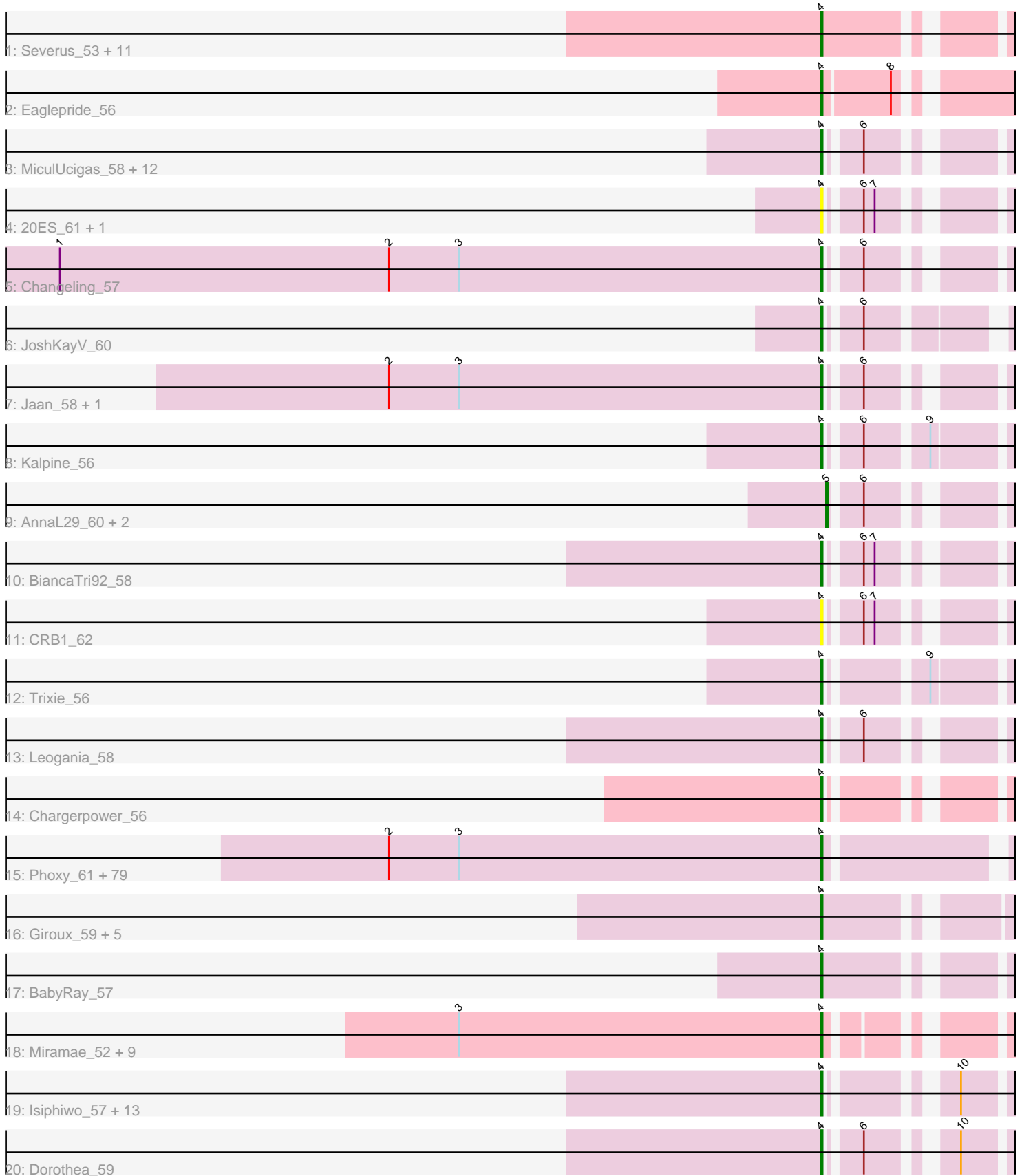


Pham 296311



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 296311 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296311 has 153 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Severus_53, KittenMittens_52, Drake94_53, Goose_55, OKCentral2016_54, Rebeuca_55, WalterMcMickey_53, Chartreuse_58, PeaceMeal1_53, DaVinci_58, Trike_53, Twister_53
- Track 2 : Eaglepride_56
- Track 3 : MiculUcigas_58, WideWale_59, HarryHoudini_59, Updawg_59, Centaur_59, Piro94_58, NaSiaTalie_58, Sknot_58, Drake55_60, ArcherNM_53, Flare16_58, Equemioh13_59, Baehexic_57
- Track 4 : 20ES_61, First_0060
- Track 5 : Changeling_57
- Track 6 : JoshKayV_60
- Track 7 : Jaan_58, Landor_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 : Chargerpower_56
- Track 15 : Phoxy_61, Bigflo_61, Farber_61, Hercules11_61, Aglet_62, SoilDragon_61, ACFishhook_60, Spike509_61, Fernando_61, OlanP_60, P28Green_62, Calvinny_61, Sabia_61, GingkoMaracino_61, Grum1_61, AgronaGT15_60, Beauxregard13_61, Zetzy_60, Gemma_60, Reba_61, Dieselweasel_62, LugYA_64, Marius_62, SoYo_61, Watson_61, Taurus_62, MadMarie_61, Snickers_61, Soshari_63, Groupthink_62, LBerry_62, DaHudson_61, TinyPebbles_60, Pawn_61, Heliosoles_60, Grub_61, StepMih_61, BreSam8_61, GtownJaz_61, MoneyMay_61, KADY_61, Penny1_62, PGHhamlin_63, Phranny_62, Manu_61, Grif_61, Croquant_62, HashRod_62, HaveUMetTed_62, MuchMore_64, Colbster_61, PhishRPhriends_59, Anubis_64, Malinsilva_63, Rummer_60, Stagni_61, Louie6_60, Wooldri_63, PurpleHaze_61, Gwennie_60, EpicPhail_62, ClownCar_61, PotatoSplit_63, LarryKay_61, JenCasNa_62, AugsMagnumOpus_64, Sabinator_60, Misomonster_62, Kalb97_62, Kalnok_62, Mainiac_61, JeppNRM_62, MarQuardt_61, Montavir_60, Lowa_61, Phoebe_62, Daishi_60, Ollie_61, Pembroke_61, Cullens_61
- Track 16 : Giroux_59, Bugatti_58, Clammy_58, TNguyen7_58, SaturnRing_58, BlueBird_59
- Track 17 : BabyRay_57

