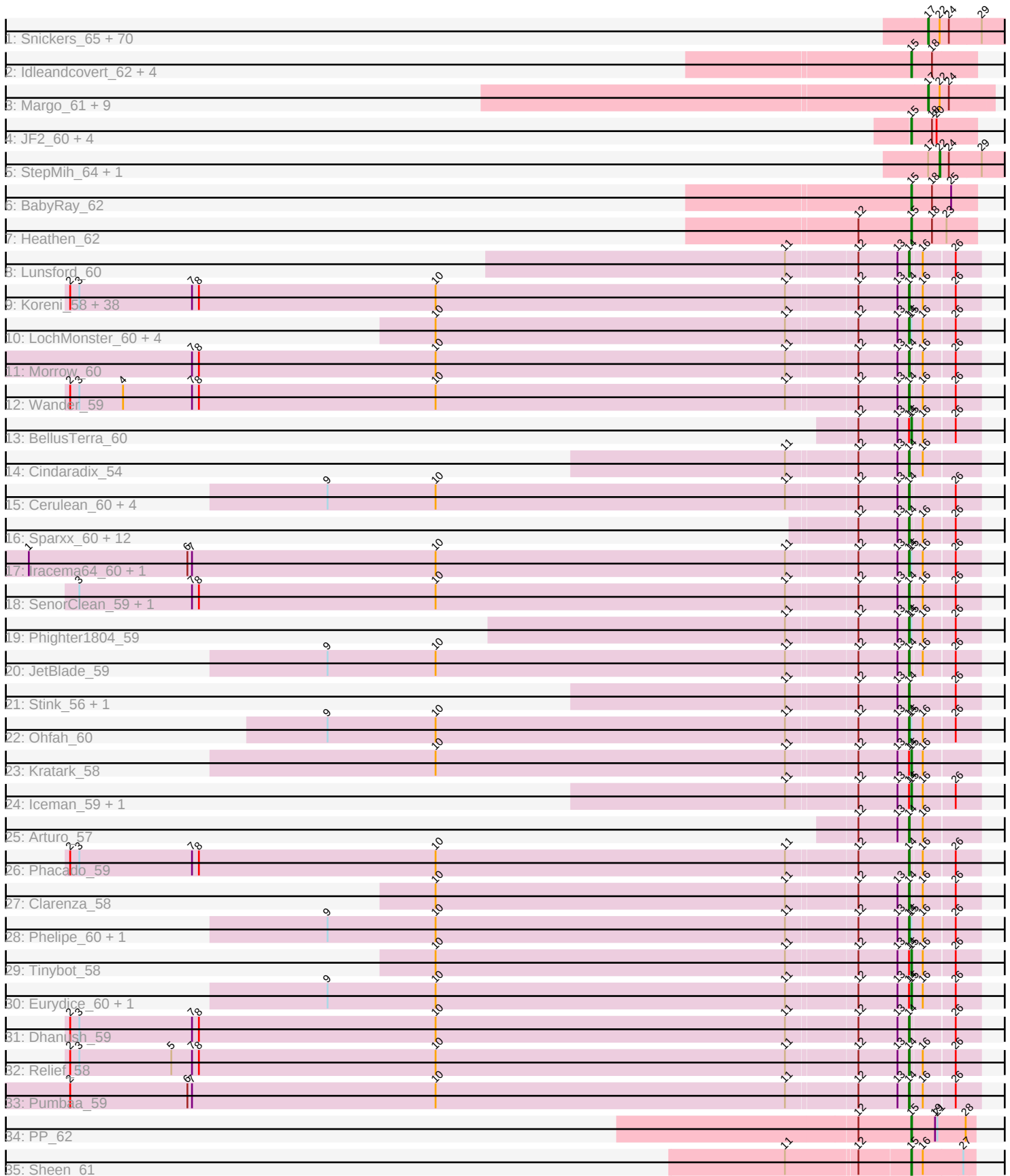




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 280116 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280116 has 187 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Snickers_65, Mainiac_65, JeppNRM_66, GingkoMaracino_65, HaveUMetTed_66, Grub_65, Cullens_65, Daishi_64, Heliosoles_64, BreSam8_65, Kalb97_66, Bxz2_60, GtownJaz_65, JenCasNa_66, Marie_63, Grif_65, SoilDragon_65, Gemma_64, OlanP_64, JHC117_63, P28Green_66, Sabia_65, LugYA_68, Phoebe_66, Ollie_65, Groupthink_66, Reba_65, Soshari_67, MoneyMay_64, Bigflo_64, HashRod_66, PhishRPhriends_63, Watson_64, Taurus_66, Kalnoky_66, DaHudson_64, MadMarie_65, Fernando_65, Methuselah_60, PGHhamlin_67, Hercules11_65, Pawn_65, MuchMore_68, AgronaGT15_64, EpicPhail_66, Farber_65, Malinsilva_67, Phranny_66, Phoxy_65, Calvinny_64, Wooldri_67, Vix_63, Marius_66, Anubis_68, LarryKay_65, LBerry_66, Pembroke_65, Rummer_64, Spike509_65, MarQuardt_65, PotatoSplit_66, PurpleHaze_65, Dieselweasel_66, AugsMagnumOpus_68, Jobu08_63, Manu_65, Zetzy_64, Tiffany_64, Aglet_66, ACFishhook_63, Lowa_64
- Track 2 : Idleandcovert_62, BlueBird_64, TNguyen7_63, MA5_62, Giroux_64
- Track 3 : Margo_61, Panamaxus_59, Lambert1_61, QuinnKiro_60, Caviar_61, Pocahontas_61, Todacoro_61, Popcicle_61, Hookmount_61, Noella_61
- Track 4 : JF2_60, Phantastic_63, JF4_60, Rockstar_60, MK4_62
- Track 5 : StepMih_64, Microwolf_63
- Track 6 : BabyRay_62
- Track 7 : Heathen_62
- Track 8 : Lunsford_60
- Track 9 : Koreni_58, TygerBlood_59, Millski_58, Lemur_59, Gadost_59, Avle17_59, Sultana_59, Chaph_59, Ruin_59, KFPoly_58, Melvin_61, Funston_58, LittleB_59, Alberto7_60, Bruiser_58, TroyPia_60, Burger_57, PeterPeter_59, Kyee_59, Thanksgivukkah_58, Romney_58, LittleGuy_59, Albee_59, Maxo_60, Camperdownii_57, Flux_59, Eapen_59, BubbleTrouble_58, LappelDuVide_59, Palestino_58, OKaNui_59, Lorenzo_59, Cocoaberry_59, YoSam321_59, Wilbur_59, Kingmustik0402_59, JoongJeon_58, Mazhar510_59, Kampy_58
- Track 10 : LochMonster_60, Rosa24_57, Ulysses_58, DirtyDunning_58, Spino_58
- Track 11 : Morrow_60
- Track 12 : Wander_59
- Track 13 : BellusTerra_60
- Track 14 : Cindaradix_54
- Track 15 : Cerulean_60, Happiness_58, LHTSCC_61, ChampagnePapi_61, Obama12_60
- Track 16 : Sparxx_60, Bombshell_59, Sabertooth_59, Eros_59, Bartimeaus_59, Baby16_59, Citius_59, Scamp_59, Broseidon_59, Holli_58, Florean_59,

Polymorphads_60, CentreCat_59

- Track 17 : Iracema64_60, Cintron_58
- Track 18 : SenorClean_59, Connomayer_59
- Track 19 : Phighter1804_59
- Track 20 : JetBlade_59
- Track 21 : Stink_56, AvatarAhPeg_56
- Track 22 : Ohfah_60
- Track 23 : Kratark_58
- Track 24 : Iceman_59, LeoAvram_58
- Track 25 : Arturo_57
- Track 26 : Phacado_59
- Track 27 : Clarenza_58
- Track 28 : Phelipe_60, Abdiel_59
- Track 29 : Tinybot_58
- Track 30 : Eurydice_60, Nebs_60
- Track 31 : Dhanush_59
- Track 32 : Relief_58
- Track 33 : Pumbaa_59
- Track 34 : PP_62
- Track 35 : Sheen_61

