

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 219385 Report

This analysis was run 03/28/25 on database version 593.

Pham number 219385 has 232 members, 30 are drafts.

Phages represented in each track:

- Track 1 : Cane17_53, Blubba_54
- Track 2 : FudgeTart_65, Trinitium_59, HyRo_59, MoMoMixon_64, Stubby_59, Pinkcreek_56, EasyJones_66, Sebata_66, DirtMonster_60, Turret_58, Mangeria_67, ChickenPhender_59, Alice_58, LinStu_65, Ablatia_60, Issimir_64, DeejaClivia_56, Cactojaque_58, Kboogie_64, Colt_55, RoMag_58, EmToTheThree_67, InterFolia_72, Blackbrain_58, ChaylaJr_59, JustHall_59, Astraea_65, Dietrick_57
- Track 3 : Nappy_66, Dandelion_69, JigglyPuff_68, I3_66, IkeLoa_58, Bigswole_70
- Track 4 : Megamind_63, Daffodil_66, Bipolarisk_63, Salacia_66, Kamryn_63, BadAgartude_63, Roots515_63, Willis_64, LolaVinca_67, Jezreel_62, Shaqnato_58, DrPhinkDaddy_63, Iota_58, Erdmann_65, Fludd_63, Flabslab_60, Asterius_64, Cali_61, Lukilu_57, Basquiat_59, McWolfish_62, LRRHood_60, Gizmo_66, Caravan_60, LordLeafolot_69, MikeLiesIn_64, Wally_62, Napoleon13_61, Ewok_64, Delilah_64, Mikro_62, Maby2021_64, Shelob_66, ZygoTaiga_64, Izajani_65, Pleione_66, Ava3_65, Jessibeth14_62, Yucca_64, Halldule_58, Chargie21_59, Delylah_65, Rizal_62, Zeenon_66, NedWong_65, BeanWater_57, Zalkecks_65, StubbySaigey_63, CharlieB_61, NoodleTree_64, Grungle_55, NuevoMundo_69, SrishMeg2525_63, PurduePete_63, FrayBell_70, Lee7_62, Fongie_63, ET08_55, Spud_64, Janiyr_65, TinyTim_64, Khaleesi_63, Shrimp_64, Bonray_64, Norm_64, Ronan_58, Catera_62, Sprinklers_60, ParkTD_63, Naval22_70, Loanshark_64, YemiJoy2021_64, Bread_64, SVoro_63, Phox_62
- Track 5 : Gabriel_65, Littleton_63, Guwapp_62, Belieber_58, Derek_64, Latch_63, Chomp_62, ValleyTerrace_63, Momo_62, YoungMoneyMata_63, Quasimodo_63, EmmaElysia_62, Jemmno_63, Jedediah_64, Breeniome_65, Jaygup_63, Audrick_65, BananaFence_65, SilverDipper_64, Capablanca_65, Essence_62, JPickles_61, BackyardAgain_61, Pio_68, Naija_62, DTDevon_64, Phlegm_65, Primadonna_60, Ghost_63, McGee_62, GlutenPhree_61, Babyland_62, Teardrop_63, Amataga_63, Tortoise16_61, Adlitam_63, Shnickers_63, Atlantean_62, Patter_63, Rahel_64, LifeSavor_63, Matsumoto_62, Drazdys_63, ArcherS7_63, Pivoine_62, InigoMontoya_64, Spec_61, Ngannou_58, Specks_69, Bangla1971_64, SmallFry_63, Phusco_63, ShiaLabeouf_63, Ading_63, Burrough_64, Melpomini_59, Darko_63, Gamgam_63, Tyke_65, Bxz1_64
- Track 6 : FoxtrotP1_64, Nidhogg_64, ErnieJ_63, StephanieG_64, Yassified_61, Shifa_57, Morizzled23_66, QBert_58, Rabinovish_63, Sauce_65
- Track 7 : Tainan_69
- Track 8 : Concombre_69, Demodog_68
- Track 9 : CindyLou_64
- Track 10 : BigCity_69, Grasshills_69, Lethe_64, JayJay_69, EggyFarm_69

- Track 11 : Blackdragon_60, Domi_58, JulietS_58
- Track 12 : Koguma_60
- Track 13 : Pier_66, ScottMcG_62
- Track 14 : Tonenili_74
- Track 15 : Yvonnetastic_3
- Track 16 : JonJames_2
- Track 17 : Cardigan_4
- Track 18 : GodonK_206, Phendrix_194
- Track 19 : Vagabond_106, Winget_107, Schuy_107, Wogge42_104, Catdawg_108, MadKillah_110, Alkhayr_103, FoulBall_106
- Track 20 : Shida_109
- Track 21 : Familton_108, Ryadel_111
- Track 22 : Mori_107, Vorrps_107, Krili_109
- Track 23 : Ashwin_104, Wildflower_104
- Track 24 : Idergollasper_109, Zebo_105, TelAviv_104, Blessica_105, SchoolBus_106, JangDynasty_103
- Track 25 : Bora_106, KingPhillip3_105
- Track 26 : Dylan_102
- Track 27 : Firecracker_107
- Track 28 : Murai_107
- Track 29 : Zakhe101_102
- Track 30 : Smooch_106
- Track 31 : NiebruSaylor_107

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

The start number called the most often in the published annotations is 24, it was called in 171 of the 202 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia_60, Ading_63, Adlitam_63, Alice_58, Amataga_63, ArcherS7_63, Asterius_64, Astraea_65, Atlantean_62, Audrick_65, Ava3_65, Babyland_62, BackyardAgain_61, BadAgartude_63, BananaFence_65, Bangla1971_64, Basquiat_59, BeanWater_57, Belieber_58, Bigswole_70, Bipolarisk_63, Blackbrain_58, Blubba_54, Bonray_64, Bread_64, Breeniome_65, Burrough_64, Bxz1_64, Cactojaque_58, Cali_61, Cane17_53, Capablanca_65, Caravan_60, Catera_62, Chargie21_59, CharlieB_61, ChaylaJr_59, ChickenPhender_59, Chomp_62, CindyLou_64, Colt_55, DTDevon_64, Daffodil_66, Dandelion_69, Darko_63, DeejaClivia_56, Delilah_64, Delylah_65, Derek_64, Dietrick_57, DirtMonster_60, DrPhinkDaddy_63, Drazdys_63, ET08_55, EasyJones_66, EmToTheThree_67, EmmaElysia_62, Erdmann_65, ErnieJ_63, Essence_62, Ewok_64, Flabslab_60, Fludd_63, Fongie_63, FoxtrotP1_64, FrayBell_70, FudgeTart_65, Gabriel_65, Gamgam_63, Ghost_63, Gizmo_66, GlutenPhree_61, Grungle_55, Guwapp_62, Halldule_58, HyRo_59, I3_66, IkeLoa_58, InigoMontoya_64, InterFolia_72, Iota_58, Issimir_64, Izajani_65, JPickles_61, Janiyra_65, Jaygup_63, Jediah_64, Jemmno_63, Jessibeth14_62, Jezreel_62, JigglyPuff_68, JustHall_59, Kamryn_63, Kboogie_64, Khaleesi_63, Koguma_60, LRRHood_60, Latch_63, Lee7_62, LifeSavor_63, LinStu_65, Littleton_63, Loanshark_64, LolaVinca_67, LordLeafot_69, Lukilu_57, Maby2021_64, Mangeria_67, Matsumoto_62, McGee_62, McWolfish_62, Megamind_63,

Melpomini_59, MikeLiesIn_64, Mikro_62, MoMoMixon_64, Momo_62, Morizzled23_66, Naija_62, Napoleon13_61, Nappy_66, Naval22_70, NedWong_65, Ngannou_58, Nidhogg_64, NoodleTree_64, Norm_64, NuevoMundo_69, ParkTD_63, Patter_63, Phlegm_65, Phox_62, Phusco_63, Pier_66, Pinkcreek_56, Pio_68, Pivoine_62, Pleione_66, Primadonna_60, PurduePete_63, QBert_58, Quasimodo_63, Rabinovish_63, Rahel_64, Rizal_62, RoMag_58, Ronan_58, Roots515_63, SVoro_63, Salacia_66, Sauce_65, ScottMcG_62, Sebata_66, Shaqato_58, Shelob_66, ShiaLabeouf_63, Shifa_57, Shnickers_63, Shrimp_64, SilverDipper_64, SmallFry_63, Spec_61, Specks_69, Sprinklers_60, Spud_64, SrishMeg2525_63, StephanieG_64, StubbySaigey_63, Stubby_59, Teardrop_63, TinyTim_64, Tonenili_74, Tortoise16_61, Trinitium_59, Turret_58, Tyke_65, ValleyTerrace_63, Wally_62, Willis_64, Yassified_61, YemiJoy2021_64, YoungMoneyMata_63, Yucca_64, Zalkecks_65, Zeenon_66, ZygoTaiga_64,

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

- BigCity_69, Blackdragon_60, Concombre_69, Demodog_68, Domi_58, EggyFarm_69, Grasshills_69, JayJay_69, JulietS_58, Lethe_64, Tainan_69,

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

- Alkhayr_103, Ashwin_104, Blessica_105, Bora_106, Cardigan_4, Catdawg_108, Dylan_102, Familton_108, Firecracker_107, FoulBall_106, GodonK_206, Idergollasper_109, JangDynasty_103, JonJames_2, KingPhillip3_105, Krili_109, MadKillah_110, Mori_107, Murai_107, NiebruSaylor_107, Phendrix_194, Ryadel_111, SchoolBus_106, Schuy_107, Shida_109, Smooch_106, TelAviv_104, Vagabond_106, Vorrps_107, Wildflower_104, Winget_107, Wogge42_104, Yvonnestic_3, Zakhe101_102, Zebo_105,

Summary by start number:

Start 19:

- Found in 5 of 232 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Dylan_102 (O), NiebruSaylor_107 (O),

Start 20:

- Found in 2 of 232 (0.9%) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GodonK_206 (DK), Phendrix_194 (DK),

Start 21:

- Found in 1 of 232 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zakhe101_102 (O),

Start 22:

- Found in 29 of 232 (12.5%) of genes in pham
- Manual Annotations of this start: 23 of 202
- Called 93.1% of time when present
- Phage (with cluster) where this start called: Alkhayr_103 (O), Ashwin_104 (O), Blessica_105 (O), Bora_106 (O), Catdawg_108 (O), Familton_108 (O),

Firecracker_107 (O), FoulBall_106 (O), Idergollasper_109 (O), JangDynasty_103 (O), KingPhillip3_105 (O), Krili_109 (O), MadKillah_110 (O), Mori_107 (O), Murai_107 (O), Ryadel_111 (O), SchoolBus_106 (O), Schuy_107 (O), Shida_109 (O), Smooch_106 (O), TelAviv_104 (O), Vagabond_106 (O), Vorrrps_107 (O), Wildflower_104 (O), Winget_107 (O), Wogge42_104 (O), Zebo_105 (O),

Start 24:

