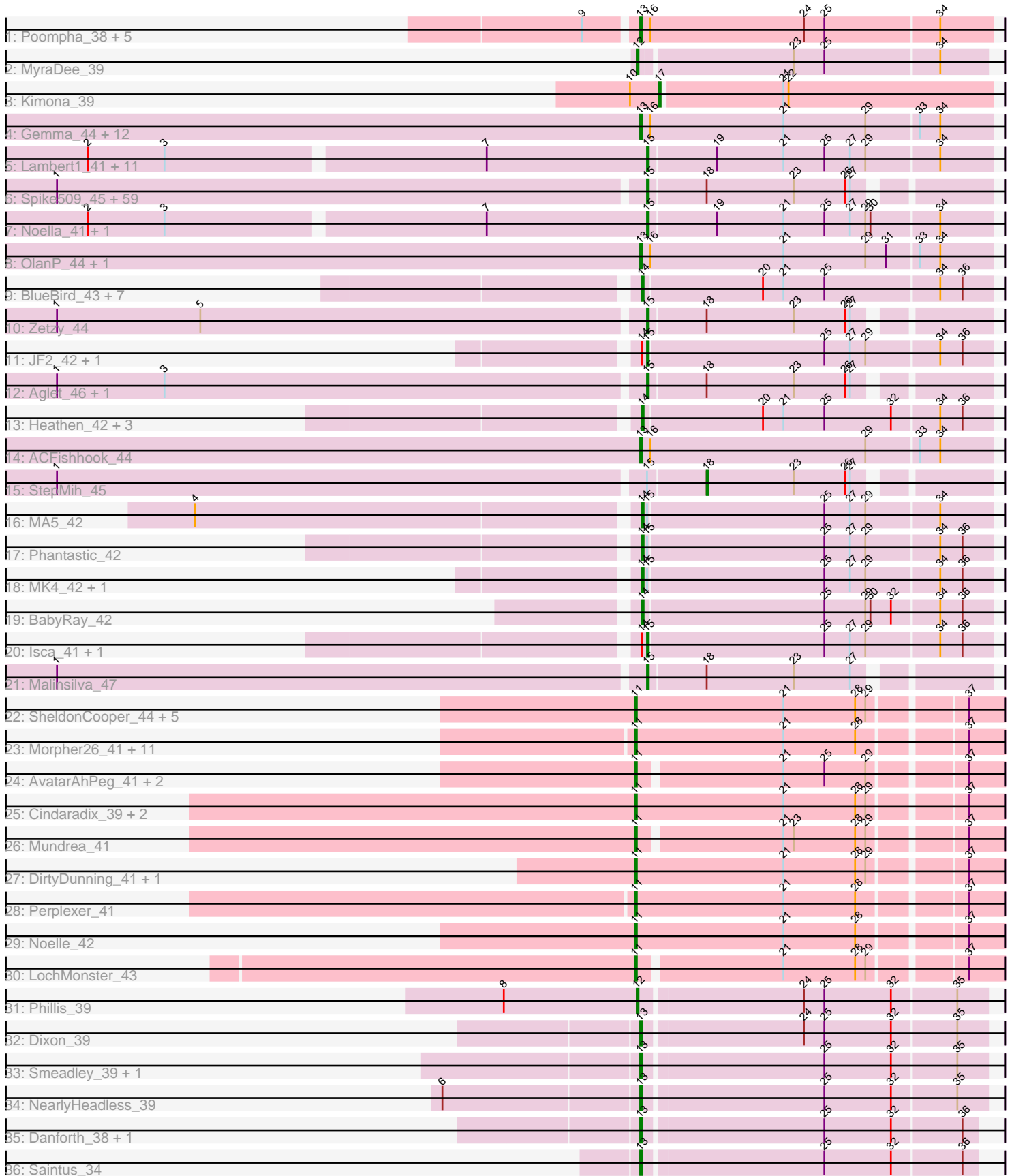


Pham 169772



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 169772 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169772 has 162 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Poompha_38, Trike_36, Drake94_37, Severus_37, PeaceMeal1_37, KittenMittens_36
- Track 2 : MyraDee_39
- Track 3 : Kimona_39
- Track 4 : Gemma_44, Kalnoky_46, Heliosoles_44, Phranny_46, Marius_46, Pawn_45, Groupthink_46, PurpleHaze_45, Manu_45, PhishRPhriends_43, Kalb97_46, Reba_45, JeppNRM_46
- Track 5 : Lambert1_41, Pocahontas_41, Todacoro_41, Norbert_40, Margo_41, Popcicle_41, Hookmount_41, QuinnKiro_40, Caviar_41, Panamaxus_39, ResDef_42, Veracruz_40
- Track 6 : Spike509_45, Grum1_45, Sabia_45, Jobu08_44, PotatoSplit_47, AugsMagnumOpus_48, Ollie_45, Pembroke_45, JHC117_45, Hercules11_45, MarQuardt_45, Microwolf_45, SoYo_45, Watson_45, Taurus_46, LBerry_46, DaHudson_45, MadMarie_45, Snickers_45, P28Green_46, Phoebe_46, Fernando_45, Grub_45, MuchMore_48, AgronaGT15_44, BreSam8_45, Dieselweasel_46, Beauxregard13_45, Vix_45, Marie_45, BuzzBuzz_43, Colbster_45, Anubis_48, Grif_45, Rummer_44, Stagni_45, LugYA_48, Lilith_46, MoneyMay_45, KADY_45, HashRod_46, Tiffany_45, GingkoMaracino_45, Misomonster_46, Louie6_44, Sabinator_44, PGHhamlin_47, Mainiac_45, Soshari_47, Cullens_45, Daishi_44, Penny1_46, Farber_45, Phoxy_45, EpicPhail_46, Wooldri_47, Bxz2_41, LarryKay_45, JenCasNa_46, SoilDragon_45
- Track 7 : Noella_41, Texage_40
- Track 8 : OlanP_44, HaveUMetTed_46
- Track 9 : BlueBird_43, Giroux_42, Bugatti_42, Idleandcovert_42, SaturnRing_42, Pistachio_43, Puppy_43, TNguyen7_42
- Track 10 : Zetzy_44
- Track 11 : JF2_42, JF4_42
- Track 12 : Aglet_46, GtownJaz_45
- Track 13 : Heathen_42, Fred313_42, Scout_42, HelDan_42
- Track 14 : ACFishhook_44
- Track 15 : StepMih_45
- Track 16 : MA5_42
- Track 17 : Phantastic_42
- Track 18 : MK4_42, B1_39
- Track 19 : BabyRay_42
- Track 20 : Isca_41, Rockstar_42
- Track 21 : Malinsilva_47

- Track 22 : SheldonCooper_44, BangNhom_43, Cerulean_43, LHTSCC_44, Obama12_43, ChampagnePapi_44
- Track 23 : Morpher26_41, Cici_41, Datway_41, Bumblebee11_40, Badger_40, Backyardigan_40, Achebe_40, Wile_41, Xena_40, PetiteSangsue_41, AbbysRanger_41, Katalie136_41
- Track 24 : AvatarAhPeg_41, Stink_42, Miramae_41
- Track 25 : Cindaradix_39, Arturo_41, Kratak_42
- Track 26 : Mundrea_41
- Track 27 : DirtyDunning_41, Shygu2_41
- Track 28 : Perplexer_41
- Track 29 : Noelle_42
- Track 30 : LochMonster_43
- Track 31 : Phillis_39
- Track 32 : Dixon_39
- Track 33 : Smeadley_39, Expelliarmus_38
- Track 34 : NearlyHeadless_39
- Track 35 : Danforth_38, Roary_39
- Track 36 : Saintus_34

