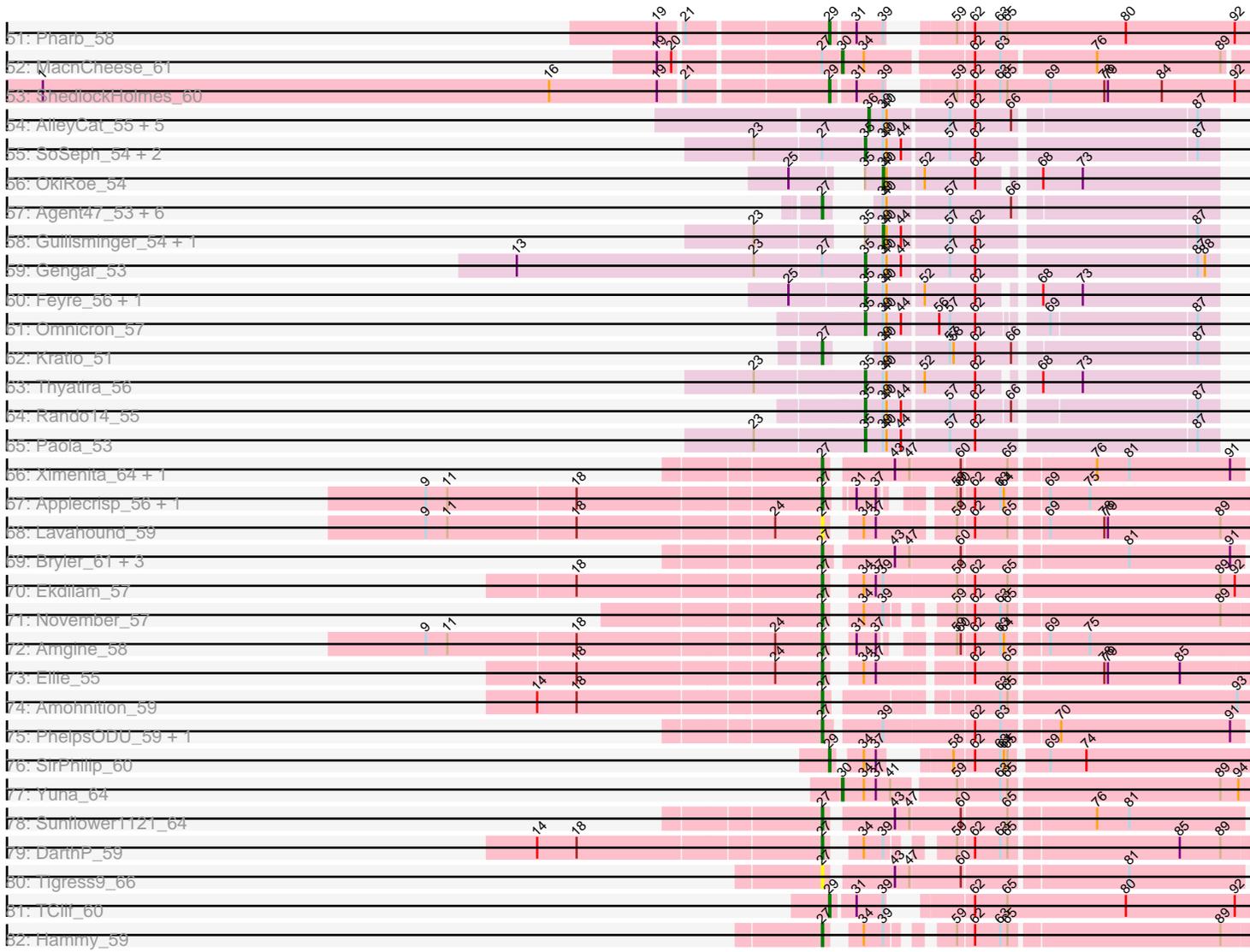


Pham 289129



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 289129 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289129 has 168 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Nergal_53
- Track 2 : Pisa4_53
- Track 3 : Richo_61, Dartin_61, Niklas_61, Shaobing_61, McMater_61, Peanam_61
- Track 4 : Jarvi_59, Peel_59, CREW_59, Topper_59, Boiiii_59, BGIluviae_59, Dalmuri_59, Asayake_59, Hyperbowlee_59, Jeckyll_59, AlishaPH_59, Atiba_60, CaseJules_61, BEEST_59, Inky_59, Joy99_59, Capricorn_59, Lunahalos_59, Blizzard_59, Padfoot_59, CallaLilly_59, Belladonna_59, Homura_59, Tachez_59, Spock_59, Durfee_59, Twitch_59, Adephagia_59, ShiaSurprise_60, Llorens_59, Piatt_59, Anaya_61, Rosmarinus_59
- Track 5 : Prithvi_60, LindNT_58, TreyKay_60
- Track 6 : HedwigODU_59, ActinUp_59, Ramen_60, Jayhawk_60, Zabiza_54
- Track 7 : MacKat_54, Clipper_62
- Track 8 : TruffulaTree_59, Slimphazie_59, Pokerus_58, BarrelRoll_59, Rapunzel97_60
- Track 9 : Anma_61, DrHayes_60, TiniBug_60, Urkel_60, SamuelLPlaqson_60
- Track 10 : Yunkel11_62, Guanica15_62
- Track 11 : Ageofdapage_62
- Track 12 : Scarlett_64, KiSi_64
- Track 13 : DartGoblin_62
- Track 14 : Bella96_60
- Track 15 : Tiri_60
- Track 16 : Bern_60, BaghaKamala_58, CheetoDust_58
- Track 17 : Efra2_63
- Track 18 : Nibb_61
- Track 19 : Devera_66, Dole_64, Illumine_64
- Track 20 : Megsy_61
- Track 21 : LastHope_62
- Track 22 : Apocalypse_62
- Track 23 : JAWS_59, Veliki_60, Mynx_60, Zavala_61
- Track 24 : MarkPhew_62
- Track 25 : TaiwanKao_61
- Track 26 : Chavito_61
- Track 27 : YoureAdopted_58
- Track 28 : Adonis_59
- Track 29 : Pisa1_59
- Track 30 : Angelica_59, MeaningOfLife_60
- Track 31 : Stinson_60

- Track 32 : Chris_61
- Track 33 : CrimD_60
- Track 34 : Beezoo_61
- Track 35 : Padpat_61
- Track 36 : Ganymede_60, QuincyRose_58, Sulley_59
- Track 37 : Deby_59
- Track 38 : Emerson_60
- Track 39 : Oscar_63
- Track 40 : TingHuaYa_61
- Track 41 : Validus_63
- Track 42 : Geraldini_62
- Track 43 : Curiosium_63
- Track 44 : LeMond_63
- Track 45 : Murucutumbu_60
- Track 46 : Hurricane_59
- Track 47 : TBond007_57, Pixie_58
- Track 48 : Lea83_59
- Track 49 : Keshu_61
- Track 50 : TribbleTrouble_58
- Track 51 : Pharb_58
- Track 52 : MacnCheese_61
- Track 53 : ShedlockHolmes_60
- Track 54 : AlleyCat_55, Larva_54, Edugator_52, Neighly_55, Dadosky_55, Psycho_53
- Track 55 : SoSeph_54, Heftyboy_54, Waterfoul_55
- Track 56 : OkiRoe_54
- Track 57 : Agent47_53, BananenDer11_50, LiIDirt_50, Collard_51, InvictusManeo_51, ViviJ_52, DoubleChamp_50
- Track 58 : Guillsminger_54, Leston_53
- Track 59 : Gengar_53
- Track 60 : Feyre_56, Miryou_57
- Track 61 : Omnicron_57
- Track 62 : Kratio_51
- Track 63 : Thyatira_56
- Track 64 : Rando14_55
- Track 65 : Paola_53
- Track 66 : Ximenita_64, Shadow1_63
- Track 67 : Applecrisp_56, Fefferhead_57
- Track 68 : Lavahound_59
- Track 69 : Bryler_61, Tierra_61, Cain_61, Phrank_61
- Track 70 : Ekdilam_57
- Track 71 : November_57
- Track 72 : Amgine_58
- Track 73 : Ellie_55
- Track 74 : Amohnition_59
- Track 75 : PhelpsODU_59, Unicorn_59
- Track 76 : SirPhilip_60
- Track 77 : Yuna_64
- Track 78 : Sunflower1121_64
- Track 79 : DARTH_P_59
- Track 80 : Tigress9_66
- Track 81 : TClif_60
- Track 82 : Hammy_59