- Found in 197 of 232 (84.9%) of genes in pham
- Manual Annotations of this start: 171 of 202
- Called 94.4% of time when present
- Phage (with cluster) where this start called: Ablatia_60 (C1), Ading_63 (C1), Adlitam_63 (C1), Alice_58 (C1), Amataga_63 (C1), ArcherS7_63 (C1), Asterius_64 (C1), Astraea_65 (C1), Atlantean_62 (C1), Audrick_65 (C1), Ava3_65 (C1), Babyland_62 (C1), BackyardAgain_61 (C1), BadAgartude_63 (C1), BananaFence_65 (C1), Bangla1971_64 (C1), Basquiat_59 (C1), BeanWater_57 (C1), Belieber_58 (C1), Bigswole_70 (C1), Bipolarisk_63 (C1), Blackbrain_58 (C1), Blubba_54 (C1), Bonray_64 (C1), Bread_64 (C1), Breeniome_65 (C1), Burrough_64 (C1), Bxz1_64 (C1), Cactojaque_58 (C1), Cali_61 (C1), Cane17_53 (C1), Capablanca_65 (C1), Caravan_60 (C1), Catera_62 (C1), Chargie21_59 (C1), CharlieB_61 (C1), ChaylaJr_59 (C1), ChickenPhender_59 (C1), Chomp_62 (C1), CindyLou_64 (C1), Colt_55 (C1), DTDevon_64 (C1), Daffodil_66 (C1), Dandelion_69 (C1), Darko_63 (C1), DeejaClivia_56 (C1), Delilah_64 (C1), Delylah_65 (C1), Derek_64 (C1), Dietrick_57 (C1), DirtMonster_60 (C1), DrPhinkDaddy_63 (C1), Drazdys_63 (C1), ET08_55 (C1), EasyJones_66 (C1), EmToTheThree_67 (C1), EmmaElysia_62 (C1), Erdmann_65 (C1), ErnieJ_63 (C1), Essence_62 (C1), Ewok_64 (C1), Flabslab_60 (C1), Fludd_63 (C1), Fongie_63 (C1), FoxtrotP1_64 (C1), FrayBell_70 (C1), FudgeTart_65 (C1), Gabriel_65 (C1), Gamgam_63 (C1), Ghost_63 (C1), Gizmo_66 (C1), GlutenPhree_61 (C1), Grungle_55 (C1), Guwapp_62 (C1), Halldule_58 (C1), HyRo_59 (C1), I3_66 (C1), IkeLoa_58 (C1), InigoMontoya_64 (C1), InterFolia_72 (C1), Iota_58 (C1), Issimir_64 (C1), Izajani_65 (C1), JPickles_61 (C1), Janiyra_65 (C1), Jaygup_63 (C1), Jedediah_64 (C1), Jemmno_63 (C1), Jessibeth14_62 (C1), Jezreel_62 (C1), JigglyPuff_68 (C1), JustHall_59 (C1), Kamryn_63 (C1), Kboogie_64 (C1), Khaleesi_63 (C1), Koguma_60 (C1), LRRHood_60 (C1), Latch_63 (C1), Lee7_62 (C1), LifeSavor_63 (C1), LinStu_65 (C1), Littleton_63 (C1), Loanshark_64 (C1), LolaVinca_67 (C1), LordLeafolot_69 (C1), Lukilu_57 (C1), Maby2021_64 (C1), Mangeria_67 (C1), Matsumoto_62 (C1), McGee_62 (C1), McWolfish_62 (C1), Megamind_63 (C1), Melpomini_59 (C1), MikeLiesIn_64 (C1), Mikro_62 (C1), MoMoMixon_64 (C1), Momo_62 (C1), Morizzled23_66 (C1), Naija_62 (C1), Napoleon13_61 (C1), Nappy_66 (C1), Naval22_70 (C1), NedWong_65 (C1), Ngannou_58 (C1), Nidhogg_64 (C1), NoodleTree_64 (C1), Norm_64 (C1), NuevoMundo_69 (C1), ParkTD_63 (C1), Patter_63 (C1), Phlegm_65 (C1), Phox_62 (C1), Phusco_63 (C1), Pier_66 (C1), Pinkcreek_56 (C1), Pio_68 (C1), Pivoine_62 (C1), Pleione_66 (C1), Primadonna_60 (C1), PurduePete_63 (C1), QBert_58 (C1), Quasimodo_63 (C1), Rabinovish_63 (C1), Rahel_64 (C1), Rizal_62 (C1), RoMag_58 (C1), Ronan_58 (C1), Roots515_63 (C1), SVoro_63 (C1), Salacia_66 (C1), Sauce_65 (C1), ScottMcG_62 (C1), Sebata_66 (C1), Shaqnato_58 (C1), Shelob_66 (C1), ShiaLabeouf_63 (C1), Shifa_57 (C1), Shnickers_63 (C1), Shrimp_64 (C1), SilverDipper_64 (C1), SmallFry_63 (C1), Spec_61 (C1), Specks_69 (C1), Sprinklers_60 (C1), Spud_64 (C1), SrishMeg2525_63 (C1), StephanieG_64 (C1), StubbySaigey_63 (C1), Stubby_59 (C1), Teardrop_63 (C1), TinyTim_64 (C1), Tonenili_74 (C1), Tortoise16_61 (C1), Trinitium_59 (C1), Turret_58 (C1), Tyke_65 (C1), ValleyTerrace_63 (C1), Wally_62 (C1), Willis_64 (C1), Yassified_61 (C1), YemiJoy2021_64 (C1), YoungMoneyMata_63 (C1), Yucca_64 (C1), Zalkecks_65

(C1), Zeenon_66 (C1), ZygoTaiga_64 (C1),

Start 25:

- Found in 3 of 232 (1.3%) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan_4 (DD), JonJames_2 (DD), Yvonnestic_3 (DD),

Start 29:

- Found in 229 of 232 (98.7%) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 4.8% of time when present
- Phage (with cluster) where this start called: BigCity_69 (C1), Blackdragon_60 (C1), Concombre_69 (C1), Demodog_68 (C1), Domi_58 (C1), EggyFarm_69 (C1), Grasshills_69 (C1), JayJay_69 (C1), JulietS_58 (C1), Lethe_64 (C1), Tainan_69 (C1),

Summary by clusters:

There are 4 clusters represented in this pham: C1, DD, O, DK,

Info for manual annotations of cluster C1:

- Start number 24 was manually annotated 171 times for cluster C1.
- Start number 29 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster DD:

- Start number 25 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DK:

- Start number 20 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster O:

- Start number 19 was manually annotated 2 times for cluster O.
- Start number 21 was manually annotated 1 time for cluster O.
- Start number 22 was manually annotated 23 times for cluster O.

Gene Information:

Gene: Ablatia_60 Start: 19544, Stop: 19852, Start Num: 24

Candidate Starts for Ablatia_60:

(14, 19418), (18, 19511), (Start: 24 @19544 has 171 MA's), (Start: 29 @19583 has 1 MA's), (31, 19646), (43, 19814), (44, 19823), (45, 19838),

Gene: Ading_63 Start: 19644, Stop: 19952, Start Num: 24

Candidate Starts for Ading_63:

(14, 19518), (18, 19611), (Start: 24 @19644 has 171 MA's), (Start: 29 @19683 has 1 MA's), (31, 19746), (43, 19914), (44, 19923), (45, 19938),

Gene: Adlitam_63 Start: 19661, Stop: 19969, Start Num: 24

Candidate Starts for Adlitam_63:

(14, 19535), (18, 19628), (Start: 24 @19661 has 171 MA's), (Start: 29 @19700 has 1 MA's), (31, 19763), (43, 19931), (44, 19940), (45, 19955),

Gene: Alice_58 Start: 19718, Stop: 20026, Start Num: 24

Candidate Starts for Alice_58:

(14, 19592), (18, 19685), (Start: 24 @19718 has 171 MA's), (Start: 29 @19757 has 1 MA's), (31, 19820), (43, 19988), (44, 19997), (45, 20012),

Gene: Alkhayr_103 Start: 64105, Stop: 63794, Start Num: 22

Candidate Starts for Alkhayr_103:

(5, 64450), (10, 64240), (Start: 22 @64105 has 23 MA's), (Start: 29 @64060 has 1 MA's), (33, 63961), (36, 63922), (39, 63898), (40, 63865), (41, 63862), (42, 63847),

Gene: Amataga_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Amataga_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: ArcherS7_63 Start: 20028, Stop: 20336, Start Num: 24

Candidate Starts for ArcherS7_63:

(14, 19902), (18, 19995), (Start: 24 @20028 has 171 MA's), (Start: 29 @20067 has 1 MA's), (31, 20130), (43, 20298), (44, 20307), (45, 20322),

Gene: Ashwin_104 Start: 63342, Stop: 63028, Start Num: 22

Candidate Starts for Ashwin_104:

(10, 63477), (15, 63408), (Start: 22 @63342 has 23 MA's), (26, 63324), (Start: 29 @63294 has 1 MA's), (33, 63195), (36, 63156), (39, 63132), (40, 63099), (41, 63096), (42, 63081),

Gene: Asterius_64 Start: 20002, Stop: 20310, Start Num: 24

Candidate Starts for Asterius_64:

(14, 19876), (18, 19969), (Start: 24 @20002 has 171 MA's), (Start: 29 @20041 has 1 MA's), (31, 20104), (39, 20203), (43, 20272), (44, 20281), (45, 20296),

Gene: Astraea_65 Start: 21121, Stop: 21429, Start Num: 24

Candidate Starts for Astraea_65:

(14, 20995), (18, 21088), (Start: 24 @21121 has 171 MA's), (Start: 29 @21160 has 1 MA's), (31, 21223), (43, 21391), (44, 21400), (45, 21415),

Gene: Atlantean_62 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Atlantean_62:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Audrick_65 Start: 19644, Stop: 19952, Start Num: 24

Candidate Starts for Audrick_65:

(14, 19518), (18, 19611), (Start: 24 @19644 has 171 MA's), (Start: 29 @19683 has 1 MA's), (31, 19746), (43, 19914), (44, 19923), (45, 19938),

Gene: Ava3_65 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for Ava3_65:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Babyland_62 Start: 19103, Stop: 19411, Start Num: 24

Candidate Starts for Babyland_62:

(14, 18977), (18, 19070), (Start: 24 @19103 has 171 MA's), (Start: 29 @19142 has 1 MA's), (31, 19205), (43, 19373), (44, 19382), (45, 19397),

Gene: BackyardAgain_61 Start: 19596, Stop: 19904, Start Num: 24

Candidate Starts for BackyardAgain_61:

(14, 19470), (18, 19563), (Start: 24 @19596 has 171 MA's), (Start: 29 @19635 has 1 MA's), (31, 19698), (43, 19866), (44, 19875), (45, 19890),

Gene: BadAgartude_63 Start: 21462, Stop: 21770, Start Num: 24

Candidate Starts for BadAgartude_63:

(14, 21336), (18, 21429), (Start: 24 @21462 has 171 MA's), (Start: 29 @21501 has 1 MA's), (31, 21564), (39, 21663), (43, 21732), (44, 21741), (45, 21756),

Gene: BananaFence_65 Start: 20603, Stop: 20911, Start Num: 24

Candidate Starts for BananaFence_65:

(14, 20477), (18, 20570), (Start: 24 @20603 has 171 MA's), (Start: 29 @20642 has 1 MA's), (31, 20705), (43, 20873), (44, 20882), (45, 20897),

Gene: Bangla1971_64 Start: 20158, Stop: 20466, Start Num: 24

Candidate Starts for Bangla1971_64:

(14, 20032), (18, 20125), (Start: 24 @20158 has 171 MA's), (Start: 29 @20197 has 1 MA's), (31, 20260), (43, 20428), (44, 20437), (45, 20452),

Gene: Basquiat_59 Start: 19089, Stop: 19397, Start Num: 24

Candidate Starts for Basquiat_59:

(14, 18963), (18, 19056), (Start: 24 @19089 has 171 MA's), (Start: 29 @19128 has 1 MA's), (31, 19191), (39, 19290), (43, 19359), (44, 19368), (45, 19383),

Gene: BeanWater_57 Start: 20011, Stop: 20319, Start Num: 24

Candidate Starts for BeanWater_57:

(14, 19885), (18, 19978), (Start: 24 @20011 has 171 MA's), (Start: 29 @20050 has 1 MA's), (31, 20113), (39, 20212), (43, 20281), (44, 20290), (45, 20305),

Gene: Belieber_58 Start: 19017, Stop: 19325, Start Num: 24

Candidate Starts for Belieber_58:

(14, 18891), (18, 18984), (Start: 24 @19017 has 171 MA's), (Start: 29 @19056 has 1 MA's), (31, 19119), (43, 19287), (44, 19296), (45, 19311),

Gene: BigCity_69 Start: 21965, Stop: 22234, Start Num: 29

Candidate Starts for BigCity_69:

(14, 21800), (18, 21893), (Start: 24 @21926 has 171 MA's), (Start: 29 @21965 has 1 MA's), (33, 22064), (36, 22103), (39, 22127), (43, 22196), (44, 22205), (45, 22220),

Gene: Bigswole_70 Start: 22960, Stop: 23268, Start Num: 24

Candidate Starts for Bigswole_70:

(14, 22834), (18, 22927), (Start: 24 @22960 has 171 MA's), (Start: 29 @22999 has 1 MA's), (33, 23098), (36, 23137), (39, 23161), (43, 23230), (44, 23239), (45, 23254),

Gene: Bipolarisk_63 Start: 20430, Stop: 20738, Start Num: 24

Candidate Starts for Bipolarisk_63:

(14, 20304), (18, 20397), (Start: 24 @20430 has 171 MA's), (Start: 29 @20469 has 1 MA's), (31, 20532), (39, 20631), (43, 20700), (44, 20709), (45, 20724),

Gene: Blackbrain_58 Start: 18906, Stop: 19214, Start Num: 24

Candidate Starts for Blackbrain_58:

(14, 18780), (18, 18873), (Start: 24 @18906 has 171 MA's), (Start: 29 @18945 has 1 MA's), (31, 19008), (43, 19176), (44, 19185), (45, 19200),

Gene: Blackdragon_60 Start: 19969, Stop: 20238, Start Num: 29

Candidate Starts for Blackdragon_60:

(9, 19693), (14, 19804), (18, 19897), (Start: 24 @19930 has 171 MA's), (Start: 29 @19969 has 1 MA's), (31, 20032), (43, 20200), (44, 20209), (45, 20224),

Gene: Blessica_105 Start: 64314, Stop: 64003, Start Num: 22

Candidate Starts for Blessica_105:

(6, 64659), (10, 64449), (Start: 22 @64314 has 23 MA's), (Start: 29 @64269 has 1 MA's), (33, 64170), (36, 64131), (39, 64107), (40, 64074), (41, 64071), (42, 64056),

Gene: Blubba_54 Start: 17829, Stop: 18137, Start Num: 24

Candidate Starts for Blubba_54:

(Start: 24 @17829 has 171 MA's), (Start: 29 @17868 has 1 MA's), (31, 17931), (43, 18099), (44, 18108), (45, 18123),

Gene: Bonray_64 Start: 20707, Stop: 21015, Start Num: 24

Candidate Starts for Bonray_64:

(14, 20581), (18, 20674), (Start: 24 @20707 has 171 MA's), (Start: 29 @20746 has 1 MA's), (31, 20809), (39, 20908), (43, 20977), (44, 20986), (45, 21001),

Gene: Bora_106 Start: 65156, Stop: 64845, Start Num: 22

Candidate Starts for Bora_106:

(1, 65576), (2, 65564), (3, 65543), (4, 65516), (5, 65507), (10, 65291), (Start: 22 @65156 has 23 MA's), (Start: 29 @65111 has 1 MA's), (33, 65012), (36, 64973), (39, 64949), (40, 64916), (41, 64913), (42, 64898),

Gene: Bread_64 Start: 20400, Stop: 20708, Start Num: 24

Candidate Starts for Bread_64:

(14, 20274), (18, 20367), (Start: 24 @20400 has 171 MA's), (Start: 29 @20439 has 1 MA's), (31, 20502), (39, 20601), (43, 20670), (44, 20679), (45, 20694),

Gene: Breeniome_65 Start: 19907, Stop: 20215, Start Num: 24

Candidate Starts for Breeniome_65:

(14, 19781), (18, 19874), (Start: 24 @19907 has 171 MA's), (Start: 29 @19946 has 1 MA's), (31, 20009), (43, 20177), (44, 20186), (45, 20201),

Gene: Burrough_64 Start: 20433, Stop: 20741, Start Num: 24

Candidate Starts for Burrough_64:

(14, 20307), (18, 20400), (Start: 24 @20433 has 171 MA's), (Start: 29 @20472 has 1 MA's), (31, 20535), (43, 20703), (44, 20712), (45, 20727),

Gene: Bxz1_64 Start: 21484, Stop: 21792, Start Num: 24

Candidate Starts for Bxz1_64:

(14, 21358), (18, 21451), (Start: 24 @21484 has 171 MA's), (Start: 29 @21523 has 1 MA's), (31, 21586), (43, 21754), (44, 21763), (45, 21778),

Gene: Cactojaque_58 Start: 19013, Stop: 19321, Start Num: 24

Candidate Starts for Cactojaque_58:

(14, 18887), (18, 18980), (Start: 24 @19013 has 171 MA's), (Start: 29 @19052 has 1 MA's), (31, 19115), (43, 19283), (44, 19292), (45, 19307),

Gene: Cali_61 Start: 21248, Stop: 21556, Start Num: 24

Candidate Starts for Cali_61:

(14, 21122), (18, 21215), (Start: 24 @21248 has 171 MA's), (Start: 29 @21287 has 1 MA's), (31, 21350), (39, 21449), (43, 21518), (44, 21527), (45, 21542),

Gene: Cane17_53 Start: 17547, Stop: 17855, Start Num: 24

Candidate Starts for Cane17_53:

(Start: 24 @17547 has 171 MA's), (Start: 29 @17586 has 1 MA's), (31, 17649), (43, 17817), (44, 17826), (45, 17841),

Gene: Capablanca_65 Start: 20790, Stop: 21098, Start Num: 24

Candidate Starts for Capablanca_65:

(14, 20664), (18, 20757), (Start: 24 @20790 has 171 MA's), (Start: 29 @20829 has 1 MA's), (31, 20892), (43, 21060), (44, 21069), (45, 21084),

Gene: Caravan_60 Start: 19778, Stop: 20086, Start Num: 24

Candidate Starts for Caravan_60:

(14, 19652), (18, 19745), (Start: 24 @19778 has 171 MA's), (Start: 29 @19817 has 1 MA's), (31, 19880), (39, 19979), (43, 20048), (44, 20057), (45, 20072),

Gene: Cardigan_4 Start: 1331, Stop: 1020, Start Num: 25

Candidate Starts for Cardigan_4:

(11, 1484), (16, 1409), (23, 1343), (Start: 25 @1331 has 2 MA's), (27, 1310), (28, 1307), (30, 1298), (35, 1181), (37, 1160),

Gene: Catdawg_108 Start: 65425, Stop: 65114, Start Num: 22

Candidate Starts for Catdawg_108:

(5, 65770), (10, 65560), (Start: 22 @65425 has 23 MA's), (Start: 29 @65380 has 1 MA's), (33, 65281), (36, 65242), (39, 65218), (40, 65185), (41, 65182), (42, 65167),

Gene: Catera_62 Start: 19599, Stop: 19907, Start Num: 24

Candidate Starts for Catera_62:

(14, 19473), (18, 19566), (Start: 24 @19599 has 171 MA's), (Start: 29 @19638 has 1 MA's), (31, 19701), (39, 19800), (43, 19869), (44, 19878), (45, 19893),

Gene: Chargie21_59 Start: 19089, Stop: 19397, Start Num: 24

Candidate Starts for Chargie21_59:

(14, 18963), (18, 19056), (Start: 24 @19089 has 171 MA's), (Start: 29 @19128 has 1 MA's), (31, 19191), (39, 19290), (43, 19359), (44, 19368), (45, 19383),

Gene: CharlieB_61 Start: 19246, Stop: 19554, Start Num: 24

Candidate Starts for CharlieB_61:

(14, 19120), (18, 19213), (Start: 24 @19246 has 171 MA's), (Start: 29 @19285 has 1 MA's), (31, 19348), (39, 19447), (43, 19516), (44, 19525), (45, 19540),

Gene: ChaylaJr_59 Start: 19178, Stop: 19486, Start Num: 24

Candidate Starts for ChaylaJr_59:

(14, 19052), (18, 19145), (Start: 24 @19178 has 171 MA's), (Start: 29 @19217 has 1 MA's), (31, 19280), (43, 19448), (44, 19457), (45, 19472),

Gene: ChickenPhender_59 Start: 19137, Stop: 19445, Start Num: 24

Candidate Starts for ChickenPhender_59:

(14, 19011), (18, 19104), (Start: 24 @19137 has 171 MA's), (Start: 29 @19176 has 1 MA's), (31, 19239), (43, 19407), (44, 19416), (45, 19431),

Gene: Chomp_62 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Chomp_62:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: CindyLou_64 Start: 20190, Stop: 20498, Start Num: 24

Candidate Starts for CindyLou_64:

(14, 20064), (18, 20157), (Start: 24 @20190 has 171 MA's), (Start: 29 @20229 has 1 MA's), (31, 20292), (39, 20391), (43, 20460), (44, 20469), (45, 20484),

Gene: Colt_55 Start: 18533, Stop: 18841, Start Num: 24

Candidate Starts for Colt_55:

(14, 18407), (18, 18500), (Start: 24 @18533 has 171 MA's), (Start: 29 @18572 has 1 MA's), (31, 18635), (43, 18803), (44, 18812), (45, 18827),

Gene: Concombre_69 Start: 22526, Stop: 22795, Start Num: 29

Candidate Starts for Concombre_69:

(14, 22361), (18, 22454), (Start: 24 @22487 has 171 MA's), (Start: 29 @22526 has 1 MA's), (36, 22664), (39, 22688), (43, 22757), (44, 22766), (45, 22781),

Gene: DTDevon_64 Start: 20829, Stop: 21137, Start Num: 24

Candidate Starts for DTDevon_64:

(14, 20703), (18, 20796), (Start: 24 @20829 has 171 MA's), (Start: 29 @20868 has 1 MA's), (31, 20931), (43, 21099), (44, 21108), (45, 21123),

Gene: Daffodil_66 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for Daffodil_66:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Dandelion_69 Start: 22506, Stop: 22814, Start Num: 24

Candidate Starts for Dandelion_69:

(14, 22380), (18, 22473), (Start: 24 @22506 has 171 MA's), (Start: 29 @22545 has 1 MA's), (33, 22644), (36, 22683), (39, 22707), (43, 22776), (44, 22785), (45, 22800),

Gene: Darko_63 Start: 20572, Stop: 20880, Start Num: 24

Candidate Starts for Darko_63:

(14, 20446), (18, 20539), (Start: 24 @20572 has 171 MA's), (Start: 29 @20611 has 1 MA's), (31, 20674), (43, 20842), (44, 20851), (45, 20866),

Gene: DeejaClivia_56 Start: 18161, Stop: 18469, Start Num: 24

Candidate Starts for DeejaClivia_56:

(14, 18035), (18, 18128), (Start: 24 @18161 has 171 MA's), (Start: 29 @18200 has 1 MA's), (31, 18263), (43, 18431), (44, 18440), (45, 18455),

Gene: Delilah_64 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for Delilah_64:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Delylah_65 Start: 20497, Stop: 20805, Start Num: 24

Candidate Starts for Delylah_65:

(14, 20371), (18, 20464), (Start: 24 @20497 has 171 MA's), (Start: 29 @20536 has 1 MA's), (31, 20599), (39, 20698), (43, 20767), (44, 20776), (45, 20791),

Gene: Demodog_68 Start: 22526, Stop: 22795, Start Num: 29

Candidate Starts for Demodog_68:

(14, 22361), (18, 22454), (Start: 24 @22487 has 171 MA's), (Start: 29 @22526 has 1 MA's), (36, 22664), (39, 22688), (43, 22757), (44, 22766), (45, 22781),

Gene: Derek_64 Start: 19996, Stop: 20304, Start Num: 24

Candidate Starts for Derek_64:

(14, 19870), (18, 19963), (Start: 24 @19996 has 171 MA's), (Start: 29 @20035 has 1 MA's), (31, 20098), (43, 20266), (44, 20275), (45, 20290),

Gene: Dietrick_57 Start: 18837, Stop: 19145, Start Num: 24

Candidate Starts for Dietrick_57:

(14, 18711), (18, 18804), (Start: 24 @18837 has 171 MA's), (Start: 29 @18876 has 1 MA's), (31, 18939), (43, 19107), (44, 19116), (45, 19131),

Gene: DirtMonster_60 Start: 20505, Stop: 20813, Start Num: 24

Candidate Starts for DirtMonster_60:

(14, 20379), (18, 20472), (Start: 24 @20505 has 171 MA's), (Start: 29 @20544 has 1 MA's), (31, 20607), (43, 20775), (44, 20784), (45, 20799),

Gene: Domi_58 Start: 19646, Stop: 19915, Start Num: 29

Candidate Starts for Domi_58:

(9, 19370), (14, 19481), (18, 19574), (Start: 24 @19607 has 171 MA's), (Start: 29 @19646 has 1 MA's), (31, 19709), (43, 19877), (44, 19886), (45, 19901),

Gene: DrPhinkDaddy_63 Start: 20771, Stop: 21079, Start Num: 24

Candidate Starts for DrPhinkDaddy_63:

(14, 20645), (18, 20738), (Start: 24 @20771 has 171 MA's), (Start: 29 @20810 has 1 MA's), (31, 20873), (39, 20972), (43, 21041), (44, 21050), (45, 21065),

Gene: Drazdys_63 Start: 20502, Stop: 20810, Start Num: 24

Candidate Starts for Drazdys_63:

(14, 20376), (18, 20469), (Start: 24 @20502 has 171 MA's), (Start: 29 @20541 has 1 MA's), (31, 20604), (43, 20772), (44, 20781), (45, 20796),

Gene: Dylan_102 Start: 63094, Stop: 62762, Start Num: 19

Candidate Starts for Dylan_102:

(13, 63178), (Start: 19 @63094 has 2 MA's), (Start: 22 @63076 has 23 MA's), (Start: 29 @63028 has 1 MA's), (33, 62929), (36, 62890), (39, 62866), (40, 62833), (41, 62830), (42, 62815),

Gene: ET08_55 Start: 19114, Stop: 19422, Start Num: 24

Candidate Starts for ET08_55:

(14, 18988), (18, 19081), (Start: 24 @19114 has 171 MA's), (Start: 29 @19153 has 1 MA's), (31, 19216), (39, 19315), (43, 19384), (44, 19393), (45, 19408),

Gene: EasyJones_66 Start: 20664, Stop: 20972, Start Num: 24

Candidate Starts for EasyJones_66:

(14, 20538), (18, 20631), (Start: 24 @20664 has 171 MA's), (Start: 29 @20703 has 1 MA's), (31, 20766), (43, 20934), (44, 20943), (45, 20958),

Gene: EggyFarm_69 Start: 21965, Stop: 22234, Start Num: 29

Candidate Starts for EggyFarm_69:

(14, 21800), (18, 21893), (Start: 24 @21926 has 171 MA's), (Start: 29 @21965 has 1 MA's), (33, 22064), (36, 22103), (39, 22127), (43, 22196), (44, 22205), (45, 22220),

Gene: EmToTheThree_67 Start: 22133, Stop: 22441, Start Num: 24

Candidate Starts for EmToTheThree_67:

(14, 22007), (18, 22100), (Start: 24 @22133 has 171 MA's), (Start: 29 @22172 has 1 MA's), (31, 22235), (43, 22403), (44, 22412), (45, 22427),

Gene: EmmaElysia_62 Start: 19235, Stop: 19543, Start Num: 24

Candidate Starts for EmmaElysia_62:

(14, 19109), (18, 19202), (Start: 24 @19235 has 171 MA's), (Start: 29 @19274 has 1 MA's), (31, 19337), (43, 19505), (44, 19514), (45, 19529),

Gene: Erdmann_65 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for Erdmann_65:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: ErnieJ_63 Start: 20008, Stop: 20316, Start Num: 24

Candidate Starts for ErnieJ_63:

(9, 19771), (14, 19882), (18, 19975), (Start: 24 @20008 has 171 MA's), (Start: 29 @20047 has 1 MA's), (31, 20110), (43, 20278), (44, 20287), (45, 20302),

Gene: Essence_62 Start: 19519, Stop: 19827, Start Num: 24

Candidate Starts for Essence_62:

(14, 19393), (18, 19486), (Start: 24 @19519 has 171 MA's), (Start: 29 @19558 has 1 MA's), (31, 19621), (43, 19789), (44, 19798), (45, 19813),

Gene: Ewok_64 Start: 20722, Stop: 21030, Start Num: 24

Candidate Starts for Ewok_64:

(14, 20596), (18, 20689), (Start: 24 @20722 has 171 MA's), (Start: 29 @20761 has 1 MA's), (31, 20824), (39, 20923), (43, 20992), (44, 21001), (45, 21016),

Gene: Familton_108 Start: 64841, Stop: 64527, Start Num: 22

Candidate Starts for Familton_108:

(6, 65186), (10, 64976), (Start: 22 @64841 has 23 MA's), (Start: 29 @64793 has 1 MA's), (33, 64694), (36, 64655), (39, 64631), (40, 64598), (41, 64595), (42, 64580),

Gene: Firecracker_107 Start: 64710, Stop: 64396, Start Num: 22

Candidate Starts for Firecracker_107:

(Start: 22 @64710 has 23 MA's), (Start: 29 @64662 has 1 MA's), (33, 64563), (36, 64524), (39, 64500), (40, 64467), (41, 64464), (42, 64449),

Gene: Flabslab_60 Start: 19741, Stop: 20049, Start Num: 24

Candidate Starts for Flabslab_60:

(14, 19615), (18, 19708), (Start: 24 @19741 has 171 MA's), (Start: 29 @19780 has 1 MA's), (31, 19843), (39, 19942), (43, 20011), (44, 20020), (45, 20035),

Gene: Fludd_63 Start: 19594, Stop: 19902, Start Num: 24

Candidate Starts for Fludd_63:

(14, 19468), (18, 19561), (Start: 24 @19594 has 171 MA's), (Start: 29 @19633 has 1 MA's), (31, 19696), (39, 19795), (43, 19864), (44, 19873), (45, 19888),

Gene: Fongie_63 Start: 20938, Stop: 21246, Start Num: 24

Candidate Starts for Fongie_63:

(14, 20812), (18, 20905), (Start: 24 @20938 has 171 MA's), (Start: 29 @20977 has 1 MA's), (31, 21040), (39, 21139), (43, 21208), (44, 21217), (45, 21232),

Gene: FoulBall_106 Start: 64388, Stop: 64077, Start Num: 22

Candidate Starts for FoulBall_106:

(5, 64733), (10, 64523), (Start: 22 @64388 has 23 MA's), (Start: 29 @64343 has 1 MA's), (33, 64244), (36, 64205), (39, 64181), (40, 64148), (41, 64145), (42, 64130),

Gene: FoxtrotP1_64 Start: 21047, Stop: 21355, Start Num: 24

Candidate Starts for FoxtrotP1_64:

(9, 20810), (14, 20921), (18, 21014), (Start: 24 @21047 has 171 MA's), (Start: 29 @21086 has 1 MA's), (31, 21149), (43, 21317), (44, 21326), (45, 21341),

Gene: FrayBell_70 Start: 22233, Stop: 22541, Start Num: 24

Candidate Starts for FrayBell_70:

(14, 22107), (18, 22200), (Start: 24 @22233 has 171 MA's), (Start: 29 @22272 has 1 MA's), (31, 22335), (39, 22434), (43, 22503), (44, 22512), (45, 22527),

Gene: FudgeTart_65 Start: 20583, Stop: 20891, Start Num: 24

Candidate Starts for FudgeTart_65:

(14, 20457), (18, 20550), (Start: 24 @20583 has 171 MA's), (Start: 29 @20622 has 1 MA's), (31, 20685), (43, 20853), (44, 20862), (45, 20877),

Gene: Gabriel_65 Start: 19898, Stop: 20206, Start Num: 24

Candidate Starts for Gabriel_65:

(14, 19772), (18, 19865), (Start: 24 @19898 has 171 MA's), (Start: 29 @19937 has 1 MA's), (31, 20000), (43, 20168), (44, 20177), (45, 20192),

Gene: Gamgam_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Gamgam_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Ghost_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Ghost_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Gizmo_66 Start: 20402, Stop: 20710, Start Num: 24

Candidate Starts for Gizmo_66:

(14, 20276), (18, 20369), (Start: 24 @20402 has 171 MA's), (Start: 29 @20441 has 1 MA's), (31, 20504), (39, 20603), (43, 20672), (44, 20681), (45, 20696),

Gene: GlutenPhree_61 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for GlutenPhree_61:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: GodonK_206 Start: 106262, Stop: 105993, Start Num: 20

Candidate Starts for GodonK_206:

(Start: 20 @106262 has 2 MA's), (Start: 29 @106205 has 1 MA's), (32, 106109), (34, 106097), (35, 106085),

Gene: Grasshills_69 Start: 21965, Stop: 22234, Start Num: 29

Candidate Starts for Grasshills_69:

(14, 21800), (18, 21893), (Start: 24 @21926 has 171 MA's), (Start: 29 @21965 has 1 MA's), (33, 22064), (36, 22103), (39, 22127), (43, 22196), (44, 22205), (45, 22220),

Gene: Grungle_55 Start: 18196, Stop: 18504, Start Num: 24

Candidate Starts for Grungle_55:

(14, 18070), (18, 18163), (Start: 24 @18196 has 171 MA's), (Start: 29 @18235 has 1 MA's), (31, 18298), (39, 18397), (43, 18466), (44, 18475), (45, 18490),

Gene: Guwapp_62 Start: 19760, Stop: 20068, Start Num: 24

Candidate Starts for Guwapp_62:

(14, 19634), (18, 19727), (Start: 24 @19760 has 171 MA's), (Start: 29 @19799 has 1 MA's), (31, 19862), (43, 20030), (44, 20039), (45, 20054),

Gene: Halldule_58 Start: 18773, Stop: 19081, Start Num: 24

Candidate Starts for Halldule_58:

(14, 18647), (18, 18740), (Start: 24 @18773 has 171 MA's), (Start: 29 @18812 has 1 MA's), (31, 18875), (39, 18974), (43, 19043), (44, 19052), (45, 19067),

Gene: HyRo_59 Start: 20126, Stop: 20434, Start Num: 24

Candidate Starts for HyRo_59:

(14, 20000), (18, 20093), (Start: 24 @20126 has 171 MA's), (Start: 29 @20165 has 1 MA's), (31, 20228), (43, 20396), (44, 20405), (45, 20420),

Gene: I3_66 Start: 20338, Stop: 20646, Start Num: 24

Candidate Starts for I3_66:

(14, 20212), (18, 20305), (Start: 24 @20338 has 171 MA's), (Start: 29 @20377 has 1 MA's), (33, 20476), (36, 20515), (39, 20539), (43, 20608), (44, 20617), (45, 20632),

Gene: Idergollasper_109 Start: 65389, Stop: 65078, Start Num: 22

Candidate Starts for Idergollasper_109:

(6, 65734), (10, 65524), (Start: 22 @65389 has 23 MA's), (Start: 29 @65344 has 1 MA's), (33, 65245), (36, 65206), (39, 65182), (40, 65149), (41, 65146), (42, 65131),

Gene: IkeLoa_58 Start: 19404, Stop: 19712, Start Num: 24

Candidate Starts for IkeLoa_58:

(14, 19278), (18, 19371), (Start: 24 @19404 has 171 MA's), (Start: 29 @19443 has 1 MA's), (33, 19542), (36, 19581), (39, 19605), (43, 19674), (44, 19683), (45, 19698),

Gene: InigoMontoya_64 Start: 19626, Stop: 19934, Start Num: 24
Candidate Starts for InigoMontoya_64:
(14, 19500), (18, 19593), (Start: 24 @19626 has 171 MA's), (Start: 29 @19665 has 1 MA's), (31, 19728), (43, 19896), (44, 19905), (45, 19920),

Gene: InterFolia_72 Start: 23171, Stop: 23479, Start Num: 24
Candidate Starts for InterFolia_72:
(14, 23045), (18, 23138), (Start: 24 @23171 has 171 MA's), (Start: 29 @23210 has 1 MA's), (31, 23273), (43, 23441), (44, 23450), (45, 23465),

Gene: Iota_58 Start: 19702, Stop: 20010, Start Num: 24
Candidate Starts for Iota_58:
(14, 19576), (18, 19669), (Start: 24 @19702 has 171 MA's), (Start: 29 @19741 has 1 MA's), (31, 19804), (39, 19903), (43, 19972), (44, 19981), (45, 19996),

Gene: Issimir_64 Start: 20662, Stop: 20970, Start Num: 24
Candidate Starts for Issimir_64:
(14, 20536), (18, 20629), (Start: 24 @20662 has 171 MA's), (Start: 29 @20701 has 1 MA's), (31, 20764), (43, 20932), (44, 20941), (45, 20956),

Gene: Izajani_65 Start: 20735, Stop: 21043, Start Num: 24
Candidate Starts for Izajani_65:
(14, 20609), (18, 20702), (Start: 24 @20735 has 171 MA's), (Start: 29 @20774 has 1 MA's), (31, 20837), (39, 20936), (43, 21005), (44, 21014), (45, 21029),

Gene: JPickles_61 Start: 18859, Stop: 19167, Start Num: 24
Candidate Starts for JPickles_61:
(14, 18733), (18, 18826), (Start: 24 @18859 has 171 MA's), (Start: 29 @18898 has 1 MA's), (31, 18961), (43, 19129), (44, 19138), (45, 19153),

Gene: JangDynasty_103 Start: 63739, Stop: 63428, Start Num: 22
Candidate Starts for JangDynasty_103:
(6, 64084), (10, 63874), (Start: 22 @63739 has 23 MA's), (Start: 29 @63694 has 1 MA's), (33, 63595), (36, 63556), (39, 63532), (40, 63499), (41, 63496), (42, 63481),

Gene: Janiyra_65 Start: 20424, Stop: 20732, Start Num: 24
Candidate Starts for Janiyra_65:
(14, 20298), (18, 20391), (Start: 24 @20424 has 171 MA's), (Start: 29 @20463 has 1 MA's), (31, 20526), (39, 20625), (43, 20694), (44, 20703), (45, 20718),

Gene: JayJay_69 Start: 21254, Stop: 21523, Start Num: 29
Candidate Starts for JayJay_69:
(14, 21089), (18, 21182), (Start: 24 @21215 has 171 MA's), (Start: 29 @21254 has 1 MA's), (33, 21353), (36, 21392), (39, 21416), (43, 21485), (44, 21494), (45, 21509),

Gene: Jaygup_63 Start: 19661, Stop: 19969, Start Num: 24
Candidate Starts for Jaygup_63:
(14, 19535), (18, 19628), (Start: 24 @19661 has 171 MA's), (Start: 29 @19700 has 1 MA's), (31, 19763), (43, 19931), (44, 19940), (45, 19955),

Gene: Jedediah_64 Start: 20162, Stop: 20470, Start Num: 24
Candidate Starts for Jedediah_64:

(14, 20036), (18, 20129), (Start: 24 @20162 has 171 MA's), (Start: 29 @20201 has 1 MA's), (31, 20264), (43, 20432), (44, 20441), (45, 20456),

Gene: Jemmno_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Jemmno_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Jessibeth14_62 Start: 20123, Stop: 20431, Start Num: 24

Candidate Starts for Jessibeth14_62:

(14, 19997), (18, 20090), (Start: 24 @20123 has 171 MA's), (Start: 29 @20162 has 1 MA's), (31, 20225), (39, 20324), (43, 20393), (44, 20402), (45, 20417),

Gene: Jezreel_62 Start: 19978, Stop: 20286, Start Num: 24

Candidate Starts for Jezreel_62:

(14, 19852), (18, 19945), (Start: 24 @19978 has 171 MA's), (Start: 29 @20017 has 1 MA's), (31, 20080), (39, 20179), (43, 20248), (44, 20257), (45, 20272),

Gene: JigglyPuff_68 Start: 21880, Stop: 22188, Start Num: 24

Candidate Starts for JigglyPuff_68:

(14, 21754), (18, 21847), (Start: 24 @21880 has 171 MA's), (Start: 29 @21919 has 1 MA's), (33, 22018), (36, 22057), (39, 22081), (43, 22150), (44, 22159), (45, 22174),

Gene: JonJames_2 Start: 1485, Stop: 1168, Start Num: 25

Candidate Starts for JonJames_2:

(11, 1638), (16, 1563), (23, 1497), (Start: 25 @1485 has 2 MA's), (27, 1464), (28, 1461), (30, 1452), (35, 1335), (37, 1314), (38, 1311),

Gene: JulietS_58 Start: 18663, Stop: 18932, Start Num: 29

Candidate Starts for JulietS_58:

(9, 18387), (14, 18498), (18, 18591), (Start: 24 @18624 has 171 MA's), (Start: 29 @18663 has 1 MA's), (31, 18726), (43, 18894), (44, 18903), (45, 18918),

Gene: JustHall_59 Start: 19984, Stop: 20292, Start Num: 24

Candidate Starts for JustHall_59:

(14, 19858), (18, 19951), (Start: 24 @19984 has 171 MA's), (Start: 29 @20023 has 1 MA's), (31, 20086), (43, 20254), (44, 20263), (45, 20278),

Gene: Kamryn_63 Start: 20338, Stop: 20646, Start Num: 24

Candidate Starts for Kamryn_63:

(14, 20212), (18, 20305), (Start: 24 @20338 has 171 MA's), (Start: 29 @20377 has 1 MA's), (31, 20440), (39, 20539), (43, 20608), (44, 20617), (45, 20632),

Gene: Kboogie_64 Start: 19648, Stop: 19956, Start Num: 24

Candidate Starts for Kboogie_64:

(14, 19522), (18, 19615), (Start: 24 @19648 has 171 MA's), (Start: 29 @19687 has 1 MA's), (31, 19750), (43, 19918), (44, 19927), (45, 19942),

Gene: Khaleesi_63 Start: 20466, Stop: 20774, Start Num: 24

Candidate Starts for Khaleesi_63:

(14, 20340), (18, 20433), (Start: 24 @20466 has 171 MA's), (Start: 29 @20505 has 1 MA's), (31, 20568), (39, 20667), (43, 20736), (44, 20745), (45, 20760),

Gene: KingPhillip3_105 Start: 65095, Stop: 64784, Start Num: 22

Candidate Starts for KingPhillip3_105:

(1, 65515), (2, 65503), (3, 65482), (4, 65455), (5, 65446), (10, 65230), (Start: 22 @65095 has 23 MA's), (Start: 29 @65050 has 1 MA's), (33, 64951), (36, 64912), (39, 64888), (40, 64855), (41, 64852), (42, 64837),

Gene: Koguma_60 Start: 18842, Stop: 19150, Start Num: 24

Candidate Starts for Koguma_60:

(9, 18605), (14, 18716), (18, 18809), (Start: 24 @18842 has 171 MA's), (Start: 29 @18881 has 1 MA's), (31, 18944), (39, 19043), (43, 19112), (44, 19121), (45, 19136),

Gene: Krili_109 Start: 64941, Stop: 64627, Start Num: 22

Candidate Starts for Krili_109:

(5, 65328), (10, 65118), (17, 64989), (Start: 19 @64959 has 2 MA's), (Start: 22 @64941 has 23 MA's), (Start: 29 @64893 has 1 MA's), (33, 64794), (36, 64755), (39, 64731), (40, 64698), (41, 64695), (42, 64680),

Gene: LRRHood_60 Start: 20765, Stop: 21073, Start Num: 24

Candidate Starts for LRRHood_60:

(14, 20639), (18, 20732), (Start: 24 @20765 has 171 MA's), (Start: 29 @20804 has 1 MA's), (31, 20867), (39, 20966), (43, 21035), (44, 21044), (45, 21059),

Gene: Latch_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Latch_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Lee7_62 Start: 20397, Stop: 20705, Start Num: 24

Candidate Starts for Lee7_62:

(14, 20271), (18, 20364), (Start: 24 @20397 has 171 MA's), (Start: 29 @20436 has 1 MA's), (31, 20499), (39, 20598), (43, 20667), (44, 20676), (45, 20691),

Gene: Lethe_64 Start: 20698, Stop: 20967, Start Num: 29

Candidate Starts for Lethe_64:

(14, 20533), (18, 20626), (Start: 24 @20659 has 171 MA's), (Start: 29 @20698 has 1 MA's), (33, 20797), (36, 20836), (39, 20860), (43, 20929), (44, 20938), (45, 20953),