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

The start number called the most often in the published annotations is 14, it was called in 82 of the 183 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abdiel_59, Albee_59, Alberto7_60, Arturo_57, AvatarAhPeg_56, Avle17_59, Baby16_59, Bartimeaus_59, Bombshell_59, Broseidon_59, Bruiser_58, BubbleTrouble_58, Burger_57, Camperdownii_57, CentreCat_59, Cerulean_60, ChampagnePapi_61, Chaph_59, Cindaradix_54, Cintron_58, Citius_59, Clarenza_58, Cocoaberry_59, Connomayer_59, Dhanush_59, DirtyDunning_58, Eapen_59, Eros_59, Florean_59, Flux_59, Funston_58, Gadost_59, Happiness_58, Holli_58, Iracema64_60, JetBlade_59, JoongJeon_58, KFPoly_58, Kampy_58, Kingmustik0402_59, Koreni_58, Kyee_59, LHTSCC_61, LappelDuVide_59, Lemur_59, LittleB_59, LittleGuy_59, LochMonster_60, Lorenzo_59, Lunsford_60, Maxo_60, Mazhar510_59, Melvin_61, Millski_58, Morrow_60, OKaNui_59, Obama12_60, Ohfah_60, Palestino_58, PeterPeter_59, Phacado_59, Phelipe_60, Phighter1804_59, Polymorphads_60, Pumbaa_59, Relief_58, Romney_58, Rosa24_57, Ruin_59, Sabertooth_59, Scamp_59, SenorClean_59, Sparxx_60, Spino_58, Stink_56, Sultana_59, Thanksgivukkah_58, TroyPia_60, TygerBlood_59, Ulysses_58, Wander_59, Wilbur_59, YoSam321_59,

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

- BellusTerra_60, Eurydice_60, Iceman_59, Kratark_58, LeoAvram_58, Nebs_60, Tinybot_58,

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

- ACFishhook_63, Aglet_66, AgronaGT15_64, Anubis_68, AugsMagnumOpus_68, BabyRay_62, Bigflo_64, BlueBird_64, BreSam8_65, Bxz2_60, Calvinny_64,

Caviar_61, Cullens_65, DaHudson_64, Daishi_64, Dieselweasel_66, EpicPhail_66, Farber_65, Fernando_65, Gemma_64, GinkgoMaracino_65, Giroux_64, Grif_65, Groupthink_66, Grub_65, GtownJaz_65, HashRod_66, HaveUMetTed_66, Heathen_62, Heliosoles_64, Hercules11_65, Hookmount_61, Idleandcovert_62, JF2_60, JF4_60, JHC117_63, JenCasNa_66, JeppNRM_66, Jobu08_63, Kalb97_66, Kalnoky_66, LBerry_66, Lambert1_61, LarryKay_65, Lowa_64, LugYA_68, MA5_62, MK4_62, MadMarie_65, Mainiac_65, Malinsilva_67, Manu_65, MarQuardt_65, Margo_61, Marie_63, Marius_66, Methuselah_60, Microwolf_63, MoneyMay_64, MuchMore_68, Noella_61, OlanP_64, Ollie_65, P28Green_66, PGHhamlin_67, PP_62, Panamaxus_59, Pawn_65, Pembroke_65, Phantastic_63, PhishRPhriends_63, Phoebe_66, Phoxy_65, Phranny_66, Pocahontas_61, Popcicle_61, PotatoSplit_66, PurpleHaze_65, QuinnKiro_60, Reba_65, Rockstar_60, Rummer_64, Sabia_65, Sheen_61, Snickers_65, SoilDragon_65, Soshari_67, Spike509_65, StepMih_64, TNguyen7_63, Taurus_66, Tiffany_64, Todacoro_61, Vix_63, Watson_64, Wooldri_67, Zetzy_64,

Summary by start number:

Start 14:

- Found in 90 of 187 (48.1%) of genes in pham
- Manual Annotations of this start: 82 of 183
- Called 92.2% of time when present
- Phage (with cluster) where this start called: Abdiel_59 (A4), Albee_59 (A4), Alberto7_60 (A4), Arturo_57 (A4), AvatarAhPeg_56 (A4), Avle17_59 (A4), Baby16_59 (A4), Bartimeaus_59 (A4), Bombshell_59 (A4), Broseidon_59 (A4), Bruiser_58 (A4), BubbleTrouble_58 (A4), Burger_57 (A4), Camperdownii_57 (A4), CentreCat_59 (A4), Cerulean_60 (A4), ChampagnePapi_61 (A4), Chaph_59 (A4), Cindaradix_54 (A4), Cintron_58 (A4), Citius_59 (A4), Clarenza_58 (A4), CocoaBerry_59 (A4), Connomayer_59 (A4), Dhanush_59 (A4), DirtyDunning_58 (A4), Eapen_59 (A4), Eros_59 (A4), Florean_59 (A4), Flux_59 (A4), Funston_58 (A4), Gadost_59 (A4), Happiness_58 (A4), Holli_58 (A4), Iracema64_60 (A4), JetBlade_59 (A4), JoongJeon_58 (A4), KFPoly_58 (A4), Kampy_58 (A4), Kingmustik0402_59 (A4), Koreni_58 (A4), Kyee_59 (A4), LHTSCC_61 (A4), LappelDuVide_59 (A4), Lemur_59 (A4), LittleB_59 (A4), LittleGuy_59 (A4), LochMonster_60 (A4), Lorenzo_59 (A4), Lunsford_60 (A4), Maxo_60 (A4), Mazhar510_59 (A4), Melvin_61 (A4), Millski_58 (A4), Morrow_60 (A4), OKaNui_59 (A4), Obama12_60 (A4), Ohfah_60 (A4), Palestino_58 (A4), PeterPeter_59 (A4), Phacado_59 (A4), Phelipe_60 (A4), Phighter1804_59 (A4), Polymorphads_60 (A4), Pumbaa_59 (A4), Relief_58 (A4), Romney_58 (A4), Rosa24_57 (A4), Ruin_59 (A4), Sabertooth_59 (A4), Scamp_59 (A4), SeniorClean_59 (A4), Sparxx_60 (A4), Spino_58 (A4), Stink_56 (A4), Sultana_59 (A4), Thanksgivukkah_58 (A4), TroyPia_60 (A4), TygerBlood_59 (A4), Ulysses_58 (A4), Wander_59 (A4), Wilbur_59 (A4), YoSam321_59 (A4),

Start 15:

- Found in 32 of 187 (17.1%) of genes in pham
- Manual Annotations of this start: 21 of 183
- Called 65.6% of time when present
- Phage (with cluster) where this start called: BabyRay_62 (A3), BellusTerra_60 (A4), BlueBird_64 (A3), Eurydice_60 (A4), Giroux_64 (A3), Heathen_62 (A3), Iceman_59 (A4), Idleandcovert_62 (A3), JF2_60 (A3), JF4_60 (A3), Kratark_58 (A4), LeoAvram_58 (A4), MA5_62 (A3), MK4_62 (A3), Nebs_60 (A4), PP_62 (A7), Phantastic_63 (A3), Rockstar_60 (A3), Sheen_61 (A7), TNguyen7_63 (A3), Tinybot_58 (A4),

Start 17:

- Found in 83 of 187 (44.4%) of genes in pham
- Manual Annotations of this start: 78 of 183
- Called 97.6% of time when present
- Phage (with cluster) where this start called: ACFishhook_63 (A3), Aglet_66 (A3), AgronaGT15_64 (A3), Anubis_68 (A3), AugsMagnumOpus_68 (A3), Bigflo_64 (A3), BreSam8_65 (A3), Bxz2_60 (A3), Calvinny_64 (A3), Caviar_61 (A3), Cullens_65 (A3), DaHudson_64 (A3), Daishi_64 (A3), Dieselweasel_66 (A3), EpicPhail_66 (A3), Farber_65 (A3), Fernando_65 (A3), Gemma_64 (A3), GinkgoMaracino_65 (A3), Grif_65 (A3), Groupthink_66 (A3), Grub_65 (A3), GtownJaz_65 (A3), HashRod_66 (A3), HaveUMetTed_66 (A3), Heliosoles_64 (A3), Hercules11_65 (A3), Hookmount_61 (A3), JHC117_63 (A3), JenCasNa_66 (A3), JeppNRM_66 (A3), Jobu08_63 (A3), Kalb97_66 (A3), Kalnoky_66 (A3), LBerry_66 (A3), Lambert1_61 (A3), LarryKay_65 (A3), Lowa_64 (A3), LugYA_68 (A3), MadMarie_65 (A3), Mainiac_65 (A3), Malinsilva_67 (A3), Manu_65 (A3), MarQuardt_65 (A3), Margo_61 (A3), Marie_63 (A3), Marius_66 (A3), Methuselah_60 (A3), MoneyMay_64 (A3), MuchMore_68 (A3), Noella_61 (A3), OlanP_64 (A3), Ollie_65 (A3), P28Green_66 (A3), PGHhamlin_67 (A3), Panamaxus_59 (A3), Pawn_65 (A3), Pembroke_65 (A3), PhishRPhriends_63 (A3), Phoebe_66 (A3), Phoxy_65 (A3), Phranny_66 (A3), Pocahontas_61 (A3), Popcicle_61 (A3), PotatoSplit_66 (A3), PurpleHaze_65 (A3), QuinnKiro_60 (A3), Reba_65 (A3), Rummer_64 (A3), Sabia_65 (A3), Snickers_65 (A3), SoilDragon_65 (A3), Soshari_67 (A3), Spike509_65 (A3), Taurus_66 (A3), Tiffany_64 (A3), Todacoro_61 (A3), Vix_63 (A3), Watson_64 (A3), Wooldri_67 (A3), Zetzy_64 (A3),

Start 22:

- Found in 83 of 187 (44.4%) of genes in pham
- Manual Annotations of this start: 2 of 183
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Microwolf_63 (A3), StepMih_64 (A3),

Summary by clusters:

There are 3 clusters represented in this pham: A3, A4, A7,

Info for manual annotations of cluster A3:

- Start number 15 was manually annotated 12 times for cluster A3.
- Start number 17 was manually annotated 78 times for cluster A3.
- Start number 22 was manually annotated 2 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 14 was manually annotated 82 times for cluster A4.
- Start number 15 was manually annotated 7 times for cluster A4.

Info for manual annotations of cluster A7:

- Start number 15 was manually annotated 2 times for cluster A7.

Gene Information:

Gene: ACFishhook_63 Start: 39664, Stop: 39560, Start Num: 17

Candidate Starts for ACFishhook_63:

(Start: 17 @39664 has 78 MA's), (Start: 22 @39649 has 2 MA's), (24, 39637), (29, 39595),

Gene: Abdiel_59 Start: 39049, Stop: 38960, Start Num: 14

Candidate Starts for Abdiel_59:

(9, 39799), (10, 39658), (11, 39202), (12, 39115), (13, 39064), (Start: 14 @39049 has 82 MA's), (Start: 15 @39046 has 21 MA's), (16, 39031), (26, 38992),

Gene: Aglet_66 Start: 39707, Stop: 39603, Start Num: 17

Candidate Starts for Aglet_66:

(Start: 17 @39707 has 78 MA's), (Start: 22 @39692 has 2 MA's), (24, 39680), (29, 39638),

Gene: AgronaGT15_64 Start: 39555, Stop: 39451, Start Num: 17

Candidate Starts for AgronaGT15_64:

(Start: 17 @39555 has 78 MA's), (Start: 22 @39540 has 2 MA's), (24, 39528), (29, 39486),

Gene: Albee_59 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Albee_59:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Alberto7_60 Start: 39382, Stop: 39296, Start Num: 14

Candidate Starts for Alberto7_60:

(2, 40468), (3, 40456), (7, 40309), (8, 40300), (10, 39991), (11, 39535), (12, 39448), (13, 39397), (Start: 14 @39382 has 82 MA's), (16, 39367), (26, 39328),

Gene: Anubis_68 Start: 39593, Stop: 39489, Start Num: 17

Candidate Starts for Anubis_68:

(Start: 17 @39593 has 78 MA's), (Start: 22 @39578 has 2 MA's), (24, 39566), (29, 39524),

Gene: Arturo_57 Start: 39160, Stop: 39071, Start Num: 14

Candidate Starts for Arturo_57:

(12, 39226), (13, 39175), (Start: 14 @39160 has 82 MA's), (16, 39142),

Gene: AugsMagnumOpus_68 Start: 39698, Stop: 39594, Start Num: 17

Candidate Starts for AugsMagnumOpus_68:

(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: AvatarAhPeg_56 Start: 38672, Stop: 38583, Start Num: 14

Candidate Starts for AvatarAhPeg_56:

(11, 38825), (12, 38738), (13, 38687), (Start: 14 @38672 has 82 MA's), (26, 38615),

Gene: Avle17_59 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Avle17_59:

(2, 40128), (3, 40116), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Baby16_59 Start: 39056, Stop: 38970, Start Num: 14

Candidate Starts for Baby16_59:

(12, 39122), (13, 39071), (Start: 14 @39056 has 82 MA's), (16, 39041), (26, 39002),

Gene: BabyRay_62 Start: 39415, Stop: 39332, Start Num: 15

Candidate Starts for BabyRay_62:

(Start: 15 @39415 has 21 MA's), (18, 39388), (25, 39364),

Gene: Bartimeaus_59 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Bartimeaus_59:

(12, 39113), (13, 39062), (Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: BellusTerra_60 Start: 39046, Stop: 38960, Start Num: 15

Candidate Starts for BellusTerra_60:

(12, 39115), (13, 39064), (Start: 14 @39049 has 82 MA's), (Start: 15 @39046 has 21 MA's), (16, 39031), (26, 38992),

Gene: Bigflo_64 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for Bigflo_64:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: BlueBird_64 Start: 39459, Stop: 39376, Start Num: 15

Candidate Starts for BlueBird_64:

(Start: 15 @39459 has 21 MA's), (18, 39432),

Gene: Bombshell_59 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Bombshell_59:

(12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: BreSam8_65 Start: 39700, Stop: 39596, Start Num: 17

Candidate Starts for BreSam8_65:

(Start: 17 @39700 has 78 MA's), (Start: 22 @39685 has 2 MA's), (24, 39673), (29, 39631),

Gene: Broseidon_59 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Broseidon_59:

(12, 39113), (13, 39062), (Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: Bruiser_58 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Bruiser_58:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: BubbleTrouble_58 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for BubbleTrouble_58:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Burger_57 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Burger_57:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Bxz2_60 Start: 39741, Stop: 39637, Start Num: 17

Candidate Starts for Bxz2_60:

(Start: 17 @39741 has 78 MA's), (Start: 22 @39726 has 2 MA's), (24, 39714), (29, 39672),

Gene: Calvinny_64 Start: 39592, Stop: 39488, Start Num: 17

Candidate Starts for Calvinny_64:

(Start: 17 @39592 has 78 MA's), (Start: 22 @39577 has 2 MA's), (24, 39565), (29, 39523),

Gene: Camperdownii_57 Start: 38719, Stop: 38633, Start Num: 14

Candidate Starts for Camperdownii_57:

(2, 39805), (3, 39793), (7, 39646), (8, 39637), (10, 39328), (11, 38872), (12, 38785), (13, 38734),
(Start: 14 @38719 has 82 MA's), (16, 38704), (26, 38665),

