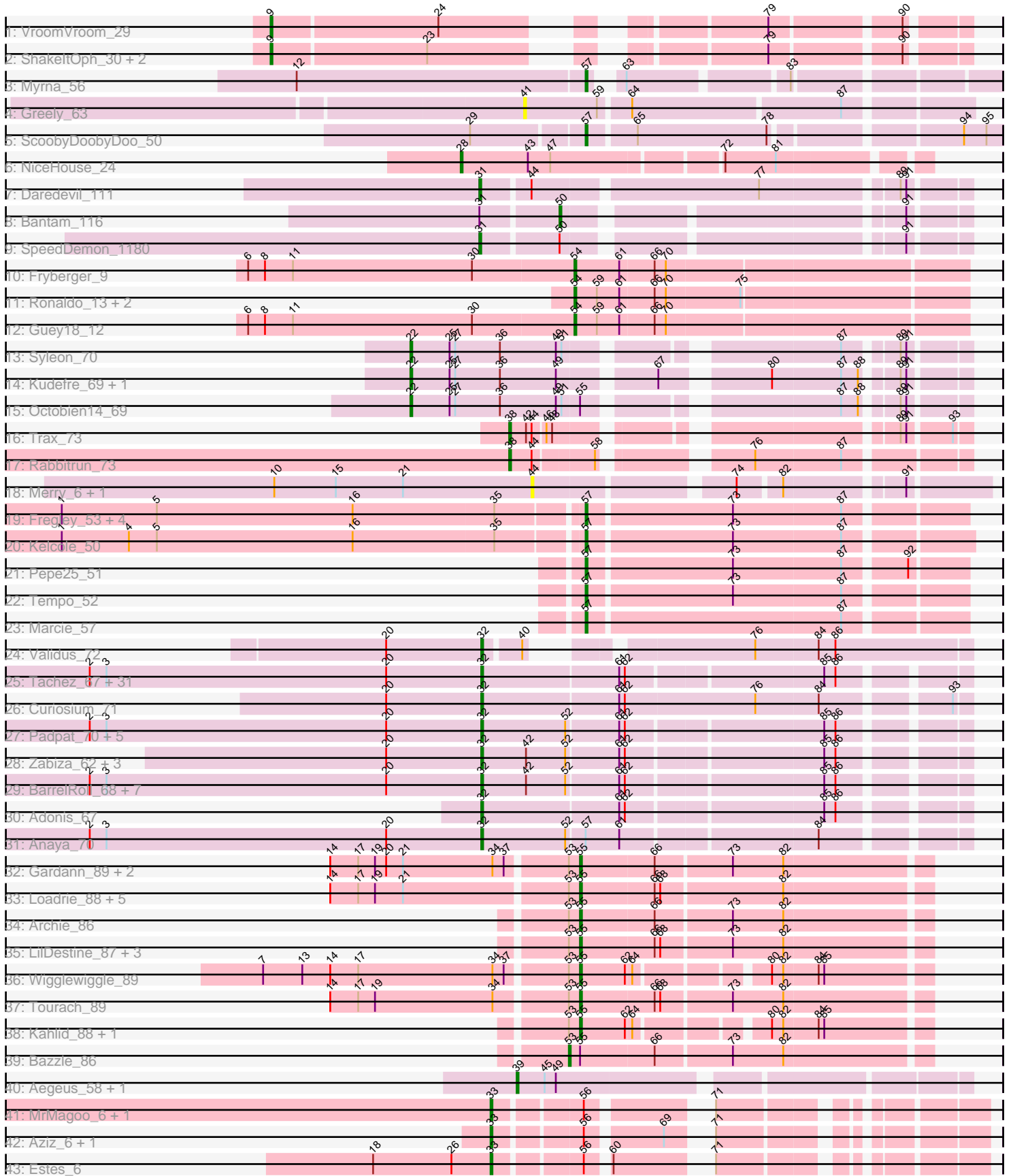


Pham 196398



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 196398 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196398 has 113 members, 7 are drafts.

Phages represented in each track:

- Track 1 : VroomVroom_29
- Track 2 : ShakeltOph_30, JasmineDragon_29, MiniMommy_30
- Track 3 : Myrna_56
- Track 4 : Greely_63
- Track 5 : ScoobyDoobyDoo_50
- Track 6 : NiceHouse_24
- Track 7 : Daredevil_111
- Track 8 : Bantam_116
- Track 9 : SpeedDemon_1180
- Track 10 : Fryberger_9
- Track 11 : Ronaldo_13, Ziko_14, Volt_13
- Track 12 : Guey18_12
- Track 13 : Syleon_70
- Track 14 : Kudrefre_69, Sephiroth_68
- Track 15 : Octobien14_69
- Track 16 : Trax_73
- Track 17 : Rabbitrun_73
- Track 18 : Merry_6, Sunny_6
- Track 19 : Fregley_53, OneinaGillian_52, Romm_54, CandC_51, RobinRose_54
- Track 20 : Kelcole_50
- Track 21 : Pepe25_51
- Track 22 : Tempo_52
- Track 23 : Marcie_57
- Track 24 : Validus_72
- Track 25 : Tachez_67, BGIlluviae_67, Jarvi_67, Blizzard_67, Atiba_68, Llorens_67, Adephegia_67, Hyperbowlee_67, CaseJules_69, Homura_67, Spock_67, Rosmarinus_67, ShiaSurprise_68, Boiini_67, Durfee_67, Piatt_67, Capricorn_67, Joy99_67, Peel_67, Belladonna_67, Padfoot_67, Topper_67, Dalmuri_67, Inky_67, Asayake_67, Jeckyll_67, Twitch_67, Lunahalos_67, AlishaPH_67, CREW_67, BEEST_67, Geraldini_70
- Track 26 : Curiosium_71
- Track 27 : Padpat_70, Emerson_69, Pokerus_67, QuincyRose_65, Beezoo_69, Ganymede_67
- Track 28 : Zabiza_62, Ramen_68, ActinUp_67, HedwigODU_67
- Track 29 : BarrelRoll_68, Rapunzel97_69, TruffulaTree_68, Slimphazie_68, Zavala_70, Mynx_69, Jayhawk_69, MeaningOfLife_68
- Track 30 : Adonis_67