Gene: LifeSavor_63 Start: 19384, Stop: 19692, Start Num: 24

Candidate Starts for LifeSavor_63:

(14, 19258), (18, 19351), (Start: 24 @19384 has 171 MA's), (Start: 29 @19423 has 1 MA's), (31, 19486), (43, 19654), (44, 19663), (45, 19678),

Gene: LinStu_65 Start: 21472, Stop: 21780, Start Num: 24

Candidate Starts for LinStu_65:

(14, 21346), (18, 21439), (Start: 24 @21472 has 171 MA's), (Start: 29 @21511 has 1 MA's), (31, 21574), (43, 21742), (44, 21751), (45, 21766),

Gene: Littleton_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Littleton_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Loanshark_64 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for Loanshark_64:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: LolaVinca_67 Start: 21880, Stop: 22188, Start Num: 24

Candidate Starts for LolaVinca_67:

(14, 21754), (18, 21847), (Start: 24 @21880 has 171 MA's), (Start: 29 @21919 has 1 MA's), (31, 21982), (39, 22081), (43, 22150), (44, 22159), (45, 22174),

Gene: LordLeafolot_69 Start: 22232, Stop: 22540, Start Num: 24

Candidate Starts for LordLeafolot_69:

(14, 22106), (18, 22199), (Start: 24 @22232 has 171 MA's), (Start: 29 @22271 has 1 MA's), (31, 22334), (39, 22433), (43, 22502), (44, 22511), (45, 22526),

Gene: Lukilu_57 Start: 19967, Stop: 20275, Start Num: 24

Candidate Starts for Lukilu_57:

(14, 19841), (18, 19934), (Start: 24 @19967 has 171 MA's), (Start: 29 @20006 has 1 MA's), (31, 20069), (39, 20168), (43, 20237), (44, 20246), (45, 20261),

Gene: Maby2021_64 Start: 20400, Stop: 20708, Start Num: 24

Candidate Starts for Maby2021_64:

(14, 20274), (18, 20367), (Start: 24 @20400 has 171 MA's), (Start: 29 @20439 has 1 MA's), (31, 20502), (39, 20601), (43, 20670), (44, 20679), (45, 20694),

Gene: MadKillah_110 Start: 64460, Stop: 64149, Start Num: 22

Candidate Starts for MadKillah_110:

(5, 64805), (10, 64595), (Start: 22 @64460 has 23 MA's), (Start: 29 @64415 has 1 MA's), (33, 64316), (36, 64277), (39, 64253), (40, 64220), (41, 64217), (42, 64202),

Gene: Mangeria_67 Start: 21743, Stop: 22051, Start Num: 24

Candidate Starts for Mangeria_67:

(14, 21617), (18, 21710), (Start: 24 @21743 has 171 MA's), (Start: 29 @21782 has 1 MA's), (31, 21845), (43, 22013), (44, 22022), (45, 22037),

Gene: Matsumoto_62 Start: 19626, Stop: 19934, Start Num: 24

Candidate Starts for Matsumoto_62:

(14, 19500), (18, 19593), (Start: 24 @19626 has 171 MA's), (Start: 29 @19665 has 1 MA's), (31, 19728), (43, 19896), (44, 19905), (45, 19920),

Gene: McGee_62 Start: 18849, Stop: 19157, Start Num: 24

Candidate Starts for McGee_62:

(14, 18723), (18, 18816), (Start: 24 @18849 has 171 MA's), (Start: 29 @18888 has 1 MA's), (31, 18951), (43, 19119), (44, 19128), (45, 19143),

Gene: McWolfish_62 Start: 20147, Stop: 20455, Start Num: 24

Candidate Starts for McWolfish_62:

(14, 20021), (18, 20114), (Start: 24 @20147 has 171 MA's), (Start: 29 @20186 has 1 MA's), (31, 20249), (39, 20348), (43, 20417), (44, 20426), (45, 20441),

Gene: Megamind_63 Start: 20385, Stop: 20693, Start Num: 24

Candidate Starts for Megamind_63:

(14, 20259), (18, 20352), (Start: 24 @20385 has 171 MA's), (Start: 29 @20424 has 1 MA's), (31, 20487), (39, 20586), (43, 20655), (44, 20664), (45, 20679),

Gene: Melpomini_59 Start: 19076, Stop: 19384, Start Num: 24

Candidate Starts for Melpomini_59:

(14, 18950), (18, 19043), (Start: 24 @19076 has 171 MA's), (Start: 29 @19115 has 1 MA's), (31, 19178), (43, 19346), (44, 19355), (45, 19370),

Gene: MikeLiesIn_64 Start: 20732, Stop: 21040, Start Num: 24

Candidate Starts for MikeLiesIn_64:

(14, 20606), (18, 20699), (Start: 24 @20732 has 171 MA's), (Start: 29 @20771 has 1 MA's), (31, 20834), (39, 20933), (43, 21002), (44, 21011), (45, 21026),

Gene: Mikro_62 Start: 21206, Stop: 21514, Start Num: 24

Candidate Starts for Mikro_62:

(14, 21080), (18, 21173), (Start: 24 @21206 has 171 MA's), (Start: 29 @21245 has 1 MA's), (31, 21308), (39, 21407), (43, 21476), (44, 21485), (45, 21500),

Gene: MoMoMixon_64 Start: 20817, Stop: 21125, Start Num: 24

Candidate Starts for MoMoMixon_64:

(14, 20691), (18, 20784), (Start: 24 @20817 has 171 MA's), (Start: 29 @20856 has 1 MA's), (31, 20919), (43, 21087), (44, 21096), (45, 21111),

Gene: Momo_62 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Momo_62:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Mori_107 Start: 64966, Stop: 64652, Start Num: 22

Candidate Starts for Mori_107:

(5, 65353), (10, 65143), (17, 65014), (Start: 19 @64984 has 2 MA's), (Start: 22 @64966 has 23 MA's), (Start: 29 @64918 has 1 MA's), (33, 64819), (36, 64780), (39, 64756), (40, 64723), (41, 64720), (42, 64705),

Gene: Morizzled23_66 Start: 20691, Stop: 20999, Start Num: 24

Candidate Starts for Morizzled23_66:

(9, 20454), (14, 20565), (18, 20658), (Start: 24 @20691 has 171 MA's), (Start: 29 @20730 has 1 MA's), (31, 20793), (43, 20961), (44, 20970), (45, 20985),

Gene: Murai_107 Start: 64811, Stop: 64500, Start Num: 22

Candidate Starts for Murai_107:

(5, 65156), (10, 64946), (Start: 22 @64811 has 23 MA's), (Start: 29 @64766 has 1 MA's), (33, 64667), (36, 64628), (39, 64604), (40, 64571), (41, 64568), (42, 64553),

Gene: Naija_62 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Naija_62:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Napoleon13_61 Start: 19058, Stop: 19366, Start Num: 24

Candidate Starts for Napoleon13_61:

(14, 18932), (18, 19025), (Start: 24 @19058 has 171 MA's), (Start: 29 @19097 has 1 MA's), (31, 19160), (39, 19259), (43, 19328), (44, 19337), (45, 19352),

Gene: Nappy_66 Start: 21020, Stop: 21328, Start Num: 24

Candidate Starts for Nappy_66:

(14, 20894), (18, 20987), (Start: 24 @21020 has 171 MA's), (Start: 29 @21059 has 1 MA's), (33, 21158), (36, 21197), (39, 21221), (43, 21290), (44, 21299), (45, 21314),

Gene: Naval22_70 Start: 21742, Stop: 22050, Start Num: 24

Candidate Starts for Naval22_70:

(14, 21616), (18, 21709), (Start: 24 @21742 has 171 MA's), (Start: 29 @21781 has 1 MA's), (31, 21844), (39, 21943), (43, 22012), (44, 22021), (45, 22036),

Gene: NedWong_65 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for NedWong_65:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Ngannou_58 Start: 18647, Stop: 18955, Start Num: 24

Candidate Starts for Ngannou_58:

(14, 18521), (18, 18614), (Start: 24 @18647 has 171 MA's), (Start: 29 @18686 has 1 MA's), (31, 18749), (43, 18917), (44, 18926), (45, 18941),

Gene: Nidhogg_64 Start: 20573, Stop: 20881, Start Num: 24

Candidate Starts for Nidhogg_64:

(9, 20336), (14, 20447), (18, 20540), (Start: 24 @20573 has 171 MA's), (Start: 29 @20612 has 1 MA's), (31, 20675), (43, 20843), (44, 20852), (45, 20867),

Gene: NiebruSaylor_107 Start: 64100, Stop: 63768, Start Num: 19

Candidate Starts for NiebruSaylor_107:

(5, 64469), (10, 64259), (17, 64130), (Start: 19 @64100 has 2 MA's), (Start: 22 @64082 has 23 MA's), (Start: 29 @64034 has 1 MA's), (33, 63935), (36, 63896), (39, 63872), (40, 63839), (41, 63836), (42, 63821),

Gene: NoodleTree_64 Start: 20522, Stop: 20830, Start Num: 24

Candidate Starts for NoodleTree_64:

(14, 20396), (18, 20489), (Start: 24 @20522 has 171 MA's), (Start: 29 @20561 has 1 MA's), (31, 20624), (39, 20723), (43, 20792), (44, 20801), (45, 20816),

Gene: Norm_64 Start: 20720, Stop: 21028, Start Num: 24

Candidate Starts for Norm_64:

(14, 20594), (18, 20687), (Start: 24 @20720 has 171 MA's), (Start: 29 @20759 has 1 MA's), (31, 20822), (39, 20921), (43, 20990), (44, 20999), (45, 21014),

Gene: NuevoMundo_69 Start: 21721, Stop: 22029, Start Num: 24

Candidate Starts for NuevoMundo_69:

(14, 21595), (18, 21688), (Start: 24 @21721 has 171 MA's), (Start: 29 @21760 has 1 MA's), (31, 21823), (39, 21922), (43, 21991), (44, 22000), (45, 22015),

Gene: ParkTD_63 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for ParkTD_63:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Patter_63 Start: 19682, Stop: 19990, Start Num: 24

Candidate Starts for Patter_63:

(14, 19556), (18, 19649), (Start: 24 @19682 has 171 MA's), (Start: 29 @19721 has 1 MA's), (31, 19784), (43, 19952), (44, 19961), (45, 19976),

Gene: Phendrix_194 Start: 104818, Stop: 104549, Start Num: 20

Candidate Starts for Phendrix_194:

(Start: 20 @104818 has 2 MA's), (Start: 29 @104761 has 1 MA's), (32, 104665), (34, 104653), (35, 104641),

Gene: Phlegm_65 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Phlegm_65:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Phox_62 Start: 21447, Stop: 21755, Start Num: 24

Candidate Starts for Phox_62:

(14, 21321), (18, 21414), (Start: 24 @21447 has 171 MA's), (Start: 29 @21486 has 1 MA's), (31, 21549), (39, 21648), (43, 21717), (44, 21726), (45, 21741),

Gene: Phusco_63 Start: 20475, Stop: 20783, Start Num: 24

Candidate Starts for Phusco_63:

(14, 20349), (18, 20442), (Start: 24 @20475 has 171 MA's), (Start: 29 @20514 has 1 MA's), (31, 20577), (43, 20745), (44, 20754), (45, 20769),