Gene: Caviar_61 Start: 39418, Stop: 39335, Start Num: 17

Candidate Starts for Caviar_61:

(Start: 17 @39418 has 78 MA's), (Start: 22 @39403 has 2 MA's), (24, 39391),

Gene: CentreCat_59 Start: 39048, Stop: 38962, Start Num: 14

Candidate Starts for CentreCat_59:

(12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (16, 39033), (26, 38994),

Gene: Cerulean_60 Start: 39449, Stop: 39363, Start Num: 14

Candidate Starts for Cerulean_60:

(9, 40199), (10, 40058), (11, 39602), (12, 39515), (13, 39464), (Start: 14 @39449 has 82 MA's), (26, 39395),

Gene: ChampagnePapi_61 Start: 39448, Stop: 39362, Start Num: 14

Candidate Starts for ChampagnePapi_61:

(9, 40198), (10, 40057), (11, 39601), (12, 39514), (13, 39463), (Start: 14 @39448 has 82 MA's), (26, 39394),

Gene: Chaph_59 Start: 39056, Stop: 38970, Start Num: 14

Candidate Starts for Chaph_59:

(2, 40142), (3, 40130), (7, 39983), (8, 39974), (10, 39665), (11, 39209), (12, 39122), (13, 39071),
(Start: 14 @39056 has 82 MA's), (16, 39041), (26, 39002),

Gene: Cindaradix_54 Start: 38518, Stop: 38429, Start Num: 14

Candidate Starts for Cindaradix_54:

(11, 38671), (12, 38584), (13, 38533), (Start: 14 @38518 has 82 MA's), (16, 38500),

Gene: Cintron_58 Start: 39025, Stop: 38936, Start Num: 14

Candidate Starts for Cintron_58:

(1, 40165), (6, 39958), (7, 39952), (10, 39634), (11, 39178), (12, 39091), (13, 39040), (Start: 14
@39025 has 82 MA's), (Start: 15 @39022 has 21 MA's), (16, 39007), (26, 38968),

Gene: Citius_59 Start: 39066, Stop: 38980, Start Num: 14

Candidate Starts for Citius_59:

(12, 39132), (13, 39081), (Start: 14 @39066 has 82 MA's), (16, 39051), (26, 39012),

Gene: Clarenza_58 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Clarenza_58:

(10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Cocoaberry_59 Start: 39049, Stop: 38963, Start Num: 14

Candidate Starts for Cocoaberry_59:

(2, 40135), (3, 40123), (7, 39976), (8, 39967), (10, 39658), (11, 39202), (12, 39115), (13, 39064),
(Start: 14 @39049 has 82 MA's), (16, 39034), (26, 38995),

Gene: Connomayer_59 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Connomayer_59:

(3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Cullens_65 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for Cullens_65:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: DaHudson_64 Start: 39699, Stop: 39595, Start Num: 17

Candidate Starts for DaHudson_64:

(Start: 17 @39699 has 78 MA's), (Start: 22 @39684 has 2 MA's), (24, 39672), (29, 39630),

Gene: Daishi_64 Start: 38575, Stop: 38471, Start Num: 17

Candidate Starts for Daishi_64:

(Start: 17 @38575 has 78 MA's), (Start: 22 @38560 has 2 MA's), (24, 38548), (29, 38506),

Gene: Dhanush_59 Start: 39048, Stop: 38962, Start Num: 14

Candidate Starts for Dhanush_59:

(2, 40134), (3, 40122), (7, 39975), (8, 39966), (10, 39657), (11, 39201), (12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (26, 38994),

Gene: Dieselweasel_66 Start: 39709, Stop: 39605, Start Num: 17

Candidate Starts for Dieselweasel_66:

(Start: 17 @39709 has 78 MA's), (Start: 22 @39694 has 2 MA's), (24, 39682), (29, 39640),

Gene: DirtyDunning_58 Start: 39060, Stop: 38971, Start Num: 14

Candidate Starts for DirtyDunning_58:

(10, 39669), (11, 39213), (12, 39126), (13, 39075), (Start: 14 @39060 has 82 MA's), (Start: 15 @39057 has 21 MA's), (16, 39042), (26, 39003),

Gene: Eapen_59 Start: 39040, Stop: 38954, Start Num: 14

Candidate Starts for Eapen_59:

(2, 40126), (3, 40114), (7, 39967), (8, 39958), (10, 39649), (11, 39193), (12, 39106), (13, 39055), (Start: 14 @39040 has 82 MA's), (16, 39025), (26, 38986),

Gene: EpicPhail_66 Start: 39710, Stop: 39606, Start Num: 17

Candidate Starts for EpicPhail_66:

(Start: 17 @39710 has 78 MA's), (Start: 22 @39695 has 2 MA's), (24, 39683), (29, 39641),

Gene: Eros_59 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Eros_59:

(12, 39113), (13, 39062), (Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: Eurydice_60 Start: 39042, Stop: 38956, Start Num: 15

Candidate Starts for Eurydice_60:

(9, 39795), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (Start: 15 @39042 has 21 MA's), (16, 39027), (26, 38988),

Gene: Farber_65 Start: 39696, Stop: 39592, Start Num: 17

Candidate Starts for Farber_65:

(Start: 17 @39696 has 78 MA's), (Start: 22 @39681 has 2 MA's), (24, 39669), (29, 39627),

Gene: Fernando_65 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for Fernando_65:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: Florean_59 Start: 39044, Stop: 38958, Start Num: 14

Candidate Starts for Florean_59:

(12, 39110), (13, 39059), (Start: 14 @39044 has 82 MA's), (16, 39029), (26, 38990),

Gene: Flux_59 Start: 39044, Stop: 38958, Start Num: 14

Candidate Starts for Flux_59:

(2, 40130), (3, 40118), (7, 39971), (8, 39962), (10, 39653), (11, 39197), (12, 39110), (13, 39059),
(Start: 14 @39044 has 82 MA's), (16, 39029), (26, 38990),

Gene: Funston_58 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Funston_58:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060),
(Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Gadost_59 Start: 39049, Stop: 38963, Start Num: 14

Candidate Starts for Gadost_59:

(2, 40135), (3, 40123), (7, 39976), (8, 39967), (10, 39658), (11, 39202), (12, 39115), (13, 39064),
(Start: 14 @39049 has 82 MA's), (16, 39034), (26, 38995),

Gene: Gemma_64 Start: 39588, Stop: 39484, Start Num: 17

Candidate Starts for Gemma_64:

(Start: 17 @39588 has 78 MA's), (Start: 22 @39573 has 2 MA's), (24, 39561), (29, 39519),

Gene: GingkoMaracino_65 Start: 39592, Stop: 39488, Start Num: 17

Candidate Starts for GingkoMaracino_65:

(Start: 17 @39592 has 78 MA's), (Start: 22 @39577 has 2 MA's), (24, 39565), (29, 39523),

Gene: Giroux_64 Start: 39458, Stop: 39375, Start Num: 15

Candidate Starts for Giroux_64:

(Start: 15 @39458 has 21 MA's), (18, 39431),

Gene: Grif_65 Start: 39781, Stop: 39677, Start Num: 17

Candidate Starts for Grif_65:

(Start: 17 @39781 has 78 MA's), (Start: 22 @39766 has 2 MA's), (24, 39754), (29, 39712),

Gene: Groupthink_66 Start: 39592, Stop: 39488, Start Num: 17

Candidate Starts for Groupthink_66:

(Start: 17 @39592 has 78 MA's), (Start: 22 @39577 has 2 MA's), (24, 39565), (29, 39523),

Gene: Grub_65 Start: 39698, Stop: 39594, Start Num: 17

Candidate Starts for Grub_65:

(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: GtownJaz_65 Start: 39708, Stop: 39604, Start Num: 17

Candidate Starts for GtownJaz_65:

(Start: 17 @39708 has 78 MA's), (Start: 22 @39693 has 2 MA's), (24, 39681), (29, 39639),

