

Pham 202941



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 202941 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202941 has 63 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Jablanski_56, Pytheas_56
- Track 2 : Floral_53, Pollux_55
- Track 3 : Hugley_52, TimTam_56, Herod_54, Eviarto_56, BatStarr_55, Nymphadora_56
- Track 4 : Agueybana_54
- Track 5 : Maridalia_56, Bunnybear_48
- Track 6 : Hyzer_61
- Track 7 : WelcomeAyanna_54, ThankyouJordi_54
- Track 8 : PantheRoc_56
- Track 9 : Thimann_53
- Track 10 : Easley_48
- Track 11 : Oregano_53
- Track 12 : Suerte_48
- Track 13 : Wizard_51, VanDeWege_55, Valary_54, CherryCola_55, RogerDodger_55, Halo3_53, CoveyB_54
- Track 14 : PinkCoffee_54, ClamChowder_54, KimmyK_53, Barb_54, Phlop_51, Fugax_55, PullumCavea_51
- Track 15 : Danyall_54, Portcullis_54, Twister6_54
- Track 16 : Bakery_58
- Track 17 : Nubi_52, Togo_51, SmokingBunny_52
- Track 18 : Arri_55
- Track 19 : Shinji_52
- Track 20 : Salvador_51, Evamon_51
- Track 21 : Savbucketdawg_52, Jambalaya_52
- Track 22 : Mutzi_52
- Track 23 : TillyBobJoe_54
- Track 24 : Fireball_54
- Track 25 : YungMoney_55
- Track 26 : Clown_63
- Track 27 : Hans_50, Inspectinfecti_49, Ali17_46
- Track 28 : Phinally_48, Leonard_48
- Track 29 : MelBins_49
- Track 30 : EMoore_46
- Track 31 : RoadKill_55
- Track 32 : Eyre_39
- Track 33 : E3_gp63

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

The start number called the most often in the published annotations is 20, it was called in 21 of the 57 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agueybana_54, BatStarr_55, Bunnybear_48, Easley_48, Eviarto_56, Eyre_39, Floral_53, Herod_54, Hugley_52, Hyzer_61, Jablanski_56, Maridalia_56, Nymphadora_56, Oregano_53, PantheRoc_56, Pollux_55, Pytheas_56, Suerte_48, ThankyouJordi_54, Thimann_53, TillyBobJoe_54, TimTam_56, WelcomeAyanna_54,

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

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

- Ali17_46, Arri_55, Bakery_58, Barb_54, CherryCola_55, ClamChowder_54, Clown_63, CoveyB_54, Danyall_54, E3_gp63, EMOore_46, Evamon_51, Fireball_54, Fugax_55, Halo3_53, Hans_50, Inspectinfecti_49, Jambalaya_52, KimmyK_53, Leonard_48, MelBins_49, Mutzi_52, Nubi_52, Phinally_48, Phlop_51, PinkCoffee_54, Portcullis_54, PullumCavea_51, RoadKill_55, RogerDodger_55, Salvador_51, Savbucketdawg_52, Shinji_52, SmokingBunny_52, Togo_51, Twister6_54, Valary_54, VanDeWege_55, Wizard_51, YungMoney_55,

Summary by start number:

Start 19:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clown_63 (DC2),

Start 20:

- Found in 23 of 63 (36.5%) of genes in pham
- Manual Annotations of this start: 21 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agueybana_54 (CZ1), BatStarr_55 (CZ1), Bunnybear_48 (CZ), Easley_48 (CZ4), Eviarto_56 (CZ1), Eyre_39 (singleton), Floral_53 (CY1), Herod_54 (CZ1), Hugley_52 (CZ1), Hyzer_61 (CZ1), Jablanski_56 (CY), Maridalia_56 (CZ1), Nymphadora_56 (CZ1), Oregano_53 (CZ4), PantheRoc_56 (CZ3), Pollux_55 (CY1), Pytheas_56 (CY), Suerte_48 (CZ4), ThankyouJordi_54 (CZ1), Thimann_53 (CZ4), TillyBobJoe_54 (DC1), TimTam_56 (CZ1), WelcomeAyanna_54 (CZ1),

Start 21:

- Found in 8 of 63 (12.7%) of genes in pham
- Manual Annotations of this start: 8 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ali17_46 (DE2), Bakery_58 (DC1), EMOore_46 (DE2), Hans_50 (DE2), Inspectinfecti_49 (DE2), Leonard_48 (DE2), MelBins_49 (DE2), Phinally_48 (DE2),

Start 23:

- Found in 15 of 63 (23.8%) of genes in pham
- Manual Annotations of this start: 13 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arri_55 (DC1), Barb_54 (DC1), CherryCola_55 (DC1), ClamChowder_54 (DC1), CoveyB_54 (DC1), Fugax_55 (DC1), Halo3_53 (DC1), KimmyK_53 (DC1), Phlop_51 (DC1), PinkCoffee_54 (DC1), PullumCavea_51 (DC1), RogerDodger_55 (DC1), Valary_54 (DC1), VanDeWege_55 (DC1), Wizard_51 (DC1),

Start 26:

- Found in 2 of 63 (3.2%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: E3_gp63 (singleton),

Start 28:

- Found in 14 of 63 (22.2%) of genes in pham
- Manual Annotations of this start: 13 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Danyall_54 (DC1), Evamon_51 (DC1), Fireball_54 (DC1), Jambalaya_52 (DC1), Mutzi_52 (DC1), Nubi_52 (DC1), Portcullis_54 (DC1), Salvador_51 (DC1), Savbucketdawg_52 (DC1), Shinji_52 (DC1), SmokingBunny_52 (DC1), Togo_51 (DC1), Twister6_54 (DC1), YungMoney_55 (DC1),

Start 40:

- Found in 1 of 63 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 57
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RoadKill_55 (DE3),

Summary by clusters:

There are 11 clusters represented in this pham: CY1, DE3, CZ3, DE2, CZ1, singleton, CZ4, CZ, CY, DC2, DC1,

Info for manual annotations of cluster CY:

- Start number 20 was manually annotated 2 times for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 20 was manually annotated 2 times for cluster CY1.

Info for manual annotations of cluster CZ:

- Start number 20 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 20 was manually annotated 9 times for cluster CZ1.

Info for manual annotations of cluster CZ3:

- Start number 20 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 20 was manually annotated 4 times for cluster CZ4.

Info for manual annotations of cluster DC1:

- Start number 20 was manually annotated 1 time for cluster DC1.
- Start number 21 was manually annotated 1 time for cluster DC1.
- Start number 23 was manually annotated 13 times for cluster DC1.
- Start number 28 was manually annotated 13 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 19 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE2:

- Start number 21 was manually annotated 7 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 40 was manually annotated 1 time for cluster DE3.

Gene Information:

Gene: Agueybana_54 Start: 39148, Stop: 39417, Start Num: 20

Candidate Starts for Agueybana_54:

(11, 38995), (14, 39046), (Start: 20 @39148 has 21 MA's), (49, 39301),

Gene: Ali17_46 Start: 41005, Stop: 41274, Start Num: 21

Candidate Starts for Ali17_46:

(Start: 21 @41005 has 8 MA's), (30, 41059), (43, 41113), (45, 41131),

Gene: Arri_55 Start: 40733, Stop: 40987, Start Num: 23

Candidate Starts for Arri_55:

(1, 40349), (2, 40385), (3, 40415), (4, 40457), (5, 40490), (6, 40502), (9, 40535), (12, 40577), (Start: 23 @40733 has 13 MA's), (47, 40871), (50, 40898),

Gene: Bakery_58 Start: 41850, Stop: 42167, Start Num: 21

Candidate Starts for Bakery_58:

(1, 41490), (2, 41526), (3, 41556), (Start: 21 @41850 has 8 MA's), (29, 41910), (31, 41928), (34, 41943), (36, 41949), (41, 41994), (49, 42063),

Gene: Barb_54 Start: 40852, Stop: 41124, Start Num: 23

Candidate Starts for Barb_54:

(1, 40468), (2, 40504), (3, 40534), (4, 40576), (5, 40609), (6, 40621), (9, 40654), (Start: 23 @40852 has 13 MA's), (45, 40975), (47, 41008), (50, 41035),

Gene: BatStarr_55 Start: 40436, Stop: 40723, Start Num: 20

Candidate Starts for BatStarr_55:

(Start: 20 @40436 has 21 MA's), (37, 40511), (45, 40565), (49, 40610),

Gene: Bunnybear_48 Start: 36890, Stop: 37207, Start Num: 20

Candidate Starts for Bunnybear_48:

(Start: 20 @36890 has 21 MA's), (27, 36938), (45, 37049), (49, 37094),

Gene: CherryCola_55 Start: 41506, Stop: 41757, Start Num: 23

Candidate Starts for CherryCola_55:

(1, 41122), (2, 41158), (3, 41188), (4, 41230), (5, 41263), (6, 41275), (9, 41308), (12, 41350), (15, 41398), (Start: 23 @41506 has 13 MA's), (42, 41587), (47, 41641), (50, 41668),

Gene: ClamChowder_54 Start: 40852, Stop: 41124, Start Num: 23

Candidate Starts for ClamChowder_54:

(1, 40468), (2, 40504), (3, 40534), (4, 40576), (5, 40609), (6, 40621), (9, 40654), (Start: 23 @40852 has 13 MA's), (45, 40975), (47, 41008), (50, 41035),

Gene: Clown_63 Start: 44726, Stop: 45010, Start Num: 19

Candidate Starts for Clown_63:

(Start: 19 @44726 has 1 MA's), (24, 44744), (42, 44840), (44, 44846), (45, 44861), (46, 44879),

Gene: CoveyB_54 Start: 40551, Stop: 40802, Start Num: 23

Candidate Starts for CoveyB_54:

(1, 40167), (2, 40203), (3, 40233), (4, 40275), (5, 40308), (6, 40320), (9, 40353), (12, 40395), (15, 40443), (Start: 23 @40551 has 13 MA's), (42, 40632), (47, 40686), (50, 40713),

Gene: Danyall_54 Start: 40589, Stop: 40831, Start Num: 28

Candidate Starts for Danyall_54:

(1, 40169), (2, 40205), (3, 40235), (4, 40277), (5, 40310), (6, 40322), (9, 40355), (15, 40445), (Start: 28 @40589 has 13 MA's), (33, 40625), (34, 40628), (47, 40715), (50, 40742),

Gene: E3_gp63 Start: 24893, Stop: 25126, Start Num: 26

Candidate Starts for E3_gp63:

(8, 24641), (13, 24737), (26, 24893), (32, 24935), (42, 24980), (43, 24983), (45, 25001),

Gene: EMoore_46 Start: 42206, Stop: 42475, Start Num: 21

Candidate Starts for EMoore_46:

(Start: 21 @42206 has 8 MA's), (26, 42245), (43, 42314), (45, 42332),

Gene: Easley_48 Start: 35265, Stop: 35531, Start Num: 20

Candidate Starts for Easley_48:

(Start: 20 @35265 has 21 MA's), (25, 35301), (45, 35373), (52, 35508),

Gene: Evamon_51 Start: 40608, Stop: 40850, Start Num: 28

Candidate Starts for Evamon_51:

(1, 40188), (2, 40224), (3, 40254), (4, 40296), (5, 40329), (6, 40341), (9, 40374), (15, 40464), (Start: 28 @40608 has 13 MA's), (33, 40644), (34, 40647), (47, 40734), (50, 40761), (52, 40836),

Gene: Eviarto_56 Start: 40411, Stop: 40698, Start Num: 20

Candidate Starts for Eviarto_56:

(Start: 20 @40411 has 21 MA's), (37, 40486), (45, 40540), (49, 40585),

Gene: Eyre_39 Start: 28551, Stop: 28820, Start Num: 20

Candidate Starts for Eyre_39:

(Start: 20 @28551 has 21 MA's), (45, 28653),

Gene: Fireball_54 Start: 41224, Stop: 41466, Start Num: 28

Candidate Starts for Fireball_54:

(1, 40804), (2, 40840), (3, 40870), (4, 40912), (5, 40945), (6, 40957), (7, 40963), (9, 40990), (15, 41080), (Start: 28 @41224 has 13 MA's), (33, 41260), (34, 41263), (47, 41350), (50, 41377),

Gene: Floral_53 Start: 39990, Stop: 40280, Start Num: 20
Candidate Starts for Floral_53:
(Start: 20 @39990 has 21 MA's), (35, 40065), (45, 40119), (49, 40164), (51, 40236),