Gene: Pier_66 Start: 20419, Stop: 20727, Start Num: 24

Candidate Starts for Pier_66:

(9, 20182), (14, 20293), (18, 20386), (Start: 24 @20419 has 171 MA's), (Start: 29 @20458 has 1 MA's), (33, 20557), (36, 20596), (39, 20620), (43, 20689), (44, 20698), (45, 20713),

Gene: Pinkcreek_56 Start: 19025, Stop: 19333, Start Num: 24

Candidate Starts for Pinkcreek_56:

(14, 18899), (18, 18992), (Start: 24 @19025 has 171 MA's), (Start: 29 @19064 has 1 MA's), (31, 19127), (43, 19295), (44, 19304), (45, 19319),

Gene: Pio_68 Start: 21873, Stop: 22181, Start Num: 24

Candidate Starts for Pio_68:

(14, 21747), (18, 21840), (Start: 24 @21873 has 171 MA's), (Start: 29 @21912 has 1 MA's), (31, 21975), (43, 22143), (44, 22152), (45, 22167),

Gene: Pivoine_62 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for Pivoine_62:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Pleione_66 Start: 20718, Stop: 21026, Start Num: 24

Candidate Starts for Pleione_66:

(14, 20592), (18, 20685), (Start: 24 @20718 has 171 MA's), (Start: 29 @20757 has 1 MA's), (31, 20820), (39, 20919), (43, 20988), (44, 20997), (45, 21012),

Gene: Primadonna_60 Start: 20064, Stop: 20372, Start Num: 24

Candidate Starts for Primadonna_60:

(14, 19938), (18, 20031), (Start: 24 @20064 has 171 MA's), (Start: 29 @20103 has 1 MA's), (31, 20166), (43, 20334), (44, 20343), (45, 20358),

Gene: PurduePete_63 Start: 20443, Stop: 20751, Start Num: 24

Candidate Starts for PurduePete_63:

(14, 20317), (18, 20410), (Start: 24 @20443 has 171 MA's), (Start: 29 @20482 has 1 MA's), (31, 20545), (39, 20644), (43, 20713), (44, 20722), (45, 20737),

Gene: QBert_58 Start: 20456, Stop: 20764, Start Num: 24

Candidate Starts for QBert_58:

(9, 20219), (14, 20330), (18, 20423), (Start: 24 @20456 has 171 MA's), (Start: 29 @20495 has 1 MA's), (31, 20558), (43, 20726), (44, 20735), (45, 20750),

Gene: Quasimodo_63 Start: 20683, Stop: 20991, Start Num: 24

Candidate Starts for Quasimodo_63:

(14, 20557), (18, 20650), (Start: 24 @20683 has 171 MA's), (Start: 29 @20722 has 1 MA's), (31, 20785), (43, 20953), (44, 20962), (45, 20977),

Gene: Rabinovish_63 Start: 21743, Stop: 22051, Start Num: 24

Candidate Starts for Rabinovish_63:

(9, 21506), (14, 21617), (18, 21710), (Start: 24 @21743 has 171 MA's), (Start: 29 @21782 has 1 MA's), (31, 21845), (43, 22013), (44, 22022), (45, 22037),

Gene: Rahel_64 Start: 20034, Stop: 20342, Start Num: 24

Candidate Starts for Rahel_64:

(14, 19908), (18, 20001), (Start: 24 @20034 has 171 MA's), (Start: 29 @20073 has 1 MA's), (31, 20136), (43, 20304), (44, 20313), (45, 20328),

Gene: Rizal_62 Start: 19636, Stop: 19944, Start Num: 24

Candidate Starts for Rizal_62:

(14, 19510), (18, 19603), (Start: 24 @19636 has 171 MA's), (Start: 29 @19675 has 1 MA's), (31, 19738), (39, 19837), (43, 19906), (44, 19915), (45, 19930),

Gene: RoMag_58 Start: 19638, Stop: 19946, Start Num: 24

Candidate Starts for RoMag_58:

(14, 19512), (18, 19605), (Start: 24 @19638 has 171 MA's), (Start: 29 @19677 has 1 MA's), (31, 19740), (43, 19908), (44, 19917), (45, 19932),

Gene: Ronan_58 Start: 18264, Stop: 18572, Start Num: 24

Candidate Starts for Ronan_58:

(14, 18138), (18, 18231), (Start: 24 @18264 has 171 MA's), (Start: 29 @18303 has 1 MA's), (31, 18366), (39, 18465), (43, 18534), (44, 18543), (45, 18558),

Gene: Roots515_63 Start: 20520, Stop: 20828, Start Num: 24

Candidate Starts for Roots515_63:

(14, 20394), (18, 20487), (Start: 24 @20520 has 171 MA's), (Start: 29 @20559 has 1 MA's), (31, 20622), (39, 20721), (43, 20790), (44, 20799), (45, 20814),

Gene: Ryadel_111 Start: 65800, Stop: 65486, Start Num: 22

Candidate Starts for Ryadel_111:

(6, 66145), (10, 65935), (Start: 22 @65800 has 23 MA's), (Start: 29 @65752 has 1 MA's), (33, 65653), (36, 65614), (39, 65590), (40, 65557), (41, 65554), (42, 65539),

Gene: SVoro_63 Start: 20713, Stop: 21021, Start Num: 24

Candidate Starts for SVoro_63:

(14, 20587), (18, 20680), (Start: 24 @20713 has 171 MA's), (Start: 29 @20752 has 1 MA's), (31, 20815), (39, 20914), (43, 20983), (44, 20992), (45, 21007),

Gene: Salacia_66 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for Salacia_66:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Sauce_65 Start: 20665, Stop: 20973, Start Num: 24

Candidate Starts for Sauce_65:

(9, 20428), (14, 20539), (18, 20632), (Start: 24 @20665 has 171 MA's), (Start: 29 @20704 has 1 MA's), (31, 20767), (43, 20935), (44, 20944), (45, 20959),

Gene: SchoolBus_106 Start: 64554, Stop: 64243, Start Num: 22

Candidate Starts for SchoolBus_106:

(6, 64899), (10, 64689), (Start: 22 @64554 has 23 MA's), (Start: 29 @64509 has 1 MA's), (33, 64410), (36, 64371), (39, 64347), (40, 64314), (41, 64311), (42, 64296),

Gene: Schuy_107 Start: 64173, Stop: 63862, Start Num: 22

Candidate Starts for Schuy_107:

(5, 64518), (10, 64308), (Start: 22 @64173 has 23 MA's), (Start: 29 @64128 has 1 MA's), (33, 64029), (36, 63990), (39, 63966), (40, 63933), (41, 63930), (42, 63915),

Gene: ScottMcG_62 Start: 20497, Stop: 20805, Start Num: 24

Candidate Starts for ScottMcG_62:

(9, 20260), (14, 20371), (18, 20464), (Start: 24 @20497 has 171 MA's), (Start: 29 @20536 has 1 MA's), (33, 20635), (36, 20674), (39, 20698), (43, 20767), (44, 20776), (45, 20791),

Gene: Sebata_66 Start: 21591, Stop: 21899, Start Num: 24

Candidate Starts for Sebata_66:

(14, 21465), (18, 21558), (Start: 24 @21591 has 171 MA's), (Start: 29 @21630 has 1 MA's), (31, 21693), (43, 21861), (44, 21870), (45, 21885),

Gene: Shaqnato_58 Start: 19187, Stop: 19495, Start Num: 24

Candidate Starts for Shaqnato_58:

(14, 19061), (18, 19154), (Start: 24 @19187 has 171 MA's), (Start: 29 @19226 has 1 MA's), (31, 19289), (39, 19388), (43, 19457), (44, 19466), (45, 19481),

Gene: Shelob_66 Start: 21711, Stop: 22019, Start Num: 24

Candidate Starts for Shelob_66:

(14, 21585), (18, 21678), (Start: 24 @21711 has 171 MA's), (Start: 29 @21750 has 1 MA's), (31, 21813), (39, 21912), (43, 21981), (44, 21990), (45, 22005),

Gene: ShiaLabeouf_63 Start: 20102, Stop: 20410, Start Num: 24

Candidate Starts for ShiaLabeouf_63:

(14, 19976), (18, 20069), (Start: 24 @20102 has 171 MA's), (Start: 29 @20141 has 1 MA's), (31, 20204), (43, 20372), (44, 20381), (45, 20396),

Gene: Shida_109 Start: 65065, Stop: 64754, Start Num: 22

Candidate Starts for Shida_109:

(1, 65485), (2, 65473), (3, 65452), (5, 65416), (10, 65200), (Start: 22 @65065 has 23 MA's), (Start: 29 @65020 has 1 MA's), (33, 64921), (36, 64882), (39, 64858), (40, 64825), (41, 64822), (42, 64807),

Gene: Shifa_57 Start: 19572, Stop: 19880, Start Num: 24

Candidate Starts for Shifa_57:

(9, 19335), (14, 19446), (18, 19539), (Start: 24 @19572 has 171 MA's), (Start: 29 @19611 has 1 MA's), (31, 19674), (43, 19842), (44, 19851), (45, 19866),

Gene: Shnickers_63 Start: 19661, Stop: 19969, Start Num: 24

Candidate Starts for Shnickers_63:

(14, 19535), (18, 19628), (Start: 24 @19661 has 171 MA's), (Start: 29 @19700 has 1 MA's), (31, 19763), (43, 19931), (44, 19940), (45, 19955),

Gene: Shrimp_64 Start: 20723, Stop: 21031, Start Num: 24

Candidate Starts for Shrimp_64:

(14, 20597), (18, 20690), (Start: 24 @20723 has 171 MA's), (Start: 29 @20762 has 1 MA's), (31, 20825), (39, 20924), (43, 20993), (44, 21002), (45, 21017),

Gene: SilverDipper_64 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for SilverDipper_64:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: SmallFry_63 Start: 19661, Stop: 19969, Start Num: 24

Candidate Starts for SmallFry_63:

(14, 19535), (18, 19628), (Start: 24 @19661 has 171 MA's), (Start: 29 @19700 has 1 MA's), (31, 19763), (43, 19931), (44, 19940), (45, 19955),

Gene: Smooch_106 Start: 64948, Stop: 64634, Start Num: 22

Candidate Starts for Smooch_106:

(10, 65083), (Start: 22 @64948 has 23 MA's), (26, 64930), (Start: 29 @64900 has 1 MA's), (33, 64801), (36, 64762), (39, 64738), (40, 64705), (41, 64702), (42, 64687),

Gene: Spec_61 Start: 19805, Stop: 20113, Start Num: 24

Candidate Starts for Spec_61:

(14, 19679), (18, 19772), (Start: 24 @19805 has 171 MA's), (Start: 29 @19844 has 1 MA's), (31, 19907), (43, 20075), (44, 20084), (45, 20099),

Gene: Specks_69 Start: 22194, Stop: 22502, Start Num: 24

Candidate Starts for Specks_69:

(14, 22068), (18, 22161), (Start: 24 @22194 has 171 MA's), (Start: 29 @22233 has 1 MA's), (31, 22296), (43, 22464), (44, 22473), (45, 22488),

Gene: Sprinklers_60 Start: 19637, Stop: 19945, Start Num: 24

Candidate Starts for Sprinklers_60:

(14, 19511), (18, 19604), (Start: 24 @19637 has 171 MA's), (Start: 29 @19676 has 1 MA's), (31, 19739), (39, 19838), (43, 19907), (44, 19916), (45, 19931),

Gene: Spud_64 Start: 21034, Stop: 21342, Start Num: 24

Candidate Starts for Spud_64:

(14, 20908), (18, 21001), (Start: 24 @21034 has 171 MA's), (Start: 29 @21073 has 1 MA's), (31, 21136), (39, 21235), (43, 21304), (44, 21313), (45, 21328),

Gene: SrishMeg2525_63 Start: 20430, Stop: 20738, Start Num: 24

Candidate Starts for SrishMeg2525_63:

(14, 20304), (18, 20397), (Start: 24 @20430 has 171 MA's), (Start: 29 @20469 has 1 MA's), (31, 20532), (39, 20631), (43, 20700), (44, 20709), (45, 20724),

Gene: StephanieG_64 Start: 21037, Stop: 21345, Start Num: 24

Candidate Starts for StephanieG_64:

(9, 20800), (14, 20911), (18, 21004), (Start: 24 @21037 has 171 MA's), (Start: 29 @21076 has 1 MA's), (31, 21139), (43, 21307), (44, 21316), (45, 21331),

Gene: Stubby_59 Start: 20356, Stop: 20664, Start Num: 24

Candidate Starts for Stubby_59:

(14, 20230), (18, 20323), (Start: 24 @20356 has 171 MA's), (Start: 29 @20395 has 1 MA's), (31, 20458), (43, 20626), (44, 20635), (45, 20650),

Gene: StubbySaigey_63 Start: 19359, Stop: 19667, Start Num: 24

Candidate Starts for StubbySaigey_63:

(14, 19233), (18, 19326), (Start: 24 @19359 has 171 MA's), (Start: 29 @19398 has 1 MA's), (31, 19461), (39, 19560), (43, 19629), (44, 19638), (45, 19653),

Gene: Tainan_69 Start: 22271, Stop: 22540, Start Num: 29

Candidate Starts for Tainan_69:

(14, 22106), (18, 22199), (Start: 24 @22232 has 171 MA's), (Start: 29 @22271 has 1 MA's), (31, 22334), (39, 22433), (43, 22502), (44, 22511), (45, 22526),

Gene: Teardrop_63 Start: 19518, Stop: 19826, Start Num: 24

Candidate Starts for Teardrop_63:

(14, 19392), (18, 19485), (Start: 24 @19518 has 171 MA's), (Start: 29 @19557 has 1 MA's), (31, 19620), (43, 19788), (44, 19797), (45, 19812),

Gene: TelAviv_104 Start: 64790, Stop: 64479, Start Num: 22

Candidate Starts for TelAviv_104:

(6, 65135), (10, 64925), (Start: 22 @64790 has 23 MA's), (Start: 29 @64745 has 1 MA's), (33, 64646), (36, 64607), (39, 64583), (40, 64550), (41, 64547), (42, 64532),

Gene: TinyTim_64 Start: 20719, Stop: 21027, Start Num: 24

Candidate Starts for TinyTim_64:

(14, 20593), (18, 20686), (Start: 24 @20719 has 171 MA's), (Start: 29 @20758 has 1 MA's), (31, 20821), (39, 20920), (43, 20989), (44, 20998), (45, 21013),

Gene: Tonenili_74 Start: 23256, Stop: 23564, Start Num: 24

Candidate Starts for Tonenili_74:

(7, 22932), (8, 22986), (Start: 24 @23256 has 171 MA's), (Start: 29 @23295 has 1 MA's), (31, 23358), (40, 23490), (43, 23526),

Gene: Tortoise16_61 Start: 20169, Stop: 20477, Start Num: 24

Candidate Starts for Tortoise16_61:

(14, 20043), (18, 20136), (Start: 24 @20169 has 171 MA's), (Start: 29 @20208 has 1 MA's), (31, 20271), (43, 20439), (44, 20448), (45, 20463),

Gene: Trinitium_59 Start: 19122, Stop: 19430, Start Num: 24

Candidate Starts for Trinitium_59:

(14, 18996), (18, 19089), (Start: 24 @19122 has 171 MA's), (Start: 29 @19161 has 1 MA's), (31, 19224), (43, 19392), (44, 19401), (45, 19416),

Gene: Turret_58 Start: 18846, Stop: 19154, Start Num: 24

Candidate Starts for Turret_58:

(14, 18720), (18, 18813), (Start: 24 @18846 has 171 MA's), (Start: 29 @18885 has 1 MA's), (31, 18948), (43, 19116), (44, 19125), (45, 19140),

Gene: Tyke_65 Start: 21073, Stop: 21381, Start Num: 24

Candidate Starts for Tyke_65:

(14, 20947), (18, 21040), (Start: 24 @21073 has 171 MA's), (Start: 29 @21112 has 1 MA's), (31, 21175), (43, 21343), (44, 21352), (45, 21367),

Gene: Vagabond_106 Start: 64221, Stop: 63910, Start Num: 22

Candidate Starts for Vagabond_106:

(5, 64566), (10, 64356), (Start: 22 @64221 has 23 MA's), (Start: 29 @64176 has 1 MA's), (33, 64077), (36, 64038), (39, 64014), (40, 63981), (41, 63978), (42, 63963),

Gene: ValleyTerrace_63 Start: 19665, Stop: 19973, Start Num: 24

Candidate Starts for ValleyTerrace_63:

(14, 19539), (18, 19632), (Start: 24 @19665 has 171 MA's), (Start: 29 @19704 has 1 MA's), (31, 19767), (43, 19935), (44, 19944), (45, 19959),

Gene: Vorrps_107 Start: 64967, Stop: 64653, Start Num: 22

Candidate Starts for Vorrps_107:

(5, 65354), (10, 65144), (17, 65015), (Start: 19 @64985 has 2 MA's), (Start: 22 @64967 has 23 MA's), (Start: 29 @64919 has 1 MA's), (33, 64820), (36, 64781), (39, 64757), (40, 64724), (41, 64721), (42, 64706),

Gene: Wally_62 Start: 19274, Stop: 19582, Start Num: 24

Candidate Starts for Wally_62:

(14, 19148), (18, 19241), (Start: 24 @19274 has 171 MA's), (Start: 29 @19313 has 1 MA's), (31, 19376), (39, 19475), (43, 19544), (44, 19553), (45, 19568),

Gene: Wildflower_104 Start: 62974, Stop: 62660, Start Num: 22

Candidate Starts for Wildflower_104:

(10, 63109), (15, 63040), (Start: 22 @62974 has 23 MA's), (26, 62956), (Start: 29 @62926 has 1 MA's), (33, 62827), (36, 62788), (39, 62764), (40, 62731), (41, 62728), (42, 62713),

Gene: Willis_64 Start: 20614, Stop: 20922, Start Num: 24

Candidate Starts for Willis_64:

(14, 20488), (18, 20581), (Start: 24 @20614 has 171 MA's), (Start: 29 @20653 has 1 MA's), (31, 20716), (39, 20815), (43, 20884), (44, 20893), (45, 20908),

Gene: Winget_107 Start: 64858, Stop: 64547, Start Num: 22

Candidate Starts for Winget_107:

(5, 65203), (10, 64993), (Start: 22 @64858 has 23 MA's), (Start: 29 @64813 has 1 MA's), (33, 64714), (36, 64675), (39, 64651), (40, 64618), (41, 64615), (42, 64600),

Gene: Wogge42_104 Start: 64145, Stop: 63834, Start Num: 22

Candidate Starts for Wogge42_104:

(5, 64490), (10, 64280), (Start: 22 @64145 has 23 MA's), (Start: 29 @64100 has 1 MA's), (33, 64001), (36, 63962), (39, 63938), (40, 63905), (41, 63902), (42, 63887),

Gene: Yassified_61 Start: 20024, Stop: 20332, Start Num: 24

Candidate Starts for Yassified_61:

(9, 19787), (14, 19898), (18, 19991), (Start: 24 @20024 has 171 MA's), (Start: 29 @20063 has 1 MA's), (31, 20126), (43, 20294), (44, 20303), (45, 20318),

Gene: YemiJoy2021_64 Start: 20400, Stop: 20708, Start Num: 24

Candidate Starts for YemiJoy2021_64:

(14, 20274), (18, 20367), (Start: 24 @20400 has 171 MA's), (Start: 29 @20439 has 1 MA's), (31, 20502), (39, 20601), (43, 20670), (44, 20679), (45, 20694),

Gene: YoungMoneyMata_63 Start: 19416, Stop: 19724, Start Num: 24

Candidate Starts for YoungMoneyMata_63:

(14, 19290), (18, 19383), (Start: 24 @19416 has 171 MA's), (Start: 29 @19455 has 1 MA's), (31, 19518), (43, 19686), (44, 19695), (45, 19710),

Gene: Yucca_64 Start: 20641, Stop: 20949, Start Num: 24

Candidate Starts for Yucca_64:

(14, 20515), (18, 20608), (Start: 24 @20641 has 171 MA's), (Start: 29 @20680 has 1 MA's), (31, 20743), (39, 20842), (43, 20911), (44, 20920), (45, 20935),

Gene: Yvonnetastic_3 Start: 1118, Stop: 807, Start Num: 25

Candidate Starts for Yvonnetastic_3:

(11, 1271), (12, 1262), (16, 1196), (23, 1130), (Start: 25 @1118 has 2 MA's), (27, 1097), (28, 1094), (30, 1085), (35, 968), (37, 947), (38, 944),

Gene: Zakhe101_102 Start: 63086, Stop: 62766, Start Num: 21

Candidate Starts for Zakhe101_102:

(10, 63215), (Start: 21 @63086 has 1 MA's), (Start: 29 @63032 has 1 MA's), (33, 62933), (36, 62894), (39, 62870), (40, 62837), (41, 62834), (42, 62819),

Gene: Zalkecks_65 Start: 20404, Stop: 20712, Start Num: 24

Candidate Starts for Zalkecks_65:

(14, 20278), (18, 20371), (Start: 24 @20404 has 171 MA's), (Start: 29 @20443 has 1 MA's), (31, 20506), (39, 20605), (43, 20674), (44, 20683), (45, 20698),

Gene: Zebo_105 Start: 64554, Stop: 64243, Start Num: 22

Candidate Starts for Zebo_105:

(6, 64899), (10, 64689), (Start: 22 @64554 has 23 MA's), (Start: 29 @64509 has 1 MA's), (33, 64410), (36, 64371), (39, 64347), (40, 64314), (41, 64311), (42, 64296),

Gene: Zeenon_66 Start: 20706, Stop: 21014, Start Num: 24

Candidate Starts for Zeenon_66:

(14, 20580), (18, 20673), (Start: 24 @20706 has 171 MA's), (Start: 29 @20745 has 1 MA's), (31, 20808), (39, 20907), (43, 20976), (44, 20985), (45, 21000),

Gene: ZygoTaiga_64 Start: 20720, Stop: 21028, Start Num: 24

Candidate Starts for ZygoTaiga_64:

(14, 20594), (18, 20687), (Start: 24 @20720 has 171 MA's), (Start: 29 @20759 has 1 MA's), (31, 20822), (39, 20921), (43, 20990), (44, 20999), (45, 21014),