Gene: Happiness_58 Start: 39031, Stop: 38945, Start Num: 14

Candidate Starts for Happiness_58:

(9, 39781), (10, 39640), (11, 39184), (12, 39097), (13, 39046), (Start: 14 @39031 has 82 MA's), (26, 38977),

Gene: HashRod_66 Start: 39734, Stop: 39630, Start Num: 17

Candidate Starts for HashRod_66:

(Start: 17 @39734 has 78 MA's), (Start: 22 @39719 has 2 MA's), (24, 39707), (29, 39665),

Gene: HaveUMetTed_66 Start: 39577, Stop: 39473, Start Num: 17

Candidate Starts for HaveUMetTed_66:

(Start: 17 @39577 has 78 MA's), (Start: 22 @39562 has 2 MA's), (24, 39550), (29, 39508),

Gene: Heathen_62 Start: 39153, Stop: 39070, Start Num: 15

Candidate Starts for Heathen_62:

(12, 39222), (Start: 15 @39153 has 21 MA's), (18, 39126), (23, 39108),

Gene: Heliosoles_64 Start: 39595, Stop: 39491, Start Num: 17

Candidate Starts for Heliosoles_64:

(Start: 17 @39595 has 78 MA's), (Start: 22 @39580 has 2 MA's), (24, 39568), (29, 39526),

Gene: Hercules11_65 Start: 39715, Stop: 39611, Start Num: 17

Candidate Starts for Hercules11_65:

(Start: 17 @39715 has 78 MA's), (Start: 22 @39700 has 2 MA's), (24, 39688), (29, 39646),

Gene: Holli_58 Start: 38835, Stop: 38749, Start Num: 14

Candidate Starts for Holli_58:

(12, 38901), (13, 38850), (Start: 14 @38835 has 82 MA's), (16, 38820), (26, 38781),

Gene: Hookmount_61 Start: 39419, Stop: 39336, Start Num: 17

Candidate Starts for Hookmount_61:

(Start: 17 @39419 has 78 MA's), (Start: 22 @39404 has 2 MA's), (24, 39392),

Gene: Iceman_59 Start: 39331, Stop: 39245, Start Num: 15

Candidate Starts for Iceman_59:

(11, 39487), (12, 39400), (13, 39349), (Start: 14 @39334 has 82 MA's), (Start: 15 @39331 has 21 MA's), (16, 39316), (26, 39277),

Gene: Idleandcovert_62 Start: 39459, Stop: 39376, Start Num: 15

Candidate Starts for Idleandcovert_62:

(Start: 15 @39459 has 21 MA's), (18, 39432),

Gene: Iracema64_60 Start: 39312, Stop: 39223, Start Num: 14

Candidate Starts for Iracema64_60:

(1, 40452), (6, 40245), (7, 40239), (10, 39921), (11, 39465), (12, 39378), (13, 39327), (Start: 14 @39312 has 82 MA's), (Start: 15 @39309 has 21 MA's), (16, 39294), (26, 39255),

Gene: JF2_60 Start: 37619, Stop: 37536, Start Num: 15

Candidate Starts for JF2_60:

(Start: 15 @37619 has 21 MA's), (18, 37592), (20, 37586),

Gene: JF4_60 Start: 37619, Stop: 37536, Start Num: 15

Candidate Starts for JF4_60:

(Start: 15 @37619 has 21 MA's), (18, 37592), (20, 37586),

Gene: JHC117_63 Start: 39705, Stop: 39601, Start Num: 17

Candidate Starts for JHC117_63:

(Start: 17 @39705 has 78 MA's), (Start: 22 @39690 has 2 MA's), (24, 39678), (29, 39636),

Gene: JenCasNa_66 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for JenCasNa_66:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: JeppNRM_66 Start: 39593, Stop: 39489, Start Num: 17

Candidate Starts for JeppNRM_66:

(Start: 17 @39593 has 78 MA's), (Start: 22 @39578 has 2 MA's), (24, 39566), (29, 39524),

Gene: JetBlade_59 Start: 39039, Stop: 38953, Start Num: 14

Candidate Starts for JetBlade_59:

(9, 39789), (10, 39648), (11, 39192), (12, 39105), (13, 39054), (Start: 14 @39039 has 82 MA's), (16, 39024), (26, 38985),

Gene: Jobu08_63 Start: 39538, Stop: 39434, Start Num: 17

Candidate Starts for Jobu08_63:

(Start: 17 @39538 has 78 MA's), (Start: 22 @39523 has 2 MA's), (24, 39511), (29, 39469),

Gene: JoongJeon_58 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for JoongJeon_58:

(2, 40128), (3, 40116), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: KFPoly_58 Start: 39039, Stop: 38953, Start Num: 14

Candidate Starts for KFPoly_58:

(2, 40125), (3, 40113), (7, 39966), (8, 39957), (10, 39648), (11, 39192), (12, 39105), (13, 39054), (Start: 14 @39039 has 82 MA's), (16, 39024), (26, 38985),

Gene: Kalb97_66 Start: 39591, Stop: 39487, Start Num: 17

Candidate Starts for Kalb97_66:

(Start: 17 @39591 has 78 MA's), (Start: 22 @39576 has 2 MA's), (24, 39564), (29, 39522),

Gene: Kalnoky_66 Start: 39589, Stop: 39485, Start Num: 17

Candidate Starts for Kalnoky_66:

(Start: 17 @39589 has 78 MA's), (Start: 22 @39574 has 2 MA's), (24, 39562), (29, 39520),

Gene: Kamy_58 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Kamy_58:

(2, 40133), (3, 40121), (7, 39974), (8, 39965), (10, 39656), (11, 39200), (12, 39113), (13, 39062), (Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: Kingmustik0402_59 Start: 39034, Stop: 38948, Start Num: 14

Candidate Starts for Kingmustik0402_59:

(2, 40120), (3, 40108), (7, 39961), (8, 39952), (10, 39643), (11, 39187), (12, 39100), (13, 39049), (Start: 14 @39034 has 82 MA's), (16, 39019), (26, 38980),

Gene: Koreni_58 Start: 38726, Stop: 38640, Start Num: 14

Candidate Starts for Koreni_58:

(2, 39812), (3, 39800), (7, 39653), (8, 39644), (10, 39335), (11, 38879), (12, 38792), (13, 38741), (Start: 14 @38726 has 82 MA's), (16, 38711), (26, 38672),

Gene: Kratark_58 Start: 39040, Stop: 38954, Start Num: 15

Candidate Starts for Kratark_58:

(10, 39652), (11, 39196), (12, 39109), (13, 39058), (Start: 14 @39043 has 82 MA's), (Start: 15 @39040 has 21 MA's), (16, 39025),

Gene: Kyee_59 Start: 39043, Stop: 38957, Start Num: 14

Candidate Starts for Kyee_59:

(2, 40129), (3, 40117), (7, 39970), (8, 39961), (10, 39652), (11, 39196), (12, 39109), (13, 39058), (Start: 14 @39043 has 82 MA's), (16, 39028), (26, 38989),

Gene: LBerry_66 Start: 39710, Stop: 39606, Start Num: 17

Candidate Starts for LBerry_66:

(Start: 17 @39710 has 78 MA's), (Start: 22 @39695 has 2 MA's), (24, 39683), (29, 39641),

Gene: LHTSCC_61 Start: 39448, Stop: 39362, Start Num: 14

Candidate Starts for LHTSCC_61:

(9, 40198), (10, 40057), (11, 39601), (12, 39514), (13, 39463), (Start: 14 @39448 has 82 MA's), (26, 39394),

Gene: Lambert1_61 Start: 39418, Stop: 39335, Start Num: 17

Candidate Starts for Lambert1_61:

(Start: 17 @39418 has 78 MA's), (Start: 22 @39403 has 2 MA's), (24, 39391),

Gene: LappelDuVide_59 Start: 39044, Stop: 38958, Start Num: 14

Candidate Starts for LappelDuVide_59:

(2, 40130), (3, 40118), (7, 39971), (8, 39962), (10, 39653), (11, 39197), (12, 39110), (13, 39059), (Start: 14 @39044 has 82 MA's), (16, 39029), (26, 38990),

Gene: LarryKay_65 Start: 39736, Stop: 39632, Start Num: 17

Candidate Starts for LarryKay_65:

(Start: 17 @39736 has 78 MA's), (Start: 22 @39721 has 2 MA's), (24, 39709), (29, 39667),

Gene: Lemur_59 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Lemur_59:

(2, 40128), (3, 40116), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: LeoAvram_58 Start: 39045, Stop: 38959, Start Num: 15

Candidate Starts for LeoAvram_58:

(11, 39201), (12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (Start: 15 @39045 has 21 MA's), (16, 39030), (26, 38991),

Gene: LittleB_59 Start: 39046, Stop: 38960, Start Num: 14

Candidate Starts for LittleB_59:

(2, 40132), (3, 40120), (7, 39973), (8, 39964), (10, 39655), (11, 39199), (12, 39112), (13, 39061), (Start: 14 @39046 has 82 MA's), (16, 39031), (26, 38992),

Gene: LittleGuy_59 Start: 38941, Stop: 38855, Start Num: 14

Candidate Starts for LittleGuy_59:

(2, 40027), (3, 40015), (7, 39868), (8, 39859), (10, 39550), (11, 39094), (12, 39007), (13, 38956), (Start: 14 @38941 has 82 MA's), (16, 38926), (26, 38887),

Gene: LochMonster_60 Start: 39284, Stop: 39195, Start Num: 14
Candidate Starts for LochMonster_60:
(10, 39893), (11, 39437), (12, 39350), (13, 39299), (Start: 14 @39284 has 82 MA's), (Start: 15 @39281 has 21 MA's), (16, 39266), (26, 39227),

Gene: Lorenzo_59 Start: 39045, Stop: 38959, Start Num: 14
Candidate Starts for Lorenzo_59:
(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Lowa_64 Start: 39698, Stop: 39594, Start Num: 17
Candidate Starts for Lowa_64:
(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: LugYA_68 Start: 39707, Stop: 39603, Start Num: 17
Candidate Starts for LugYA_68:
(Start: 17 @39707 has 78 MA's), (Start: 22 @39692 has 2 MA's), (24, 39680), (29, 39638),

Gene: Lunsford_60 Start: 39039, Stop: 38953, Start Num: 14
Candidate Starts for Lunsford_60:
(11, 39192), (12, 39105), (13, 39054), (Start: 14 @39039 has 82 MA's), (16, 39024), (26, 38985),

Gene: MA5_62 Start: 38819, Stop: 38736, Start Num: 15
Candidate Starts for MA5_62:
(Start: 15 @38819 has 21 MA's), (18, 38792),

Gene: MK4_62 Start: 38903, Stop: 38820, Start Num: 15
Candidate Starts for MK4_62:
(Start: 15 @38903 has 21 MA's), (18, 38876), (20, 38870),

Gene: MadMarie_65 Start: 39708, Stop: 39604, Start Num: 17
Candidate Starts for MadMarie_65:
(Start: 17 @39708 has 78 MA's), (Start: 22 @39693 has 2 MA's), (24, 39681), (29, 39639),

Gene: Mainiac_65 Start: 39700, Stop: 39596, Start Num: 17
Candidate Starts for Mainiac_65:
(Start: 17 @39700 has 78 MA's), (Start: 22 @39685 has 2 MA's), (24, 39673), (29, 39631),

Gene: Malinsilva_67 Start: 39698, Stop: 39594, Start Num: 17
Candidate Starts for Malinsilva_67:
(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: Manu_65 Start: 39592, Stop: 39488, Start Num: 17
Candidate Starts for Manu_65:
(Start: 17 @39592 has 78 MA's), (Start: 22 @39577 has 2 MA's), (24, 39565), (29, 39523),

Gene: MarQuardt_65 Start: 39708, Stop: 39604, Start Num: 17
Candidate Starts for MarQuardt_65:
(Start: 17 @39708 has 78 MA's), (Start: 22 @39693 has 2 MA's), (24, 39681), (29, 39639),

Gene: Margo_61 Start: 39444, Stop: 39361, Start Num: 17
Candidate Starts for Margo_61:
(Start: 17 @39444 has 78 MA's), (Start: 22 @39429 has 2 MA's), (24, 39417),

Gene: Marie_63 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for Marie_63:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: Marius_66 Start: 39589, Stop: 39485, Start Num: 17

Candidate Starts for Marius_66:

(Start: 17 @39589 has 78 MA's), (Start: 22 @39574 has 2 MA's), (24, 39562), (29, 39520),

Gene: Maxo_60 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Maxo_60:

(2, 40133), (3, 40121), (7, 39974), (8, 39965), (10, 39656), (11, 39200), (12, 39113), (13, 39062),
(Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: Mazhar510_59 Start: 39046, Stop: 38960, Start Num: 14

Candidate Starts for Mazhar510_59:

(2, 40132), (3, 40120), (7, 39973), (8, 39964), (10, 39655), (11, 39199), (12, 39112), (13, 39061),
(Start: 14 @39046 has 82 MA's), (16, 39031), (26, 38992),

Gene: Melvin_61 Start: 39040, Stop: 38954, Start Num: 14

Candidate Starts for Melvin_61:

(2, 40126), (3, 40114), (7, 39967), (8, 39958), (10, 39649), (11, 39193), (12, 39106), (13, 39055),
(Start: 14 @39040 has 82 MA's), (16, 39025), (26, 38986),

Gene: Methuselah_60 Start: 39730, Stop: 39626, Start Num: 17

Candidate Starts for Methuselah_60:

(Start: 17 @39730 has 78 MA's), (Start: 22 @39715 has 2 MA's), (24, 39703), (29, 39661),

Gene: Microwolf_63 Start: 39707, Stop: 39618, Start Num: 22

Candidate Starts for Microwolf_63:

(Start: 17 @39722 has 78 MA's), (Start: 22 @39707 has 2 MA's), (24, 39695), (29, 39653),

Gene: Millski_58 Start: 39046, Stop: 38960, Start Num: 14

Candidate Starts for Millski_58:

(2, 40132), (3, 40120), (7, 39973), (8, 39964), (10, 39655), (11, 39199), (12, 39112), (13, 39061),
(Start: 14 @39046 has 82 MA's), (16, 39031), (26, 38992),

Gene: MoneyMay_64 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for MoneyMay_64:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: Morrow_60 Start: 39051, Stop: 38965, Start Num: 14

Candidate Starts for Morrow_60:

(7, 39978), (8, 39969), (10, 39660), (11, 39204), (12, 39117), (13, 39066), (Start: 14 @39051 has 82 MA's), (16, 39036), (26, 38997),

Gene: MuchMore_68 Start: 39698, Stop: 39594, Start Num: 17

Candidate Starts for MuchMore_68:

(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: Nebs_60 Start: 39045, Stop: 38959, Start Num: 15

Candidate Starts for Nebs_60:

(9, 39798), (10, 39657), (11, 39201), (12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (Start: 15 @39045 has 21 MA's), (16, 39030), (26, 38991),

Gene: Noella_61 Start: 39419, Stop: 39336, Start Num: 17

Candidate Starts for Noella_61:

(Start: 17 @39419 has 78 MA's), (Start: 22 @39404 has 2 MA's), (24, 39392),

Gene: OKaNui_59 Start: 39095, Stop: 39009, Start Num: 14

Candidate Starts for OKaNui_59:

(2, 40181), (3, 40169), (7, 40022), (8, 40013), (10, 39704), (11, 39248), (12, 39161), (13, 39110), (Start: 14 @39095 has 82 MA's), (16, 39080), (26, 39041),