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

The start number called the most often in the published annotations is 29, it was called in 96 of the 152 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_59, Adephegia_59, Adonis_59, Ageofdapage_62, AlishaPH_59, Anaya_61, Angelica_59, Anma_61, Apocalypse_62, Asayake_59, Atiba_60, BEEST_59, BGIlluviae_59, BaghaKamala_58, BarrelRoll_59, Beezoo_61, Bella96_60, Belladonna_59, Bern_60, Blizzard_59, Boiiii_59, CREW_59, CallaLilly_59, Capricorn_59, CaseJules_61, CheetoDust_58, Clipper_62, CrimD_60, Curiosium_63, Dalmuri_59, Deby_59, Devera_66, Dole_64, DrHayes_60, Durfee_59, Efra2_63, Ganymede_60, Geraldini_62, Guanica15_62, HedwigODU_59, Homura_59, Hurricane_59, Hyperbowlee_59, Illumine_64, Inky_59, JAWS_59, Jarvi_59, Jayhawk_60, Jeckyll_59, Joy99_59, Keshu_61, LastHope_62, Lea83_59, LindNT_58, Llorens_59, Lunahalos_59, MacKat_54, MeaningOfLife_60, Megsy_61, Murucutumbu_60, Mynx_60, Padfoot_59, Padpat_61, Peel_59, Pharb_58, Piatt_59, Pixie_58, Pokerus_58, Prithvi_60, QuincyRose_58, Ramen_60, Rapunzel97_60, Rosmarinus_59, SamuelLPlaqson_60, ShedlockHolmes_60, ShiaSurprise_60, SirPhilip_60, Slimphazie_59, Spock_59, Stinson_60, Sulley_59, TBond007_57, TClif_60, Tachez_59, TiniBug_60, Tiri_60, Topper_59, TreyKay_60, TribbleTrouble_58, TruffulaTree_59, Twitch_59, Urkel_60, Veliki_60, YoureAdopted_58, Yunkel11_62, Zabiza_54, Zavala_61,

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

- DartGoblin_62, Emerson_60, Pisa1_59, Pisa4_53, TaiwanKao_61, TingHuaYa_61,

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

- Agent47_53, AlleyCat_55, Amgine_58, Amohnition_59, Applecrisp_56, BananenDer11_50, Bryler_61, Cain_61, Chavito_61, Chris_61, Collard_51, Dadosky_55, DarthP_59, Dartin_61, DoubleChamp_50, Edugator_52, Ekdilam_57, Ellie_55, Fefferhead_57, Feyre_56, Gengar_53, Guillsminger_54, Hammy_59, Heftyboy_54, InvictusManeo_51, KiSi_64, Kratio_51, Larva_54, Lavahound_59, LeMond_63, Leston_53, LilDirt_50, MacnCheese_61, MarkPhew_62, McMater_61, Miryou_57, Neighly_55, Nergal_53, Nibb_61, Niklas_61, November_57, OkiRoe_54, Omnicron_57, Oscar_63, Paola_53, Peanam_61, PhelpsODU_59, Phrank_61, Psycho_53, Rando14_55, Richo_61, Scarlett_64, Shadow1_63, Shaobing_61, SoSeph_54, Sunflower1121_64, Thyatira_56, Tierra_61, Tigress9_66, Unicorn_59, Validus_63, ViviJ_52, Waterfoul_55, Ximenita_64, Yuna_64,

Summary by start number:

Start 27:

- Found in 47 of 168 (28.0%) of genes in pham
- Manual Annotations of this start: 33 of 152
- Called 89.4% of time when present
- Phage (with cluster) where this start called: Agent47_53 (K5), Amgine_58 (K6), Amohnition_59 (K6), Applecrisp_56 (K6), BananenDer11_50 (K5), Bryler_61 (K6), Cain_61 (K6), Chavito_61 (K1), Chris_61 (K1), Collard_51 (K5), DarthP_59 (K6),

Dartin_61 (K1), DoubleChamp_50 (K5), Ekdilam_57 (K6), Ellie_55 (K6), Fefferhead_57 (K6), Hammy_59 (K6), InvictusManeo_51 (K5), KiSi_64 (K1), Kratio_51 (K5), Lavahound_59 (K6), LeMond_63 (K1), LilDirt_50 (K5), MarkPhew_62 (K1), McMater_61 (K1), Nibb_61 (K1), Niklas_61 (K1), November_57 (K6), Oscar_63 (K1), Peanam_61 (K1), PhelpsODU_59 (K6), Phrank_61 (K6), Richo_61 (K1), Scarlett_64 (K1), Shadow1_63 (K6), Shaobing_61 (K1), Sunflower1121_64 (K6), Tierra_61 (K6), Tigress9_66 (K6), Unicorn_59 (K6), ViviJ_52 (K5), Ximenita_64 (K6),

Start 28:

- Found in 1 of 168 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Validus_63 (K1),

Start 29:

- Found in 103 of 168 (61.3%) of genes in pham
- Manual Annotations of this start: 96 of 152
- Called 94.2% of time when present
- Phage (with cluster) where this start called: ActinUp_59 (K1), Adephagia_59 (K1), Adonis_59 (K1), Ageofdapage_62 (K1), AlishaPH_59 (K1), Anaya_61 (K1), Angelica_59 (K1), Anma_61 (K1), Apocalypse_62 (K1), Asayake_59 (K1), Atiba_60 (K1), BEEST_59 (K1), BGlluviae_59 (K1), BaghaKamala_58 (K1), BarrelRoll_59 (K1), Beezoo_61 (K1), Bella96_60 (K1), Belladonna_59 (K1), Bern_60 (K1), Blizzard_59 (K1), Boiiii_59 (K1), CREW_59 (K1), CallaLilly_59 (K1), Capricorn_59 (K1), CaseJules_61 (K1), CheetoDust_58 (K1), Clipper_62 (K1), CrimD_60 (K1), Curiosium_63 (K1), Dalmuri_59 (K1), Deby_59 (K1), Devera_66 (K1), Dole_64 (K1), DrHayes_60 (K1), Durfee_59 (K1), Efra2_63 (K1), Ganymede_60 (K1), Geraldini_62 (K1), Guanica15_62 (K1), HedwigODU_59 (K1), Homura_59 (K1), Hurricane_59 (K3), Hyperbowlee_59 (K1), Illumine_64 (K1), Inky_59 (K1), JAWS_59 (K1), Jarvi_59 (K1), Jayhawk_60 (K1), Jeckyll_59 (K1), Joy99_59 (K1), Keshu_61 (K3), LastHope_62 (K1), Lea83_59 (K3), LindNT_58 (K1), Llorens_59 (K1), Lunahalos_59 (K1), MacKat_54 (K1), MeaningOfLife_60 (K1), Megsy_61 (K1), Murucutumbu_60 (K1), Mynx_60 (K1), Padfoot_59 (K1), Padpat_61 (K1), Peel_59 (K1), Pharb_58 (K3), Piatt_59 (K1), Pixie_58 (K3), Pokerus_58 (K1), Prithvi_60 (K1), QuincyRose_58 (K1), Ramen_60 (K1), Rapunzel97_60 (K1), Rosmarinus_59 (K1), SamuelLPlaqson_60 (K1), ShedlockHolmes_60 (K3), ShiaSurprise_60 (K1), SirPhilip_60 (K6), Slimphazie_59 (K1), Spock_59 (K1), Stinson_60 (K1), Sulley_59 (K1), TBond007_57 (K3), TClif_60 (K6), Tachez_59 (K1), TiniBug_60 (K1), Tiri_60 (K1), Topper_59 (K1), TreyKay_60 (K1), TribbleTrouble_58 (K3), TruffulaTree_59 (K1), Twitch_59 (K1), Urkel_60 (K1), Veliki_60 (K1), YoureAdopted_58 (K1), Yunkel11_62 (K1), Zabiza_54 (K1), Zavala_61 (K1),

Start 30:

- Found in 2 of 168 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MacnCheese_61 (K3), Yuna_64 (K6),

Start 31:

- Found in 92 of 168 (54.8%) of genes in pham
- No Manual Annotations of this start.
- Called 3.3% of time when present

- Phage (with cluster) where this start called: Pisa1_59 (K1), TaiwanKao_61 (K1), TingHuaYa_61 (K1),

Start 33:

- Found in 1 of 168 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nergal_53 (AG),

Start 34:

- Found in 44 of 168 (26.2%) of genes in pham
- No Manual Annotations of this start.
- Called 2.3% of time when present
- Phage (with cluster) where this start called: Pisa4_53 (K1),

Start 35:

- Found in 13 of 168 (7.7%) of genes in pham
- Manual Annotations of this start: 10 of 152
- Called 76.9% of time when present
- Phage (with cluster) where this start called: Feyre_56 (K5), Gengar_53 (K5), Heftyboy_54 (K5), Miryou_57 (K5), Omnicron_57 (K5), Paola_53 (K5), Rando14_55 (K5), SoSeph_54 (K5), Thyatira_56 (K5), Waterfoul_55 (K5),

Start 36:

- Found in 6 of 168 (3.6%) of genes in pham
- Manual Annotations of this start: 5 of 152
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlleyCat_55 (K5), Dadosky_55 (K5), Edugator_52 (K5), Larva_54 (K5), Neighly_55 (K3), Psycho_53 (K5),