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

The start number called the most often in the published annotations is 15, it was called in 80 of the 156 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aglet_46, AgronaGT15_44, Anubis_48, AugsMagnumOpus_48, Beauxregard13_45, BreSam8_45, BuzzBuzz_43, Bxz2_41, Caviar_41, Colbster_45, Cullens_45, DaHudson_45, Daishi_44, Dieselweasel_46, EpicPhail_46, Farber_45, Fernando_45, GingkoMaracino_45, Grif_45, Grub_45, Grum1_45, GtownJaz_45, HashRod_46, Hercules11_45, Hookmount_41, Isca_41, JF2_42, JF4_42, JHC117_45, JenCasNa_46, Jobu08_44, KADY_45, LBerry_46, Lambert1_41, LarryKay_45, Lilith_46, Louie6_44, LugYA_48, MadMarie_45, Mainiac_45, Malinsilva_47, MarQuardt_45, Margo_41, Marie_45, Microwolf_45, Misomonster_46, MoneyMay_45, MuchMore_48, Noella_41, Norbert_40, Ollie_45, P28Green_46, PGHhamlin_47, Panamaxus_39, Pembroke_45, Penny1_46, Phoebe_46, Phoxy_45, Pocahontas_41, Popcicle_41, PotatoSplit_47, QuinnKiro_40, ResDef_42, Rockstar_42, Rummer_44, Sabia_45, Sabinator_44, Snickers_45, SoYo_45, SoilDragon_45, Soshari_47, Spike509_45, Stagni_45, Taurus_46, Texage_40, Tiffany_45, Todacoro_41, Veracruz_40, Vix_45, Watson_45, Wooldri_47, Zetzy_44,

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

- B1_39, MA5_42, MK4_42, Phantastic_42, StepMih_45,

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

- ACFishhook_44, AbbysRanger_41, Achebe_40, Arturo_41, AvatarAhPeg_41, BabyRay_42, Backyardigan_40, Badger_40, BangNhom_43, BlueBird_43, Bugatti_42, Bumblebee11_40, Cerulean_43, ChampagnePapi_44, Cici_41, Cindaradix_39, Danforth_38, Datway_41, DirtyDunning_41, Dixon_39, Drake94_37, Expelliarmus_38, Fred313_42, Gemma_44, Giroux_42, Groupthink_46, HaveUMetTed_46, Heathen_42, HeIDan_42, Heliosoles_44, Idleandcovert_42,

JeppNRM_46, Kalb97_46, Kalnoky_46, Katalie136_41, Kimona_39, KittenMittens_36, Kratark_42, LHTSCC_44, LochMonster_43, Manu_45, Marius_46, Miramae_41, Morpher26_41, Mundrea_41, MyraDee_39, NearlyHeadless_39, Noelle_42, Obama12_43, OlanP_44, Pawn_45, PeaceMeal1_37, Perplexer_41, PetiteSangsue_41, Phillis_39, PhishRPhriends_43, Phranny_46, Pistachio_43, Poompha_38, Puppy_43, PurpleHaze_45, Reba_45, Roary_39, Saintus_34, SaturnRing_42, Scout_42, Severus_37, SheldonCooper_44, Shygu2_41, Smeadley_39, Stink_42, TNguyen7_42, Trike_36, Wile_41, Xena_40,

Summary by start number:

Start 11:

- Found in 30 of 162 (18.5%) of genes in pham
- Manual Annotations of this start: 30 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger_41 (A4), Achebe_40 (A4), Arturo_41 (A4), AvatarAhPeg_41 (A4), Backyardigan_40 (A4), Badger_40 (A4), BangNhom_43 (A4), Bumblebee11_40 (A4), Cerulean_43 (A4), ChampagnePapi_44 (A4), Cici_41 (A4), Cindaradix_39 (A4), Datway_41 (A4), DirtyDunning_41 (A4), Katalie136_41 (A4), Kratark_42 (A4), LHTSCC_44 (A4), LochMonster_43 (A4), Miramae_41 (A4), Morpher26_41 (A4), Mundrea_41 (A4), Noelle_42 (A4), Obama12_43 (A4), Perplexer_41 (A4), PetiteSangsue_41 (A4), SheldonCooper_44 (A4), Shygu2_41 (A4), Stink_42 (A4), Wile_41 (A4), Xena_40 (A4),

Start 12:

- Found in 2 of 162 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MyraDee_39 (A18), Phillis_39 (A8),

Start 13:

- Found in 29 of 162 (17.9%) of genes in pham
- Manual Annotations of this start: 28 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook_44 (A3), Danforth_38 (A8), Dixon_39 (A8), Drake94_37 (A10), Expelliarmus_38 (A8), Gemma_44 (A3), Groupthink_46 (A3), HaveUMetTed_46 (A3), Heliosoles_44 (A3), JeppNRM_46 (A3), Kalb97_46 (A3), Kalnoky_46 (A3), KittenMittens_36 (A10), Manu_45 (A3), Marius_46 (A3), NearlyHeadless_39 (A8), OlanP_44 (A3), Pawn_45 (A3), PeaceMeal1_37 (A10), PhishRPhriends_43 (A3), Phranny_46 (A3), Poompha_38 (A10), PurpleHaze_45 (A3), Reba_45 (A3), Roary_39 (A8), Saintus_34 (A8), Severus_37 (A10), Smeadley_39 (A8), Trike_36 (A10),

Start 14:

- Found in 21 of 162 (13.0%) of genes in pham
- Manual Annotations of this start: 14 of 156
- Called 81.0% of time when present
- Phage (with cluster) where this start called: B1_39 (A3), BabyRay_42 (A3), BlueBird_43 (A3), Bugatti_42 (A3), Fred313_42 (A3), Giroux_42 (A3), Heathen_42 (A3), HelDan_42 (A3), Idleandcovert_42 (A3), MA5_42 (A3), MK4_42 (A3), Phantastic_42 (A3), Pistachio_43 (A3), Puppy_43 (A3), SaturnRing_42 (A3), Scout_42 (A3), TNguyen7_42 (A3),

Start 15:

- Found in 87 of 162 (53.7%) of genes in pham
- Manual Annotations of this start: 80 of 156
- Called 94.3% of time when present
- Phage (with cluster) where this start called: Aglet_46 (A3), AgronaGT15_44 (A3), Anubis_48 (A3), AugsMagnumOpus_48 (A3), Beauxregard13_45 (A3), BreSam8_45 (A3), BuzzBuzz_43 (A3), Bxz2_41 (A3), Caviar_41 (A3), Colbster_45 (A3), Cullens_45 (A3), DaHudson_45 (A3), Daishi_44 (A3), Dieselweasel_46 (A3), EpicPhail_46 (A3), Farber_45 (A3), Fernando_45 (A3), GingkoMaracino_45 (A3), Grif_45 (A3), Grub_45 (A3), Grum1_45 (A3), GtownJaz_45 (A3), HashRod_46 (A3), Hercules11_45 (A3), Hookmount_41 (A3), Isca_41 (A3), JF2_42 (A3), JF4_42 (A3), JHC117_45 (A3), JenCasNa_46 (A3), Jobu08_44 (A3), KADY_45 (A3), LBerry_46 (A3), Lambert1_41 (A3), LarryKay_45 (A3), Lilith_46 (A3), Louie6_44 (A3), LugYA_48 (A3), MadMarie_45 (A3), Mainiac_45 (A3), Malinsilva_47 (A3), MarQuardt_45 (A3), Margo_41 (A3), Marie_45 (A3), Microwolf_45 (A3), Misomonster_46 (A3), MoneyMay_45 (A3), MuchMore_48 (A3), Noella_41 (A3), Norbert_40 (A3), Ollie_45 (A3), P28Green_46 (A3), PGHhamlin_47 (A3), Panamaxus_39 (A3), Pembroke_45 (A3), Penny1_46 (A3), Phoebe_46 (A3), Phoxy_45 (A3), Pocahontas_41 (A3), Popcicle_41 (A3), PotatoSplit_47 (A3), QuinnKiro_40 (A3), ResDef_42 (A3), Rockstar_42 (A3), Rummer_44 (A3), Sabia_45 (A3), Sabinator_44 (A3), Snickers_45 (A3), SoYo_45 (A3), SoilDragon_45 (A3), Soshari_47 (A3), Spike509_45 (A3), Stagni_45 (A3), Taurus_46 (A3), Texage_40 (A3), Tiffany_45 (A3), Todacoro_41 (A3), Veracruz_40 (A3), Vix_45 (A3), Watson_45 (A3), Wooldri_47 (A3), Zetzy_44 (A3),

Start 17:

- Found in 1 of 162 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kimona_39 (A19),

Start 18:

- Found in 65 of 162 (40.1%) of genes in pham
- Manual Annotations of this start: 1 of 156
- Called 1.5% of time when present
- Phage (with cluster) where this start called: StepMih_45 (A3),

Summary by clusters:

There are 6 clusters represented in this pham: A10, A19, A18, A3, A4, A8,

Info for manual annotations of cluster A10:

- Start number 13 was manually annotated 6 times for cluster A10.

Info for manual annotations of cluster A18:

- Start number 12 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 17 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A3:

- Start number 13 was manually annotated 15 times for cluster A3.
- Start number 14 was manually annotated 14 times for cluster A3.

- Start number 15 was manually annotated 80 times for cluster A3.
- Start number 18 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 11 was manually annotated 30 times for cluster A4.

Info for manual annotations of cluster A8:

- Start number 12 was manually annotated 1 time for cluster A8.
- Start number 13 was manually annotated 7 times for cluster A8.

Gene Information:

Gene: ACFishhook_44 Start: 29603, Stop: 29400, Start Num: 13

Candidate Starts for ACFishhook_44:

(Start: 13 @29603 has 28 MA's), (16, 29597), (29, 29471), (33, 29441), (34, 29429),

Gene: AbbysRanger_41 Start: 29292, Stop: 29086, Start Num: 11

Candidate Starts for AbbysRanger_41:

(Start: 11 @29292 has 30 MA's), (21, 29205), (28, 29163), (37, 29106),

Gene: Achebe_40 Start: 29275, Stop: 29069, Start Num: 11

Candidate Starts for Achebe_40:

(Start: 11 @29275 has 30 MA's), (21, 29188), (28, 29146), (37, 29089),

Gene: Aglet_46 Start: 29633, Stop: 29448, Start Num: 15

Candidate Starts for Aglet_46:

(1, 29972), (3, 29909), (Start: 15 @29633 has 80 MA's), (Start: 18 @29600 has 1 MA's), (23, 29549), (26, 29519), (27, 29516),

Gene: AgronaGT15_44 Start: 29484, Stop: 29299, Start Num: 15

Candidate Starts for AgronaGT15_44:

(1, 29823), (Start: 15 @29484 has 80 MA's), (Start: 18 @29451 has 1 MA's), (23, 29400), (26, 29370), (27, 29367),

Gene: Anubis_48 Start: 29518, Stop: 29333, Start Num: 15

Candidate Starts for Anubis_48:

(1, 29857), (Start: 15 @29518 has 80 MA's), (Start: 18 @29485 has 1 MA's), (23, 29434), (26, 29404), (27, 29401),

Gene: Arturo_41 Start: 29582, Stop: 29382, Start Num: 11

Candidate Starts for Arturo_41:

(Start: 11 @29582 has 30 MA's), (21, 29501), (28, 29459), (29, 29453), (37, 29402),

Gene: AugsMagnumOpus_48 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for AugsMagnumOpus_48:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: AvatarAhPeg_41 Start: 29801, Stop: 29601, Start Num: 11

Candidate Starts for AvatarAhPeg_41:

(Start: 11 @29801 has 30 MA's), (21, 29720), (25, 29696), (29, 29672), (37, 29621),

Gene: B1_39 Start: 28521, Stop: 28321, Start Num: 14

Candidate Starts for B1_39:

(Start: 14 @28521 has 14 MA's), (Start: 15 @28518 has 80 MA's), (25, 28416), (27, 28401), (29, 28392), (34, 28350), (36, 28338),

Gene: BabyRay_42 Start: 29257, Stop: 29057, Start Num: 14

Candidate Starts for BabyRay_42:

(Start: 14 @29257 has 14 MA's), (25, 29152), (29, 29128), (30, 29125), (32, 29113), (34, 29086), (36, 29074),

Gene: Backyardigan_40 Start: 29308, Stop: 29102, Start Num: 11

Candidate Starts for Backyardigan_40:

(Start: 11 @29308 has 30 MA's), (21, 29221), (28, 29179), (37, 29122),

Gene: Badger_40 Start: 29276, Stop: 29070, Start Num: 11

Candidate Starts for Badger_40:

(Start: 11 @29276 has 30 MA's), (21, 29189), (28, 29147), (37, 29090),

Gene: BangNhom_43 Start: 29748, Stop: 29542, Start Num: 11

Candidate Starts for BangNhom_43:

(Start: 11 @29748 has 30 MA's), (21, 29661), (28, 29619), (29, 29613), (37, 29562),

Gene: Beauxregard13_45 Start: 29635, Stop: 29450, Start Num: 15

Candidate Starts for Beauxregard13_45:

(1, 29974), (Start: 15 @29635 has 80 MA's), (Start: 18 @29602 has 1 MA's), (23, 29551), (26, 29521), (27, 29518),

Gene: BlueBird_43 Start: 29167, Stop: 28967, Start Num: 14

Candidate Starts for BlueBird_43:

(Start: 14 @29167 has 14 MA's), (20, 29098), (21, 29086), (25, 29062), (34, 28996), (36, 28984),

Gene: BreSam8_45 Start: 29625, Stop: 29440, Start Num: 15

Candidate Starts for BreSam8_45:

(1, 29964), (Start: 15 @29625 has 80 MA's), (Start: 18 @29592 has 1 MA's), (23, 29541), (26, 29511), (27, 29508),

Gene: Bugatti_42 Start: 29167, Stop: 28967, Start Num: 14

Candidate Starts for Bugatti_42:

(Start: 14 @29167 has 14 MA's), (20, 29098), (21, 29086), (25, 29062), (34, 28996), (36, 28984),

Gene: Bumblebee11_40 Start: 29278, Stop: 29072, Start Num: 11

Candidate Starts for Bumblebee11_40:

(Start: 11 @29278 has 30 MA's), (21, 29191), (28, 29149), (37, 29092),

Gene: BuzzBuzz_43 Start: 29663, Stop: 29478, Start Num: 15

Candidate Starts for BuzzBuzz_43:

(1, 30002), (Start: 15 @29663 has 80 MA's), (Start: 18 @29630 has 1 MA's), (23, 29579), (26, 29549), (27, 29546),

Gene: Bxz2_41 Start: 29670, Stop: 29485, Start Num: 15

Candidate Starts for Bxz2_41:

(1, 30009), (Start: 15 @29670 has 80 MA's), (Start: 18 @29637 has 1 MA's), (23, 29586), (26, 29556), (27, 29553),

Gene: Caviar_41 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for Caviar_41:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Cerulean_43 Start: 29749, Stop: 29543, Start Num: 11

Candidate Starts for Cerulean_43:

(Start: 11 @29749 has 30 MA's), (21, 29662), (28, 29620), (29, 29614), (37, 29563),

Gene: ChampagnePapi_44 Start: 29748, Stop: 29542, Start Num: 11

Candidate Starts for ChampagnePapi_44:

(Start: 11 @29748 has 30 MA's), (21, 29661), (28, 29619), (29, 29613), (37, 29562),

Gene: Cici_41 Start: 29293, Stop: 29087, Start Num: 11

Candidate Starts for Cici_41:

(Start: 11 @29293 has 30 MA's), (21, 29206), (28, 29164), (37, 29107),

Gene: Cindaradix_39 Start: 28915, Stop: 28709, Start Num: 11

Candidate Starts for Cindaradix_39:

(Start: 11 @28915 has 30 MA's), (21, 28828), (28, 28786), (29, 28780), (37, 28729),

Gene: Colbster_45 Start: 29635, Stop: 29450, Start Num: 15

Candidate Starts for Colbster_45:

(1, 29974), (Start: 15 @29635 has 80 MA's), (Start: 18 @29602 has 1 MA's), (23, 29551), (26, 29521), (27, 29518),

Gene: Cullens_45 Start: 29631, Stop: 29446, Start Num: 15

Candidate Starts for Cullens_45:

(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: DaHudson_45 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for DaHudson_45:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: Daishi_44 Start: 28504, Stop: 28319, Start Num: 15

Candidate Starts for Daishi_44:

(1, 28843), (Start: 15 @28504 has 80 MA's), (Start: 18 @28471 has 1 MA's), (23, 28420), (26, 28390), (27, 28387),

Gene: Danforth_38 Start: 27928, Stop: 27740, Start Num: 13

Candidate Starts for Danforth_38:

(Start: 13 @27928 has 28 MA's), (25, 27826), (32, 27787), (36, 27748),

Gene: Datway_41 Start: 29264, Stop: 29058, Start Num: 11

Candidate Starts for Datway_41:

(Start: 11 @29264 has 30 MA's), (21, 29177), (28, 29135), (37, 29078),

Gene: Dieselweasel_46 Start: 29634, Stop: 29449, Start Num: 15

Candidate Starts for Dieselweasel_46:

(1, 29973), (Start: 15 @29634 has 80 MA's), (Start: 18 @29601 has 1 MA's), (23, 29550), (26, 29520), (27, 29517),

Gene: DirtyDunning_41 Start: 29323, Stop: 29117, Start Num: 11

Candidate Starts for DirtyDunning_41:

(Start: 11 @29323 has 30 MA's), (21, 29236), (28, 29194), (29, 29188), (37, 29137),

Gene: Dixon_39 Start: 28081, Stop: 27887, Start Num: 13

Candidate Starts for Dixon_39:

(Start: 13 @28081 has 28 MA's), (24, 27991), (25, 27979), (32, 27940), (35, 27904),

Gene: Drake94_37 Start: 27602, Stop: 27399, Start Num: 13

Candidate Starts for Drake94_37:

(9, 27629), (Start: 13 @27602 has 28 MA's), (16, 27596), (24, 27506), (25, 27494), (34, 27428),

Gene: EpicPhail_46 Start: 29635, Stop: 29450, Start Num: 15

Candidate Starts for EpicPhail_46:

(1, 29974), (Start: 15 @29635 has 80 MA's), (Start: 18 @29602 has 1 MA's), (23, 29551), (26, 29521), (27, 29518),

Gene: Expelliarmus_38 Start: 27958, Stop: 27764, Start Num: 13

Candidate Starts for Expelliarmus_38:

(Start: 13 @27958 has 28 MA's), (25, 27856), (32, 27817), (35, 27781),

Gene: Farber_45 Start: 29625, Stop: 29440, Start Num: 15

Candidate Starts for Farber_45:

(1, 29964), (Start: 15 @29625 has 80 MA's), (Start: 18 @29592 has 1 MA's), (23, 29541), (26, 29511), (27, 29508),

Gene: Fernando_45 Start: 29631, Stop: 29446, Start Num: 15

Candidate Starts for Fernando_45:

(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: Fred313_42 Start: 28919, Stop: 28719, Start Num: 14

Candidate Starts for Fred313_42:

(Start: 14 @28919 has 14 MA's), (20, 28850), (21, 28838), (25, 28814), (32, 28775), (34, 28748), (36, 28736),

Gene: Gemma_44 Start: 29527, Stop: 29324, Start Num: 13

Candidate Starts for Gemma_44:

(Start: 13 @29527 has 28 MA's), (16, 29521), (21, 29443), (29, 29395), (33, 29365), (34, 29353),

Gene: GingkoMaracino_45 Start: 29518, Stop: 29333, Start Num: 15

Candidate Starts for GingkoMaracino_45:

(1, 29857), (Start: 15 @29518 has 80 MA's), (Start: 18 @29485 has 1 MA's), (23, 29434), (26, 29404), (27, 29401),

Gene: Giroux_42 Start: 29166, Stop: 28966, Start Num: 14

Candidate Starts for Giroux_42:

(Start: 14 @29166 has 14 MA's), (20, 29097), (21, 29085), (25, 29061), (34, 28995), (36, 28983),

Gene: Grif_45 Start: 29706, Stop: 29521, Start Num: 15

Candidate Starts for Grif_45:

(1, 30045), (Start: 15 @29706 has 80 MA's), (Start: 18 @29673 has 1 MA's), (23, 29622), (26, 29592), (27, 29589),

Gene: Groupthink_46 Start: 29531, Stop: 29328, Start Num: 13

Candidate Starts for Groupthink_46:

(Start: 13 @29531 has 28 MA's), (16, 29525), (21, 29447), (29, 29399), (33, 29369), (34, 29357),

Gene: Grub_45 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for Grub_45:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: Grum1_45 Start: 29631, Stop: 29446, Start Num: 15

Candidate Starts for Grum1_45:

(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: GtownJaz_45 Start: 29633, Stop: 29448, Start Num: 15

Candidate Starts for GtownJaz_45:

(1, 29972), (3, 29909), (Start: 15 @29633 has 80 MA's), (Start: 18 @29600 has 1 MA's), (23, 29549), (26, 29519), (27, 29516),

Gene: HashRod_46 Start: 29663, Stop: 29478, Start Num: 15

Candidate Starts for HashRod_46:

(1, 30002), (Start: 15 @29663 has 80 MA's), (Start: 18 @29630 has 1 MA's), (23, 29579), (26, 29549), (27, 29546),

Gene: HaveUMetTed_46 Start: 29513, Stop: 29310, Start Num: 13

Candidate Starts for HaveUMetTed_46:

(Start: 13 @29513 has 28 MA's), (16, 29507), (21, 29429), (29, 29381), (31, 29369), (33, 29351), (34, 29339),

Gene: Heathen_42 Start: 28975, Stop: 28775, Start Num: 14

Candidate Starts for Heathen_42:

(Start: 14 @28975 has 14 MA's), (20, 28906), (21, 28894), (25, 28870), (32, 28831), (34, 28804), (36, 28792),

Gene: HelDan_42 Start: 29227, Stop: 29027, Start Num: 14

Candidate Starts for HelDan_42:

(Start: 14 @29227 has 14 MA's), (20, 29158), (21, 29146), (25, 29122), (32, 29083), (34, 29056), (36, 29044),

Gene: Heliosoles_44 Start: 29534, Stop: 29331, Start Num: 13

Candidate Starts for Heliosoles_44:

(Start: 13 @29534 has 28 MA's), (16, 29528), (21, 29450), (29, 29402), (33, 29372), (34, 29360),

Gene: Hercules11_45 Start: 29640, Stop: 29455, Start Num: 15

Candidate Starts for Hercules11_45:

(1, 29979), (Start: 15 @29640 has 80 MA's), (Start: 18 @29607 has 1 MA's), (23, 29556), (26, 29526), (27, 29523),

Gene: Hookmount_41 Start: 29365, Stop: 29168, Start Num: 15
Candidate Starts for Hookmount_41:
(2, 29683), (3, 29638), (7, 29458), (Start: 15 @29365 has 80 MA's), (19, 29326), (21, 29287), (25, 29263), (27, 29248), (29, 29239), (34, 29197),

Gene: Idleandcovert_42 Start: 29167, Stop: 28967, Start Num: 14
Candidate Starts for Idleandcovert_42:
(Start: 14 @29167 has 14 MA's), (20, 29098), (21, 29086), (25, 29062), (34, 28996), (36, 28984),

Gene: Isca_41 Start: 28767, Stop: 28570, Start Num: 15
Candidate Starts for Isca_41:
(Start: 14 @28770 has 14 MA's), (Start: 15 @28767 has 80 MA's), (25, 28665), (27, 28650), (29, 28641), (34, 28599), (36, 28587),

Gene: JF2_42 Start: 28518, Stop: 28321, Start Num: 15
Candidate Starts for JF2_42:
(Start: 14 @28521 has 14 MA's), (Start: 15 @28518 has 80 MA's), (25, 28416), (27, 28401), (29, 28392), (34, 28350), (36, 28338),

Gene: JF4_42 Start: 28518, Stop: 28321, Start Num: 15
Candidate Starts for JF4_42:
(Start: 14 @28521 has 14 MA's), (Start: 15 @28518 has 80 MA's), (25, 28416), (27, 28401), (29, 28392), (34, 28350), (36, 28338),

Gene: JHC117_45 Start: 29630, Stop: 29445, Start Num: 15
Candidate Starts for JHC117_45:
(1, 29969), (Start: 15 @29630 has 80 MA's), (Start: 18 @29597 has 1 MA's), (23, 29546), (26, 29516), (27, 29513),

Gene: JenCasNa_46 Start: 29631, Stop: 29446, Start Num: 15
Candidate Starts for JenCasNa_46:
(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: JeppNRM_46 Start: 29532, Stop: 29329, Start Num: 13
Candidate Starts for JeppNRM_46:
(Start: 13 @29532 has 28 MA's), (16, 29526), (21, 29448), (29, 29400), (33, 29370), (34, 29358),

Gene: Jobu08_44 Start: 29464, Stop: 29279, Start Num: 15
Candidate Starts for Jobu08_44:
(1, 29803), (Start: 15 @29464 has 80 MA's), (Start: 18 @29431 has 1 MA's), (23, 29380), (26, 29350), (27, 29347),

Gene: KADY_45 Start: 29663, Stop: 29478, Start Num: 15
Candidate Starts for KADY_45:
(1, 30002), (Start: 15 @29663 has 80 MA's), (Start: 18 @29630 has 1 MA's), (23, 29579), (26, 29549), (27, 29546),

Gene: Kalb97_46 Start: 29530, Stop: 29327, Start Num: 13
Candidate Starts for Kalb97_46:
(Start: 13 @29530 has 28 MA's), (16, 29524), (21, 29446), (29, 29398), (33, 29368), (34, 29356),

Gene: Kalnoky_46 Start: 29528, Stop: 29325, Start Num: 13

Candidate Starts for Kalnoky_46:
(Start: 13 @29528 has 28 MA's), (16, 29522), (21, 29444), (29, 29396), (33, 29366), (34, 29354),

Gene: Katalie136_41 Start: 29278, Stop: 29072, Start Num: 11
Candidate Starts for Katalie136_41:
(Start: 11 @29278 has 30 MA's), (21, 29191), (28, 29149), (37, 29092),

Gene: Kimona_39 Start: 27191, Stop: 27000, Start Num: 17
Candidate Starts for Kimona_39:
(10, 27206), (Start: 17 @27191 has 1 MA's), (21, 27122), (22, 27119),

Gene: KittenMittens_36 Start: 27610, Stop: 27407, Start Num: 13
Candidate Starts for KittenMittens_36:
(9, 27637), (Start: 13 @27610 has 28 MA's), (16, 27604), (24, 27514), (25, 27502), (34, 27436),

Gene: Kratark_42 Start: 29465, Stop: 29265, Start Num: 11
Candidate Starts for Kratark_42:
(Start: 11 @29465 has 30 MA's), (21, 29384), (28, 29342), (29, 29336), (37, 29285),

Gene: LBerry_46 Start: 29635, Stop: 29450, Start Num: 15
Candidate Starts for LBerry_46:
(1, 29974), (Start: 15 @29635 has 80 MA's), (Start: 18 @29602 has 1 MA's), (23, 29551), (26, 29521),
(27, 29518),

Gene: LHTSCC_44 Start: 29748, Stop: 29542, Start Num: 11
Candidate Starts for LHTSCC_44:
(Start: 11 @29748 has 30 MA's), (21, 29661), (28, 29619), (29, 29613), (37, 29562),

Gene: Lambert1_41 Start: 29364, Stop: 29167, Start Num: 15
Candidate Starts for Lambert1_41:
(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25,
29262), (27, 29247), (29, 29238), (34, 29196),

Gene: LarryKay_45 Start: 29665, Stop: 29480, Start Num: 15
Candidate Starts for LarryKay_45:
(1, 30004), (Start: 15 @29665 has 80 MA's), (Start: 18 @29632 has 1 MA's), (23, 29581), (26, 29551),
(27, 29548),