Gene: Obama12_60 Start: 39432, Stop: 39346, Start Num: 14

Candidate Starts for Obama12_60:

(9, 40182), (10, 40041), (11, 39585), (12, 39498), (13, 39447), (Start: 14 @39432 has 82 MA's), (26, 39378),

Gene: Ohfah_60 Start: 39048, Stop: 38959, Start Num: 14

Candidate Starts for Ohfah_60:

(9, 39798), (10, 39657), (11, 39201), (12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (Start: 15 @39045 has 21 MA's), (16, 39030), (26, 38991),

Gene: OlanP_64 Start: 39765, Stop: 39661, Start Num: 17

Candidate Starts for OlanP_64:

(Start: 17 @39765 has 78 MA's), (Start: 22 @39750 has 2 MA's), (24, 39738), (29, 39696),

Gene: Ollie_65 Start: 39577, Stop: 39473, Start Num: 17

Candidate Starts for Ollie_65:

(Start: 17 @39577 has 78 MA's), (Start: 22 @39562 has 2 MA's), (24, 39550), (29, 39508),

Gene: P28Green_66 Start: 39709, Stop: 39605, Start Num: 17

Candidate Starts for P28Green_66:

(Start: 17 @39709 has 78 MA's), (Start: 22 @39694 has 2 MA's), (24, 39682), (29, 39640),

Gene: PGHhamlin_67 Start: 39698, Stop: 39594, Start Num: 17

Candidate Starts for PGHhamlin_67:

(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: PP_62 Start: 43352, Stop: 43272, Start Num: 15

Candidate Starts for PP_62:

(12, 43421), (Start: 15 @43352 has 21 MA's), (19, 43322), (21, 43319), (28, 43283),

Gene: Palestino_58 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Palestino_58:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Panamaxus_59 Start: 39418, Stop: 39335, Start Num: 17

Candidate Starts for Panamaxus_59:

(Start: 17 @39418 has 78 MA's), (Start: 22 @39403 has 2 MA's), (24, 39391),

Gene: Pawn_65 Start: 39596, Stop: 39492, Start Num: 17

Candidate Starts for Pawn_65:

(Start: 17 @39596 has 78 MA's), (Start: 22 @39581 has 2 MA's), (24, 39569), (29, 39527),

Gene: Pembroke_65 Start: 39707, Stop: 39603, Start Num: 17

Candidate Starts for Pembroke_65:

(Start: 17 @39707 has 78 MA's), (Start: 22 @39692 has 2 MA's), (24, 39680), (29, 39638),

Gene: PeterPeter_59 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for PeterPeter_59:

(2, 40128), (3, 40116), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057),
(Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Phacado_59 Start: 39044, Stop: 38958, Start Num: 14

Candidate Starts for Phacado_59:

(2, 40130), (3, 40118), (7, 39971), (8, 39962), (10, 39653), (11, 39197), (12, 39110), (Start: 14 @39044
has 82 MA's), (16, 39029), (26, 38990),

Gene: Phantastic_63 Start: 39080, Stop: 38997, Start Num: 15

Candidate Starts for Phantastic_63:

(Start: 15 @39080 has 21 MA's), (18, 39053), (20, 39047),

Gene: Phelipe_60 Start: 39048, Stop: 38959, Start Num: 14

Candidate Starts for Phelipe_60:

(9, 39798), (10, 39657), (11, 39201), (12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (Start:
15 @39045 has 21 MA's), (16, 39030), (26, 38991),

Gene: Phighter1804_59 Start: 39109, Stop: 39020, Start Num: 14

Candidate Starts for Phighter1804_59:

(11, 39262), (12, 39175), (13, 39124), (Start: 14 @39109 has 82 MA's), (Start: 15 @39106 has 21
MA's), (16, 39091), (26, 39052),

Gene: PhishRPhriends_63 Start: 38773, Stop: 38669, Start Num: 17

Candidate Starts for PhishRPhriends_63:

(Start: 17 @38773 has 78 MA's), (Start: 22 @38758 has 2 MA's), (24, 38746), (29, 38704),

Gene: Phoebe_66 Start: 39699, Stop: 39595, Start Num: 17

Candidate Starts for Phoebe_66:

(Start: 17 @39699 has 78 MA's), (Start: 22 @39684 has 2 MA's), (24, 39672), (29, 39630),

Gene: Phoxy_65 Start: 39731, Stop: 39627, Start Num: 17

Candidate Starts for Phoxy_65:

(Start: 17 @39731 has 78 MA's), (Start: 22 @39716 has 2 MA's), (24, 39704), (29, 39662),

Gene: Phranny_66 Start: 39578, Stop: 39474, Start Num: 17

Candidate Starts for Phranny_66:

(Start: 17 @39578 has 78 MA's), (Start: 22 @39563 has 2 MA's), (24, 39551), (29, 39509),

Gene: Pocahontas_61 Start: 39415, Stop: 39332, Start Num: 17

Candidate Starts for Pocahontas_61:

(Start: 17 @39415 has 78 MA's), (Start: 22 @39400 has 2 MA's), (24, 39388),

Gene: Polymorphads_60 Start: 39038, Stop: 38952, Start Num: 14

Candidate Starts for Polymorphads_60:

(12, 39104), (13, 39053), (Start: 14 @39038 has 82 MA's), (16, 39023), (26, 38984),

Gene: Popcicle_61 Start: 39415, Stop: 39332, Start Num: 17

Candidate Starts for Popcicle_61:

(Start: 17 @39415 has 78 MA's), (Start: 22 @39400 has 2 MA's), (24, 39388),

Gene: PotatoSplit_66 Start: 39710, Stop: 39606, Start Num: 17

Candidate Starts for PotatoSplit_66:

(Start: 17 @39710 has 78 MA's), (Start: 22 @39695 has 2 MA's), (24, 39683), (29, 39641),

Gene: Pumbaa_59 Start: 38990, Stop: 38904, Start Num: 14

Candidate Starts for Pumbaa_59:

(2, 40076), (6, 39923), (7, 39917), (10, 39599), (11, 39143), (12, 39056), (13, 39005), (Start: 14 @38990 has 82 MA's), (16, 38975), (26, 38936),

Gene: PurpleHaze_65 Start: 39591, Stop: 39487, Start Num: 17

Candidate Starts for PurpleHaze_65:

(Start: 17 @39591 has 78 MA's), (Start: 22 @39576 has 2 MA's), (24, 39564), (29, 39522),

Gene: QuinnKiro_60 Start: 39418, Stop: 39335, Start Num: 17

Candidate Starts for QuinnKiro_60:

(Start: 17 @39418 has 78 MA's), (Start: 22 @39403 has 2 MA's), (24, 39391),

Gene: Reba_65 Start: 39251, Stop: 39147, Start Num: 17

Candidate Starts for Reba_65:

(Start: 17 @39251 has 78 MA's), (Start: 22 @39236 has 2 MA's), (24, 39224), (29, 39182),

Gene: Relief_58 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Relief_58:

(2, 40128), (3, 40116), (5, 39996), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Rockstar_60 Start: 38912, Stop: 38829, Start Num: 15

Candidate Starts for Rockstar_60:

(Start: 15 @38912 has 21 MA's), (18, 38885), (20, 38879),

Gene: Romney_58 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Romney_58:

(2, 40128), (3, 40116), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Rosa24_57 Start: 39076, Stop: 38987, Start Num: 14

Candidate Starts for Rosa24_57:

(10, 39685), (11, 39229), (12, 39142), (13, 39091), (Start: 14 @39076 has 82 MA's), (Start: 15 @39073 has 21 MA's), (16, 39058), (26, 39019),

Gene: Ruin_59 Start: 39038, Stop: 38952, Start Num: 14

Candidate Starts for Ruin_59:

(2, 40124), (3, 40112), (7, 39965), (8, 39956), (10, 39647), (11, 39191), (12, 39104), (13, 39053), (Start: 14 @39038 has 82 MA's), (16, 39023), (26, 38984),