Start 38:

- Found in 20 of 168 (11.9%) of genes in pham
- Manual Annotations of this start: 1 of 152
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Emerson_60 (K1),

Start 39:

- Found in 90 of 168 (53.6%) of genes in pham
- Manual Annotations of this start: 3 of 152
- Called 3.3% of time when present
- Phage (with cluster) where this start called: Guillsminger_54 (K5), Leston_53 (K5), OkiRoe_54 (K5),

Start 42:

- Found in 2 of 168 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DartGoblin_62 (K1),

Summary by clusters:

There are 5 clusters represented in this pham: K3, K1, AG, K6, K5,

Info for manual annotations of cluster AG:

- Start number 33 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K1:

- Start number 27 was manually annotated 10 times for cluster K1.
- Start number 28 was manually annotated 1 time for cluster K1.
- Start number 29 was manually annotated 86 times for cluster K1.
- Start number 38 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K3:

- Start number 29 was manually annotated 8 times for cluster K3.
- Start number 30 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K5:

- Start number 27 was manually annotated 5 times for cluster K5.
- Start number 35 was manually annotated 10 times for cluster K5.
- Start number 36 was manually annotated 5 times for cluster K5.
- Start number 39 was manually annotated 3 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 27 was manually annotated 18 times for cluster K6.
- Start number 29 was manually annotated 2 times for cluster K6.
- Start number 30 was manually annotated 1 time for cluster K6.

Gene Information:

Gene: ActinUp_59 Start: 40802, Stop: 41128, Start Num: 29

Candidate Starts for ActinUp_59:

(21, 40685), (Start: 29 @40802 has 96 MA's), (31, 40820), (45, 40859), (59, 40895), (62, 40907), (63, 40928), (65, 40934),

Gene: Adephagia_59 Start: 40803, Stop: 41135, Start Num: 29

Candidate Starts for Adephagia_59:

(21, 40686), (Start: 29 @40803 has 96 MA's), (31, 40821), (37, 40836), (41, 40848), (53, 40878), (62, 40914), (63, 40935),

Gene: Adonis_59 Start: 41050, Stop: 41370, Start Num: 29

Candidate Starts for Adonis_59:

(Start: 29 @41050 has 96 MA's), (31, 41068), (37, 41083), (Start: 39 @41089 has 3 MA's), (53, 41113), (62, 41149), (63, 41170),

Gene: Agent47_53 Start: 38092, Stop: 38367, Start Num: 27

Candidate Starts for Agent47_53:

(Start: 27 @38092 has 33 MA's), (Start: 39 @38107 has 3 MA's), (40, 38110), (57, 38158), (66, 38209),

Gene: Ageofdapage_62 Start: 41791, Stop: 42111, Start Num: 29

Candidate Starts for Ageofdapage_62:

(Start: 29 @41791 has 96 MA's), (31, 41809), (37, 41824), (59, 41878), (62, 41890), (63, 41911), (74, 41977), (78, 41992),

Gene: AlishaPH_59 Start: 41064, Stop: 41396, Start Num: 29

Candidate Starts for AlishaPH_59:

(21, 40947), (Start: 29 @41064 has 96 MA's), (31, 41082), (37, 41097), (41, 41109), (53, 41139), (62, 41175), (63, 41196),

Gene: AlleyCat_55 Start: 38399, Stop: 38671, Start Num: 36

Candidate Starts for AlleyCat_55:

(Start: 36 @38399 has 5 MA's), (Start: 39 @38411 has 3 MA's), (40, 38414), (57, 38462), (62, 38483), (66, 38513), (87, 38654),

Gene: Amgine_58 Start: 41663, Stop: 41959, Start Num: 27

Candidate Starts for Amgine_58:

(9, 41345), (11, 41363), (18, 41468), (24, 41624), (Start: 27 @41663 has 33 MA's), (31, 41675), (37, 41690), (59, 41729), (60, 41732), (62, 41741), (63, 41762), (64, 41765), (69, 41795), (75, 41828),

Gene: Amohnition_59 Start: 41255, Stop: 41578, Start Num: 27

Candidate Starts for Amohnition_59:

(14, 41027), (18, 41060), (Start: 27 @41255 has 33 MA's), (63, 41372), (65, 41378), (93, 41564),

Gene: Anaya_61 Start: 41319, Stop: 41651, Start Num: 29

Candidate Starts for Anaya_61:

(21, 41202), (Start: 29 @41319 has 96 MA's), (31, 41337), (37, 41352), (41, 41364), (53, 41394), (62, 41430), (63, 41451),

Gene: Angelica_59 Start: 40958, Stop: 41278, Start Num: 29

Candidate Starts for Angelica_59:

(21, 40841), (Start: 29 @40958 has 96 MA's), (31, 40976), (37, 40991), (Start: 39 @40997 has 3 MA's), (53, 41021), (62, 41057), (63, 41078),

Gene: Anma_61 Start: 41702, Stop: 42022, Start Num: 29

Candidate Starts for Anma_61:

(19, 41567), (21, 41585), (Start: 29 @41702 has 96 MA's), (31, 41720), (Start: 39 @41741 has 3 MA's), (59, 41789), (63, 41822), (69, 41858), (76, 41897), (80, 41921),

Gene: Apocalypse_62 Start: 41727, Stop: 42047, Start Num: 29

Candidate Starts for Apocalypse_62:

(21, 41610), (Start: 29 @41727 has 96 MA's), (31, 41745), (37, 41760), (Start: 39 @41766 has 3 MA's), (53, 41790), (62, 41826),

Gene: Applecrisp_56 Start: 40800, Stop: 41099, Start Num: 27

Candidate Starts for Applecrisp_56:

(9, 40482), (11, 40500), (18, 40605), (Start: 27 @40800 has 33 MA's), (31, 40815), (37, 40830), (59, 40869), (60, 40872), (62, 40881), (63, 40902), (64, 40905), (69, 40935), (75, 40968),

Gene: Asayake_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for Asayake_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Atiba_60 Start: 40766, Stop: 41098, Start Num: 29

Candidate Starts for Atiba_60:

(21, 40649), (Start: 29 @40766 has 96 MA's), (31, 40784), (37, 40799), (41, 40811), (53, 40841), (62, 40877), (63, 40898),

Gene: BEEST_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for BEEST_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: BGlluviae_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for BGlluviae_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: BaghaKamala_58 Start: 40159, Stop: 40479, Start Num: 29

Candidate Starts for BaghaKamala_58:

(Start: 29 @40159 has 96 MA's), (31, 40177), (34, 40183), (Start: 38 @40195 has 1 MA's), (Start: 39 @40198 has 3 MA's), (59, 40246), (63, 40279), (69, 40315), (76, 40354), (80, 40378), (85, 40423), (89, 40456),

Gene: BananenDer11_50 Start: 38053, Stop: 38328, Start Num: 27

Candidate Starts for BananenDer11_50:

(Start: 27 @38053 has 33 MA's), (Start: 39 @38068 has 3 MA's), (40, 38071), (57, 38119), (66, 38170),

Gene: BarrelRoll_59 Start: 40782, Stop: 41102, Start Num: 29

Candidate Starts for BarrelRoll_59:

(Start: 29 @40782 has 96 MA's), (34, 40806), (Start: 39 @40821 has 3 MA's), (59, 40869), (63, 40902), (69, 40938), (80, 41001), (85, 41046), (89, 41079),

Gene: Beezoo_61 Start: 41766, Stop: 42086, Start Num: 29

Candidate Starts for Beezoo_61:

(Start: 29 @41766 has 96 MA's), (31, 41784), (37, 41799), (Start: 39 @41805 has 3 MA's), (53, 41829), (63, 41886),

Gene: Bella96_60 Start: 41547, Stop: 41867, Start Num: 29

Candidate Starts for Bella96_60:

(8, 41217), (17, 41331), (19, 41412), (21, 41430), (Start: 29 @41547 has 96 MA's), (34, 41571), (Start: 39 @41586 has 3 MA's), (42, 41595), (59, 41634), (63, 41667), (69, 41703), (76, 41742), (80, 41766),

Gene: Belladonna_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Belladonna_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: Bern_60 Start: 39749, Stop: 40069, Start Num: 29

Candidate Starts for Bern_60:

(Start: 29 @39749 has 96 MA's), (31, 39767), (34, 39773), (Start: 38 @39785 has 1 MA's), (Start: 39 @39788 has 3 MA's), (59, 39836), (63, 39869), (69, 39905), (76, 39944), (80, 39968), (85, 40013), (89, 40046),

Gene: Blizzard_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for Blizzard_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Boiiii_59 Start: 41120, Stop: 41452, Start Num: 29

Candidate Starts for Boiiii_59:

(21, 41003), (Start: 29 @41120 has 96 MA's), (31, 41138), (37, 41153), (41, 41165), (53, 41195), (62, 41231), (63, 41252),