- Track 18 : Miramae_52, Cerulean_55, AvatarAhPeg_52, LHTSCC_56, Obama12_55, Arturo_53, Happiness_53, Mundrea_53, Kratark_54, ChampagnePapi_56
- Track 19 : Isiphiwo_57, Polyphemus_61, SmellyB_59, SuperAwesome_59, McFly_59, Priamo_61, Cookiedough_59, Kipper29_59, Kazan_60, JewelBug_60, Neeharika16_58, Newrala_59, VohminGhazi_59, Hoot_54
- Track 20 : Dorothea_59

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

The start number called the most often in the published annotations is 4, it was called in 137 of the 140 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, BabyRay_57, Baehexic_57, Beauxregard13_61, BiancaTri92_58, Bigflo_61, BlueBird_59, BreSam8_61, Bugatti_58, CRB1_62, Calvinny_61, Centaur_59, Cerulean_55, ChampagnePapi_56, Changeling_57, Chargerpower_56, Chartreuse_58, Clammy_58, ClownCar_61, Colbster_61, Cookiedough_59, Croquant_62, Cullens_61, DaHudson_61, DaVinci_58, Daishi_60, Dieselweasel_62, Dorothea_59, Drake55_60, Drake94_53, Eaglepride_56, EpicPhail_62, Equemioh13_59, Farber_61, Fernando_61, First_0060, Flare16_58, Gemma_60, GingkoMaracino_61, Giroux_59, Goose_55, Grif_61, Groupthink_62, Grub_61, Grum1_61, GtownJaz_61, Gwennie_60, Happiness_53, HarryHoudini_59, HashRod_62, HaveUMetTed_62, Heliosoles_60, Hercules11_61, Hoot_54, Isiphiwo_57, Jaan_58, JenCasNa_62, JeppNRM_62, JewelBug_60, JoshKayV_60, KADY_61, Kalb97_62, Kalnoky_62, Kalpine_56, Kazan_60, Kipper29_59, KittenMittens_52, Kratark_54, LBerry_62, LHTSCC_56, Landor_58, LarryKay_61, Leogania_58, Louie6_60, Lowa_61, LugYA_64, MadMarie_61, Mainiac_61, Malinsilva_63, Manu_61, MarQuardt_61, Marius_62, McFly_59, MiculUcigas_58, Miramae_52, Misomonster_62, MoneyMay_61, Montavir_60, MuchMore_64, Mundrea_53, NaSiaTalie_58, Neeharika16_58, Newrala_59, OKCentral2016_54, Obama12_55, OlanP_60, Ollie_61, P28Green_62, PGHhamlin_63, Pawn_61, PeaceMeal1_53, Pembroke_61, Penny1_62, PhishRPhriends_59, Phoebe_62, Phoxy_61, Phranny_62, Piro94_58, Polyphemus_61, PotatoSplit_63, Priamo_61, PurpleHaze_61, Reba_61, Rebeuca_55, Rummer_60, Sabia_61, Sabinator_60, SaturnRing_58, Severus_53, Sknot_58, SmellyB_59, Snickers_61, SoYo_61, SoilDragon_61, Soshari_63, Spike509_61, Stagni_61, StepMih_61, SuperAwesome_59, TNguyen7_58, Taurus_62, TinyPebbles_60, Trike_53, Trixie_56, Twister_53, Updawg_59, 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, Loser_60, RedRock_60,

Summary by start number:

Start 4:

- Found in 150 of 153 (98.0%) of genes in pham
- Manual Annotations of this start: 137 of 140
- 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), BabyRay_57 (A3), Baehexic_57 (A2), Beauxregard13_61 (A3), BiancaTri92_58 (A2), Bigflo_61 (A3), BlueBird_59 (A3), BreSam8_61 (A3), Bugatti_58 (A3), CRB1_62 (A2), Calvinny_61 (A3), Centaur_59 (A2), Cerulean_55 (A4), ChampagnePapi_56 (A4), Changeling_57 (A2), Chargerpower_56 (A22), Chartreuse_58 (A6), Clammy_58 (A3), ClownCar_61 (A3), Colbster_61 (A3), Cookiedough_59 (A6), Croquant_62 (A3), Cullens_61 (A3), DaHudson_61 (A3), DaVinci_58 (A6), Daishi_60 (A3), Dieselweasel_62 (A3), Dorothea_59 (A6), 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), Giroux_59 (A3), Goose_55 (A10), Grif_61 (A3), Groupthink_62 (A3), Grub_61 (A3), Grum1_61 (A3), GtownJaz_61 (A3), Gwennie_60 (A3), Happiness_53 (A4), HarryHoudini_59 (A2), HashRod_62 (A3), HaveUMetTed_62 (A3), Heliosoles_60 (A3), Hercules11_61 (A3), Hoot_54 (A6), Isiphiwo_57 (A6), Jaan_58 (A2), JenCasNa_62 (A3), JeppNRM_62 (A3), JewelBug_60 (A6), JoshKayV_60 (A2), 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), Landor_58 (A2), LarryKay_61 (A3), Leogania_58 (A2), Louie6_60 (A3), Iowa_61 (A3), LugYA_64 (A3), MadMarie_61 (A3), Mainiac_61 (A3), Malinsilva_63 (A3), Manu_61 (A3), MarQuardt_61 (A3), Marius_62 (A3), McFly_59 (A6), MiculUcigas_58 (A2), Miramae_52 (A4), Misomonster_62 (A3), MoneyMay_61 (A3), Montavir_60 (A3), MuchMore_64 (A3), Mundrea_53 (A4), NaSiaTalie_58 (A2), Neeharika16_58 (A6), Newrala_59 (A6), OKCentral2016_54 (A10), Obama12_55 (A4), OlanP_60 (A3), Ollie_61 (A3), P28Green_62 (A3), PGHhamlin_63 (A3), Pawn_61 (A3), PeaceMeal1_53 (A10), Pembroke_61 (A3), Penny1_62 (A3), PhishRPhriends_59 (A3), Phoebe_62 (A3), Phoxy_61 (A3), Phranny_62 (A3), Piro94_58 (A2), Polyphemus_61 (A6), PotatoSplit_63 (A3), Priamo_61 (A6), PurpleHaze_61 (A3), Reba_61 (A3), Rebeuca_55 (A10), Rummer_60 (A3), Sabia_61 (A3), Sabinator_60 (A3), SaturnRing_58 (A3), Severus_53 (A10), Sknot_58 (A2), 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), TNguyen7_58 (A3), Taurus_62 (A3), TinyPebbles_60 (A3), Trike_53 (A10), Trixie_56 (A2), Twister_53 (A10), Updawg_59 (A2), VohminGhazi_59 (A6), WalterMcMickey_53 (A10), Watson_61 (A3), WideWale_59 (A2), Wooldri_63 (A3), Zetzy_60 (A3),

Start 5:

- Found in 3 of 153 (2.0%) of genes in pham
- Manual Annotations of this start: 3 of 140
- 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: A22, A10, A3, A2, A4, A6,

Info for manual annotations of cluster A10:

- Start number 4 was manually annotated 11 times for cluster A10.

Info for manual annotations of cluster A2:

- Start number 4 was manually annotated 21 times for cluster A2.
- Start number 5 was manually annotated 3 times for cluster A2.

Info for manual annotations of cluster A22:

- Start number 4 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A3:

- Start number 4 was manually annotated 77 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 4 was manually annotated 10 times for cluster A4.

Info for manual annotations of cluster A6:

- Start number 4 was manually annotated 17 times for cluster A6.

Gene Information:

Gene: 20ES_61 Start: 38721, Stop: 38644, Start Num: 4

Candidate Starts for 20ES_61:

(Start: 4 @38721 has 137 MA's), (6, 38706), (7, 38700),

Gene: ACFishhook_60 Start: 38200, Stop: 38108, Start Num: 4

Candidate Starts for ACFishhook_60:

(2, 38440), (3, 38401), (Start: 4 @38200 has 137 MA's),

Gene: Aglet_62 Start: 38243, Stop: 38151, Start Num: 4

Candidate Starts for Aglet_62:

(2, 38483), (3, 38444), (Start: 4 @38243 has 137 MA's),

Gene: AgronaGT15_60 Start: 38091, Stop: 37999, Start Num: 4

Candidate Starts for AgronaGT15_60:

(2, 38331), (3, 38292), (Start: 4 @38091 has 137 MA's),

Gene: AnnaL29_60 Start: 39131, Stop: 39054, Start Num: 5

Candidate Starts for AnnaL29_60:

(Start: 5 @39131 has 3 MA's), (6, 39116),

Gene: Anubis_64 Start: 38129, Stop: 38037, Start Num: 4

Candidate Starts for Anubis_64:

(2, 38369), (3, 38330), (Start: 4 @38129 has 137 MA's),

Gene: ArcherNM_53 Start: 38135, Stop: 38058, Start Num: 4

Candidate Starts for ArcherNM_53:

(Start: 4 @38135 has 137 MA's), (6, 38120),

Gene: Arturo_53 Start: 37722, Stop: 37645, Start Num: 4

Candidate Starts for Arturo_53:

(3, 37923), (Start: 4 @37722 has 137 MA's),

Gene: AugsMagnumOpus_64 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for AugsMagnumOpus_64:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: AvatarAhPeg_52 Start: 37235, Stop: 37158, Start Num: 4
Candidate Starts for AvatarAhPeg_52:
(3, 37436), (Start: 4 @37235 has 137 MA's),

Gene: BabyRay_57 Start: 37849, Stop: 37763, Start Num: 4
Candidate Starts for BabyRay_57:
(Start: 4 @37849 has 137 MA's),

