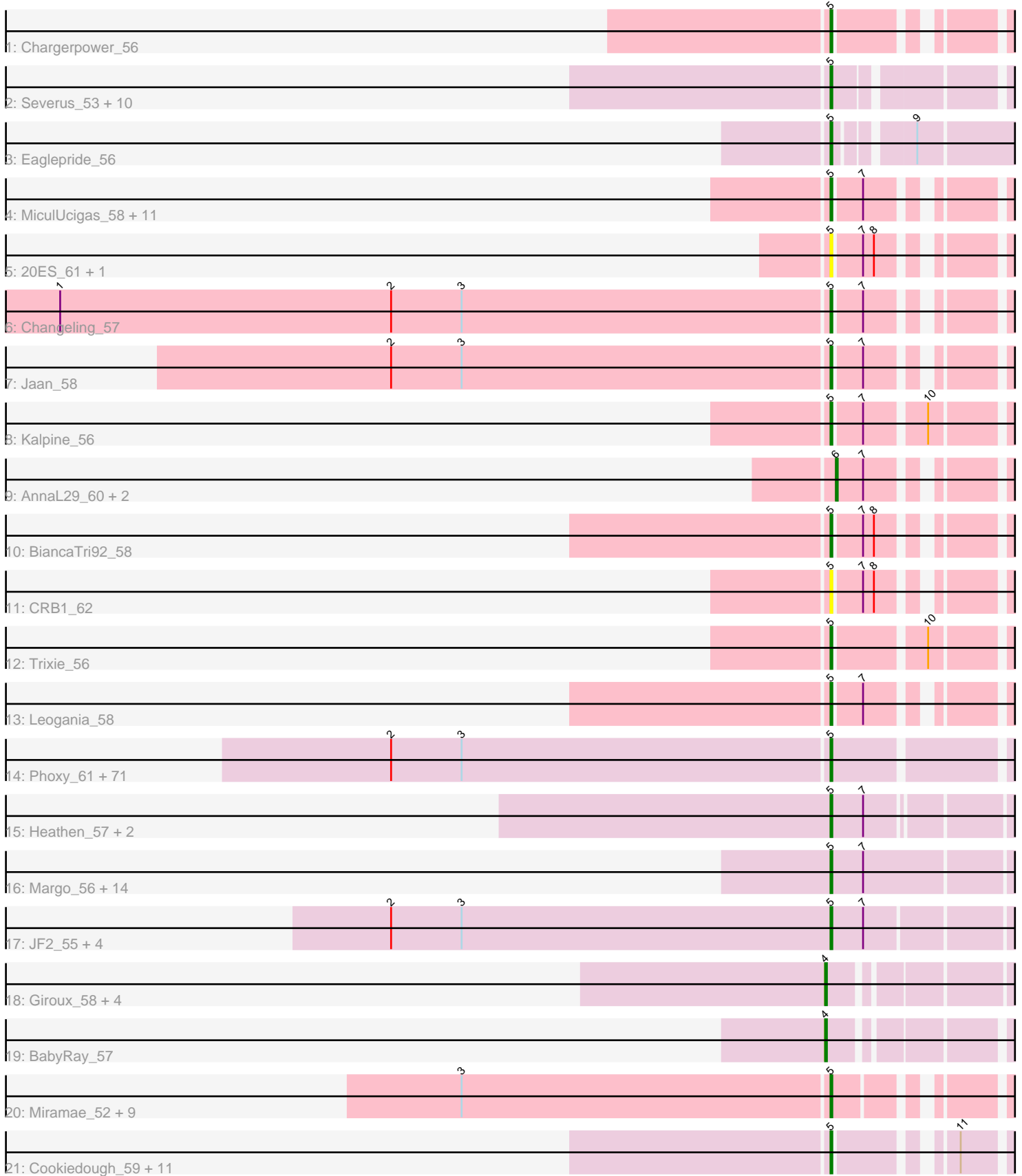


Pham 157640



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 157640 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157640 has 160 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower_56
- Track 2 : Severus_53, KittenMittens_52, Drake94_53, Goose_55, OKCentral2016_54, Rebeuca_55, WalterMcMickey_53, PeaceMeal1_53, DaVinci_58, Trike_53, Twister_53
- Track 3 : Eaglepride_56
- Track 4 : MiculUcigas_58, WideWale_59, HarryHoudini_59, Updawg_59, Centaur_59, Piro94_58, NaSiaTalie_58, Drake55_60, ArcherNM_53, Flare16_58, Equemioh13_59, Baehexic_57
- Track 5 : 20ES_61, First_0060
- Track 6 : Changeling_57
- Track 7 : Jaan_58
- Track 8 : Kalpine_56
- Track 9 : AnnaL29_60, RedRock_60, Loser_60
- Track 10 : BiancaTri92_58
- Track 11 : CRB1_62
- Track 12 : Trixie_56
- Track 13 : Leogania_58
- Track 14 : Phoxy_61, Farber_61, Hercules11_61, Aglet_62, ACFishhook_60, Spike509_61, Phoebe_62, Fernando_61, OlanP_60, P28Green_62, Sabia_61, GingkoMaracino_61, Grum1_61, AgronaGT15_60, Zetzy_60, Gemma_60, Reba_61, Snickers_61, Dieselweasel_62, LugYA_64, Marius_62, SoYo_61, Watson_61, Taurus_62, MadMarie_61, Soshari_63, Groupthink_62, LBerry_62, DaHudson_61, Pawn_61, Heliosoles_60, Grub_61, StepMih_61, BreSam8_61, GtownJaz_61, MoneyMay_61, KADY_61, Penny1_62, PGHhamlin_63, Beauxregard13_61, Phranny_62, Manu_61, Grif_61, HashRod_62, HaveUMetTed_62, MuchMore_64, Colbster_61, PhishRPhriends_59, Anubis_64, EpicPhail_62, Malinsilva_63, Rummer_60, SoilDragon_61, Stagni_61, Louie6_60, Wooldri_63, PurpleHaze_61, PotatoSplit_63, JenCasNa_62, AugsMagnumOpus_64, Sabinator_60, Misomonster_62, Kalb97_62, Kalnoky_62, Mainiac_61, JeppNRM_62, MarQuardt_61, LarryKay_61, Daishi_60, Ollie_61, Pembroke_61, Cullens_61
- Track 15 : Heathen_57, Scout_57, HelDan_57
- Track 16 : Margo_56, Panamaxus_54, MA5_57, Lambert1_56, QuinnKiro_55, Texage_55, Caviar_56, Pocahontas_56, Norbert_55, Popcicle_56, Hookmount_56, Veracruz_55, Todacoro_56, Noella_56, ResDef_57
- Track 17 : JF2_55, JF4_55, MK4_57, Phantastic_58, Isca_56
- Track 18 : Giroux_58, Bugatti_58, TNguyen7_58, SaturnRing_58, BlueBird_59
- Track 19 : BabyRay_57