Gene: Bryler_61 Start: 40039, Stop: 40365, Start Num: 27

Candidate Starts for Bryler_61:

(Start: 27 @40039 has 33 MA's), (43, 40090), (47, 40102), (60, 40141), (81, 40270), (91, 40354),

Gene: CREW_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for CREW_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: Cain_61 Start: 40027, Stop: 40353, Start Num: 27

Candidate Starts for Cain_61:

(Start: 27 @40027 has 33 MA's), (43, 40078), (47, 40090), (60, 40129), (81, 40258), (91, 40342),

Gene: CallaLilly_59 Start: 40844, Stop: 41176, Start Num: 29

Candidate Starts for CallaLilly_59:

(21, 40727), (Start: 29 @40844 has 96 MA's), (31, 40862), (37, 40877), (41, 40889), (53, 40919), (62, 40955), (63, 40976),

Gene: Capricorn_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Capricorn_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: CaseJules_61 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for CaseJules_61:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Chavito_61 Start: 41689, Stop: 42021, Start Num: 27

Candidate Starts for Chavito_61:

(Start: 27 @41689 has 33 MA's), (37, 41722), (46, 41746), (64, 41821), (65, 41824), (70, 41860), (89, 41992),

Gene: CheetoDust_58 Start: 40203, Stop: 40523, Start Num: 29

Candidate Starts for CheetoDust_58:

(Start: 29 @40203 has 96 MA's), (31, 40221), (34, 40227), (Start: 38 @40239 has 1 MA's), (Start: 39 @40242 has 3 MA's), (59, 40290), (63, 40323), (69, 40359), (76, 40398), (80, 40422), (85, 40467), (89, 40500),

Gene: Chris_61 Start: 41524, Stop: 41868, Start Num: 27

Candidate Starts for Chris_61:

(3, 41107), (12, 41224), (15, 41299), (Start: 27 @41524 has 33 MA's), (32, 41551), (62, 41644), (63, 41665), (64, 41668), (77, 41749), (80, 41770), (89, 41848), (90, 41854),

Gene: Clipper_62 Start: 41381, Stop: 41701, Start Num: 29

Candidate Starts for Clipper_62:

(21, 41264), (Start: 29 @41381 has 96 MA's), (31, 41399), (34, 41405), (Start: 38 @41417 has 1 MA's), (Start: 39 @41420 has 3 MA's), (59, 41468), (63, 41501), (69, 41537), (76, 41576), (80, 41600), (85, 41645), (89, 41678),

Gene: Collard_51 Start: 38053, Stop: 38328, Start Num: 27

Candidate Starts for Collard_51:

(Start: 27 @38053 has 33 MA's), (Start: 39 @38068 has 3 MA's), (40, 38071), (57, 38119), (66, 38170),

Gene: CrimD_60 Start: 41339, Stop: 41659, Start Num: 29

Candidate Starts for CrimD_60:

(21, 41222), (Start: 29 @41339 has 96 MA's), (31, 41357), (34, 41363), (Start: 38 @41375 has 1 MA's), (Start: 39 @41378 has 3 MA's), (59, 41426), (63, 41459), (80, 41558), (85, 41603), (89, 41636),

Gene: Curiosium_63 Start: 40449, Stop: 40775, Start Num: 29

Candidate Starts for Curiosium_63:

(22, 40344), (Start: 29 @40449 has 96 MA's), (34, 40473), (Start: 39 @40488 has 3 MA's), (51, 40512), (59, 40542), (63, 40575), (69, 40611), (70, 40620), (76, 40650), (82, 40686), (85, 40719),

Gene: Dadosky_55 Start: 38401, Stop: 38673, Start Num: 36

Candidate Starts for Dadosky_55:

(Start: 36 @38401 has 5 MA's), (Start: 39 @38413 has 3 MA's), (40, 38416), (57, 38464), (62, 38485), (66, 38515), (87, 38656),

Gene: Dalmuri_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Dalmuri_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: DartGoblin_62 Start: 41567, Stop: 41839, Start Num: 42

Candidate Starts for DartGoblin_62:

(8, 41189), (17, 41303), (19, 41384), (21, 41402), (Start: 29 @41519 has 96 MA's), (34, 41543), (Start: 39 @41558 has 3 MA's), (42, 41567), (59, 41606), (63, 41639), (69, 41675), (76, 41714), (80, 41738),

Gene: DarthP_59 Start: 41139, Stop: 41435, Start Num: 27

Candidate Starts for DarthP_59:

(14, 40911), (18, 40944), (Start: 27 @41139 has 33 MA's), (34, 41157), (Start: 39 @41172 has 3 MA's), (59, 41208), (62, 41220), (63, 41241), (65, 41247), (85, 41382), (89, 41415),

Gene: Dartin_61 Start: 41185, Stop: 41520, Start Num: 27

Candidate Starts for Dartin_61:

(Start: 27 @41185 has 33 MA's), (37, 41218), (Start: 38 @41221 has 1 MA's), (55, 41263), (59, 41281), (64, 41317), (69, 41350), (70, 41359), (77, 41392), (89, 41491),

Gene: Deby_59 Start: 40980, Stop: 41300, Start Num: 29

Candidate Starts for Deby_59:

(Start: 29 @40980 has 96 MA's), (31, 40998), (34, 41004), (Start: 39 @41019 has 3 MA's), (59, 41067), (63, 41100), (69, 41136), (76, 41175), (80, 41199), (85, 41244), (89, 41277),

Gene: Devera_66 Start: 42342, Stop: 42668, Start Num: 29

Candidate Starts for Devera_66:

(22, 42237), (Start: 29 @42342 has 96 MA's), (34, 42366), (Start: 39 @42381 has 3 MA's), (59, 42435), (63, 42468), (69, 42504), (80, 42567), (85, 42612), (89, 42645),

Gene: Dole_64 Start: 42345, Stop: 42671, Start Num: 29

Candidate Starts for Dole_64:

(22, 42240), (Start: 29 @42345 has 96 MA's), (34, 42369), (Start: 39 @42384 has 3 MA's), (59, 42438), (63, 42471), (69, 42507), (80, 42570), (85, 42615), (89, 42648),

Gene: DoubleChamp_50 Start: 38053, Stop: 38328, Start Num: 27

Candidate Starts for DoubleChamp_50:

(Start: 27 @38053 has 33 MA's), (Start: 39 @38068 has 3 MA's), (40, 38071), (57, 38119), (66, 38170),

Gene: DrHayes_60 Start: 41702, Stop: 42022, Start Num: 29

Candidate Starts for DrHayes_60:

(19, 41567), (21, 41585), (Start: 29 @41702 has 96 MA's), (31, 41720), (Start: 39 @41741 has 3 MA's), (59, 41789), (63, 41822), (69, 41858), (76, 41897), (80, 41921),

Gene: Durfee_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for Durfee_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Edugator_52 Start: 39822, Stop: 40094, Start Num: 36

Candidate Starts for Edugator_52:

(Start: 36 @39822 has 5 MA's), (Start: 39 @39834 has 3 MA's), (40, 39837), (57, 39885), (62, 39906), (66, 39936), (87, 40077),

Gene: Efra2_63 Start: 40878, Stop: 41210, Start Num: 29

Candidate Starts for Efra2_63:

(19, 40743), (21, 40761), (Start: 29 @40878 has 96 MA's), (Start: 39 @40917 has 3 MA's), (49, 40941), (59, 40974), (63, 41007), (69, 41043), (76, 41082),

Gene: Ekdilam_57 Start: 41139, Stop: 41465, Start Num: 27

Candidate Starts for Ekdilam_57:

(18, 40944), (Start: 27 @41139 has 33 MA's), (34, 41157), (37, 41166), (Start: 39 @41172 has 3 MA's), (59, 41232), (62, 41244), (65, 41271), (89, 41442), (92, 41454),

Gene: Ellie_55 Start: 40492, Stop: 40803, Start Num: 27

Candidate Starts for Ellie_55:

(18, 40297), (24, 40453), (Start: 27 @40492 has 33 MA's), (34, 40510), (37, 40519), (62, 40588), (65, 40615), (78, 40687), (79, 40690), (85, 40750),

Gene: Emerson_60 Start: 40835, Stop: 41119, Start Num: 38

Candidate Starts for Emerson_60:

(21, 40682), (Start: 29 @40799 has 96 MA's), (31, 40817), (34, 40823), (Start: 38 @40835 has 1 MA's), (59, 40886), (63, 40919), (69, 40955), (76, 40994), (80, 41018), (85, 41063), (89, 41096),

Gene: Fefferhead_57 Start: 40439, Stop: 40738, Start Num: 27

Candidate Starts for Fefferhead_57:

(9, 40121), (11, 40139), (18, 40244), (Start: 27 @40439 has 33 MA's), (31, 40454), (37, 40469), (59, 40508), (60, 40511), (62, 40520), (63, 40541), (64, 40544), (69, 40574), (75, 40607),