Gene: Rummer_64 Start: 39734, Stop: 39630, Start Num: 17

Candidate Starts for Rummer_64:

(Start: 17 @39734 has 78 MA's), (Start: 22 @39719 has 2 MA's), (24, 39707), (29, 39665),

Gene: Sabertooth_59 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Sabertooth_59:

(12, 39113), (13, 39062), (Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: Sabia_65 Start: 39715, Stop: 39611, Start Num: 17

Candidate Starts for Sabia_65:

(Start: 17 @39715 has 78 MA's), (Start: 22 @39700 has 2 MA's), (24, 39688), (29, 39646),

Gene: Scamp_59 Start: 39047, Stop: 38961, Start Num: 14

Candidate Starts for Scamp_59:

(12, 39113), (13, 39062), (Start: 14 @39047 has 82 MA's), (16, 39032), (26, 38993),

Gene: SenorClean_59 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for SenorClean_59:

(3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060), (Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Sheen_61 Start: 42251, Stop: 42171, Start Num: 15

Candidate Starts for Sheen_61:

(11, 42407), (12, 42317), (Start: 15 @42251 has 21 MA's), (16, 42236), (27, 42185),

Gene: Snickers_65 Start: 39680, Stop: 39576, Start Num: 17

Candidate Starts for Snickers_65:

(Start: 17 @39680 has 78 MA's), (Start: 22 @39665 has 2 MA's), (24, 39653), (29, 39611),

Gene: SoilDragon_65 Start: 39154, Stop: 39050, Start Num: 17

Candidate Starts for SoilDragon_65:

(Start: 17 @39154 has 78 MA's), (Start: 22 @39139 has 2 MA's), (24, 39127), (29, 39085),

Gene: Soshari_67 Start: 39730, Stop: 39626, Start Num: 17

Candidate Starts for Soshari_67:

(Start: 17 @39730 has 78 MA's), (Start: 22 @39715 has 2 MA's), (24, 39703), (29, 39661),

Gene: Sparxx_60 Start: 39040, Stop: 38954, Start Num: 14

Candidate Starts for Sparxx_60:

(12, 39106), (13, 39055), (Start: 14 @39040 has 82 MA's), (16, 39025), (26, 38986),

Gene: Spike509_65 Start: 39731, Stop: 39627, Start Num: 17

Candidate Starts for Spike509_65:

(Start: 17 @39731 has 78 MA's), (Start: 22 @39716 has 2 MA's), (24, 39704), (29, 39662),

Gene: Spino_58 Start: 39048, Stop: 38959, Start Num: 14

Candidate Starts for Spino_58:

(10, 39657), (11, 39201), (12, 39114), (13, 39063), (Start: 14 @39048 has 82 MA's), (Start: 15 @39045 has 21 MA's), (16, 39030), (26, 38991),

Gene: StepMih_64 Start: 39685, Stop: 39596, Start Num: 22

Candidate Starts for StepMih_64:

(Start: 17 @39700 has 78 MA's), (Start: 22 @39685 has 2 MA's), (24, 39673), (29, 39631),

Gene: Stink_56 Start: 38614, Stop: 38525, Start Num: 14

Candidate Starts for Stink_56:

(11, 38767), (12, 38680), (13, 38629), (Start: 14 @38614 has 82 MA's), (26, 38557),

Gene: Sultana_59 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for Sultana_59:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060),
(Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: TNguyen7_63 Start: 39425, Stop: 39342, Start Num: 15

Candidate Starts for TNguyen7_63:

(Start: 15 @39425 has 21 MA's), (18, 39398),

Gene: Taurus_66 Start: 39706, Stop: 39602, Start Num: 17

Candidate Starts for Taurus_66:

(Start: 17 @39706 has 78 MA's), (Start: 22 @39691 has 2 MA's), (24, 39679), (29, 39637),

Gene: Thanksgivukkah_58 Start: 39043, Stop: 38957, Start Num: 14

Candidate Starts for Thanksgivukkah_58:

(2, 40129), (3, 40117), (7, 39970), (8, 39961), (10, 39652), (11, 39196), (12, 39109), (13, 39058),
(Start: 14 @39043 has 82 MA's), (16, 39028), (26, 38989),

Gene: Tiffany_64 Start: 39592, Stop: 39488, Start Num: 17

Candidate Starts for Tiffany_64:

(Start: 17 @39592 has 78 MA's), (Start: 22 @39577 has 2 MA's), (24, 39565), (29, 39523),

Gene: Tinybot_58 Start: 39072, Stop: 38986, Start Num: 15

Candidate Starts for Tinybot_58:

(10, 39684), (11, 39228), (12, 39141), (13, 39090), (Start: 14 @39075 has 82 MA's), (Start: 15 @39072
has 21 MA's), (16, 39057), (26, 39018),

Gene: Todacoro_61 Start: 39418, Stop: 39335, Start Num: 17

Candidate Starts for Todacoro_61:

(Start: 17 @39418 has 78 MA's), (Start: 22 @39403 has 2 MA's), (24, 39391),

Gene: TroyPia_60 Start: 39043, Stop: 38957, Start Num: 14

Candidate Starts for TroyPia_60:

(2, 40129), (3, 40117), (7, 39970), (8, 39961), (10, 39652), (11, 39196), (12, 39109), (13, 39058),
(Start: 14 @39043 has 82 MA's), (16, 39028), (26, 38989),

Gene: TygerBlood_59 Start: 39045, Stop: 38959, Start Num: 14

Candidate Starts for TygerBlood_59:

(2, 40131), (3, 40119), (7, 39972), (8, 39963), (10, 39654), (11, 39198), (12, 39111), (13, 39060),
(Start: 14 @39045 has 82 MA's), (16, 39030), (26, 38991),

Gene: Ulysses_58 Start: 38725, Stop: 38636, Start Num: 14

Candidate Starts for Ulysses_58:

(10, 39334), (11, 38878), (12, 38791), (13, 38740), (Start: 14 @38725 has 82 MA's), (Start: 15 @38722
has 21 MA's), (16, 38707), (26, 38668),

Gene: Vix_63 Start: 39789, Stop: 39685, Start Num: 17

Candidate Starts for Vix_63:

(Start: 17 @39789 has 78 MA's), (Start: 22 @39774 has 2 MA's), (24, 39762), (29, 39720),

Gene: Wander_59 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Wander_59:

(2, 40128), (3, 40116), (4, 40059), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Watson_64 Start: 39698, Stop: 39594, Start Num: 17

Candidate Starts for Watson_64:

(Start: 17 @39698 has 78 MA's), (Start: 22 @39683 has 2 MA's), (24, 39671), (29, 39629),

Gene: Wilbur_59 Start: 39042, Stop: 38956, Start Num: 14

Candidate Starts for Wilbur_59:

(2, 40128), (3, 40116), (7, 39969), (8, 39960), (10, 39651), (11, 39195), (12, 39108), (13, 39057), (Start: 14 @39042 has 82 MA's), (16, 39027), (26, 38988),

Gene: Wooldri_67 Start: 39618, Stop: 39514, Start Num: 17

Candidate Starts for Wooldri_67:

(Start: 17 @39618 has 78 MA's), (Start: 22 @39603 has 2 MA's), (24, 39591), (29, 39549),

Gene: YoSam321_59 Start: 39039, Stop: 38953, Start Num: 14

Candidate Starts for YoSam321_59:

(2, 40125), (3, 40113), (7, 39966), (8, 39957), (10, 39648), (11, 39192), (12, 39105), (13, 39054), (Start: 14 @39039 has 82 MA's), (16, 39024), (26, 38985),

Gene: Zetzy_64 Start: 39269, Stop: 39165, Start Num: 17

Candidate Starts for Zetzy_64:

(Start: 17 @39269 has 78 MA's), (Start: 22 @39254 has 2 MA's), (24, 39242), (29, 39200),