- Track 20 : Miramae_52, Cerulean_55, AvatarAhPeg_52, LHTSCC_56, Obama12_55, Arturo_53, Happiness_53, Mundrea_53, Kratark_54, ChampagnePapi_56
- Track 21 : Cookiedough_59, Isiphiwo_57, SmellyB_59, SuperAwesome_59, McFly_59, Priamo_61, Kipper29_59, Kazan_60, Hoot_54, JewelBug_60, Newrala_59, VohminGhazi_59

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

The start number called the most often in the published annotations is 5, it was called in 145 of the 151 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES_61, ACFishhook_60, Aglet_62, AgronaGT15_60, Anubis_64, ArcherNM_53, Arturo_53, AugsMagnumOpus_64, AvatarAhPeg_52, Baehexic_57, Beauxregard13_61, BiancaTri92_58, BreSam8_61, CRB1_62, Caviar_56, Centaur_59, Cerulean_55, ChampagnePapi_56, Changeling_57, Chargerpower_56, Colbster_61, Cookiedough_59, Cullens_61, DaHudson_61, DaVinci_58, Daishi_60, Dieselweasel_62, Drake55_60, Drake94_53, Eaglepride_56, EpicPhail_62, Equemioh13_59, Farber_61, Fernando_61, First_0060, Flare16_58, Gemma_60, GingkoMaracino_61, Goose_55, Grif_61, Groupthink_62, Grub_61, Grum1_61, GtownJaz_61, Happiness_53, HarryHoudini_59, HashRod_62, HaveUMetTed_62, Heathen_57, HelDan_57, Heliosoles_60, Hercules11_61, Hookmount_56, Hoot_54, Isca_56, Isiphiwo_57, JF2_55, JF4_55, Jaan_58, JenCasNa_62, JeppNRM_62, JewelBug_60, KADY_61, Kalb97_62, Kalnoky_62, Kalpine_56, Kazan_60, Kipper29_59, KittenMittens_52, Kratark_54, LBerry_62, LHTSCC_56, Lambert1_56, LarryKay_61, Leogania_58, Louie6_60, LugYA_64, MA5_57, MK4_57, MadMarie_61, Mainiac_61, Malinsilva_63, Manu_61, MarQuardt_61, Margo_56, Marius_62, McFly_59, MiculUcigas_58, Miramae_52, Misomonster_62, MoneyMay_61, MuchMore_64, Mundrea_53, NaSiaTalie_58, Newrala_59, Noella_56, Norbert_55, OKCentral2016_54, Obama12_55, OlanP_60, Ollie_61, P28Green_62, PGHhamlin_63, Panamaxus_54, Pawn_61, PeaceMeal1_53, Pembroke_61, Penny1_62, Phantastic_58, PhishRPhriends_59, Phoebe_62, Phoxy_61, Phranny_62, Piro94_58, Pocahontas_56, Popcicle_56, PotatoSplit_63, Priamo_61, PurpleHaze_61, QuinnKiro_55, Reba_61, Rebeuca_55, ResDef_57, Rummer_60, Sabia_61, Sabinator_60, Scout_57, Severus_53, SmellyB_59, Snickers_61, SoYo_61, SoilDragon_61, Soshari_63, Spike509_61, Stagni_61, StepMih_61, SuperAwesome_59, Taurus_62, Texage_55, Todacoro_56, Trike_53, Trixie_56, Twister_53, Updawg_59, Veracruz_55, VohminGhazi_59, WalterMcMickey_53, Watson_61, WideWale_59, Wooldri_63, Zetzy_60,

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

-

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

- AnnaL29_60, BabyRay_57, BlueBird_59, Bugatti_58, Giroux_58, Loser_60, RedRock_60, SaturnRing_58, TNguyen7_58,

Summary by start number:

Start 4:

- Found in 6 of 160 (3.8%) of genes in pham
- Manual Annotations of this start: 3 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyRay_57 (A3), BlueBird_59 (A3), Bugatti_58 (A3), Giroux_58 (A3), SaturnRing_58 (A3), TNguyen7_58 (A3),

Start 5:

- Found in 151 of 160 (94.4%) of genes in pham
- Manual Annotations of this start: 145 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 20ES_61 (A2), ACFishhook_60 (A3), Aglet_62 (A3), AgronaGT15_60 (A3), Anubis_64 (A3), ArcherNM_53 (A2), Arturo_53 (A4), AugsMagnumOpus_64 (A3), AvatarAhPeg_52 (A4), Baehexic_57 (A2), Beauxregard13_61 (A3), BiancaTri92_58 (A2), BreSam8_61 (A3), CRB1_62 (A2), Caviar_56 (A3), Centaur_59 (A2), Cerulean_55 (A4), ChampagnePapi_56 (A4), Changeling_57 (A2), Chargerpower_56 (A), Colbster_61 (A3), Cookiedough_59 (A6), Cullens_61 (A3), DaHudson_61 (A3), DaVinci_58 (A6), Daishi_60 (A3), Dieselweasel_62 (A3), Drake55_60 (A2), Drake94_53 (A10), Eaglepride_56 (A10), EpicPhail_62 (A3), Equemioh13_59 (A2), Farber_61 (A3), Fernando_61 (A3), First_0060 (A2), Flare16_58 (A2), Gemma_60 (A3), GingkoMaracino_61 (A3), Goose_55 (A10), Grif_61 (A3), Groupthink_62 (A3), Grub_61 (A3), Grum1_61 (A3), GtownJaz_61 (A3), Happiness_53 (A4), HarryHoudini_59 (A2), HashRod_62 (A3), HaveUMetTed_62 (A3), Heathen_57 (A3), HelDan_57 (A3), Heliosoles_60 (A3), Hercules11_61 (A3), Hookmount_56 (A3), Hoot_54 (A6), Isca_56 (A3), Isiphiwo_57 (A6), JF2_55 (A3), JF4_55 (A3), Jaan_58 (A2), JenCasNa_62 (A3), JeppNRM_62 (A3), JewelBug_60 (A6), KADY_61 (A3), Kalb97_62 (A3), Kalnoky_62 (A3), Kalpine_56 (A2), Kazan_60 (A6), Kipper29_59 (A6), KittenMittens_52 (A10), Kratark_54 (A4), LBerry_62 (A3), LHTSCC_56 (A4), Lambert1_56 (A3), LarryKay_61 (A3), Leogania_58 (A2), Louie6_60 (A3), LugYA_64 (A3), MA5_57 (A3), MK4_57 (A3), MadMarie_61 (A3), Mainiac_61 (A3), Malinsilva_63 (A3), Manu_61 (A3), MarQuardt_61 (A3), Margo_56 (A3), Marius_62 (A3), McFly_59 (A6), MiculUcigas_58 (A2), Miramae_52 (A4), Misomonster_62 (A3), MoneyMay_61 (A3), MuchMore_64 (A3), Mundrea_53 (A4), NaSiaTalie_58 (A2), Newrala_59 (A6), Noella_56 (A3), Norbert_55 (A3), OKCentral2016_54 (A10), Obama12_55 (A4), OlanP_60 (A3), Ollie_61 (A3), P28Green_62 (A3), PGHhamlin_63 (A3), Panamaxus_54 (A3), Pawn_61 (A3), PeaceMeal1_53 (A10), Pembroke_61 (A3), Penny1_62 (A3), Phantastic_58 (A3), PhishRPhriends_59 (A3), Phoebe_62 (A3), Phoxy_61 (A3), Phranny_62 (A3), Piro94_58 (A2), Pocahontas_56 (A3), Popcicle_56 (A3), PotatoSplit_63 (A3), Priamo_61 (A6), PurpleHaze_61 (A3), QuinnKiro_55 (A3), Reba_61 (A3), Rebeuca_55 (A10), ResDef_57 (A3), Rummer_60 (A3), Sabia_61 (A3), Sabinator_60 (A3), Scout_57 (A3), Severus_53 (A10), SmellyB_59 (A6), Snickers_61 (A3), SoYo_61 (A3), SoilDragon_61 (A3), Soshari_63 (A3), Spike509_61 (A3), Stagni_61 (A3), StepMih_61 (A3), SuperAwesome_59 (A6), Taurus_62 (A3), Texage_55 (A3), Todacoro_56 (A3), Trike_53 (A10), Trixie_56 (A2), Twister_53 (A10), Updawg_59 (A2), Veracruz_55 (A3), VohminGhazi_59 (A6), WalterMcMickey_53 (A10), Watson_61 (A3), WideWale_59 (A2), Wooldri_63 (A3), Zetzy_60 (A3),

Start 6:

- Found in 3 of 160 (1.9%) of genes in pham
- Manual Annotations of this start: 3 of 151
- Called 100.0% of time when present

- Phage (with cluster) where this start called: AnnaL29_60 (A2), Loser_60 (A2), RedRock_60 (A2),

Summary by clusters:

There are 6 clusters represented in this pham: A, A10, A3, A2, A4, A6,

Info for manual annotations of cluster A:

- Start number 5 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A10:

- Start number 5 was manually annotated 11 times for cluster A10.

Info for manual annotations of cluster A2:

- Start number 5 was manually annotated 18 times for cluster A2.
- Start number 6 was manually annotated 3 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 4 was manually annotated 3 times for cluster A3.
- Start number 5 was manually annotated 92 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 5 was manually annotated 10 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 5 was manually annotated 13 times for cluster A6.

Gene Information:

Gene: 20ES_61 Start: 38721, Stop: 38644, Start Num: 5

Candidate Starts for 20ES_61:

(Start: 5 @38721 has 145 MA's), (7, 38706), (8, 38700),

Gene: ACFishhook_60 Start: 38200, Stop: 38108, Start Num: 5

Candidate Starts for ACFishhook_60:

(2, 38440), (3, 38401), (Start: 5 @38200 has 145 MA's),

Gene: Aglet_62 Start: 38243, Stop: 38151, Start Num: 5

Candidate Starts for Aglet_62:

(2, 38483), (3, 38444), (Start: 5 @38243 has 145 MA's),

Gene: AgronaGT15_60 Start: 38091, Stop: 37999, Start Num: 5

Candidate Starts for AgronaGT15_60:

(2, 38331), (3, 38292), (Start: 5 @38091 has 145 MA's),

Gene: AnnaL29_60 Start: 39131, Stop: 39054, Start Num: 6

Candidate Starts for AnnaL29_60:

(Start: 6 @39131 has 3 MA's), (7, 39116),

Gene: Anubis_64 Start: 38129, Stop: 38037, Start Num: 5

Candidate Starts for Anubis_64:

(2, 38369), (3, 38330), (Start: 5 @38129 has 145 MA's),

Gene: ArcherNM_53 Start: 38135, Stop: 38058, Start Num: 5
Candidate Starts for ArcherNM_53:
(Start: 5 @38135 has 145 MA's), (7, 38120),