Gene: Feyre_56 Start: 41781, Stop: 42053, Start Num: 35

Candidate Starts for Feyre_56:

(25, 41748), (Start: 35 @41781 has 10 MA's), (Start: 39 @41796 has 3 MA's), (40, 41799), (52, 41826), (62, 41868), (68, 41907), (73, 41940),

Gene: Ganymede_60 Start: 41182, Stop: 41514, Start Num: 29

Candidate Starts for Ganymede_60:

(Start: 29 @41182 has 96 MA's), (31, 41200), (37, 41215), (41, 41227), (53, 41257), (62, 41293), (63, 41314),

Gene: Gengar_53 Start: 39794, Stop: 40072, Start Num: 35

Candidate Starts for Gengar_53:

(13, 39533), (23, 39731), (Start: 27 @39785 has 33 MA's), (Start: 35 @39794 has 10 MA's), (Start: 39 @39809 has 3 MA's), (40, 39812), (44, 39824), (57, 39860), (62, 39881), (87, 40055), (88, 40061),

Gene: Geraldini_62 Start: 41848, Stop: 42168, Start Num: 29

Candidate Starts for Geraldini_62:

(21, 41731), (Start: 29 @41848 has 96 MA's), (31, 41866), (34, 41872), (Start: 38 @41884 has 1 MA's), (Start: 39 @41887 has 3 MA's), (63, 41968), (69, 42004), (80, 42067), (85, 42112), (86, 42118), (89, 42145),

Gene: Guanica15_62 Start: 40619, Stop: 40951, Start Num: 29

Candidate Starts for Guanica15_62:

(19, 40484), (21, 40502), (Start: 29 @40619 has 96 MA's), (31, 40637), (Start: 39 @40658 has 3 MA's), (49, 40682), (59, 40715), (63, 40748), (69, 40784), (76, 40823),

Gene: Guillsminger_54 Start: 39780, Stop: 40043, Start Num: 39

Candidate Starts for Guillsminger_54:

(23, 39702), (Start: 35 @39765 has 10 MA's), (Start: 39 @39780 has 3 MA's), (40, 39783), (44, 39795), (57, 39831), (62, 39852), (87, 40026),

Gene: Hammy_59 Start: 41127, Stop: 41423, Start Num: 27

Candidate Starts for Hammy_59:

(Start: 27 @41127 has 33 MA's), (34, 41145), (Start: 39 @41160 has 3 MA's), (59, 41196), (62, 41208), (63, 41229), (65, 41235), (89, 41403),

Gene: HedwigODU_59 Start: 40802, Stop: 41128, Start Num: 29

Candidate Starts for HedwigODU_59:

(21, 40685), (Start: 29 @40802 has 96 MA's), (31, 40820), (45, 40859), (59, 40895), (62, 40907), (63, 40928), (65, 40934),

Gene: Heftyboy_54 Start: 40137, Stop: 40415, Start Num: 35

Candidate Starts for Heftyboy_54:

(23, 40074), (Start: 27 @40128 has 33 MA's), (Start: 35 @40137 has 10 MA's), (Start: 39 @40152 has 3 MA's), (40, 40155), (44, 40167), (57, 40203), (62, 40224), (87, 40398),

Gene: Homura_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Homura_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: Hurricane_59 Start: 41071, Stop: 41379, Start Num: 29

Candidate Starts for Hurricane_59:

(5, 40678), (10, 40753), (16, 40852), (19, 40942), (21, 40960), (Start: 29 @41071 has 96 MA's), (31, 41089), (Start: 39 @41110 has 3 MA's), (59, 41140), (62, 41152), (63, 41173), (65, 41179), (69, 41215), (78, 41260), (92, 41368),

Gene: Hyperbowlee_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for Hyperbowlee_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Illumine_64 Start: 42344, Stop: 42670, Start Num: 29

Candidate Starts for Illumine_64:

(22, 42239), (Start: 29 @42344 has 96 MA's), (34, 42368), (Start: 39 @42383 has 3 MA's), (59, 42437), (63, 42470), (69, 42506), (80, 42569), (85, 42614), (89, 42647),

Gene: Inky_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Inky_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: InvictusManeo_51 Start: 38096, Stop: 38371, Start Num: 27

Candidate Starts for InvictusManeo_51:

(Start: 27 @38096 has 33 MA's), (Start: 39 @38111 has 3 MA's), (40, 38114), (57, 38162), (66, 38213),

Gene: JAWS_59 Start: 40788, Stop: 41108, Start Num: 29

Candidate Starts for JAWS_59:

(21, 40671), (Start: 29 @40788 has 96 MA's), (31, 40806), (34, 40812), (Start: 38 @40824 has 1 MA's), (Start: 39 @40827 has 3 MA's), (59, 40875), (63, 40908), (69, 40944), (80, 41007), (85, 41052), (89, 41085),

Gene: Jarvi_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Jarvi_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: Jayhawk_60 Start: 40797, Stop: 41123, Start Num: 29

Candidate Starts for Jayhawk_60:

(21, 40680), (Start: 29 @40797 has 96 MA's), (31, 40815), (45, 40854), (59, 40890), (62, 40902), (63, 40923), (65, 40929),

Gene: Jeckyll_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Jeckyll_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: Joy99_59 Start: 40850, Stop: 41182, Start Num: 29

Candidate Starts for Joy99_59:

(21, 40733), (Start: 29 @40850 has 96 MA's), (31, 40868), (37, 40883), (41, 40895), (53, 40925), (62, 40961), (63, 40982),

Gene: Keshu_61 Start: 41169, Stop: 41477, Start Num: 29

Candidate Starts for Keshu_61:

(5, 40776), (16, 40950), (19, 41040), (21, 41058), (Start: 29 @41169 has 96 MA's), (31, 41187), (Start: 39 @41208 has 3 MA's), (62, 41250), (64, 41274), (65, 41277), (69, 41313), (72, 41334), (79, 41361), (92, 41466),

Gene: KiSi_64 Start: 41902, Stop: 42237, Start Num: 27

Candidate Starts for KiSi_64:

(Start: 27 @41902 has 33 MA's), (62, 42010), (65, 42037), (67, 42043), (77, 42115), (80, 42136), (88, 42202), (89, 42214), (90, 42220),

Gene: Kratio_51 Start: 37838, Stop: 38113, Start Num: 27

Candidate Starts for Kratio_51:

(Start: 27 @37838 has 33 MA's), (Start: 39 @37853 has 3 MA's), (40, 37856), (57, 37904), (58, 37907), (62, 37925), (66, 37955), (87, 38096),

Gene: Larva_54 Start: 39273, Stop: 39545, Start Num: 36

Candidate Starts for Larva_54:

(Start: 36 @39273 has 5 MA's), (Start: 39 @39285 has 3 MA's), (40, 39288), (57, 39336), (62, 39357), (66, 39387), (87, 39528),

Gene: LastHope_62 Start: 39964, Stop: 40290, Start Num: 29

Candidate Starts for LastHope_62:

(19, 39829), (21, 39847), (Start: 29 @39964 has 96 MA's), (31, 39982), (37, 39997), (45, 40021), (46, 40024), (59, 40057), (62, 40069), (63, 40090), (65, 40096), (76, 40165),

Gene: Lavahound_59 Start: 41784, Stop: 42098, Start Num: 27

Candidate Starts for Lavahound_59:

(9, 41466), (11, 41484), (18, 41589), (24, 41745), (Start: 27 @41784 has 33 MA's), (34, 41802), (37, 41811), (59, 41868), (62, 41880), (65, 41907), (69, 41934), (78, 41979), (79, 41982), (89, 42075),

Gene: LeMond_63 Start: 41533, Stop: 41868, Start Num: 27

Candidate Starts for LeMond_63:

(15, 41305), (Start: 27 @41533 has 33 MA's), (62, 41641), (65, 41668), (67, 41674), (77, 41746), (80, 41767), (88, 41833), (89, 41845), (90, 41851),

Gene: Lea83_59 Start: 41124, Stop: 41432, Start Num: 29

Candidate Starts for Lea83_59:

(1, 40482), (16, 40905), (19, 40995), (21, 41013), (Start: 29 @41124 has 96 MA's), (31, 41142), (Start: 39 @41163 has 3 MA's), (59, 41193), (62, 41205), (63, 41226), (65, 41232), (69, 41268), (78, 41313), (79, 41316), (92, 41421),

Gene: Leston_53 Start: 39909, Stop: 40172, Start Num: 39

Candidate Starts for Leston_53:

(23, 39831), (Start: 35 @39894 has 10 MA's), (Start: 39 @39909 has 3 MA's), (40, 39912), (44, 39924), (57, 39960), (62, 39981), (87, 40155),

Gene: LilDirt_50 Start: 37854, Stop: 38129, Start Num: 27

Candidate Starts for LilDirt_50:

(Start: 27 @37854 has 33 MA's), (Start: 39 @37869 has 3 MA's), (40, 37872), (57, 37920), (66, 37971),

