: 131253, Start Num: 22

Candidate Starts for ScoobyDoobyDoo_226:

(Start: 22 @130612 has 168 MA's), (Start: 31 @130723 has 1 MA's), (42, 130816), (53, 130882), (55, 130903), (59, 130942), (62, 130960), (63, 130966), (73, 131038), (82, 131146), (84, 131164),

Gene: ScottMcG_98 Start: 50768, Stop: 51400, Start Num: 22

Candidate Starts for ScottMcG_98:

(Start: 22 @50768 has 168 MA's), (62, 51107), (73, 51185), (82, 51293), (90, 51395),

Gene: Sebata_103 Start: 52475, Stop: 53107, Start Num: 22

Candidate Starts for Sebata_103:

(Start: 22 @52475 has 168 MA's), (62, 52814), (73, 52892), (82, 53000), (90, 53102),

Gene: Shaqnato_94 Start: 49881, Stop: 50513, Start Num: 22

Candidate Starts for Shaqnato_94:

(Start: 22 @49881 has 168 MA's), (62, 50220), (73, 50298), (82, 50406), (90, 50508),

Gene: Shelob_103 Start: 52591, Stop: 53223, Start Num: 22

Candidate Starts for Shelob_103:

(Start: 22 @52591 has 168 MA's), (62, 52930), (73, 53008), (82, 53116), (90, 53218),

Gene: ShiaLabeouf_100 Start: 51130, Stop: 51762, Start Num: 22

Candidate Starts for ShiaLabeouf_100:

(Start: 8 @51043 has 5 MA's), (Start: 22 @51130 has 168 MA's), (62, 51469), (73, 51547), (82, 51655), (90, 51757),

Gene: Shifa_90 Start: 49856, Stop: 50488, Start Num: 22

Candidate Starts for Shifa_90:

(Start: 22 @49856 has 168 MA's), (62, 50195), (73, 50273), (82, 50381), (90, 50483),

Gene: Shnickers_101 Start: 51094, Stop: 51726, Start Num: 22

Candidate Starts for Shnickers_101:

(Start: 8 @51007 has 5 MA's), (Start: 22 @51094 has 168 MA's), (62, 51433), (73, 51511), (82, 51619), (90, 51721),

Gene: Shrimp_101 Start: 51808, Stop: 52446, Start Num: 22

Candidate Starts for Shrimp_101:

(Start: 22 @51808 has 168 MA's), (62, 52153), (73, 52231), (82, 52339), (90, 52441),

Gene: SilverDipper_102 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for SilverDipper_102:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: SmallFry_101 Start: 50319, Stop: 50951, Start Num: 22

Candidate Starts for SmallFry_101:

(Start: 8 @50232 has 5 MA's), (Start: 22 @50319 has 168 MA's), (62, 50658), (73, 50736), (82, 50844), (90, 50946),

Gene: SparkleGoddess_256 Start: 123985, Stop: 124458, Start Num: 30

Candidate Starts for SparkleGoddess_256:

(26, 123967), (Start: 30 @123985 has 5 MA's), (45, 124111), (47, 124114), (52, 124147), (64, 124222), (68, 124258), (76, 124315), (79, 124333), (86, 124438),

Gene: Spec_97 Start: 50859, Stop: 51491, Start Num: 22

Candidate Starts for Spec_97:

(Start: 8 @50772 has 5 MA's), (Start: 22 @50859 has 168 MA's), (62, 51198), (73, 51276), (82, 51384), (90, 51486),

Gene: Specks_106 Start: 52993, Stop: 53625, Start Num: 22

Candidate Starts for Specks_106:

(Start: 8 @52906 has 5 MA's), (Start: 22 @52993 has 168 MA's), (62, 53332), (73, 53410), (82, 53518), (90, 53620),

Gene: Sprinklers_97 Start: 50378, Stop: 51010, Start Num: 22

Candidate Starts for Sprinklers_97:

(Start: 22 @50378 has 168 MA's), (62, 50717), (73, 50795), (82, 50903), (90, 51005),

Gene: Spud_101 Start: 51893, Stop: 52525, Start Num: 22

Candidate Starts for Spud_101:

(Start: 22 @51893 has 168 MA's), (62, 52232), (73, 52310), (82, 52418), (90, 52520),

Gene: SrishMeg2525_100 Start: 51912, Stop: 52544, Start Num: 22

Candidate Starts for SrishMeg2525_100:

(Start: 22 @51912 has 168 MA's), (62, 52251), (73, 52329), (82, 52437), (90, 52539),

Gene: StephanieG_100 Start: 52717, Stop: 53355, Start Num: 22

Candidate Starts for StephanieG_100:

(Start: 22 @52717 has 168 MA's), (62, 53062), (73, 53140), (82, 53248), (90, 53350),

Gene: Stigma_254 Start: 123698, Stop: 124171, Start Num: 30

Candidate Starts for Stigma_254:

(26, 123680), (Start: 30 @123698 has 5 MA's), (45, 123824), (47, 123827), (52, 123860), (64, 123935), (68, 123971), (76, 124028), (79, 124046), (86, 124151),

Gene: Stubby_94 Start: 50013, Stop: 50645, Start Num: 22

Candidate Starts for Stubby_94:

(Start: 22 @50013 has 168 MA's), (62, 50352), (73, 50430), (82, 50538), (90, 50640),

Gene: StubbySaigey_104 Start: 50510, Stop: 51142, Start Num: 22

Candidate Starts for StubbySaigey_104:

(Start: 22 @50510 has 168 MA's), (62, 50849), (73, 50927), (82, 51035), (90, 51137),

Gene: Sunny_24 Start: 11517, Stop: 12002, Start Num: 21

Candidate Starts for Sunny_24:

(21, 11517), (32, 11652), (38, 11685), (44, 11730), (53, 11772), (57, 11811), (62, 11850), (68, 11907), (72, 11925), (77, 11982),

Gene: Tainan_105 Start: 52316, Stop: 52948, Start Num: 22

Candidate Starts for Tainan_105:

(Start: 8 @52229 has 5 MA's), (Start: 22 @52316 has 168 MA's), (62, 52655), (73, 52733), (82, 52841), (90, 52943),

Gene: Teardrop_100 Start: 50317, Stop: 50949, Start Num: 22

Candidate Starts for Teardrop_100:

(Start: 8 @50230 has 5 MA's), (Start: 22 @50317 has 168 MA's), (62, 50656), (73, 50734), (82, 50842), (90, 50944),

Gene: TinyTim_101 Start: 51570, Stop: 52202, Start Num: 22

Candidate Starts for TinyTim_101:

(Start: 22 @51570 has 168 MA's), (62, 51909), (73, 51987), (82, 52095), (90, 52197),

Gene: Tonenili_116 Start: 55317, Stop: 55949, Start Num: 22

Candidate Starts for Tonenili_116:

(7, 55221), (Start: 22 @55317 has 168 MA's), (62, 55656), (68, 55713), (73, 55734), (82, 55842), (90, 55944),

Gene: Tortoise16_98 Start: 50918, Stop: 51550, Start Num: 22

Candidate Starts for Tortoise16_98:

(Start: 8 @50831 has 5 MA's), (Start: 22 @50918 has 168 MA's), (62, 51257), (73, 51335), (82, 51443), (90, 51545),

Gene: Trinitium_98 Start: 50276, Stop: 50908, Start Num: 22

Candidate Starts for Trinitium_98:

(Start: 22 @50276 has 168 MA's), (62, 50615), (73, 50693), (82, 50801), (90, 50903),

Gene: Turret_96 Start: 49715, Stop: 50353, Start Num: 22

Candidate Starts for Turret_96:

(Start: 22 @49715 has 168 MA's), (62, 50060), (73, 50138), (82, 50246), (90, 50348),

Gene: Tyke_102 Start: 52459, Stop: 53091, Start Num: 22

Candidate Starts for Tyke_102:

(Start: 8 @52372 has 5 MA's), (Start: 22 @52459 has 168 MA's), (62, 52798), (73, 52876), (82, 52984), (90, 53086),

Gene: ValleyTerrace_101 Start: 50338, Stop: 50970, Start Num: 22

Candidate Starts for ValleyTerrace_101:

(Start: 8 @50251 has 5 MA's), (Start: 22 @50338 has 168 MA's), (62, 50677), (73, 50755), (82, 50863), (90, 50965),

Gene: Wally_100 Start: 50348, Stop: 50980, Start Num: 22

Candidate Starts for Wally_100:

(Start: 22 @50348 has 168 MA's), (62, 50687), (73, 50765), (82, 50873), (90, 50975),

Gene: Widow_49 Start: 37464, Stop: 36880, Start Num: 16

Candidate Starts for Widow_49:

(3, 37569), (4, 37536), (15, 37476), (Start: 16 @37464 has 2 MA's), (Start: 20 @37455 has 10 MA's), (29, 37359), (41, 37254), (52, 37203), (80, 36993), (86, 36900),

Gene: Willis_102 Start: 51699, Stop: 52337, Start Num: 22

Candidate Starts for Willis_102:

(Start: 22 @51699 has 168 MA's), (62, 52044), (82, 52230), (90, 52332),

Gene: Wooper_42 Start: 35889, Stop: 35314, Start Num: 20

Candidate Starts for Wooper_42:

(Start: 20 @35889 has 10 MA's), (23, 35850), (34, 35739), (40, 35700), (60, 35577), (62, 35565), (64, 35556), (69, 35514), (70, 35511), (71, 35508), (72, 35499),

Gene: Yassified_98 Start: 50425, Stop: 51057, Start Num: 22

Candidate Starts for Yassified_98:

(Start: 22 @50425 has 168 MA's), (62, 50764), (73, 50842), (82, 50950), (90, 51052),

Gene: YemiJoy2021_102 Start: 51801, Stop: 52439, Start Num: 22

Candidate Starts for YemiJoy2021_102:

(Start: 22 @51801 has 168 MA's), (62, 52146), (73, 52224), (82, 52332), (90, 52434),

Gene: YoungMoneyMata_102 Start: 50971, Stop: 51603, Start Num: 22

Candidate Starts for YoungMoneyMata_102:

(Start: 22 @50971 has 168 MA's), (62, 51310), (73, 51388), (82, 51496), (90, 51598),

Gene: Yucca_101 Start: 51489, Stop: 52121, Start Num: 22

Candidate Starts for Yucca_101:

(Start: 22 @51489 has 168 MA's), (62, 51828), (73, 51906), (82, 52014), (90, 52116),

Gene: Zalkecks_102 Start: 51490, Stop: 52122, Start Num: 22

Candidate Starts for Zalkecks_102:

(Start: 22 @51490 has 168 MA's), (62, 51829), (73, 51907), (82, 52015), (90, 52117),

Gene: Zeenon_103 Start: 51575, Stop: 52207, Start Num: 22

Candidate Starts for Zeenon_103:

(Start: 22 @51575 has 168 MA's), (62, 51914), (73, 51992), (82, 52100), (90, 52202),

Gene: ZygoTaiga_100 Start: 52729, Stop: 53367, Start Num: 22

Candidate Starts for ZygoTaiga_100:

(Start: 22 @52729 has 168 MA's), (62, 53074), (73, 53152), (82, 53260), (90, 53362),