Gene: Arturo_53 Start: 37722, Stop: 37645, Start Num: 5
Candidate Starts for Arturo_53:
(3, 37923), (Start: 5 @37722 has 145 MA's),

Gene: AugsMagnumOpus_64 Start: 38234, Stop: 38142, Start Num: 5
Candidate Starts for AugsMagnumOpus_64:
(2, 38474), (3, 38435), (Start: 5 @38234 has 145 MA's),

Gene: AvatarAhPeg_52 Start: 37235, Stop: 37158, Start Num: 5
Candidate Starts for AvatarAhPeg_52:
(3, 37436), (Start: 5 @37235 has 145 MA's),

Gene: BabyRay_57 Start: 37849, Stop: 37763, Start Num: 4
Candidate Starts for BabyRay_57:
(Start: 4 @37849 has 3 MA's),

Gene: Baehexic_57 Start: 38247, Stop: 38170, Start Num: 5
Candidate Starts for Baehexic_57:
(Start: 5 @38247 has 145 MA's), (7, 38232),

Gene: Beauxregard13_61 Start: 38246, Stop: 38154, Start Num: 5
Candidate Starts for Beauxregard13_61:
(2, 38486), (3, 38447), (Start: 5 @38246 has 145 MA's),

Gene: BiancaTri92_58 Start: 38840, Stop: 38763, Start Num: 5
Candidate Starts for BiancaTri92_58:
(Start: 5 @38840 has 145 MA's), (7, 38825), (8, 38819),

Gene: BlueBird_59 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for BlueBird_59:
(Start: 4 @37893 has 3 MA's),

Gene: BreSam8_61 Start: 38236, Stop: 38144, Start Num: 5
Candidate Starts for BreSam8_61:
(2, 38476), (3, 38437), (Start: 5 @38236 has 145 MA's),

Gene: Bugatti_58 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for Bugatti_58:
(Start: 4 @37893 has 3 MA's),

Gene: CRB1_62 Start: 39238, Stop: 39161, Start Num: 5
Candidate Starts for CRB1_62:
(Start: 5 @39238 has 145 MA's), (7, 39223), (8, 39217),

Gene: Caviar_56 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for Caviar_56:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: Centaur_59 Start: 38461, Stop: 38384, Start Num: 5

Candidate Starts for Centaur_59:

(Start: 5 @38461 has 145 MA's), (7, 38446),

Gene: Cerulean_55 Start: 37887, Stop: 37810, Start Num: 5

Candidate Starts for Cerulean_55:

(3, 38088), (Start: 5 @37887 has 145 MA's),

Gene: ChampagnePapi_56 Start: 37886, Stop: 37809, Start Num: 5

Candidate Starts for ChampagnePapi_56:

(3, 38087), (Start: 5 @37886 has 145 MA's),

Gene: Changeling_57 Start: 38877, Stop: 38800, Start Num: 5

Candidate Starts for Changeling_57:

(1, 39300), (2, 39117), (3, 39078), (Start: 5 @38877 has 145 MA's), (7, 38862),

Gene: Chargerpower_56 Start: 36935, Stop: 36858, Start Num: 5

Candidate Starts for Chargerpower_56:

(Start: 5 @36935 has 145 MA's),

Gene: Colbster_61 Start: 38246, Stop: 38154, Start Num: 5

Candidate Starts for Colbster_61:

(2, 38486), (3, 38447), (Start: 5 @38246 has 145 MA's),

Gene: Cookiedough_59 Start: 37101, Stop: 37021, Start Num: 5

Candidate Starts for Cookiedough_59:

(Start: 5 @37101 has 145 MA's), (11, 37050),

Gene: Cullens_61 Start: 38242, Stop: 38150, Start Num: 5

Candidate Starts for Cullens_61:

(2, 38482), (3, 38443), (Start: 5 @38242 has 145 MA's),

Gene: DaHudson_61 Start: 38235, Stop: 38143, Start Num: 5

Candidate Starts for DaHudson_61:

(2, 38475), (3, 38436), (Start: 5 @38235 has 145 MA's),

Gene: DaVinci_58 Start: 36527, Stop: 36447, Start Num: 5

Candidate Starts for DaVinci_58:

(Start: 5 @36527 has 145 MA's),

Gene: Daishi_60 Start: 37111, Stop: 37019, Start Num: 5

Candidate Starts for Daishi_60:

(2, 37351), (3, 37312), (Start: 5 @37111 has 145 MA's),

Gene: Dieselweasel_62 Start: 38245, Stop: 38153, Start Num: 5

Candidate Starts for Dieselweasel_62:

(2, 38485), (3, 38446), (Start: 5 @38245 has 145 MA's),

Gene: Drake55_60 Start: 38543, Stop: 38466, Start Num: 5

Candidate Starts for Drake55_60:

(Start: 5 @38543 has 145 MA's), (7, 38528),

Gene: Drake94_53 Start: 36610, Stop: 36524, Start Num: 5
Candidate Starts for Drake94_53:
(Start: 5 @36610 has 145 MA's),

Gene: Eaglepride_56 Start: 37562, Stop: 37473, Start Num: 5
Candidate Starts for Eaglepride_56:
(Start: 5 @37562 has 145 MA's), (9, 37526),

Gene: EpicPhail_62 Start: 38246, Stop: 38154, Start Num: 5
Candidate Starts for EpicPhail_62:
(2, 38486), (3, 38447), (Start: 5 @38246 has 145 MA's),

Gene: Equemioh13_59 Start: 38366, Stop: 38289, Start Num: 5
Candidate Starts for Equemioh13_59:
(Start: 5 @38366 has 145 MA's), (7, 38351),

Gene: Farber_61 Start: 38232, Stop: 38140, Start Num: 5
Candidate Starts for Farber_61:
(2, 38472), (3, 38433), (Start: 5 @38232 has 145 MA's),

Gene: Fernando_61 Start: 38242, Stop: 38150, Start Num: 5
Candidate Starts for Fernando_61:
(2, 38482), (3, 38443), (Start: 5 @38242 has 145 MA's),