Gene: Lilith_46 Start: 29625, Stop: 29440, Start Num: 15
Candidate Starts for Lilith_46:
(1, 29964), (Start: 15 @29625 has 80 MA's), (Start: 18 @29592 has 1 MA's), (23, 29541), (26, 29511),
(27, 29508),

Gene: LochMonster_43 Start: 29562, Stop: 29362, Start Num: 11
Candidate Starts for LochMonster_43:
(Start: 11 @29562 has 30 MA's), (21, 29481), (28, 29439), (29, 29433), (37, 29382),

Gene: Louie6_44 Start: 29664, Stop: 29479, Start Num: 15
Candidate Starts for Louie6_44:
(1, 30003), (Start: 15 @29664 has 80 MA's), (Start: 18 @29631 has 1 MA's), (23, 29580), (26, 29550),
(27, 29547),

Gene: LugYA_48 Start: 29632, Stop: 29447, Start Num: 15

Candidate Starts for LugYA_48:

(1, 29971), (Start: 15 @29632 has 80 MA's), (Start: 18 @29599 has 1 MA's), (23, 29548), (26, 29518), (27, 29515),

Gene: MA5_42 Start: 28671, Stop: 28471, Start Num: 14

Candidate Starts for MA5_42:

(4, 28920), (Start: 14 @28671 has 14 MA's), (Start: 15 @28668 has 80 MA's), (25, 28566), (27, 28551), (29, 28542), (34, 28500),

Gene: MK4_42 Start: 28755, Stop: 28555, Start Num: 14

Candidate Starts for MK4_42:

(Start: 14 @28755 has 14 MA's), (Start: 15 @28752 has 80 MA's), (25, 28650), (27, 28635), (29, 28626), (34, 28584), (36, 28572),

Gene: MadMarie_45 Start: 29634, Stop: 29449, Start Num: 15

Candidate Starts for MadMarie_45:

(1, 29973), (Start: 15 @29634 has 80 MA's), (Start: 18 @29601 has 1 MA's), (23, 29550), (26, 29520), (27, 29517),

Gene: Mainiac_45 Start: 29625, Stop: 29440, Start Num: 15

Candidate Starts for Mainiac_45:

(1, 29964), (Start: 15 @29625 has 80 MA's), (Start: 18 @29592 has 1 MA's), (23, 29541), (26, 29511), (27, 29508),

Gene: Malinsilva_47 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for Malinsilva_47:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (27, 29507),

Gene: Manu_45 Start: 29531, Stop: 29328, Start Num: 13

Candidate Starts for Manu_45:

(Start: 13 @29531 has 28 MA's), (16, 29525), (21, 29447), (29, 29399), (33, 29369), (34, 29357),

Gene: MarQuardt_45 Start: 29633, Stop: 29448, Start Num: 15

Candidate Starts for MarQuardt_45:

(1, 29972), (Start: 15 @29633 has 80 MA's), (Start: 18 @29600 has 1 MA's), (23, 29549), (26, 29519), (27, 29516),

Gene: Margo_41 Start: 29390, Stop: 29193, Start Num: 15

Candidate Starts for Margo_41:

(2, 29708), (3, 29663), (7, 29483), (Start: 15 @29390 has 80 MA's), (19, 29351), (21, 29312), (25, 29288), (27, 29273), (29, 29264), (34, 29222),

Gene: Marie_45 Start: 29631, Stop: 29446, Start Num: 15

Candidate Starts for Marie_45:

(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: Marius_46 Start: 29528, Stop: 29325, Start Num: 13

Candidate Starts for Marius_46:

(Start: 13 @29528 has 28 MA's), (16, 29522), (21, 29444), (29, 29396), (33, 29366), (34, 29354),

Gene: Microwolf_45 Start: 29633, Stop: 29448, Start Num: 15

Candidate Starts for Microwolf_45:

(1, 29972), (Start: 15 @29633 has 80 MA's), (Start: 18 @29600 has 1 MA's), (23, 29549), (26, 29519), (27, 29516),

Gene: Miramae_41 Start: 29463, Stop: 29263, Start Num: 11

Candidate Starts for Miramae_41:

(Start: 11 @29463 has 30 MA's), (21, 29382), (25, 29358), (29, 29334), (37, 29283),

Gene: Misomonster_46 Start: 29662, Stop: 29477, Start Num: 15

Candidate Starts for Misomonster_46:

(1, 30001), (Start: 15 @29662 has 80 MA's), (Start: 18 @29629 has 1 MA's), (23, 29578), (26, 29548), (27, 29545),

Gene: MoneyMay_45 Start: 29631, Stop: 29446, Start Num: 15

Candidate Starts for MoneyMay_45:

(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: Morpher26_41 Start: 29299, Stop: 29093, Start Num: 11

Candidate Starts for Morpher26_41:

(Start: 11 @29299 has 30 MA's), (21, 29212), (28, 29170), (37, 29113),

Gene: MuchMore_48 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for MuchMore_48:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: Mundrea_41 Start: 29283, Stop: 29083, Start Num: 11

Candidate Starts for Mundrea_41:

(Start: 11 @29283 has 30 MA's), (21, 29202), (23, 29196), (28, 29160), (29, 29154), (37, 29103),

Gene: MyraDee_39 Start: 27023, Stop: 26826, Start Num: 12

Candidate Starts for MyraDee_39:

(Start: 12 @27023 has 2 MA's), (23, 26936), (25, 26918), (34, 26852),

Gene: NearlyHeadless_39 Start: 28011, Stop: 27817, Start Num: 13

Candidate Starts for NearlyHeadless_39:

(6, 28122), (Start: 13 @28011 has 28 MA's), (25, 27909), (32, 27870), (35, 27834),

Gene: Noella_41 Start: 29365, Stop: 29168, Start Num: 15

Candidate Starts for Noella_41:

(2, 29683), (3, 29638), (7, 29458), (Start: 15 @29365 has 80 MA's), (19, 29326), (21, 29287), (25, 29263), (27, 29248), (29, 29239), (30, 29236), (34, 29197),

Gene: Noelle_42 Start: 29588, Stop: 29382, Start Num: 11

Candidate Starts for Noelle_42:

(Start: 11 @29588 has 30 MA's), (21, 29501), (28, 29459), (37, 29402),

Gene: Norbert_40 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for Norbert_40:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Obama12_43 Start: 29750, Stop: 29544, Start Num: 11

Candidate Starts for Obama12_43:

(Start: 11 @29750 has 30 MA's), (21, 29663), (28, 29621), (29, 29615), (37, 29564),

Gene: OlanP_44 Start: 29701, Stop: 29498, Start Num: 13

Candidate Starts for OlanP_44:

(Start: 13 @29701 has 28 MA's), (16, 29695), (21, 29617), (29, 29569), (31, 29557), (33, 29539), (34, 29527),

Gene: Ollie_45 Start: 29503, Stop: 29318, Start Num: 15

Candidate Starts for Ollie_45:

(1, 29842), (Start: 15 @29503 has 80 MA's), (Start: 18 @29470 has 1 MA's), (23, 29419), (26, 29389), (27, 29386),

Gene: P28Green_46 Start: 29634, Stop: 29449, Start Num: 15

Candidate Starts for P28Green_46:

(1, 29973), (Start: 15 @29634 has 80 MA's), (Start: 18 @29601 has 1 MA's), (23, 29550), (26, 29520), (27, 29517),