Gene: Baehexic_57 Start: 38247, Stop: 38170, Start Num: 4
Candidate Starts for Baehexic_57:
(Start: 4 @38247 has 137 MA's), (6, 38232),

Gene: Beauxregard13_61 Start: 38246, Stop: 38154, Start Num: 4
Candidate Starts for Beauxregard13_61:
(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: BiancaTri92_58 Start: 38840, Stop: 38763, Start Num: 4
Candidate Starts for BiancaTri92_58:
(Start: 4 @38840 has 137 MA's), (6, 38825), (7, 38819),

Gene: Bigflo_61 Start: 38242, Stop: 38150, Start Num: 4
Candidate Starts for Bigflo_61:
(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: BlueBird_59 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for BlueBird_59:
(Start: 4 @37893 has 137 MA's),

Gene: BreSam8_61 Start: 38236, Stop: 38144, Start Num: 4
Candidate Starts for BreSam8_61:
(2, 38476), (3, 38437), (Start: 4 @38236 has 137 MA's),

Gene: Bugatti_58 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for Bugatti_58:
(Start: 4 @37893 has 137 MA's),

Gene: CRB1_62 Start: 39238, Stop: 39161, Start Num: 4
Candidate Starts for CRB1_62:
(Start: 4 @39238 has 137 MA's), (6, 39223), (7, 39217),

Gene: Calvinny_61 Start: 38128, Stop: 38036, Start Num: 4
Candidate Starts for Calvinny_61:
(2, 38368), (3, 38329), (Start: 4 @38128 has 137 MA's),

Gene: Centaur_59 Start: 38461, Stop: 38384, Start Num: 4
Candidate Starts for Centaur_59:
(Start: 4 @38461 has 137 MA's), (6, 38446),

Gene: Cerulean_55 Start: 37887, Stop: 37810, Start Num: 4
Candidate Starts for Cerulean_55:
(3, 38088), (Start: 4 @37887 has 137 MA's),

Gene: ChampagnePapi_56 Start: 37886, Stop: 37809, Start Num: 4
Candidate Starts for ChampagnePapi_56:
(3, 38087), (Start: 4 @37886 has 137 MA's),

Gene: Changeling_57 Start: 38877, Stop: 38800, Start Num: 4
Candidate Starts for Changeling_57:
(1, 39300), (2, 39117), (3, 39078), (Start: 4 @38877 has 137 MA's), (6, 38862),

Gene: Chargerpower_56 Start: 36935, Stop: 36858, Start Num: 4
Candidate Starts for Chargerpower_56:
(Start: 4 @36935 has 137 MA's),

Gene: Chartreuse_58 Start: 36473, Stop: 36393, Start Num: 4
Candidate Starts for Chartreuse_58:
(Start: 4 @36473 has 137 MA's),

Gene: Clammy_58 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for Clammy_58:
(Start: 4 @37893 has 137 MA's),

Gene: ClownCar_61 Start: 38121, Stop: 38029, Start Num: 4
Candidate Starts for ClownCar_61:
(2, 38361), (3, 38322), (Start: 4 @38121 has 137 MA's),

Gene: Colbster_61 Start: 38246, Stop: 38154, Start Num: 4
Candidate Starts for Colbster_61:
(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: Cookiedough_59 Start: 37101, Stop: 37021, Start Num: 4
Candidate Starts for Cookiedough_59:
(Start: 4 @37101 has 137 MA's), (10, 37050),

Gene: Croquant_62 Start: 38241, Stop: 38149, Start Num: 4
Candidate Starts for Croquant_62:
(2, 38481), (3, 38442), (Start: 4 @38241 has 137 MA's),

Gene: Cullens_61 Start: 38242, Stop: 38150, Start Num: 4
Candidate Starts for Cullens_61:
(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: DaHudson_61 Start: 38235, Stop: 38143, Start Num: 4
Candidate Starts for DaHudson_61:
(2, 38475), (3, 38436), (Start: 4 @38235 has 137 MA's),

Gene: DaVinci_58 Start: 36527, Stop: 36447, Start Num: 4
Candidate Starts for DaVinci_58:
(Start: 4 @36527 has 137 MA's),

Gene: Daishi_60 Start: 37111, Stop: 37019, Start Num: 4
Candidate Starts for Daishi_60:
(2, 37351), (3, 37312), (Start: 4 @37111 has 137 MA's),

Gene: Dieselweasel_62 Start: 38245, Stop: 38153, Start Num: 4
Candidate Starts for Dieselweasel_62:
(2, 38485), (3, 38446), (Start: 4 @38245 has 137 MA's),

Gene: Dorothea_59 Start: 37096, Stop: 37016, Start Num: 4
Candidate Starts for Dorothea_59:
(Start: 4 @37096 has 137 MA's), (6, 37081), (10, 37045),

Gene: Drake55_60 Start: 38543, Stop: 38466, Start Num: 4
Candidate Starts for Drake55_60:
(Start: 4 @38543 has 137 MA's), (6, 38528),

Gene: Drake94_53 Start: 36610, Stop: 36524, Start Num: 4
Candidate Starts for Drake94_53:
(Start: 4 @36610 has 137 MA's),

Gene: Eaglepride_56 Start: 37562, Stop: 37473, Start Num: 4
Candidate Starts for Eaglepride_56:
(Start: 4 @37562 has 137 MA's), (8, 37526),