- Track 31 : Anaya_70
- Track 32 : Gardann_89, Nicholasp3_89, Rumpelstiltskin_85
- Track 33 : Loadrie_88, Faith1_89, Zakai_90, Itos_89, Crossroads_89, Gabriela_89
- Track 34 : Archie_86
- Track 35 : LilDestine_87, GuuelaD_86, Douge_90, ZhongYanYuan_86
- Track 36 : Wigglewiggles_89
- Track 37 : Tourach_89
- Track 38 : Kahlid_88, Wilder_90
- Track 39 : Bazzle_86
- Track 40 : Aegeus_58, Baudelaire_58
- Track 41 : MrMagoo_6, GardenSalsa_6
- Track 42 : Aziz_6, GenevaB15_6
- Track 43 : Estes_6

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

The start number called the most often in the published annotations is 32, it was called in 54 of the 106 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_67, Adephegia_67, Adonis_67, AlishaPH_67, Anaya_70, Asayake_67, Atiba_68, BEEST_67, BGlluviae_67, BarrelRoll_68, Beezoo_69, Belladonna_67, Blizzard_67, Boiiii_67, CREW_67, Capricorn_67, CaseJules_69, Curiosium_71, Dalmuri_67, Durfee_67, Emerson_69, Ganymede_67, Geraldini_70, HedwigODU_67, Homura_67, Hyperbowlee_67, Inky_67, Jarvi_67, Jayhawk_69, Jeckyll_67, Joy99_67, Llorens_67, Lunahalos_67, MeaningOfLife_68, Mynx_69, Padfoot_67, Padpat_70, Peel_67, Piatt_67, Pokerus_67, QuincyRose_65, Ramen_68, Rapunzel97_69, Rosmarinus_67, ShiaSurprise_68, Slimphazie_68, Spock_67, Tachez_67, Topper_67, TruffulaTree_68, Twitch_67, Validus_72, Zabiza_62, Zavala_70,

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

-

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

- Aegeus_58, Archie_86, Aziz_6, Bantam_116, Baudelaire_58, Bazzle_86, CandC_51, Crossroads_89, Daredevil_111, Douge_90, Estes_6, Faith1_89, Fregley_53, Fryberger_9, Gabriela_89, Gardann_89, GardenSalsa_6, GenevaB15_6, Greely_63, Guey18_12, GuuelaD_86, Itos_89, JasmineDragon_29, Kahlid_88, Kelcole_50, Kudrefre_69, LilDestine_87, Loadrie_88, Marcie_57, Merry_6, MiniMommy_30, MrMagoo_6, Myrna_56, NiceHouse_24, Nicholasp3_89, Octobien14_69, OneinaGillian_52, Pepe25_51, Rabbitrun_73, RobinRose_54, Romm_54, Ronaldo_13, Rumpelstiltskin_85, ScoobyDoobyDoo_50, Sephiroth_68, ShakeltOph_30, SpeedDemon_1180, Sunny_6, Syleon_70, Tempo_52, Tourach_89, Trax_73, Volt_13, VroomVroom_29, Wigglewiggles_89, Wilder_90, Zakai_90, ZhongYanYuan_86, Ziko_14,

Summary by start number:

Start 9:

- Found in 4 of 113 (3.5%) of genes in pham
- Manual Annotations of this start: 2 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JasmineDragon_29 (AZ4), MiniMommy_30 (AZ4), ShakeltOph_30 (AZ4), VroomVroom_29 (AZ4),

Start 22:

- Found in 4 of 113 (3.5%) of genes in pham
- Manual Annotations of this start: 4 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre_69 (DU1), Octobien14_69 (DU1), Sephiroth_68 (DU1), Syleon_70 (DU1),

Start 28:

- Found in 1 of 113 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NiceHouse_24 (CE),

Start 31:

- Found in 3 of 113 (2.7%) of genes in pham
- Manual Annotations of this start: 2 of 106
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Daredevil_111 (DL), SpeedDemon_1180 (DL),

Start 32:

- Found in 54 of 113 (47.8%) of genes in pham
- Manual Annotations of this start: 54 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp_67 (K1), Adephegia_67 (K1), Adonis_67 (K1), AlishaPH_67 (K1), Anaya_70 (K1), Asayake_67 (K1), Atiba_68 (K1), BEEST_67 (K1), BGlluviae_67 (K1), BarrelRoll_68 (K1), Beezoo_69 (K1), Belladonna_67 (K1), Blizzard_67 (K1), Boiii_67 (K1), CREW_67 (K1), Capricorn_67 (K1), CaseJules_69 (K1), Curiosium_71 (K1), Dalmuri_67 (K1), Durfee_67 (K1), Emerson_69 (K1), Ganymede_67 (K1), Geraldini_70 (K1), HedwigODU_67 (K1), Homura_67 (K1), Hyperbowlee_67 (K1), Inky_67 (K1), Jarvi_67 (K1), Jayhawk_69 (K1), Jeckyll_67 (K1), Joy99_67 (K1), Llorens_67 (K1), Lunahalos_67 (K1), MeaningOfLife_68 (K1), Mynx_69 (K1), Padfoot_67 (K1), Padpat_70 (K1), Peel_67 (K1), Piatt_67 (K1), Pokerus_67 (K1), QuincyRose_65 (K1), Ramen_68 (K1), Rapunzel97_69 (K1), Rosmarinus_67 (K1), ShiaSurprise_68 (K1), Slimphazie_68 (K1), Spock_67 (K1), Tachez_67 (K1), Topper_67 (K1), TruffulaTree_68 (K1), Twitch_67 (K1), Validus_72 (K1), Zabiza_62 (K1), Zavala_70 (K1),