Gene: First_0060 Start: 38621, Stop: 38544, Start Num: 5
Candidate Starts for First_0060:
(Start: 5 @38621 has 145 MA's), (7, 38606), (8, 38600),

Gene: Flare16_58 Start: 38122, Stop: 38045, Start Num: 5
Candidate Starts for Flare16_58:
(Start: 5 @38122 has 145 MA's), (7, 38107),

Gene: Gemma_60 Start: 38124, Stop: 38032, Start Num: 5
Candidate Starts for Gemma_60:
(2, 38364), (3, 38325), (Start: 5 @38124 has 145 MA's),

Gene: GingkoMaracino_61 Start: 38128, Stop: 38036, Start Num: 5
Candidate Starts for GingkoMaracino_61:
(2, 38368), (3, 38329), (Start: 5 @38128 has 145 MA's),

Gene: Giroux_58 Start: 37892, Stop: 37803, Start Num: 4
Candidate Starts for Giroux_58:
(Start: 4 @37892 has 3 MA's),

Gene: Goose_55 Start: 37188, Stop: 37105, Start Num: 5
Candidate Starts for Goose_55:
(Start: 5 @37188 has 145 MA's),

Gene: Grif_61 Start: 38317, Stop: 38225, Start Num: 5
Candidate Starts for Grif_61:
(2, 38557), (3, 38518), (Start: 5 @38317 has 145 MA's),

Gene: Groupthink_62 Start: 38128, Stop: 38036, Start Num: 5

Candidate Starts for Groupthink_62:
(2, 38368), (3, 38329), (Start: 5 @38128 has 145 MA's),

Gene: Grub_61 Start: 38234, Stop: 38142, Start Num: 5
Candidate Starts for Grub_61:
(2, 38474), (3, 38435), (Start: 5 @38234 has 145 MA's),

Gene: Grum1_61 Start: 38242, Stop: 38150, Start Num: 5
Candidate Starts for Grum1_61:
(2, 38482), (3, 38443), (Start: 5 @38242 has 145 MA's),

Gene: GtownJaz_61 Start: 38244, Stop: 38152, Start Num: 5
Candidate Starts for GtownJaz_61:
(2, 38484), (3, 38445), (Start: 5 @38244 has 145 MA's),

Gene: Happiness_53 Start: 37469, Stop: 37392, Start Num: 5
Candidate Starts for Happiness_53:
(3, 37670), (Start: 5 @37469 has 145 MA's),

Gene: HarryHoudini_59 Start: 38552, Stop: 38475, Start Num: 5
Candidate Starts for HarryHoudini_59:
(Start: 5 @38552 has 145 MA's), (7, 38537),

Gene: HashRod_62 Start: 38270, Stop: 38178, Start Num: 5
Candidate Starts for HashRod_62:
(2, 38510), (3, 38471), (Start: 5 @38270 has 145 MA's),

Gene: HaveUMetTed_62 Start: 38113, Stop: 38021, Start Num: 5
Candidate Starts for HaveUMetTed_62:
(2, 38353), (3, 38314), (Start: 5 @38113 has 145 MA's),

Gene: Heathen_57 Start: 37581, Stop: 37489, Start Num: 5
Candidate Starts for Heathen_57:
(Start: 5 @37581 has 145 MA's), (7, 37563),

Gene: HelDan_57 Start: 37797, Stop: 37705, Start Num: 5
Candidate Starts for HelDan_57:
(Start: 5 @37797 has 145 MA's), (7, 37779),

Gene: Heliosoles_60 Start: 38131, Stop: 38039, Start Num: 5
Candidate Starts for Heliosoles_60:
(2, 38371), (3, 38332), (Start: 5 @38131 has 145 MA's),

Gene: Hercules11_61 Start: 38251, Stop: 38159, Start Num: 5
Candidate Starts for Hercules11_61:
(2, 38491), (3, 38452), (Start: 5 @38251 has 145 MA's),

Gene: Hookmount_56 Start: 37856, Stop: 37758, Start Num: 5
Candidate Starts for Hookmount_56:
(Start: 5 @37856 has 145 MA's), (7, 37838),

Gene: Hoot_54 Start: 34937, Stop: 34857, Start Num: 5
Candidate Starts for Hoot_54:

(Start: 5 @34937 has 145 MA's), (11, 34886),

Gene: Isca_56 Start: 37366, Stop: 37271, Start Num: 5

Candidate Starts for Isca_56:

(2, 37609), (3, 37570), (Start: 5 @37366 has 145 MA's), (7, 37348),

Gene: Isiphiwo_57 Start: 36653, Stop: 36573, Start Num: 5

Candidate Starts for Isiphiwo_57:

(Start: 5 @36653 has 145 MA's), (11, 36602),

Gene: JF2_55 Start: 36067, Stop: 35972, Start Num: 5

Candidate Starts for JF2_55:

(2, 36310), (3, 36271), (Start: 5 @36067 has 145 MA's), (7, 36049),

Gene: JF4_55 Start: 36067, Stop: 35972, Start Num: 5

Candidate Starts for JF4_55:

(2, 36310), (3, 36271), (Start: 5 @36067 has 145 MA's), (7, 36049),

Gene: Jaan_58 Start: 39427, Stop: 39350, Start Num: 5

Candidate Starts for Jaan_58:

(2, 39667), (3, 39628), (Start: 5 @39427 has 145 MA's), (7, 39412),

Gene: JenCasNa_62 Start: 38242, Stop: 38150, Start Num: 5

Candidate Starts for JenCasNa_62:

(2, 38482), (3, 38443), (Start: 5 @38242 has 145 MA's),

Gene: JeppNRM_62 Start: 38129, Stop: 38037, Start Num: 5

Candidate Starts for JeppNRM_62:

(2, 38369), (3, 38330), (Start: 5 @38129 has 145 MA's),

Gene: JewelBug_60 Start: 37292, Stop: 37212, Start Num: 5

Candidate Starts for JewelBug_60:

(Start: 5 @37292 has 145 MA's), (11, 37241),

Gene: KADY_61 Start: 38270, Stop: 38178, Start Num: 5

Candidate Starts for KADY_61:

(2, 38510), (3, 38471), (Start: 5 @38270 has 145 MA's),

Gene: Kalb97_62 Start: 38127, Stop: 38035, Start Num: 5

Candidate Starts for Kalb97_62:

(2, 38367), (3, 38328), (Start: 5 @38127 has 145 MA's),

Gene: Kalnoky_62 Start: 38125, Stop: 38033, Start Num: 5

Candidate Starts for Kalnoky_62:

(2, 38365), (3, 38326), (Start: 5 @38125 has 145 MA's),

Gene: Kalpine_56 Start: 38466, Stop: 38380, Start Num: 5

Candidate Starts for Kalpine_56:

(Start: 5 @38466 has 145 MA's), (7, 38451), (10, 38421),

Gene: Kazan_60 Start: 37092, Stop: 37012, Start Num: 5

Candidate Starts for Kazan_60:

(Start: 5 @37092 has 145 MA's), (11, 37041),

Gene: Kipper29_59 Start: 37105, Stop: 37025, Start Num: 5
Candidate Starts for Kipper29_59:
(Start: 5 @37105 has 145 MA's), (11, 37054),

Gene: KittenMittens_52 Start: 36618, Stop: 36532, Start Num: 5
Candidate Starts for KittenMittens_52:
(Start: 5 @36618 has 145 MA's),

Gene: Kratark_54 Start: 37605, Stop: 37528, Start Num: 5
Candidate Starts for Kratark_54:
(3, 37806), (Start: 5 @37605 has 145 MA's),

Gene: LBerry_62 Start: 38246, Stop: 38154, Start Num: 5
Candidate Starts for LBerry_62:
(2, 38486), (3, 38447), (Start: 5 @38246 has 145 MA's),

Gene: LHTSCC_56 Start: 37886, Stop: 37809, Start Num: 5
Candidate Starts for LHTSCC_56:
(3, 38087), (Start: 5 @37886 has 145 MA's),

Gene: Lambert1_56 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for Lambert1_56:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: LarryKay_61 Start: 38272, Stop: 38180, Start Num: 5
Candidate Starts for LarryKay_61:
(2, 38512), (3, 38473), (Start: 5 @38272 has 145 MA's),

Gene: Leogania_58 Start: 39218, Stop: 39141, Start Num: 5
Candidate Starts for Leogania_58:
(Start: 5 @39218 has 145 MA's), (7, 39203),

Gene: Loser_60 Start: 39078, Stop: 39001, Start Num: 6
Candidate Starts for Loser_60:
(Start: 6 @39078 has 3 MA's), (7, 39063),

Gene: Louie6_60 Start: 38271, Stop: 38179, Start Num: 5
Candidate Starts for Louie6_60:
(2, 38511), (3, 38472), (Start: 5 @38271 has 145 MA's),

Gene: LugYA_64 Start: 38243, Stop: 38151, Start Num: 5
Candidate Starts for LugYA_64:
(2, 38483), (3, 38444), (Start: 5 @38243 has 145 MA's),

Gene: MA5_57 Start: 37267, Stop: 37175, Start Num: 5
Candidate Starts for MA5_57:
(Start: 5 @37267 has 145 MA's), (7, 37249),

Gene: MK4_57 Start: 37351, Stop: 37256, Start Num: 5
Candidate Starts for MK4_57:
(2, 37594), (3, 37555), (Start: 5 @37351 has 145 MA's), (7, 37333),

Gene: MadMarie_61 Start: 38244, Stop: 38152, Start Num: 5
Candidate Starts for MadMarie_61:
(2, 38484), (3, 38445), (Start: 5 @38244 has 145 MA's),

Gene: Mainiac_61 Start: 38236, Stop: 38144, Start Num: 5
Candidate Starts for Mainiac_61:
(2, 38476), (3, 38437), (Start: 5 @38236 has 145 MA's),

Gene: Malinsilva_63 Start: 38234, Stop: 38142, Start Num: 5
Candidate Starts for Malinsilva_63:
(2, 38474), (3, 38435), (Start: 5 @38234 has 145 MA's),

Gene: Manu_61 Start: 38128, Stop: 38036, Start Num: 5
Candidate Starts for Manu_61:
(2, 38368), (3, 38329), (Start: 5 @38128 has 145 MA's),

Gene: MarQuardt_61 Start: 38244, Stop: 38152, Start Num: 5
Candidate Starts for MarQuardt_61:
(2, 38484), (3, 38445), (Start: 5 @38244 has 145 MA's),

Gene: Margo_56 Start: 37881, Stop: 37783, Start Num: 5
Candidate Starts for Margo_56:
(Start: 5 @37881 has 145 MA's), (7, 37863),

Gene: Marius_62 Start: 38125, Stop: 38033, Start Num: 5
Candidate Starts for Marius_62:
(2, 38365), (3, 38326), (Start: 5 @38125 has 145 MA's),

Gene: McFly_59 Start: 37086, Stop: 37006, Start Num: 5
Candidate Starts for McFly_59:
(Start: 5 @37086 has 145 MA's), (11, 37035),

Gene: MiculUcigas_58 Start: 38025, Stop: 37948, Start Num: 5
Candidate Starts for MiculUcigas_58:
(Start: 5 @38025 has 145 MA's), (7, 38010),

Gene: Miramae_52 Start: 36897, Stop: 36820, Start Num: 5
Candidate Starts for Miramae_52:
(3, 37098), (Start: 5 @36897 has 145 MA's),

Gene: Misomonster_62 Start: 38269, Stop: 38177, Start Num: 5
Candidate Starts for Misomonster_62:
(2, 38509), (3, 38470), (Start: 5 @38269 has 145 MA's),

Gene: MoneyMay_61 Start: 38242, Stop: 38150, Start Num: 5
Candidate Starts for MoneyMay_61:
(2, 38482), (3, 38443), (Start: 5 @38242 has 145 MA's),