Gene: LindNT_58 Start: 41005, Stop: 41325, Start Num: 29

Candidate Starts for LindNT_58:

(21, 40888), (Start: 29 @41005 has 96 MA's), (31, 41023), (34, 41029), (Start: 39 @41044 has 3 MA's), (59, 41092), (63, 41125), (69, 41161), (80, 41224), (85, 41269), (89, 41302),

Gene: Llorens_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Llorens_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: Lunahalos_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Lunahalos_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: MacKat_54 Start: 36265, Stop: 36585, Start Num: 29

Candidate Starts for MacKat_54:

(21, 36148), (Start: 29 @36265 has 96 MA's), (31, 36283), (34, 36289), (Start: 38 @36301 has 1 MA's), (Start: 39 @36304 has 3 MA's), (59, 36352), (63, 36385), (69, 36421), (76, 36460), (80, 36484), (85, 36529), (89, 36562),

Gene: MacnCheese_61 Start: 41660, Stop: 41977, Start Num: 30

Candidate Starts for MacnCheese_61:

(19, 41522), (20, 41534), (Start: 27 @41645 has 33 MA's), (Start: 30 @41660 has 2 MA's), (34, 41678), (62, 41759), (63, 41780), (76, 41855), (89, 41957),

Gene: MarkPhew_62 Start: 41206, Stop: 41514, Start Num: 27

Candidate Starts for MarkPhew_62:

(3, 40810), (4, 40825), (7, 40879), (15, 41002), (Start: 27 @41206 has 33 MA's), (34, 41224), (37, 41233), (Start: 39 @41239 has 3 MA's), (59, 41284), (62, 41296), (65, 41323), (69, 41353), (89, 41494),

Gene: McMater_61 Start: 41185, Stop: 41520, Start Num: 27

Candidate Starts for McMater_61:

(Start: 27 @41185 has 33 MA's), (37, 41218), (Start: 38 @41221 has 1 MA's), (55, 41263), (59, 41281), (64, 41317), (69, 41350), (70, 41359), (77, 41392), (89, 41491),

Gene: MeaningOfLife_60 Start: 41676, Stop: 41996, Start Num: 29

Candidate Starts for MeaningOfLife_60:

(21, 41559), (Start: 29 @41676 has 96 MA's), (31, 41694), (37, 41709), (Start: 39 @41715 has 3 MA's), (53, 41739), (62, 41775), (63, 41796),

Gene: Megsy_61 Start: 41070, Stop: 41396, Start Num: 29

Candidate Starts for Megsy_61:

(Start: 29 @41070 has 96 MA's), (31, 41088), (Start: 39 @41109 has 3 MA's), (45, 41127), (59, 41163), (62, 41175), (63, 41196), (65, 41202), (76, 41271),

Gene: Miryou_57 Start: 42497, Stop: 42769, Start Num: 35

Candidate Starts for Miryou_57:

(25, 42464), (Start: 35 @42497 has 10 MA's), (Start: 39 @42512 has 3 MA's), (40, 42515), (52, 42542), (62, 42584), (68, 42623), (73, 42656),

Gene: Murucutumbu_60 Start: 41776, Stop: 42096, Start Num: 29

Candidate Starts for Murucutumbu_60:

(Start: 29 @41776 has 96 MA's), (31, 41794), (34, 41800), (Start: 39 @41815 has 3 MA's), (59, 41863), (69, 41932), (80, 41995), (83, 42010), (85, 42040), (89, 42073),

Gene: Mynx_60 Start: 41118, Stop: 41438, Start Num: 29

Candidate Starts for Mynx_60:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (34, 41142), (Start: 38 @41154 has 1 MA's), (Start: 39 @41157 has 3 MA's), (59, 41205), (63, 41238), (69, 41274), (80, 41337), (85, 41382), (89, 41415),

Gene: Neighly_55 Start: 39272, Stop: 39544, Start Num: 36

Candidate Starts for Neighly_55:

(Start: 36 @39272 has 5 MA's), (Start: 39 @39284 has 3 MA's), (40, 39287), (57, 39335), (62, 39356), (66, 39386), (87, 39527),

Gene: Nergal_53 Start: 37748, Stop: 38059, Start Num: 33

Candidate Starts for Nergal_53:

(26, 37706), (Start: 33 @37748 has 1 MA's), (60, 37820), (62, 37832), (63, 37853), (69, 37889), (82, 37964),

Gene: Nibb_61 Start: 40886, Stop: 41206, Start Num: 27

Candidate Starts for Nibb_61:

(2, 40433), (3, 40505), (4, 40520), (7, 40574), (15, 40697), (Start: 27 @40886 has 33 MA's), (34, 40904), (37, 40913), (Start: 39 @40919 has 3 MA's), (59, 40979), (62, 40991), (63, 41012), (65, 41018), (71, 41057), (75, 41078), (76, 41084), (80, 41108), (89, 41186), (92, 41198),

Gene: Niklas_61 Start: 41246, Stop: 41581, Start Num: 27

Candidate Starts for Niklas_61:

(Start: 27 @41246 has 33 MA's), (37, 41279), (Start: 38 @41282 has 1 MA's), (55, 41324), (59, 41342), (64, 41378), (69, 41411), (70, 41420), (77, 41453), (89, 41552),

Gene: November_57 Start: 41013, Stop: 41309, Start Num: 27

Candidate Starts for November_57:

(Start: 27 @41013 has 33 MA's), (34, 41031), (Start: 39 @41046 has 3 MA's), (59, 41082), (62, 41094), (63, 41115), (65, 41121), (89, 41289),

Gene: OkiRoe_54 Start: 40183, Stop: 40440, Start Num: 39

Candidate Starts for OkiRoe_54:

(25, 40135), (Start: 35 @40168 has 10 MA's), (Start: 39 @40183 has 3 MA's), (40, 40186), (52, 40213), (62, 40255), (68, 40294), (73, 40327),

Gene: Omnicron_57 Start: 40271, Stop: 40540, Start Num: 35

Candidate Starts for Omnicron_57:

(Start: 35 @40271 has 10 MA's), (Start: 39 @40286 has 3 MA's), (40, 40289), (44, 40301), (56, 40328), (57, 40337), (62, 40358), (69, 40406), (87, 40523),

Gene: Oscar_63 Start: 41441, Stop: 41785, Start Num: 27

Candidate Starts for Oscar_63:

(15, 41210), (Start: 27 @41441 has 33 MA's), (44, 41504), (48, 41507), (54, 41522), (60, 41546), (62, 41558), (65, 41585), (67, 41591), (77, 41663), (80, 41684), (89, 41762), (90, 41768),

Gene: Padfoot_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for Padfoot_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Padpat_61 Start: 40799, Stop: 41119, Start Num: 29

Candidate Starts for Padpat_61:

(21, 40682), (Start: 29 @40799 has 96 MA's), (31, 40817), (34, 40823), (Start: 38 @40835 has 1 MA's), (59, 40886), (63, 40919), (69, 40955), (76, 40994), (80, 41018), (85, 41063), (89, 41096),

Gene: Paola_53 Start: 39765, Stop: 40043, Start Num: 35

Candidate Starts for Paola_53:

(23, 39702), (Start: 35 @39765 has 10 MA's), (Start: 39 @39780 has 3 MA's), (40, 39783), (44, 39795), (57, 39831), (62, 39852), (87, 40026),

Gene: Peanam_61 Start: 41204, Stop: 41539, Start Num: 27

Candidate Starts for Peanam_61:

(Start: 27 @41204 has 33 MA's), (37, 41237), (Start: 38 @41240 has 1 MA's), (55, 41282), (59, 41300), (64, 41336), (69, 41369), (70, 41378), (77, 41411), (89, 41510),

Gene: Peel_59 Start: 40923, Stop: 41255, Start Num: 29

Candidate Starts for Peel_59:

(21, 40806), (Start: 29 @40923 has 96 MA's), (31, 40941), (37, 40956), (41, 40968), (53, 40998), (62, 41034), (63, 41055),

Gene: Pharb_58 Start: 40273, Stop: 40581, Start Num: 29

Candidate Starts for Pharb_58:

(19, 40144), (21, 40162), (Start: 29 @40273 has 96 MA's), (31, 40291), (Start: 39 @40312 has 3 MA's), (59, 40342), (62, 40354), (63, 40375), (65, 40381), (80, 40480), (92, 40570),

Gene: PhelpsODU_59 Start: 39956, Stop: 40282, Start Num: 27

Candidate Starts for PhelpsODU_59:

(Start: 27 @39956 has 33 MA's), (Start: 39 @39998 has 3 MA's), (62, 40067), (63, 40088), (70, 40130), (91, 40271),

Gene: Phrank_61 Start: 40017, Stop: 40343, Start Num: 27

Candidate Starts for Phrank_61:

(Start: 27 @40017 has 33 MA's), (43, 40068), (47, 40080), (60, 40119), (81, 40248), (91, 40332),