Start 33:

- Found in 5 of 113 (4.4%) of genes in pham
- Manual Annotations of this start: 5 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aziz_6 (M2), Estes_6 (M2), GardenSalsa_6 (M2), GenevaB15_6 (M2), MrMagoo_6 (M2),

Start 38:

- Found in 2 of 113 (1.8%) of genes in pham

- Manual Annotations of this start: 2 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rabbitrun_73 (DU2), Trax_73 (DU2),

Start 39:

- Found in 2 of 113 (1.8%) of genes in pham
- Manual Annotations of this start: 2 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus_58 (L5), Baudelaire_58 (L5),

Start 41:

- Found in 1 of 113 (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: Greely_63 (C2),

Start 44:

- Found in 5 of 113 (4.4%) of genes in pham
- No Manual Annotations of this start.
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Merry_6 (EC), Sunny_6 (EC),

Start 50:

- Found in 2 of 113 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bantam_116 (DL),

Start 53:

- Found in 19 of 113 (16.8%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Bazzle_86 (L2),

Start 54:

- Found in 5 of 113 (4.4%) of genes in pham
- Manual Annotations of this start: 5 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger_9 (DP), Guey18_12 (DP), Ronaldo_13 (DP), Volt_13 (DP), Ziko_14 (DP),

Start 55:

- Found in 20 of 113 (17.7%) of genes in pham
- Manual Annotations of this start: 17 of 106
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Archie_86 (L2), Crossroads_89 (L2), Douge_90 (L4), Faith1_89 (L2), Gabriela_89 (L2), Gardann_89 (L2), GuuelaD_86 (L2), Itos_89 (L2), Kahlid_88 (L2), LilDestine_87 (L2), Loadrie_88 (L2), Nicholasp3_89 (L2), Rumpelstiltskin_85 (L2), Tourach_89 (L2), Wigglewiggle_89 (L2), Wilder_90 (L2), Zakai_90 (L2), ZhongYanYuan_86 (L2),

Start 57:

- Found in 12 of 113 (10.6%) of genes in pham

- Manual Annotations of this start: 10 of 106
- Called 91.7% of time when present
- Phage (with cluster) where this start called: CandC_51 (EG), Fregley_53 (EG), Kelcole_50 (EG), Marcie_57 (EG), Myrna_56 (C2), OneinaGillian_52 (EG), Pepe25_51 (EG), RobinRose_54 (EG), Romm_54 (EG), ScoobyDoobyDoo_50 (C2), Tempo_52 (EG),

Summary by clusters:

There are 14 clusters represented in this pham: DL, EG, DU1, EC, L4, K1, L5, L2, CE, M2, C2, DU2, AZ4, DP,

Info for manual annotations of cluster AZ4:

- Start number 9 was manually annotated 2 times for cluster AZ4.

Info for manual annotations of cluster C2:

- Start number 57 was manually annotated 2 times for cluster C2.

Info for manual annotations of cluster CE:

- Start number 28 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster DL:

- Start number 31 was manually annotated 2 times for cluster DL.
- Start number 50 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster DP:

- Start number 54 was manually annotated 5 times for cluster DP.

Info for manual annotations of cluster DU1:

- Start number 22 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 38 was manually annotated 2 times for cluster DU2.

Info for manual annotations of cluster EG:

- Start number 57 was manually annotated 8 times for cluster EG.

Info for manual annotations of cluster K1:

- Start number 32 was manually annotated 54 times for cluster K1.

Info for manual annotations of cluster L2:

- Start number 53 was manually annotated 1 time for cluster L2.
- Start number 55 was manually annotated 16 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 55 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:

- Start number 39 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M2:

- Start number 33 was manually annotated 5 times for cluster M2.

Gene Information:

Gene: ActinUp_67 Start: 43706, Stop: 43945, Start Num: 32

Candidate Starts for ActinUp_67:

(20, 43655), (Start: 32 @43706 has 54 MA's), (42, 43730), (52, 43751), (61, 43778), (62, 43781), (85, 43880), (86, 43886),

Gene: Adephagia_67 Start: 43743, Stop: 43982, Start Num: 32

Candidate Starts for Adephagia_67:

(2, 43533), (3, 43542), (20, 43692), (Start: 32 @43743 has 54 MA's), (61, 43815), (62, 43818), (85, 43917), (86, 43923),

Gene: Adonis_67 Start: 43978, Stop: 44217, Start Num: 32

Candidate Starts for Adonis_67:

(Start: 32 @43978 has 54 MA's), (61, 44050), (62, 44053), (85, 44152), (86, 44158),

Gene: Aegeus_58 Start: 40986, Stop: 41207, Start Num: 39

Candidate Starts for Aegeus_58:

(Start: 39 @40986 has 2 MA's), (45, 41001), (49, 41007),

Gene: AlishaPH_67 Start: 44004, Stop: 44243, Start Num: 32

Candidate Starts for AlishaPH_67:

(2, 43794), (3, 43803), (20, 43953), (Start: 32 @44004 has 54 MA's), (61, 44076), (62, 44079), (85, 44178), (86, 44184),

Gene: Anaya_70 Start: 44697, Stop: 44936, Start Num: 32

Candidate Starts for Anaya_70:

(2, 44487), (3, 44496), (20, 44646), (Start: 32 @44697 has 54 MA's), (52, 44742), (Start: 57 @44751 has 10 MA's), (61, 44769), (84, 44868),

Gene: Archie_86 Start: 57063, Stop: 57242, Start Num: 55

Candidate Starts for Archie_86:

(Start: 53 @57057 has 1 MA's), (Start: 55 @57063 has 17 MA's), (66, 57102), (73, 57141), (82, 57168),

Gene: Asayake_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for Asayake_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Atiba_68 Start: 43706, Stop: 43945, Start Num: 32

Candidate Starts for Atiba_68:

(2, 43496), (3, 43505), (20, 43655), (Start: 32 @43706 has 54 MA's), (61, 43778), (62, 43781), (85, 43880), (86, 43886),

Gene: Aziz_6 Start: 2394, Stop: 2188, Start Num: 33

Candidate Starts for Aziz_6:

(Start: 33 @2394 has 5 MA's), (56, 2352), (69, 2316), (71, 2304),

Gene: BEEST_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for BEEST_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: BGlluviae_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for BGlluviae_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Bantam_116 Start: 73048, Stop: 73236, Start Num: 50

Candidate Starts for Bantam_116:

(Start: 31 @73009 has 2 MA's), (Start: 50 @73048 has 1 MA's), (91, 73207),

Gene: BarrelRoll_68 Start: 44144, Stop: 44383, Start Num: 32

Candidate Starts for BarrelRoll_68:

(2, 43934), (3, 43943), (20, 44093), (Start: 32 @44144 has 54 MA's), (42, 44168), (52, 44189), (61, 44216), (62, 44219), (85, 44318), (86, 44324),

Gene: Baudelaire_58 Start: 40986, Stop: 41207, Start Num: 39

Candidate Starts for Baudelaire_58:

(Start: 39 @40986 has 2 MA's), (45, 41001), (49, 41007),

Gene: Bazzle_86 Start: 57613, Stop: 57798, Start Num: 53

Candidate Starts for Bazzle_86:

(Start: 53 @57613 has 1 MA's), (Start: 55 @57619 has 17 MA's), (66, 57658), (73, 57697), (82, 57724),

Gene: Beezoo_69 Start: 44656, Stop: 44895, Start Num: 32

Candidate Starts for Beezoo_69:

(2, 44446), (3, 44455), (20, 44605), (Start: 32 @44656 has 54 MA's), (52, 44701), (61, 44728), (62, 44731), (85, 44830), (86, 44836),

Gene: Belladonna_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Belladonna_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Blizzard_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for Blizzard_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Boiiii_67 Start: 44060, Stop: 44299, Start Num: 32

Candidate Starts for Boiiii_67:

(2, 43850), (3, 43859), (20, 44009), (Start: 32 @44060 has 54 MA's), (61, 44132), (62, 44135), (85, 44234), (86, 44240),

Gene: CREW_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for CREW_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: CandC_51 Start: 36309, Stop: 36118, Start Num: 57

Candidate Starts for CandC_51:

(1, 36582), (5, 36531), (16, 36426), (35, 36351), (Start: 57 @36309 has 10 MA's), (73, 36234), (87, 36177),

Gene: Capricorn_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Capricorn_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: CaseJules_69 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for CaseJules_69:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Crossroads_89 Start: 57560, Stop: 57739, Start Num: 55

Candidate Starts for Crossroads_89:

(14, 57431), (17, 57446), (19, 57455), (21, 57470), (Start: 53 @57554 has 1 MA's), (Start: 55 @57560 has 17 MA's), (66, 57599), (68, 57602), (82, 57665),

Gene: Curiosium_71 Start: 43377, Stop: 43622, Start Num: 32

Candidate Starts for Curiosium_71:

(20, 43326), (Start: 32 @43377 has 54 MA's), (61, 43449), (62, 43452), (76, 43521), (84, 43554), (93, 43614),

Gene: Dalmuri_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Dalmuri_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Daredevil_111 Start: 69987, Stop: 70223, Start Num: 31

Candidate Starts for Daredevil_111:

(Start: 31 @69987 has 2 MA's), (44, 70011), (77, 70125), (89, 70191), (91, 70194),

Gene: Douge_90 Start: 56768, Stop: 56947, Start Num: 55

Candidate Starts for Douge_90:

(Start: 53 @56762 has 1 MA's), (Start: 55 @56768 has 17 MA's), (66, 56807), (68, 56810), (73, 56846), (82, 56873),

Gene: Durfee_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for Durfee_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Emerson_69 Start: 44178, Stop: 44417, Start Num: 32

Candidate Starts for Emerson_69:

(2, 43968), (3, 43977), (20, 44127), (Start: 32 @44178 has 54 MA's), (52, 44223), (61, 44250), (62, 44253), (85, 44352), (86, 44358),

Gene: Estes_6 Start: 2402, Stop: 2196, Start Num: 33

Candidate Starts for Estes_6:

(18, 2465), (26, 2423), (Start: 33 @2402 has 5 MA's), (56, 2360), (60, 2351), (71, 2312),