Gene: EpicPhail_62 Start: 38246, Stop: 38154, Start Num: 4
Candidate Starts for EpicPhail_62:
(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: Equemioh13_59 Start: 38366, Stop: 38289, Start Num: 4
Candidate Starts for Equemioh13_59:
(Start: 4 @38366 has 137 MA's), (6, 38351),

Gene: Farber_61 Start: 38232, Stop: 38140, Start Num: 4
Candidate Starts for Farber_61:
(2, 38472), (3, 38433), (Start: 4 @38232 has 137 MA's),

Gene: Fernando_61 Start: 38242, Stop: 38150, Start Num: 4
Candidate Starts for Fernando_61:
(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: First_0060 Start: 38621, Stop: 38544, Start Num: 4
Candidate Starts for First_0060:
(Start: 4 @38621 has 137 MA's), (6, 38606), (7, 38600),

Gene: Flare16_58 Start: 38122, Stop: 38045, Start Num: 4
Candidate Starts for Flare16_58:
(Start: 4 @38122 has 137 MA's), (6, 38107),

Gene: Gemma_60 Start: 38124, Stop: 38032, Start Num: 4
Candidate Starts for Gemma_60:
(2, 38364), (3, 38325), (Start: 4 @38124 has 137 MA's),

Gene: GingkoMaracino_61 Start: 38128, Stop: 38036, Start Num: 4

Candidate Starts for GingkoMaracino_61:
(2, 38368), (3, 38329), (Start: 4 @38128 has 137 MA's),

Gene: Giroux_59 Start: 37892, Stop: 37803, Start Num: 4
Candidate Starts for Giroux_59:
(Start: 4 @37892 has 137 MA's),

Gene: Goose_55 Start: 37188, Stop: 37105, Start Num: 4
Candidate Starts for Goose_55:
(Start: 4 @37188 has 137 MA's),

Gene: Grif_61 Start: 38317, Stop: 38225, Start Num: 4
Candidate Starts for Grif_61:
(2, 38557), (3, 38518), (Start: 4 @38317 has 137 MA's),

Gene: Groupthink_62 Start: 38128, Stop: 38036, Start Num: 4
Candidate Starts for Groupthink_62:
(2, 38368), (3, 38329), (Start: 4 @38128 has 137 MA's),

Gene: Grub_61 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for Grub_61:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: Grum1_61 Start: 38242, Stop: 38150, Start Num: 4
Candidate Starts for Grum1_61:
(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: GtownJaz_61 Start: 38244, Stop: 38152, Start Num: 4
Candidate Starts for GtownJaz_61:
(2, 38484), (3, 38445), (Start: 4 @38244 has 137 MA's),

Gene: Gwennie_60 Start: 38246, Stop: 38154, Start Num: 4
Candidate Starts for Gwennie_60:
(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: Happiness_53 Start: 37469, Stop: 37392, Start Num: 4
Candidate Starts for Happiness_53:
(3, 37670), (Start: 4 @37469 has 137 MA's),

Gene: HarryHoudini_59 Start: 38552, Stop: 38475, Start Num: 4
Candidate Starts for HarryHoudini_59:
(Start: 4 @38552 has 137 MA's), (6, 38537),

Gene: HashRod_62 Start: 38270, Stop: 38178, Start Num: 4
Candidate Starts for HashRod_62:
(2, 38510), (3, 38471), (Start: 4 @38270 has 137 MA's),

Gene: HaveUMetTed_62 Start: 38113, Stop: 38021, Start Num: 4
Candidate Starts for HaveUMetTed_62:
(2, 38353), (3, 38314), (Start: 4 @38113 has 137 MA's),

Gene: Heliosoles_60 Start: 38131, Stop: 38039, Start Num: 4
Candidate Starts for Heliosoles_60:

(2, 38371), (3, 38332), (Start: 4 @38131 has 137 MA's),

Gene: Hercules11_61 Start: 38251, Stop: 38159, Start Num: 4

Candidate Starts for Hercules11_61:

(2, 38491), (3, 38452), (Start: 4 @38251 has 137 MA's),

Gene: Hoot_54 Start: 34937, Stop: 34857, Start Num: 4

Candidate Starts for Hoot_54:

(Start: 4 @34937 has 137 MA's), (10, 34886),

Gene: Isiphiwo_57 Start: 36653, Stop: 36573, Start Num: 4

Candidate Starts for Isiphiwo_57:

(Start: 4 @36653 has 137 MA's), (10, 36602),

Gene: Jaan_58 Start: 39427, Stop: 39350, Start Num: 4

Candidate Starts for Jaan_58:

(2, 39667), (3, 39628), (Start: 4 @39427 has 137 MA's), (6, 39412),

Gene: JenCasNa_62 Start: 38242, Stop: 38150, Start Num: 4

Candidate Starts for JenCasNa_62:

(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: JeppNRM_62 Start: 38129, Stop: 38037, Start Num: 4

Candidate Starts for JeppNRM_62:

(2, 38369), (3, 38330), (Start: 4 @38129 has 137 MA's),

Gene: JewelBug_60 Start: 37292, Stop: 37212, Start Num: 4

Candidate Starts for JewelBug_60:

(Start: 4 @37292 has 137 MA's), (10, 37241),

Gene: JoshKayV_60 Start: 38905, Stop: 38825, Start Num: 4

Candidate Starts for JoshKayV_60:

(Start: 4 @38905 has 137 MA's), (6, 38890),

Gene: KADY_61 Start: 38270, Stop: 38178, Start Num: 4

Candidate Starts for KADY_61:

(2, 38510), (3, 38471), (Start: 4 @38270 has 137 MA's),

Gene: Kalb97_62 Start: 38127, Stop: 38035, Start Num: 4

Candidate Starts for Kalb97_62:

(2, 38367), (3, 38328), (Start: 4 @38127 has 137 MA's),

Gene: Kalnoky_62 Start: 38125, Stop: 38033, Start Num: 4

Candidate Starts for Kalnoky_62:

(2, 38365), (3, 38326), (Start: 4 @38125 has 137 MA's),

Gene: Kalpine_56 Start: 38466, Stop: 38380, Start Num: 4

Candidate Starts for Kalpine_56:

(Start: 4 @38466 has 137 MA's), (6, 38451), (9, 38421),

Gene: Kazan_60 Start: 37092, Stop: 37012, Start Num: 4

Candidate Starts for Kazan_60:

(Start: 4 @37092 has 137 MA's), (10, 37041),

Gene: Kipper29_59 Start: 37105, Stop: 37025, Start Num: 4
Candidate Starts for Kipper29_59:
(Start: 4 @37105 has 137 MA's), (10, 37054),

Gene: KittenMittens_52 Start: 36618, Stop: 36532, Start Num: 4
Candidate Starts for KittenMittens_52:
(Start: 4 @36618 has 137 MA's),

Gene: Kratark_54 Start: 37605, Stop: 37528, Start Num: 4
Candidate Starts for Kratark_54:
(3, 37806), (Start: 4 @37605 has 137 MA's),

Gene: LBerry_62 Start: 38246, Stop: 38154, Start Num: 4
Candidate Starts for LBerry_62:
(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: LHTSCC_56 Start: 37886, Stop: 37809, Start Num: 4
Candidate Starts for LHTSCC_56:
(3, 38087), (Start: 4 @37886 has 137 MA's),

Gene: Landor_58 Start: 39345, Stop: 39268, Start Num: 4
Candidate Starts for Landor_58:
(2, 39585), (3, 39546), (Start: 4 @39345 has 137 MA's), (6, 39330),

Gene: LarryKay_61 Start: 38272, Stop: 38180, Start Num: 4
Candidate Starts for LarryKay_61:
(2, 38512), (3, 38473), (Start: 4 @38272 has 137 MA's),

Gene: Leogania_58 Start: 39218, Stop: 39141, Start Num: 4
Candidate Starts for Leogania_58:
(Start: 4 @39218 has 137 MA's), (6, 39203),

Gene: Loser_60 Start: 39078, Stop: 39001, Start Num: 5
Candidate Starts for Loser_60:
(Start: 5 @39078 has 3 MA's), (6, 39063),

Gene: Louie6_60 Start: 38271, Stop: 38179, Start Num: 4
Candidate Starts for Louie6_60:
(2, 38511), (3, 38472), (Start: 4 @38271 has 137 MA's),

Gene: Lowa_61 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for Lowa_61:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: LugYA_64 Start: 38243, Stop: 38151, Start Num: 4
Candidate Starts for LugYA_64:
(2, 38483), (3, 38444), (Start: 4 @38243 has 137 MA's),

Gene: MadMarie_61 Start: 38244, Stop: 38152, Start Num: 4
Candidate Starts for MadMarie_61:
(2, 38484), (3, 38445), (Start: 4 @38244 has 137 MA's),

Gene: Mainiac_61 Start: 38236, Stop: 38144, Start Num: 4
Candidate Starts for Mainiac_61:
(2, 38476), (3, 38437), (Start: 4 @38236 has 137 MA's),

Gene: Malinsilva_63 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for Malinsilva_63:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: Manu_61 Start: 38128, Stop: 38036, Start Num: 4
Candidate Starts for Manu_61:
(2, 38368), (3, 38329), (Start: 4 @38128 has 137 MA's),

Gene: MarQuardt_61 Start: 38244, Stop: 38152, Start Num: 4
Candidate Starts for MarQuardt_61:
(2, 38484), (3, 38445), (Start: 4 @38244 has 137 MA's),

Gene: Marius_62 Start: 38125, Stop: 38033, Start Num: 4
Candidate Starts for Marius_62:
(2, 38365), (3, 38326), (Start: 4 @38125 has 137 MA's),

Gene: McFly_59 Start: 37086, Stop: 37006, Start Num: 4
Candidate Starts for McFly_59:
(Start: 4 @37086 has 137 MA's), (10, 37035),

Gene: MiculUcigas_58 Start: 38025, Stop: 37948, Start Num: 4
Candidate Starts for MiculUcigas_58:
(Start: 4 @38025 has 137 MA's), (6, 38010),

Gene: Miramae_52 Start: 36897, Stop: 36820, Start Num: 4
Candidate Starts for Miramae_52:
(3, 37098), (Start: 4 @36897 has 137 MA's),

Gene: Misomonster_62 Start: 38269, Stop: 38177, Start Num: 4
Candidate Starts for Misomonster_62:
(2, 38509), (3, 38470), (Start: 4 @38269 has 137 MA's),

Gene: MoneyMay_61 Start: 38242, Stop: 38150, Start Num: 4
Candidate Starts for MoneyMay_61:
(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: Montavir_60 Start: 38243, Stop: 38151, Start Num: 4
Candidate Starts for Montavir_60:
(2, 38483), (3, 38444), (Start: 4 @38243 has 137 MA's),