Gene: PGHhamlin_47 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for PGHhamlin_47:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: Panamaxus_39 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for Panamaxus_39:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Pawn_45 Start: 29535, Stop: 29332, Start Num: 13

Candidate Starts for Pawn_45:

(Start: 13 @29535 has 28 MA's), (16, 29529), (21, 29451), (29, 29403), (33, 29373), (34, 29361),

Gene: PeaceMeal1_37 Start: 27611, Stop: 27408, Start Num: 13

Candidate Starts for PeaceMeal1_37:

(9, 27638), (Start: 13 @27611 has 28 MA's), (16, 27605), (24, 27515), (25, 27503), (34, 27437),

Gene: Pembroke_45 Start: 29633, Stop: 29448, Start Num: 15

Candidate Starts for Pembroke_45:

(1, 29972), (Start: 15 @29633 has 80 MA's), (Start: 18 @29600 has 1 MA's), (23, 29549), (26, 29519), (27, 29516),

Gene: Penny1_46 Start: 29635, Stop: 29450, Start Num: 15

Candidate Starts for Penny1_46:

(1, 29974), (Start: 15 @29635 has 80 MA's), (Start: 18 @29602 has 1 MA's), (23, 29551), (26, 29521), (27, 29518),

Gene: Perplexer_41 Start: 29275, Stop: 29069, Start Num: 11

Candidate Starts for Perplexer_41:

(Start: 11 @29275 has 30 MA's), (21, 29188), (28, 29146), (37, 29089),

Gene: PetiteSangsue_41 Start: 29278, Stop: 29072, Start Num: 11

Candidate Starts for PetiteSangsue_41:

(Start: 11 @29278 has 30 MA's), (21, 29191), (28, 29149), (37, 29092),

Gene: Phantastic_42 Start: 28786, Stop: 28586, Start Num: 14

Candidate Starts for Phantastic_42:

(Start: 14 @28786 has 14 MA's), (Start: 15 @28783 has 80 MA's), (25, 28681), (27, 28666), (29, 28657), (34, 28615), (36, 28603),

Gene: Phillis_39 Start: 28025, Stop: 27828, Start Num: 12

Candidate Starts for Phillis_39:

(8, 28103), (Start: 12 @28025 has 2 MA's), (24, 27932), (25, 27920), (32, 27881), (35, 27845),

Gene: PhishRPhriends_43 Start: 28709, Stop: 28506, Start Num: 13

Candidate Starts for PhishRPhriends_43:

(Start: 13 @28709 has 28 MA's), (16, 28703), (21, 28625), (29, 28577), (33, 28547), (34, 28535),

Gene: Phoebe_46 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for Phoebe_46:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: Phoxy_45 Start: 29660, Stop: 29475, Start Num: 15

Candidate Starts for Phoxy_45:

(1, 29999), (Start: 15 @29660 has 80 MA's), (Start: 18 @29627 has 1 MA's), (23, 29576), (26, 29546), (27, 29543),

Gene: Phranny_46 Start: 29517, Stop: 29314, Start Num: 13

Candidate Starts for Phranny_46:

(Start: 13 @29517 has 28 MA's), (16, 29511), (21, 29433), (29, 29385), (33, 29355), (34, 29343),

Gene: Pistachio_43 Start: 28714, Stop: 28514, Start Num: 14

Candidate Starts for Pistachio_43:

(Start: 14 @28714 has 14 MA's), (20, 28645), (21, 28633), (25, 28609), (34, 28543), (36, 28531),

Gene: Pocahontas_41 Start: 29361, Stop: 29164, Start Num: 15

Candidate Starts for Pocahontas_41:

(2, 29679), (3, 29634), (7, 29454), (Start: 15 @29361 has 80 MA's), (19, 29322), (21, 29283), (25, 29259), (27, 29244), (29, 29235), (34, 29193),

Gene: Poompha_38 Start: 27609, Stop: 27406, Start Num: 13

Candidate Starts for Poompha_38:

(9, 27636), (Start: 13 @27609 has 28 MA's), (16, 27603), (24, 27513), (25, 27501), (34, 27435),

Gene: Popcicle_41 Start: 29361, Stop: 29164, Start Num: 15

Candidate Starts for Popcicle_41:

(2, 29679), (3, 29634), (7, 29454), (Start: 15 @29361 has 80 MA's), (19, 29322), (21, 29283), (25, 29259), (27, 29244), (29, 29235), (34, 29193),

Gene: PotatoSplit_47 Start: 29635, Stop: 29450, Start Num: 15

Candidate Starts for PotatoSplit_47:

(1, 29974), (Start: 15 @29635 has 80 MA's), (Start: 18 @29602 has 1 MA's), (23, 29551), (26, 29521), (27, 29518),

Gene: Puppy_43 Start: 28787, Stop: 28587, Start Num: 14

Candidate Starts for Puppy_43:

(Start: 14 @28787 has 14 MA's), (20, 28718), (21, 28706), (25, 28682), (34, 28616), (36, 28604),

Gene: PurpleHaze_45 Start: 29530, Stop: 29327, Start Num: 13

Candidate Starts for PurpleHaze_45:

(Start: 13 @29530 has 28 MA's), (16, 29524), (21, 29446), (29, 29398), (33, 29368), (34, 29356),

Gene: QuinnKiro_40 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for QuinnKiro_40:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Reba_45 Start: 29190, Stop: 28987, Start Num: 13

Candidate Starts for Reba_45:

(Start: 13 @29190 has 28 MA's), (16, 29184), (21, 29106), (29, 29058), (33, 29028), (34, 29016),

Gene: ResDef_42 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for ResDef_42:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Roary_39 Start: 27913, Stop: 27725, Start Num: 13

Candidate Starts for Roary_39:

(Start: 13 @27913 has 28 MA's), (25, 27811), (32, 27772), (36, 27733),

Gene: Rockstar_42 Start: 28759, Stop: 28562, Start Num: 15

Candidate Starts for Rockstar_42:

(Start: 14 @28762 has 14 MA's), (Start: 15 @28759 has 80 MA's), (25, 28657), (27, 28642), (29, 28633), (34, 28591), (36, 28579),

Gene: Rummer_44 Start: 29663, Stop: 29478, Start Num: 15

Candidate Starts for Rummer_44:

(1, 30002), (Start: 15 @29663 has 80 MA's), (Start: 18 @29630 has 1 MA's), (23, 29579), (26, 29549), (27, 29546),

Gene: Sabia_45 Start: 29625, Stop: 29440, Start Num: 15

Candidate Starts for Sabia_45:

(1, 29964), (Start: 15 @29625 has 80 MA's), (Start: 18 @29592 has 1 MA's), (23, 29541), (26, 29511), (27, 29508),

Gene: Sabinator_44 Start: 29630, Stop: 29445, Start Num: 15

Candidate Starts for Sabinator_44:

(1, 29969), (Start: 15 @29630 has 80 MA's), (Start: 18 @29597 has 1 MA's), (23, 29546), (26, 29516), (27, 29513),

Gene: Saintus_34 Start: 24941, Stop: 24753, Start Num: 13

Candidate Starts for Saintus_34:

(Start: 13 @24941 has 28 MA's), (25, 24839), (32, 24800), (36, 24761),

Gene: SaturnRing_42 Start: 29167, Stop: 28967, Start Num: 14

Candidate Starts for SaturnRing_42:

(Start: 14 @29167 has 14 MA's), (20, 29098), (21, 29086), (25, 29062), (34, 28996), (36, 28984),

Gene: Scout_42 Start: 28474, Stop: 28274, Start Num: 14

Candidate Starts for Scout_42:

(Start: 14 @28474 has 14 MA's), (20, 28405), (21, 28393), (25, 28369), (32, 28330), (34, 28303), (36, 28291),

Gene: Severus_37 Start: 27609, Stop: 27406, Start Num: 13

Candidate Starts for Severus_37:

(9, 27636), (Start: 13 @27609 has 28 MA's), (16, 27603), (24, 27513), (25, 27501), (34, 27435),

Gene: SheldonCooper_44 Start: 29749, Stop: 29543, Start Num: 11

Candidate Starts for SheldonCooper_44:

(Start: 11 @29749 has 30 MA's), (21, 29662), (28, 29620), (29, 29614), (37, 29563),

Gene: Shygu2_41 Start: 29278, Stop: 29072, Start Num: 11

Candidate Starts for Shygu2_41:

(Start: 11 @29278 has 30 MA's), (21, 29191), (28, 29149), (29, 29143), (37, 29092),

Gene: Smeadley_39 Start: 28080, Stop: 27886, Start Num: 13

Candidate Starts for Smeadley_39:

(Start: 13 @28080 has 28 MA's), (25, 27978), (32, 27939), (35, 27903),

Gene: Snickers_45 Start: 29605, Stop: 29420, Start Num: 15

Candidate Starts for Snickers_45:

(1, 29944), (Start: 15 @29605 has 80 MA's), (Start: 18 @29572 has 1 MA's), (23, 29521), (26, 29491), (27, 29488),

Gene: SoYo_45 Start: 29543, Stop: 29358, Start Num: 15

Candidate Starts for SoYo_45:

(1, 29882), (Start: 15 @29543 has 80 MA's), (Start: 18 @29510 has 1 MA's), (23, 29459), (26, 29429), (27, 29426),

Gene: SoilDragon_45 Start: 29080, Stop: 28895, Start Num: 15

Candidate Starts for SoilDragon_45:

(1, 29419), (Start: 15 @29080 has 80 MA's), (Start: 18 @29047 has 1 MA's), (23, 28996), (26, 28966), (27, 28963),

Gene: Soshari_47 Start: 29659, Stop: 29474, Start Num: 15

Candidate Starts for Soshari_47:

(1, 29998), (Start: 15 @29659 has 80 MA's), (Start: 18 @29626 has 1 MA's), (23, 29575), (26, 29545), (27, 29542),

Gene: Spike509_45 Start: 29660, Stop: 29475, Start Num: 15

Candidate Starts for Spike509_45:

(1, 29999), (Start: 15 @29660 has 80 MA's), (Start: 18 @29627 has 1 MA's), (23, 29576), (26, 29546), (27, 29543),

Gene: Stagni_45 Start: 29634, Stop: 29449, Start Num: 15

Candidate Starts for Stagni_45:

(1, 29973), (Start: 15 @29634 has 80 MA's), (Start: 18 @29601 has 1 MA's), (23, 29550), (26, 29520), (27, 29517),

Gene: StepMih_45 Start: 29592, Stop: 29440, Start Num: 18

Candidate Starts for StepMih_45:

(1, 29964), (Start: 15 @29625 has 80 MA's), (Start: 18 @29592 has 1 MA's), (23, 29541), (26, 29511), (27, 29508),

Gene: Stink_42 Start: 29743, Stop: 29543, Start Num: 11

Candidate Starts for Stink_42:

(Start: 11 @29743 has 30 MA's), (21, 29662), (25, 29638), (29, 29614), (37, 29563),

Gene: TNguyen7_42 Start: 29134, Stop: 28934, Start Num: 14

Candidate Starts for TNguyen7_42:

(Start: 14 @29134 has 14 MA's), (20, 29065), (21, 29053), (25, 29029), (34, 28963), (36, 28951),

Gene: Taurus_46 Start: 29631, Stop: 29446, Start Num: 15

Candidate Starts for Taurus_46:

(1, 29970), (Start: 15 @29631 has 80 MA's), (Start: 18 @29598 has 1 MA's), (23, 29547), (26, 29517), (27, 29514),

Gene: Texage_40 Start: 29365, Stop: 29168, Start Num: 15

Candidate Starts for Texage_40:

(2, 29683), (3, 29638), (7, 29458), (Start: 15 @29365 has 80 MA's), (19, 29326), (21, 29287), (25, 29263), (27, 29248), (29, 29239), (30, 29236), (34, 29197),

Gene: Tiffany_45 Start: 29517, Stop: 29332, Start Num: 15

Candidate Starts for Tiffany_45:

(1, 29856), (Start: 15 @29517 has 80 MA's), (Start: 18 @29484 has 1 MA's), (23, 29433), (26, 29403), (27, 29400),

Gene: Todacoro_41 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for Todacoro_41:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Trike_36 Start: 27442, Stop: 27239, Start Num: 13

Candidate Starts for Trike_36:

(9, 27469), (Start: 13 @27442 has 28 MA's), (16, 27436), (24, 27346), (25, 27334), (34, 27268),

Gene: Veracruz_40 Start: 29364, Stop: 29167, Start Num: 15

Candidate Starts for Veracruz_40:

(2, 29682), (3, 29637), (7, 29457), (Start: 15 @29364 has 80 MA's), (19, 29325), (21, 29286), (25, 29262), (27, 29247), (29, 29238), (34, 29196),

Gene: Vix_45 Start: 29714, Stop: 29529, Start Num: 15

Candidate Starts for Vix_45:

(1, 30053), (Start: 15 @29714 has 80 MA's), (Start: 18 @29681 has 1 MA's), (23, 29630), (26, 29600), (27, 29597),

Gene: Watson_45 Start: 29624, Stop: 29439, Start Num: 15

Candidate Starts for Watson_45:

(1, 29963), (Start: 15 @29624 has 80 MA's), (Start: 18 @29591 has 1 MA's), (23, 29540), (26, 29510), (27, 29507),

Gene: Wile_41 Start: 29309, Stop: 29103, Start Num: 11

Candidate Starts for Wile_41:

(Start: 11 @29309 has 30 MA's), (21, 29222), (28, 29180), (37, 29123),

Gene: Wooldri_47 Start: 29543, Stop: 29358, Start Num: 15

Candidate Starts for Wooldri_47:

(1, 29882), (Start: 15 @29543 has 80 MA's), (Start: 18 @29510 has 1 MA's), (23, 29459), (26, 29429), (27, 29426),

Gene: Xena_40 Start: 29275, Stop: 29069, Start Num: 11

Candidate Starts for Xena_40:

(Start: 11 @29275 has 30 MA's), (21, 29188), (28, 29146), (37, 29089),

Gene: Zetzy_44 Start: 29195, Stop: 29010, Start Num: 15

Candidate Starts for Zetzy_44:

(1, 29534), (5, 29450), (Start: 15 @29195 has 80 MA's), (Start: 18 @29162 has 1 MA's), (23, 29111), (26, 29081), (27, 29078),