Gene: Faith1_89 Start: 57485, Stop: 57664, Start Num: 55

Candidate Starts for Faith1_89:

(14, 57356), (17, 57371), (19, 57380), (21, 57395), (Start: 53 @57479 has 1 MA's), (Start: 55 @57485 has 17 MA's), (66, 57524), (68, 57527), (82, 57590),

Gene: Fregley_53 Start: 36870, Stop: 36679, Start Num: 57

Candidate Starts for Fregley_53:

(1, 37143), (5, 37092), (16, 36987), (35, 36912), (Start: 57 @36870 has 10 MA's), (73, 36795), (87, 36738),

Gene: Fryberger_9 Start: 2013, Stop: 1810, Start Num: 54

Candidate Starts for Fryberger_9:

(6, 2187), (8, 2178), (11, 2163), (30, 2067), (Start: 54 @2013 has 5 MA's), (61, 1989), (66, 1971), (70, 1965),

Gene: Gabriela_89 Start: 56831, Stop: 57010, Start Num: 55

Candidate Starts for Gabriela_89:

(14, 56702), (17, 56717), (19, 56726), (21, 56741), (Start: 53 @56825 has 1 MA's), (Start: 55 @56831 has 17 MA's), (66, 56870), (68, 56873), (82, 56936),

Gene: Ganymede_67 Start: 44084, Stop: 44323, Start Num: 32

Candidate Starts for Ganymede_67:

(2, 43874), (3, 43883), (20, 44033), (Start: 32 @44084 has 54 MA's), (52, 44129), (61, 44156), (62, 44159), (85, 44258), (86, 44264),

Gene: Gardann_89 Start: 57320, Stop: 57499, Start Num: 55

Candidate Starts for Gardann_89:

(14, 57191), (17, 57206), (19, 57215), (20, 57221), (21, 57230), (34, 57278), (37, 57284), (Start: 53 @57314 has 1 MA's), (Start: 55 @57320 has 17 MA's), (66, 57359), (73, 57398), (82, 57425),

Gene: GardenSalsa_6 Start: 2415, Stop: 2209, Start Num: 33

Candidate Starts for GardenSalsa_6:

(Start: 33 @2415 has 5 MA's), (56, 2373), (71, 2325),

Gene: GenevaB15_6 Start: 2394, Stop: 2188, Start Num: 33

Candidate Starts for GenevaB15_6:

(Start: 33 @2394 has 5 MA's), (56, 2352), (69, 2316), (71, 2304),

Gene: Geraldini_70 Start: 44740, Stop: 44979, Start Num: 32

Candidate Starts for Geraldini_70:

(2, 44530), (3, 44539), (20, 44689), (Start: 32 @44740 has 54 MA's), (61, 44812), (62, 44815), (85, 44914), (86, 44920),

Gene: Greely_63 Start: 23265, Stop: 23489, Start Num: 41

Candidate Starts for Greely_63:

(41, 23265), (59, 23304), (64, 23319), (87, 23427),

Gene: Guey18_12 Start: 2707, Stop: 2504, Start Num: 54

Candidate Starts for Guey18_12:

(6, 2881), (8, 2872), (11, 2857), (30, 2761), (Start: 54 @2707 has 5 MA's), (59, 2695), (61, 2683), (66, 2665), (70, 2659),

Gene: GuuelaD_86 Start: 57444, Stop: 57623, Start Num: 55

Candidate Starts for GuuelaD_86:

(Start: 53 @57438 has 1 MA's), (Start: 55 @57444 has 17 MA's), (66, 57483), (68, 57486), (73, 57522), (82, 57549),

Gene: HedwigODU_67 Start: 43706, Stop: 43945, Start Num: 32

Candidate Starts for HedwigODU_67:

(20, 43655), (Start: 32 @43706 has 54 MA's), (42, 43730), (52, 43751), (61, 43778), (62, 43781), (85, 43880), (86, 43886),

Gene: Homura_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Homura_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Hyperbowlee_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for Hyperbowlee_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Inky_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Inky_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Itos_89 Start: 56391, Stop: 56570, Start Num: 55

Candidate Starts for Itos_89:

(14, 56262), (17, 56277), (19, 56286), (21, 56301), (Start: 53 @56385 has 1 MA's), (Start: 55 @56391 has 17 MA's), (66, 56430), (68, 56433), (82, 56496),

Gene: Jarvi_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Jarvi_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: JasmineDragon_29 Start: 22315, Stop: 22620, Start Num: 9

Candidate Starts for JasmineDragon_29:

(Start: 9 @22315 has 2 MA's), (23, 22396), (79, 22528), (90, 22591),

Gene: Jayhawk_69 Start: 44204, Stop: 44443, Start Num: 32

Candidate Starts for Jayhawk_69:

(2, 43994), (3, 44003), (20, 44153), (Start: 32 @44204 has 54 MA's), (42, 44228), (52, 44249), (61, 44276), (62, 44279), (85, 44378), (86, 44384),

Gene: Jeckyll_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Jeckyll_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Joy99_67 Start: 43790, Stop: 44029, Start Num: 32

Candidate Starts for Joy99_67:

(2, 43580), (3, 43589), (20, 43739), (Start: 32 @43790 has 54 MA's), (61, 43862), (62, 43865), (85, 43964), (86, 43970),

Gene: Kahlid_88 Start: 57250, Stop: 57417, Start Num: 55

Candidate Starts for Kahlid_88:

(Start: 53 @57244 has 1 MA's), (Start: 55 @57250 has 17 MA's), (62, 57274), (64, 57277), (80, 57337), (82, 57343), (84, 57361), (85, 57364),