Gene: Piatt_59 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for Piatt_59:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: Pisa1_59 Start: 41799, Stop: 42101, Start Num: 31

Candidate Starts for Pisa1_59:

(21, 41664), (Start: 29 @41781 has 96 MA's), (31, 41799), (34, 41805), (Start: 39 @41820 has 3 MA's), (59, 41868), (63, 41901), (80, 42000), (85, 42045), (89, 42078),

Gene: Pisa4_53 Start: 37174, Stop: 37470, Start Num: 34

Candidate Starts for Pisa4_53:

(21, 37033), (Start: 29 @37150 has 96 MA's), (31, 37168), (34, 37174), (Start: 39 @37189 has 3 MA's), (59, 37237), (63, 37270), (80, 37369), (85, 37414), (89, 37447),

Gene: Pixie_58 Start: 40609, Stop: 40917, Start Num: 29

Candidate Starts for Pixie_58:

(5, 40216), (16, 40390), (19, 40480), (21, 40498), (Start: 29 @40609 has 96 MA's), (31, 40627), (Start: 39 @40648 has 3 MA's), (59, 40678), (62, 40690), (63, 40711), (65, 40717), (69, 40753), (78, 40798), (79, 40801), (92, 40906),

Gene: Pokerus_58 Start: 40848, Stop: 41168, Start Num: 29

Candidate Starts for Pokerus_58:

(Start: 29 @40848 has 96 MA's), (34, 40872), (Start: 39 @40887 has 3 MA's), (59, 40935), (63, 40968), (69, 41004), (80, 41067), (85, 41112), (89, 41145),

Gene: Prithvi_60 Start: 41005, Stop: 41325, Start Num: 29

Candidate Starts for Prithvi_60:

(21, 40888), (Start: 29 @41005 has 96 MA's), (31, 41023), (34, 41029), (Start: 39 @41044 has 3 MA's), (59, 41092), (63, 41125), (69, 41161), (80, 41224), (85, 41269), (89, 41302),

Gene: Psycho_53 Start: 38398, Stop: 38670, Start Num: 36

Candidate Starts for Psycho_53:

(Start: 36 @38398 has 5 MA's), (Start: 39 @38410 has 3 MA's), (40, 38413), (57, 38461), (62, 38482), (66, 38512), (87, 38653),

Gene: QuincyRose_58 Start: 41182, Stop: 41514, Start Num: 29

Candidate Starts for QuincyRose_58:

(Start: 29 @41182 has 96 MA's), (31, 41200), (37, 41215), (41, 41227), (53, 41257), (62, 41293), (63, 41314),

Gene: Ramen_60 Start: 40804, Stop: 41130, Start Num: 29

Candidate Starts for Ramen_60:

(21, 40687), (Start: 29 @40804 has 96 MA's), (31, 40822), (45, 40861), (59, 40897), (62, 40909), (63, 40930), (65, 40936),

Gene: Rando14_55 Start: 37968, Stop: 38240, Start Num: 35

Candidate Starts for Rando14_55:

(Start: 35 @37968 has 10 MA's), (Start: 39 @37983 has 3 MA's), (40, 37986), (44, 37998), (57, 38034), (62, 38055), (66, 38082), (87, 38223),

Gene: Rapunzel97_60 Start: 40797, Stop: 41117, Start Num: 29

Candidate Starts for Rapunzel97_60:

(Start: 29 @40797 has 96 MA's), (34, 40821), (Start: 39 @40836 has 3 MA's), (59, 40884), (63, 40917), (69, 40953), (80, 41016), (85, 41061), (89, 41094),

Gene: Richo_61 Start: 41185, Stop: 41520, Start Num: 27

Candidate Starts for Richo_61:

(Start: 27 @41185 has 33 MA's), (37, 41218), (Start: 38 @41221 has 1 MA's), (55, 41263), (59, 41281), (64, 41317), (69, 41350), (70, 41359), (77, 41392), (89, 41491),

Gene: Rosmarinus_59 Start: 40909, Stop: 41241, Start Num: 29

Candidate Starts for Rosmarinus_59:

(21, 40792), (Start: 29 @40909 has 96 MA's), (31, 40927), (37, 40942), (41, 40954), (53, 40984), (62, 41020), (63, 41041),

Gene: SamuelLPlaqson_60 Start: 41702, Stop: 42022, Start Num: 29

Candidate Starts for SamuelLPlaqson_60:

(19, 41567), (21, 41585), (Start: 29 @41702 has 96 MA's), (31, 41720), (Start: 39 @41741 has 3 MA's), (59, 41789), (63, 41822), (69, 41858), (76, 41897), (80, 41921),

Gene: Scarlett_64 Start: 41780, Stop: 42115, Start Num: 27

Candidate Starts for Scarlett_64:

(Start: 27 @41780 has 33 MA's), (62, 41888), (65, 41915), (67, 41921), (77, 41993), (80, 42014), (88, 42080), (89, 42092), (90, 42098),

Gene: Shadow1_63 Start: 40864, Stop: 41187, Start Num: 27

Candidate Starts for Shadow1_63:

(Start: 27 @40864 has 33 MA's), (43, 40912), (47, 40924), (60, 40963), (65, 40999), (76, 41065), (81, 41092), (91, 41176),

Gene: Shaobing_61 Start: 41222, Stop: 41557, Start Num: 27

Candidate Starts for Shaobing_61:

(Start: 27 @41222 has 33 MA's), (37, 41255), (Start: 38 @41258 has 1 MA's), (55, 41300), (59, 41318), (64, 41354), (69, 41387), (70, 41396), (77, 41429), (89, 41528),

Gene: ShedlockHolmes_60 Start: 41128, Stop: 41436, Start Num: 29

Candidate Starts for ShedlockHolmes_60:

(1, 40486), (16, 40909), (19, 40999), (21, 41017), (Start: 29 @41128 has 96 MA's), (31, 41146), (Start: 39 @41167 has 3 MA's), (59, 41197), (62, 41209), (63, 41230), (65, 41236), (69, 41272), (78, 41317), (79, 41320), (84, 41365), (92, 41425),

Gene: ShiaSurprise_60 Start: 41118, Stop: 41450, Start Num: 29

Candidate Starts for ShiaSurprise_60:

(21, 41001), (Start: 29 @41118 has 96 MA's), (31, 41136), (37, 41151), (41, 41163), (53, 41193), (62, 41229), (63, 41250),

Gene: SirPhilip_60 Start: 41537, Stop: 41830, Start Num: 29

Candidate Starts for SirPhilip_60:

(Start: 29 @41537 has 96 MA's), (34, 41555), (37, 41564), (58, 41597), (62, 41612), (63, 41633), (64, 41636), (65, 41639), (69, 41666), (74, 41696),

Gene: Slimphazie_59 Start: 40797, Stop: 41117, Start Num: 29

Candidate Starts for Slimphazie_59:

(Start: 29 @40797 has 96 MA's), (34, 40821), (Start: 39 @40836 has 3 MA's), (59, 40884), (63, 40917), (69, 40953), (80, 41016), (85, 41061), (89, 41094),

Gene: SoSeph_54 Start: 40137, Stop: 40415, Start Num: 35

Candidate Starts for SoSeph_54:

(23, 40074), (Start: 27 @40128 has 33 MA's), (Start: 35 @40137 has 10 MA's), (Start: 39 @40152 has 3 MA's), (40, 40155), (44, 40167), (57, 40203), (62, 40224), (87, 40398),

Gene: Spock_59 Start: 40922, Stop: 41254, Start Num: 29

Candidate Starts for Spock_59:

(21, 40805), (Start: 29 @40922 has 96 MA's), (31, 40940), (37, 40955), (41, 40967), (53, 40997), (62, 41033), (63, 41054),

Gene: Stinson_60 Start: 41299, Stop: 41619, Start Num: 29

Candidate Starts for Stinson_60:

(19, 41164), (21, 41182), (Start: 29 @41299 has 96 MA's), (31, 41317), (37, 41332), (59, 41386), (62, 41398), (63, 41419), (76, 41494),

Gene: Sulley_59 Start: 40973, Stop: 41305, Start Num: 29

Candidate Starts for Sulley_59:

(Start: 29 @40973 has 96 MA's), (31, 40991), (37, 41006), (41, 41018), (53, 41048), (62, 41084), (63, 41105),

Gene: Sunflower1121_64 Start: 41010, Stop: 41333, Start Num: 27

Candidate Starts for Sunflower1121_64:

(Start: 27 @41010 has 33 MA's), (43, 41058), (47, 41070), (60, 41109), (65, 41145), (76, 41211), (81, 41238),

Gene: TBond007_57 Start: 40608, Stop: 40916, Start Num: 29

Candidate Starts for TBond007_57:

(5, 40215), (16, 40389), (19, 40479), (21, 40497), (Start: 29 @40608 has 96 MA's), (31, 40626), (Start: 39 @40647 has 3 MA's), (59, 40677), (62, 40689), (63, 40710), (65, 40716), (69, 40752), (78, 40797), (79, 40800), (92, 40905),

Gene: TClif_60 Start: 40675, Stop: 40983, Start Num: 29

Candidate Starts for TClif_60:

(Start: 29 @40675 has 96 MA's), (31, 40693), (Start: 39 @40714 has 3 MA's), (62, 40756), (65, 40783), (80, 40882), (92, 40972),

Gene: Tachez_59 Start: 40766, Stop: 41098, Start Num: 29

Candidate Starts for Tachez_59:

(21, 40649), (Start: 29 @40766 has 96 MA's), (31, 40784), (37, 40799), (41, 40811), (53, 40841), (62, 40877), (63, 40898),

Gene: TaiwanKao_61 Start: 41085, Stop: 41387, Start Num: 31

Candidate Starts for TaiwanKao_61:

(21, 40950), (Start: 29 @41067 has 96 MA's), (31, 41085), (34, 41091), (Start: 38 @41103 has 1 MA's), (Start: 39 @41106 has 3 MA's), (59, 41154), (63, 41187), (80, 41286), (85, 41331), (89, 41364),

Gene: Thyatira_56 Start: 42101, Stop: 42373, Start Num: 35

Candidate Starts for Thyatira_56:

(23, 42038), (Start: 35 @42101 has 10 MA's), (Start: 39 @42116 has 3 MA's), (40, 42119), (52, 42146), (62, 42188), (68, 42227), (73, 42260),

Gene: Tierra_61 Start: 40828, Stop: 41154, Start Num: 27

Candidate Starts for Tierra_61:

(Start: 27 @40828 has 33 MA's), (43, 40879), (47, 40891), (60, 40930), (81, 41059), (91, 41143),

Gene: Tigress9_66 Start: 41019, Stop: 41342, Start Num: 27

Candidate Starts for Tigress9_66:

(Start: 27 @41019 has 33 MA's), (43, 41067), (47, 41079), (60, 41118), (81, 41247),

Gene: TingHuaYa_61 Start: 40144, Stop: 40458, Start Num: 31

Candidate Starts for TingHuaYa_61:

(19, 39991), (21, 40009), (Start: 29 @40126 has 96 MA's), (31, 40144), (Start: 39 @40165 has 3 MA's), (49, 40189), (59, 40222), (63, 40255), (69, 40291), (76, 40330), (89, 40432),

Gene: TiniBug_60 Start: 41698, Stop: 42018, Start Num: 29

Candidate Starts for TiniBug_60:

(19, 41563), (21, 41581), (Start: 29 @41698 has 96 MA's), (31, 41716), (Start: 39 @41737 has 3 MA's), (59, 41785), (63, 41818), (69, 41854), (76, 41893), (80, 41917),

Gene: Tiri_60 Start: 41087, Stop: 41413, Start Num: 29

Candidate Starts for Tiri_60:

(Start: 29 @41087 has 96 MA's), (31, 41105), (45, 41144), (59, 41180), (62, 41192), (63, 41213), (65, 41219),

Gene: Topper_59 Start: 40921, Stop: 41253, Start Num: 29

Candidate Starts for Topper_59:

(21, 40804), (Start: 29 @40921 has 96 MA's), (31, 40939), (37, 40954), (41, 40966), (53, 40996), (62, 41032), (63, 41053),

Gene: TreyKay_60 Start: 41005, Stop: 41325, Start Num: 29

Candidate Starts for TreyKay_60:

(21, 40888), (Start: 29 @41005 has 96 MA's), (31, 41023), (34, 41029), (Start: 39 @41044 has 3 MA's), (59, 41092), (63, 41125), (69, 41161), (80, 41224), (85, 41269), (89, 41302),

Gene: TribelTrouble_58 Start: 41084, Stop: 41362, Start Num: 29

Candidate Starts for TribelTrouble_58:

(19, 40955), (Start: 29 @41084 has 96 MA's), (37, 41111), (61, 41138), (62, 41144), (63, 41165), (65, 41171), (69, 41198),

Gene: TruffulaTree_59 Start: 40793, Stop: 41113, Start Num: 29

Candidate Starts for TruffulaTree_59:

(Start: 29 @40793 has 96 MA's), (34, 40817), (Start: 39 @40832 has 3 MA's), (59, 40880), (63, 40913), (69, 40949), (80, 41012), (85, 41057), (89, 41090),

Gene: Twitch_59 Start: 40923, Stop: 41255, Start Num: 29

Candidate Starts for Twitch_59:

(21, 40806), (Start: 29 @40923 has 96 MA's), (31, 40941), (37, 40956), (41, 40968), (53, 40998), (62, 41034), (63, 41055),

Gene: Unicorn_59 Start: 39956, Stop: 40282, Start Num: 27

Candidate Starts for Unicorn_59:

(Start: 27 @39956 has 33 MA's), (Start: 39 @39998 has 3 MA's), (62, 40067), (63, 40088), (70, 40130), (91, 40271),

Gene: Urkel_60 Start: 41702, Stop: 42022, Start Num: 29

Candidate Starts for Urkel_60:

(19, 41567), (21, 41585), (Start: 29 @41702 has 96 MA's), (31, 41720), (Start: 39 @41741 has 3 MA's), (59, 41789), (63, 41822), (69, 41858), (76, 41897), (80, 41921),

Gene: Validus_63 Start: 41564, Stop: 41896, Start Num: 28

Candidate Starts for Validus_63:

(6, 41195), (7, 41201), (Start: 28 @41564 has 1 MA's), (31, 41582), (37, 41597), (Start: 39 @41603 has 3 MA's), (50, 41633), (59, 41663), (62, 41675), (63, 41696), (69, 41732), (76, 41771), (78, 41777), (80, 41795),

Gene: Veliki_60 Start: 40779, Stop: 41099, Start Num: 29

Candidate Starts for Veliki_60:

(21, 40662), (Start: 29 @40779 has 96 MA's), (31, 40797), (34, 40803), (Start: 38 @40815 has 1 MA's), (Start: 39 @40818 has 3 MA's), (59, 40866), (63, 40899), (69, 40935), (80, 40998), (85, 41043), (89, 41076),

Gene: ViviJ_52 Start: 37853, Stop: 38128, Start Num: 27

Candidate Starts for ViviJ_52:

(Start: 27 @37853 has 33 MA's), (Start: 39 @37868 has 3 MA's), (40, 37871), (57, 37919), (66, 37970),

Gene: Waterfoul_55 Start: 40199, Stop: 40477, Start Num: 35

Candidate Starts for Waterfoul_55:

(23, 40136), (Start: 27 @40190 has 33 MA's), (Start: 35 @40199 has 10 MA's), (Start: 39 @40214 has 3 MA's), (40, 40217), (44, 40229), (57, 40265), (62, 40286), (87, 40460),

Gene: Ximenita_64 Start: 41028, Stop: 41351, Start Num: 27

Candidate Starts for Ximenita_64:

(Start: 27 @41028 has 33 MA's), (43, 41076), (47, 41088), (60, 41127), (65, 41163), (76, 41229), (81, 41256), (91, 41340),

Gene: YoureAdopted_58 Start: 40922, Stop: 41242, Start Num: 29

Candidate Starts for YoureAdopted_58:

(Start: 29 @40922 has 96 MA's), (34, 40946), (Start: 39 @40961 has 3 MA's), (59, 41009), (63, 41042), (69, 41078), (80, 41141), (89, 41219),

Gene: Yuna_64 Start: 42123, Stop: 42446, Start Num: 30

Candidate Starts for Yuna_64:

(Start: 30 @42123 has 2 MA's), (34, 42141), (37, 42150), (41, 42162), (59, 42210), (63, 42243), (65, 42249), (89, 42420), (94, 42435),

Gene: Yunkel11_62 Start: 40618, Stop: 40950, Start Num: 29

Candidate Starts for Yunkel11_62:

(19, 40483), (21, 40501), (Start: 29 @40618 has 96 MA's), (31, 40636), (Start: 39 @40657 has 3 MA's), (49, 40681), (59, 40714), (63, 40747), (69, 40783), (76, 40822),

Gene: Zabiza_54 Start: 37107, Stop: 37433, Start Num: 29

Candidate Starts for Zabiza_54:

(21, 36990), (Start: 29 @37107 has 96 MA's), (31, 37125), (45, 37164), (59, 37200), (62, 37212), (63, 37233), (65, 37239),

Gene: Zavala_61 Start: 41078, Stop: 41398, Start Num: 29

Candidate Starts for Zavala_61:

(21, 40961), (Start: 29 @41078 has 96 MA's), (31, 41096), (34, 41102), (Start: 38 @41114 has 1 MA's), (Start: 39 @41117 has 3 MA's), (59, 41165), (63, 41198), (69, 41234), (80, 41297), (85, 41342), (89, 41375),