Gene: MuchMore_64 Start: 38234, Stop: 38142, Start Num: 5
Candidate Starts for MuchMore_64:
(2, 38474), (3, 38435), (Start: 5 @38234 has 145 MA's),

Gene: Mundrea_53 Start: 37449, Stop: 37372, Start Num: 5

Candidate Starts for Mundrea_53:
(3, 37650), (Start: 5 @37449 has 145 MA's),

Gene: NaSiaTalie_58 Start: 38119, Stop: 38042, Start Num: 5
Candidate Starts for NaSiaTalie_58:
(Start: 5 @38119 has 145 MA's), (7, 38104),

Gene: Newrala_59 Start: 37088, Stop: 37008, Start Num: 5
Candidate Starts for Newrala_59:
(Start: 5 @37088 has 145 MA's), (11, 37037),

Gene: Noella_56 Start: 37856, Stop: 37758, Start Num: 5
Candidate Starts for Noella_56:
(Start: 5 @37856 has 145 MA's), (7, 37838),

Gene: Norbert_55 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for Norbert_55:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: OKCentral2016_54 Start: 37091, Stop: 37008, Start Num: 5
Candidate Starts for OKCentral2016_54:
(Start: 5 @37091 has 145 MA's),

Gene: Obama12_55 Start: 37870, Stop: 37793, Start Num: 5
Candidate Starts for Obama12_55:
(3, 38071), (Start: 5 @37870 has 145 MA's),

Gene: OlanP_60 Start: 38301, Stop: 38209, Start Num: 5
Candidate Starts for OlanP_60:
(2, 38541), (3, 38502), (Start: 5 @38301 has 145 MA's),

Gene: Ollie_61 Start: 38113, Stop: 38021, Start Num: 5
Candidate Starts for Ollie_61:
(2, 38353), (3, 38314), (Start: 5 @38113 has 145 MA's),

Gene: P28Green_62 Start: 38245, Stop: 38153, Start Num: 5
Candidate Starts for P28Green_62:
(2, 38485), (3, 38446), (Start: 5 @38245 has 145 MA's),

Gene: PGHhamlin_63 Start: 38234, Stop: 38142, Start Num: 5
Candidate Starts for PGHhamlin_63:
(2, 38474), (3, 38435), (Start: 5 @38234 has 145 MA's),

Gene: Panamaxus_54 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for Panamaxus_54:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: Pawn_61 Start: 38132, Stop: 38040, Start Num: 5
Candidate Starts for Pawn_61:
(2, 38372), (3, 38333), (Start: 5 @38132 has 145 MA's),

Gene: PeaceMeal1_53 Start: 36619, Stop: 36533, Start Num: 5
Candidate Starts for PeaceMeal1_53:

(Start: 5 @36619 has 145 MA's),

Gene: Pembroke_61 Start: 38243, Stop: 38151, Start Num: 5

Candidate Starts for Pembroke_61:

(2, 38483), (3, 38444), (Start: 5 @38243 has 145 MA's),

Gene: Penny1_62 Start: 38246, Stop: 38154, Start Num: 5

Candidate Starts for Penny1_62:

(2, 38486), (3, 38447), (Start: 5 @38246 has 145 MA's),

Gene: Phantastic_58 Start: 37528, Stop: 37433, Start Num: 5

Candidate Starts for Phantastic_58:

(2, 37771), (3, 37732), (Start: 5 @37528 has 145 MA's), (7, 37510),

Gene: PhishRPhriends_59 Start: 37309, Stop: 37217, Start Num: 5

Candidate Starts for PhishRPhriends_59:

(2, 37549), (3, 37510), (Start: 5 @37309 has 145 MA's),

Gene: Phoebe_62 Start: 38235, Stop: 38143, Start Num: 5

Candidate Starts for Phoebe_62:

(2, 38475), (3, 38436), (Start: 5 @38235 has 145 MA's),

Gene: Phoxy_61 Start: 38267, Stop: 38175, Start Num: 5

Candidate Starts for Phoxy_61:

(2, 38507), (3, 38468), (Start: 5 @38267 has 145 MA's),

Gene: Phranny_62 Start: 38114, Stop: 38022, Start Num: 5

Candidate Starts for Phranny_62:

(2, 38354), (3, 38315), (Start: 5 @38114 has 145 MA's),

Gene: Piro94_58 Start: 38469, Stop: 38392, Start Num: 5

Candidate Starts for Piro94_58:

(Start: 5 @38469 has 145 MA's), (7, 38454),

Gene: Pocahontas_56 Start: 37852, Stop: 37754, Start Num: 5

Candidate Starts for Pocahontas_56:

(Start: 5 @37852 has 145 MA's), (7, 37834),

Gene: Popcicle_56 Start: 37852, Stop: 37754, Start Num: 5

Candidate Starts for Popcicle_56:

(Start: 5 @37852 has 145 MA's), (7, 37834),

Gene: PotatoSplit_63 Start: 38246, Stop: 38154, Start Num: 5

Candidate Starts for PotatoSplit_63:

(2, 38486), (3, 38447), (Start: 5 @38246 has 145 MA's),

Gene: Priamo_61 Start: 36839, Stop: 36759, Start Num: 5

Candidate Starts for Priamo_61:

(Start: 5 @36839 has 145 MA's), (11, 36788),

Gene: PurpleHaze_61 Start: 38127, Stop: 38035, Start Num: 5

Candidate Starts for PurpleHaze_61:

(2, 38367), (3, 38328), (Start: 5 @38127 has 145 MA's),

Gene: QuinnKiro_55 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for QuinnKiro_55:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: Reba_61 Start: 37787, Stop: 37695, Start Num: 5
Candidate Starts for Reba_61:
(2, 38027), (3, 37988), (Start: 5 @37787 has 145 MA's),

Gene: Rebeuca_55 Start: 37764, Stop: 37681, Start Num: 5
Candidate Starts for Rebeuca_55:
(Start: 5 @37764 has 145 MA's),