Gene: Kelcole_50 Start: 36504, Stop: 36310, Start Num: 57

Candidate Starts for Kelcole_50:

(1, 36777), (4, 36741), (5, 36726), (16, 36621), (35, 36546), (Start: 57 @36504 has 10 MA's), (73, 36429), (87, 36372),

Gene: Kudrefre_69 Start: 44258, Stop: 44521, Start Num: 22

Candidate Starts for Kudrefre_69:

(Start: 22 @44258 has 4 MA's), (25, 44279), (27, 44282), (36, 44306), (49, 44336), (67, 44381), (80, 44429), (87, 44465), (88, 44474), (89, 44489), (91, 44492),

Gene: LilDestine_87 Start: 57157, Stop: 57336, Start Num: 55

Candidate Starts for LilDestine_87:

(Start: 53 @57151 has 1 MA's), (Start: 55 @57157 has 17 MA's), (66, 57196), (68, 57199), (73, 57235), (82, 57262),

Gene: Llorens_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Llorens_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Loadrie_88 Start: 57652, Stop: 57831, Start Num: 55

Candidate Starts for Loadrie_88:

(14, 57523), (17, 57538), (19, 57547), (21, 57562), (Start: 53 @57646 has 1 MA's), (Start: 55 @57652 has 17 MA's), (66, 57691), (68, 57694), (82, 57757),

Gene: Lunahalos_67 Start: 43861, Stop: 44100, Start Num: 32

Candidate Starts for Lunahalos_67:

(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Marcie_57 Start: 37372, Stop: 37181, Start Num: 57

Candidate Starts for Marcie_57:

(Start: 57 @37372 has 10 MA's), (87, 37240),

Gene: MeaningOfLife_68 Start: 44613, Stop: 44852, Start Num: 32

Candidate Starts for MeaningOfLife_68:

(2, 44403), (3, 44412), (20, 44562), (Start: 32 @44613 has 54 MA's), (42, 44637), (52, 44658), (61, 44685), (62, 44688), (85, 44787), (86, 44793),

Gene: Merry_6 Start: 3204, Stop: 3419, Start Num: 44

Candidate Starts for Merry_6:

(10, 3066), (15, 3099), (21, 3135), (44, 3204), (74, 3300), (82, 3321), (91, 3378),

Gene: MiniMommy_30 Start: 22316, Stop: 22621, Start Num: 9

Candidate Starts for MiniMommy_30:

(Start: 9 @22316 has 2 MA's), (23, 22397), (79, 22529), (90, 22592),

Gene: MrMagoo_6 Start: 2415, Stop: 2209, Start Num: 33

Candidate Starts for MrMagoo_6:

(Start: 33 @2415 has 5 MA's), (56, 2373), (71, 2325),

Gene: Mynx_69 Start: 44473, Stop: 44712, Start Num: 32

Candidate Starts for Mynx_69:

(2, 44263), (3, 44272), (20, 44422), (Start: 32 @44473 has 54 MA's), (42, 44497), (52, 44518), (61, 44545), (62, 44548), (85, 44647), (86, 44653),

Gene: Myrna_56 Start: 22168, Stop: 22353, Start Num: 57

Candidate Starts for Myrna_56:

(12, 22015), (Start: 57 @22168 has 10 MA's), (63, 22177), (83, 22255),

Gene: NiceHouse_24 Start: 11340, Stop: 11110, Start Num: 28

Candidate Starts for NiceHouse_24:

(Start: 28 @11340 has 1 MA's), (43, 11304), (47, 11292), (72, 11208), (81, 11181),

Gene: Nicholasp3_89 Start: 57320, Stop: 57499, Start Num: 55

Candidate Starts for Nicholasp3_89:

(14, 57191), (17, 57206), (19, 57215), (20, 57221), (21, 57230), (34, 57278), (37, 57284), (Start: 53 @57314 has 1 MA's), (Start: 55 @57320 has 17 MA's), (66, 57359), (73, 57398), (82, 57425),

Gene: Octobien14_69 Start: 44537, Stop: 44797, Start Num: 22

Candidate Starts for Octobien14_69:

(Start: 22 @44537 has 4 MA's), (25, 44558), (27, 44561), (36, 44585), (49, 44615), (51, 44618), (Start: 55 @44627 has 17 MA's), (87, 44741), (88, 44750), (89, 44765), (91, 44768),

Gene: OneinaGillian_52 Start: 36406, Stop: 36215, Start Num: 57

Candidate Starts for OneinaGillian_52:

(1, 36679), (5, 36628), (16, 36523), (35, 36448), (Start: 57 @36406 has 10 MA's), (73, 36331), (87, 36274),

Gene: Padfoot_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for Padfoot_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Padpat_70 Start: 44178, Stop: 44417, Start Num: 32

Candidate Starts for Padpat_70:

(2, 43968), (3, 43977), (20, 44127), (Start: 32 @44178 has 54 MA's), (52, 44223), (61, 44250), (62, 44253), (85, 44352), (86, 44358),

Gene: Peel_67 Start: 43863, Stop: 44102, Start Num: 32

Candidate Starts for Peel_67:

(2, 43653), (3, 43662), (20, 43812), (Start: 32 @43863 has 54 MA's), (61, 43935), (62, 43938), (85, 44037), (86, 44043),

Gene: Pepe25_51 Start: 35948, Stop: 35757, Start Num: 57

Candidate Starts for Pepe25_51:

(Start: 57 @35948 has 10 MA's), (73, 35873), (87, 35816), (92, 35786),

Gene: Piatt_67 Start: 44058, Stop: 44297, Start Num: 32

Candidate Starts for Piatt_67:

(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Pokerus_67 Start: 44203, Stop: 44442, Start Num: 32

Candidate Starts for Pokerus_67:

(2, 43993), (3, 44002), (20, 44152), (Start: 32 @44203 has 54 MA's), (52, 44248), (61, 44275), (62, 44278), (85, 44377), (86, 44383),

Gene: QuincyRose_65 Start: 44084, Stop: 44323, Start Num: 32

Candidate Starts for QuincyRose_65:

(2, 43874), (3, 43883), (20, 44033), (Start: 32 @44084 has 54 MA's), (52, 44129), (61, 44156), (62, 44159), (85, 44258), (86, 44264),

Gene: Rabbitrun_73 Start: 44915, Stop: 45124, Start Num: 38

Candidate Starts for Rabbitrun_73:

(Start: 38 @44915 has 2 MA's), (44, 44927), (58, 44957), (76, 45020), (87, 45065),

Gene: Ramen_68 Start: 43708, Stop: 43947, Start Num: 32

Candidate Starts for Ramen_68:

(20, 43657), (Start: 32 @43708 has 54 MA's), (42, 43732), (52, 43753), (61, 43780), (62, 43783), (85, 43882), (86, 43888),

Gene: Rapunzel97_69 Start: 44159, Stop: 44398, Start Num: 32

Candidate Starts for Rapunzel97_69:

(2, 43949), (3, 43958), (20, 44108), (Start: 32 @44159 has 54 MA's), (42, 44183), (52, 44204), (61, 44231), (62, 44234), (85, 44333), (86, 44339),

Gene: RobinRose_54 Start: 36915, Stop: 36724, Start Num: 57

Candidate Starts for RobinRose_54:

(1, 37188), (5, 37137), (16, 37032), (35, 36957), (Start: 57 @36915 has 10 MA's), (73, 36840), (87, 36783),

Gene: Romm_54 Start: 36915, Stop: 36724, Start Num: 57

Candidate Starts for Romm_54:

(1, 37188), (5, 37137), (16, 37032), (35, 36957), (Start: 57 @36915 has 10 MA's), (73, 36840), (87, 36783),

Gene: Ronaldo_13 Start: 3139, Stop: 2936, Start Num: 54

Candidate Starts for Ronaldo_13:

(Start: 54 @3139 has 5 MA's), (59, 3127), (61, 3115), (66, 3097), (70, 3091), (75, 3052),

Gene: Rosmarinus_67 Start: 43849, Stop: 44088, Start Num: 32

Candidate Starts for Rosmarinus_67:

(2, 43639), (3, 43648), (20, 43798), (Start: 32 @43849 has 54 MA's), (61, 43921), (62, 43924), (85, 44023), (86, 44029),

Gene: Rumpelstiltskin_85 Start: 57113, Stop: 57292, Start Num: 55

Candidate Starts for Rumpelstiltskin_85:

(14, 56984), (17, 56999), (19, 57008), (20, 57014), (21, 57023), (34, 57071), (37, 57077), (Start: 53 @57107 has 1 MA's), (Start: 55 @57113 has 17 MA's), (66, 57152), (73, 57191), (82, 57218),

Gene: ScoobyDoobyDoo_50 Start: 17925, Stop: 18128, Start Num: 57

Candidate Starts for ScoobyDoobyDoo_50:

(29, 17868), (Start: 57 @17925 has 10 MA's), (65, 17949), (78, 18018), (94, 18108), (95, 18120),

Gene: Sephiroth_68 Start: 44430, Stop: 44693, Start Num: 22
Candidate Starts for Sephiroth_68:
(Start: 22 @44430 has 4 MA's), (25, 44451), (27, 44454), (36, 44478), (49, 44508), (67, 44553), (80, 44601), (87, 44637), (88, 44646), (89, 44661), (91, 44664),

Gene: ShakeltOph_30 Start: 22315, Stop: 22620, Start Num: 9
Candidate Starts for ShakeltOph_30:
(Start: 9 @22315 has 2 MA's), (23, 22396), (79, 22528), (90, 22591),

Gene: ShiaSurprise_68 Start: 44058, Stop: 44297, Start Num: 32
Candidate Starts for ShiaSurprise_68:
(2, 43848), (3, 43857), (20, 44007), (Start: 32 @44058 has 54 MA's), (61, 44130), (62, 44133), (85, 44232), (86, 44238),

Gene: Slimphazie_68 Start: 44159, Stop: 44398, Start Num: 32
Candidate Starts for Slimphazie_68:
(2, 43949), (3, 43958), (20, 44108), (Start: 32 @44159 has 54 MA's), (42, 44183), (52, 44204), (61, 44231), (62, 44234), (85, 44333), (86, 44339),

Gene: SpeedDemon_1180 Start: 76063, Stop: 76290, Start Num: 31
Candidate Starts for SpeedDemon_1180:
(Start: 31 @76063 has 2 MA's), (Start: 50 @76102 has 1 MA's), (91, 76261),

Gene: Spock_67 Start: 43862, Stop: 44101, Start Num: 32
Candidate Starts for Spock_67:
(2, 43652), (3, 43661), (20, 43811), (Start: 32 @43862 has 54 MA's), (61, 43934), (62, 43937), (85, 44036), (86, 44042),

Gene: Sunny_6 Start: 3204, Stop: 3419, Start Num: 44
Candidate Starts for Sunny_6:
(10, 3066), (15, 3099), (21, 3135), (44, 3204), (74, 3300), (82, 3321), (91, 3378),