Gene: MuchMore_64 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for MuchMore_64:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: Mundrea_53 Start: 37449, Stop: 37372, Start Num: 4
Candidate Starts for Mundrea_53:
(3, 37650), (Start: 4 @37449 has 137 MA's),

Gene: NaSiaTalie_58 Start: 38119, Stop: 38042, Start Num: 4

Candidate Starts for NaSiaTalie_58:
(Start: 4 @38119 has 137 MA's), (6, 38104),

Gene: Neeharika16_58 Start: 36546, Stop: 36466, Start Num: 4
Candidate Starts for Neeharika16_58:
(Start: 4 @36546 has 137 MA's), (10, 36495),

Gene: Newrala_59 Start: 37088, Stop: 37008, Start Num: 4
Candidate Starts for Newrala_59:
(Start: 4 @37088 has 137 MA's), (10, 37037),

Gene: OKCentral2016_54 Start: 37091, Stop: 37008, Start Num: 4
Candidate Starts for OKCentral2016_54:
(Start: 4 @37091 has 137 MA's),

Gene: Obama12_55 Start: 37870, Stop: 37793, Start Num: 4
Candidate Starts for Obama12_55:
(3, 38071), (Start: 4 @37870 has 137 MA's),

Gene: OlanP_60 Start: 38301, Stop: 38209, Start Num: 4
Candidate Starts for OlanP_60:
(2, 38541), (3, 38502), (Start: 4 @38301 has 137 MA's),

Gene: Ollie_61 Start: 38113, Stop: 38021, Start Num: 4
Candidate Starts for Ollie_61:
(2, 38353), (3, 38314), (Start: 4 @38113 has 137 MA's),

Gene: P28Green_62 Start: 38245, Stop: 38153, Start Num: 4
Candidate Starts for P28Green_62:
(2, 38485), (3, 38446), (Start: 4 @38245 has 137 MA's),

Gene: PGHhamlin_63 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for PGHhamlin_63:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: Pawn_61 Start: 38132, Stop: 38040, Start Num: 4
Candidate Starts for Pawn_61:
(2, 38372), (3, 38333), (Start: 4 @38132 has 137 MA's),

Gene: PeaceMeal1_53 Start: 36619, Stop: 36533, Start Num: 4
Candidate Starts for PeaceMeal1_53:
(Start: 4 @36619 has 137 MA's),

Gene: Pembroke_61 Start: 38243, Stop: 38151, Start Num: 4
Candidate Starts for Pembroke_61:
(2, 38483), (3, 38444), (Start: 4 @38243 has 137 MA's),

Gene: Penny1_62 Start: 38246, Stop: 38154, Start Num: 4
Candidate Starts for Penny1_62:
(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: PhishRPhriends_59 Start: 37309, Stop: 37217, Start Num: 4
Candidate Starts for PhishRPhriends_59:

(2, 37549), (3, 37510), (Start: 4 @37309 has 137 MA's),

Gene: Phoebe_62 Start: 38235, Stop: 38143, Start Num: 4

Candidate Starts for Phoebe_62:

(2, 38475), (3, 38436), (Start: 4 @38235 has 137 MA's),

Gene: Phoxy_61 Start: 38267, Stop: 38175, Start Num: 4

Candidate Starts for Phoxy_61:

(2, 38507), (3, 38468), (Start: 4 @38267 has 137 MA's),

Gene: Phranny_62 Start: 38114, Stop: 38022, Start Num: 4

Candidate Starts for Phranny_62:

(2, 38354), (3, 38315), (Start: 4 @38114 has 137 MA's),

Gene: Piro94_58 Start: 38469, Stop: 38392, Start Num: 4

Candidate Starts for Piro94_58:

(Start: 4 @38469 has 137 MA's), (6, 38454),

Gene: Polyphemus_61 Start: 37471, Stop: 37391, Start Num: 4

Candidate Starts for Polyphemus_61:

(Start: 4 @37471 has 137 MA's), (10, 37420),

Gene: PotatoSplit_63 Start: 38246, Stop: 38154, Start Num: 4

Candidate Starts for PotatoSplit_63:

(2, 38486), (3, 38447), (Start: 4 @38246 has 137 MA's),

Gene: Priamo_61 Start: 36839, Stop: 36759, Start Num: 4

Candidate Starts for Priamo_61:

(Start: 4 @36839 has 137 MA's), (10, 36788),

Gene: PurpleHaze_61 Start: 38127, Stop: 38035, Start Num: 4

Candidate Starts for PurpleHaze_61:

(2, 38367), (3, 38328), (Start: 4 @38127 has 137 MA's),

Gene: Reba_61 Start: 37787, Stop: 37695, Start Num: 4

Candidate Starts for Reba_61:

(2, 38027), (3, 37988), (Start: 4 @37787 has 137 MA's),

Gene: Rebeuca_55 Start: 37764, Stop: 37681, Start Num: 4

Candidate Starts for Rebeuca_55:

(Start: 4 @37764 has 137 MA's),

Gene: RedRock_60 Start: 39311, Stop: 39234, Start Num: 5

Candidate Starts for RedRock_60:

(Start: 5 @39311 has 3 MA's), (6, 39296),

Gene: Rummer_60 Start: 38270, Stop: 38178, Start Num: 4

Candidate Starts for Rummer_60:

(2, 38510), (3, 38471), (Start: 4 @38270 has 137 MA's),

Gene: Sabia_61 Start: 38251, Stop: 38159, Start Num: 4

Candidate Starts for Sabia_61:

(2, 38491), (3, 38452), (Start: 4 @38251 has 137 MA's),

Gene: Sabinator_60 Start: 38241, Stop: 38149, Start Num: 4
Candidate Starts for Sabinator_60:
(2, 38481), (3, 38442), (Start: 4 @38241 has 137 MA's),

Gene: SaturnRing_58 Start: 37893, Stop: 37804, Start Num: 4
Candidate Starts for SaturnRing_58:
(Start: 4 @37893 has 137 MA's),

Gene: Severus_53 Start: 36617, Stop: 36531, Start Num: 4
Candidate Starts for Severus_53:
(Start: 4 @36617 has 137 MA's),

Gene: Sknot_58 Start: 38122, Stop: 38045, Start Num: 4
Candidate Starts for Sknot_58:
(Start: 4 @38122 has 137 MA's), (6, 38107),

Gene: SmellyB_59 Start: 37086, Stop: 37006, Start Num: 4
Candidate Starts for SmellyB_59:
(Start: 4 @37086 has 137 MA's), (10, 37035),

Gene: Snickers_61 Start: 38216, Stop: 38124, Start Num: 4
Candidate Starts for Snickers_61:
(2, 38456), (3, 38417), (Start: 4 @38216 has 137 MA's),

Gene: SoYo_61 Start: 38154, Stop: 38062, Start Num: 4
Candidate Starts for SoYo_61:
(2, 38394), (3, 38355), (Start: 4 @38154 has 137 MA's),

Gene: SoilDragon_61 Start: 37690, Stop: 37598, Start Num: 4
Candidate Starts for SoilDragon_61:
(2, 37930), (3, 37891), (Start: 4 @37690 has 137 MA's),

Gene: Soshari_63 Start: 38266, Stop: 38174, Start Num: 4
Candidate Starts for Soshari_63:
(2, 38506), (3, 38467), (Start: 4 @38266 has 137 MA's),

Gene: Spike509_61 Start: 38267, Stop: 38175, Start Num: 4
Candidate Starts for Spike509_61:
(2, 38507), (3, 38468), (Start: 4 @38267 has 137 MA's),

Gene: Stagni_61 Start: 38245, Stop: 38153, Start Num: 4
Candidate Starts for Stagni_61:
(2, 38485), (3, 38446), (Start: 4 @38245 has 137 MA's),

Gene: StepMih_61 Start: 38236, Stop: 38144, Start Num: 4
Candidate Starts for StepMih_61:
(2, 38476), (3, 38437), (Start: 4 @38236 has 137 MA's),

Gene: SuperAwesome_59 Start: 37091, Stop: 37011, Start Num: 4
Candidate Starts for SuperAwesome_59:
(Start: 4 @37091 has 137 MA's), (10, 37040),

Gene: TNguyen7_58 Start: 37859, Stop: 37770, Start Num: 4
Candidate Starts for TNguyen7_58:
(Start: 4 @37859 has 137 MA's),

Gene: Taurus_62 Start: 38242, Stop: 38150, Start Num: 4
Candidate Starts for Taurus_62:
(2, 38482), (3, 38443), (Start: 4 @38242 has 137 MA's),

Gene: TinyPebbles_60 Start: 38272, Stop: 38180, Start Num: 4
Candidate Starts for TinyPebbles_60:
(2, 38512), (3, 38473), (Start: 4 @38272 has 137 MA's),

Gene: Trike_53 Start: 36623, Stop: 36540, Start Num: 4
Candidate Starts for Trike_53:
(Start: 4 @36623 has 137 MA's),

Gene: Trixie_56 Start: 38334, Stop: 38248, Start Num: 4
Candidate Starts for Trixie_56:
(Start: 4 @38334 has 137 MA's), (9, 38289),

Gene: Twister_53 Start: 37325, Stop: 37242, Start Num: 4
Candidate Starts for Twister_53:
(Start: 4 @37325 has 137 MA's),

Gene: Updawg_59 Start: 38366, Stop: 38289, Start Num: 4
Candidate Starts for Updawg_59:
(Start: 4 @38366 has 137 MA's), (6, 38351),

Gene: VohminGhazi_59 Start: 37087, Stop: 37007, Start Num: 4
Candidate Starts for VohminGhazi_59:
(Start: 4 @37087 has 137 MA's), (10, 37036),

Gene: WalterMcMickey_53 Start: 37325, Stop: 37242, Start Num: 4
Candidate Starts for WalterMcMickey_53:
(Start: 4 @37325 has 137 MA's),

Gene: Watson_61 Start: 38234, Stop: 38142, Start Num: 4
Candidate Starts for Watson_61:
(2, 38474), (3, 38435), (Start: 4 @38234 has 137 MA's),

Gene: WideWale_59 Start: 38366, Stop: 38289, Start Num: 4
Candidate Starts for WideWale_59:
(Start: 4 @38366 has 137 MA's), (6, 38351),

Gene: Wooldri_63 Start: 38154, Stop: 38062, Start Num: 4
Candidate Starts for Wooldri_63:
(2, 38394), (3, 38355), (Start: 4 @38154 has 137 MA's),

Gene: Zetzy_60 Start: 37805, Stop: 37713, Start Num: 4
Candidate Starts for Zetzy_60:
(2, 38045), (3, 38006), (Start: 4 @37805 has 137 MA's),