Gene: RedRock_60 Start: 39311, Stop: 39234, Start Num: 6
Candidate Starts for RedRock_60:
(Start: 6 @39311 has 3 MA's), (7, 39296),

Gene: ResDef_57 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for ResDef_57:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: Rummer_60 Start: 38270, Stop: 38178, Start Num: 5
Candidate Starts for Rummer_60:
(2, 38510), (3, 38471), (Start: 5 @38270 has 145 MA's),

Gene: Sabia_61 Start: 38251, Stop: 38159, Start Num: 5
Candidate Starts for Sabia_61:
(2, 38491), (3, 38452), (Start: 5 @38251 has 145 MA's),

Gene: Sabinator_60 Start: 38241, Stop: 38149, Start Num: 5
Candidate Starts for Sabinator_60:
(2, 38481), (3, 38442), (Start: 5 @38241 has 145 MA's),

Gene: SaturnRing_58 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for SaturnRing_58:
(Start: 4 @37893 has 3 MA's),

Gene: Scout_57 Start: 37044, Stop: 36952, Start Num: 5
Candidate Starts for Scout_57:
(Start: 5 @37044 has 145 MA's), (7, 37026),

Gene: Severus_53 Start: 36617, Stop: 36531, Start Num: 5
Candidate Starts for Severus_53:
(Start: 5 @36617 has 145 MA's),

Gene: SmellyB_59 Start: 37086, Stop: 37006, Start Num: 5
Candidate Starts for SmellyB_59:
(Start: 5 @37086 has 145 MA's), (11, 37035),

Gene: Snickers_61 Start: 38216, Stop: 38124, Start Num: 5
Candidate Starts for Snickers_61:
(2, 38456), (3, 38417), (Start: 5 @38216 has 145 MA's),

Gene: SoYo_61 Start: 38154, Stop: 38062, Start Num: 5
Candidate Starts for SoYo_61:
(2, 38394), (3, 38355), (Start: 5 @38154 has 145 MA's),

Gene: SoilDragon_61 Start: 37690, Stop: 37598, Start Num: 5
Candidate Starts for SoilDragon_61:
(2, 37930), (3, 37891), (Start: 5 @37690 has 145 MA's),

Gene: Soshari_63 Start: 38266, Stop: 38174, Start Num: 5
Candidate Starts for Soshari_63:
(2, 38506), (3, 38467), (Start: 5 @38266 has 145 MA's),

Gene: Spike509_61 Start: 38267, Stop: 38175, Start Num: 5
Candidate Starts for Spike509_61:
(2, 38507), (3, 38468), (Start: 5 @38267 has 145 MA's),

Gene: Stagni_61 Start: 38245, Stop: 38153, Start Num: 5
Candidate Starts for Stagni_61:
(2, 38485), (3, 38446), (Start: 5 @38245 has 145 MA's),

Gene: StepMih_61 Start: 38236, Stop: 38144, Start Num: 5
Candidate Starts for StepMih_61:
(2, 38476), (3, 38437), (Start: 5 @38236 has 145 MA's),

Gene: SuperAwesome_59 Start: 37091, Stop: 37011, Start Num: 5
Candidate Starts for SuperAwesome_59:
(Start: 5 @37091 has 145 MA's), (11, 37040),

Gene: TNguyen7_58 Start: 37859, Stop: 37770, Start Num: 4
Candidate Starts for TNguyen7_58:
(Start: 4 @37859 has 3 MA's),

Gene: Taurus_62 Start: 38242, Stop: 38150, Start Num: 5
Candidate Starts for Taurus_62:
(2, 38482), (3, 38443), (Start: 5 @38242 has 145 MA's),

Gene: Texage_55 Start: 37856, Stop: 37758, Start Num: 5
Candidate Starts for Texage_55:
(Start: 5 @37856 has 145 MA's), (7, 37838),

Gene: Todacoro_56 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for Todacoro_56:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: Trike_53 Start: 36623, Stop: 36540, Start Num: 5
Candidate Starts for Trike_53:
(Start: 5 @36623 has 145 MA's),

Gene: Trixie_56 Start: 38334, Stop: 38248, Start Num: 5
Candidate Starts for Trixie_56:
(Start: 5 @38334 has 145 MA's), (10, 38289),

Gene: Twister_53 Start: 37325, Stop: 37242, Start Num: 5

Candidate Starts for Twister_53:
(Start: 5 @37325 has 145 MA's),

Gene: Updawg_59 Start: 38366, Stop: 38289, Start Num: 5
Candidate Starts for Updawg_59:
(Start: 5 @38366 has 145 MA's), (7, 38351),

Gene: Veracruz_55 Start: 37855, Stop: 37757, Start Num: 5
Candidate Starts for Veracruz_55:
(Start: 5 @37855 has 145 MA's), (7, 37837),

Gene: VohminGhazi_59 Start: 37087, Stop: 37007, Start Num: 5
Candidate Starts for VohminGhazi_59:
(Start: 5 @37087 has 145 MA's), (11, 37036),

Gene: WalterMcMickey_53 Start: 37325, Stop: 37242, Start Num: 5
Candidate Starts for WalterMcMickey_53:
(Start: 5 @37325 has 145 MA's),

Gene: Watson_61 Start: 38234, Stop: 38142, Start Num: 5
Candidate Starts for Watson_61:
(2, 38474), (3, 38435), (Start: 5 @38234 has 145 MA's),

Gene: WideWale_59 Start: 38366, Stop: 38289, Start Num: 5
Candidate Starts for WideWale_59:
(Start: 5 @38366 has 145 MA's), (7, 38351),

Gene: Wooldri_63 Start: 38154, Stop: 38062, Start Num: 5
Candidate Starts for Wooldri_63:
(2, 38394), (3, 38355), (Start: 5 @38154 has 145 MA's),

Gene: Zetzy_60 Start: 37805, Stop: 37713, Start Num: 5
Candidate Starts for Zetzy_60:
(2, 38045), (3, 38006), (Start: 5 @37805 has 145 MA's),