Gene: Syleon_70 Start: 44371, Stop: 44631, Start Num: 22
Candidate Starts for Syleon_70:
(Start: 22 @44371 has 4 MA's), (25, 44392), (27, 44395), (36, 44419), (49, 44449), (51, 44452), (87, 44575), (89, 44599), (91, 44602),

Gene: Tachez_67 Start: 43706, Stop: 43945, Start Num: 32
Candidate Starts for Tachez_67:
(2, 43496), (3, 43505), (20, 43655), (Start: 32 @43706 has 54 MA's), (61, 43778), (62, 43781), (85, 43880), (86, 43886),

Gene: Tempo_52 Start: 36794, Stop: 36603, Start Num: 57
Candidate Starts for Tempo_52:
(Start: 57 @36794 has 10 MA's), (73, 36719), (87, 36662),

Gene: Topper_67 Start: 43861, Stop: 44100, Start Num: 32
Candidate Starts for Topper_67:
(2, 43651), (3, 43660), (20, 43810), (Start: 32 @43861 has 54 MA's), (61, 43933), (62, 43936), (85, 44035), (86, 44041),

Gene: Tourach_89 Start: 58025, Stop: 58204, Start Num: 55
Candidate Starts for Tourach_89:

(14, 57896), (17, 57911), (19, 57920), (34, 57983), (Start: 53 @58019 has 1 MA's), (Start: 55 @58025 has 17 MA's), (66, 58064), (68, 58067), (73, 58103), (82, 58130),

Gene: Trax_73 Start: 45629, Stop: 45832, Start Num: 38

Candidate Starts for Trax_73:

(Start: 38 @45629 has 2 MA's), (42, 45638), (44, 45641), (46, 45647), (48, 45650), (89, 45800), (91, 45803), (93, 45824),

Gene: TruffulaTree_68 Start: 44155, Stop: 44394, Start Num: 32

Candidate Starts for TruffulaTree_68:

(2, 43945), (3, 43954), (20, 44104), (Start: 32 @44155 has 54 MA's), (42, 44179), (52, 44200), (61, 44227), (62, 44230), (85, 44329), (86, 44335),

Gene: Twitch_67 Start: 43863, Stop: 44102, Start Num: 32

Candidate Starts for Twitch_67:

(2, 43653), (3, 43662), (20, 43812), (Start: 32 @43863 has 54 MA's), (61, 43935), (62, 43938), (85, 44037), (86, 44043),

Gene: Validus_72 Start: 44730, Stop: 44951, Start Num: 32

Candidate Starts for Validus_72:

(20, 44679), (Start: 32 @44730 has 54 MA's), (40, 44748), (76, 44838), (84, 44871), (86, 44880),

Gene: Volt_13 Start: 3139, Stop: 2936, Start Num: 54

Candidate Starts for Volt_13:

(Start: 54 @3139 has 5 MA's), (59, 3127), (61, 3115), (66, 3097), (70, 3091), (75, 3052),

Gene: VroomVroom_29 Start: 22410, Stop: 22715, Start Num: 9

Candidate Starts for VroomVroom_29:

(Start: 9 @22410 has 2 MA's), (24, 22497), (79, 22623), (90, 22686),

Gene: Wigglewiggles_89 Start: 57408, Stop: 57575, Start Num: 55

Candidate Starts for Wigglewiggles_89:

(7, 57243), (13, 57264), (14, 57279), (17, 57294), (34, 57366), (37, 57372), (Start: 53 @57402 has 1 MA's), (Start: 55 @57408 has 17 MA's), (62, 57432), (64, 57435), (80, 57495), (82, 57501), (84, 57519), (85, 57522),

Gene: Wilder_90 Start: 57250, Stop: 57417, Start Num: 55

Candidate Starts for Wilder_90:

(Start: 53 @57244 has 1 MA's), (Start: 55 @57250 has 17 MA's), (62, 57274), (64, 57277), (80, 57337), (82, 57343), (84, 57361), (85, 57364),

Gene: Zabiza_62 Start: 40011, Stop: 40250, Start Num: 32

Candidate Starts for Zabiza_62:

(20, 39960), (Start: 32 @40011 has 54 MA's), (42, 40035), (52, 40056), (61, 40083), (62, 40086), (85, 40185), (86, 40191),

Gene: Zakai_90 Start: 57893, Stop: 58072, Start Num: 55

Candidate Starts for Zakai_90:

(14, 57764), (17, 57779), (19, 57788), (21, 57803), (Start: 53 @57887 has 1 MA's), (Start: 55 @57893 has 17 MA's), (66, 57932), (68, 57935), (82, 57998),

Gene: Zavala_70 Start: 44433, Stop: 44672, Start Num: 32

Candidate Starts for Zavala_70:

(2, 44223), (3, 44232), (20, 44382), (Start: 32 @44433 has 54 MA's), (42, 44457), (52, 44478), (61, 44505), (62, 44508), (85, 44607), (86, 44613),

Gene: ZhongYanYuan_86 Start: 57300, Stop: 57479, Start Num: 55

Candidate Starts for ZhongYanYuan_86:

(Start: 53 @57294 has 1 MA's), (Start: 55 @57300 has 17 MA's), (66, 57339), (68, 57342), (73, 57378), (82, 57405),

Gene: Ziko_14 Start: 3153, Stop: 2950, Start Num: 54

Candidate Starts for Ziko_14:

(Start: 54 @3153 has 5 MA's), (59, 3141), (61, 3129), (66, 3111), (70, 3105), (75, 3066),