Gene: Fugax_55 Start: 40844, Stop: 41116, Start Num: 23
Candidate Starts for Fugax_55:
(1, 40460), (2, 40496), (3, 40526), (4, 40568), (5, 40601), (6, 40613), (9, 40646), (Start: 23 @40844 has 13 MA's), (45, 40967), (47, 41000), (50, 41027),

Gene: Halo3_53 Start: 41289, Stop: 41540, Start Num: 23
Candidate Starts for Halo3_53:
(1, 40905), (2, 40941), (3, 40971), (4, 41013), (5, 41046), (6, 41058), (9, 41091), (12, 41133), (15, 41181), (Start: 23 @41289 has 13 MA's), (42, 41370), (47, 41424), (50, 41451),

Gene: Hans_50 Start: 41645, Stop: 41914, Start Num: 21
Candidate Starts for Hans_50:
(Start: 21 @41645 has 8 MA's), (30, 41699), (43, 41753), (45, 41771),

Gene: Herod_54 Start: 40455, Stop: 40742, Start Num: 20
Candidate Starts for Herod_54:
(Start: 20 @40455 has 21 MA's), (37, 40530), (45, 40584), (49, 40629),

Gene: Hugley_52 Start: 40435, Stop: 40722, Start Num: 20
Candidate Starts for Hugley_52:
(Start: 20 @40435 has 21 MA's), (37, 40510), (45, 40564), (49, 40609),

Gene: Hyzer_61 Start: 41797, Stop: 42114, Start Num: 20
Candidate Starts for Hyzer_61:
(10, 41635), (Start: 20 @41797 has 21 MA's), (39, 41923), (45, 41956),

Gene: Inspectinfecti_49 Start: 42091, Stop: 42360, Start Num: 21
Candidate Starts for Inspectinfecti_49:
(Start: 21 @42091 has 8 MA's), (30, 42145), (43, 42199), (45, 42217),

Gene: Jablanski_56 Start: 41463, Stop: 41780, Start Num: 20
Candidate Starts for Jablanski_56:
(Start: 20 @41463 has 21 MA's), (39, 41589), (45, 41622),

Gene: Jambalaya_52 Start: 40387, Stop: 40629, Start Num: 28
Candidate Starts for Jambalaya_52:
(1, 39967), (2, 40003), (3, 40033), (4, 40075), (5, 40108), (6, 40120), (9, 40153), (15, 40243), (Start: 28 @40387 has 13 MA's), (33, 40423), (34, 40426), (47, 40513), (50, 40540),

Gene: KimmyK_53 Start: 41286, Stop: 41558, Start Num: 23
Candidate Starts for KimmyK_53:
(1, 40902), (2, 40938), (3, 40968), (4, 41010), (5, 41043), (6, 41055), (9, 41088), (Start: 23 @41286 has 13 MA's), (45, 41409), (47, 41442), (50, 41469),

Gene: Leonard_48 Start: 41738, Stop: 42007, Start Num: 21
Candidate Starts for Leonard_48:
(Start: 21 @41738 has 8 MA's), (43, 41846), (45, 41864),

Gene: Maridalia_56 Start: 38636, Stop: 38953, Start Num: 20
Candidate Starts for Maridalia_56:
(Start: 20 @38636 has 21 MA's), (27, 38684), (45, 38795), (49, 38840),

Gene: MelBins_49 Start: 41918, Stop: 42259, Start Num: 21
Candidate Starts for MelBins_49:
(Start: 21 @41918 has 8 MA's), (45, 42116),

Gene: Mutzi_52 Start: 41716, Stop: 41958, Start Num: 28
Candidate Starts for Mutzi_52:
(1, 41296), (2, 41332), (3, 41362), (4, 41404), (5, 41437), (6, 41449), (9, 41482), (12, 41524), (15, 41572), (Start: 28 @41716 has 13 MA's), (33, 41752), (34, 41755), (47, 41842), (50, 41869),

Gene: Nubi_52 Start: 40713, Stop: 40955, Start Num: 28
Candidate Starts for Nubi_52:
(1, 40293), (2, 40329), (3, 40359), (4, 40401), (5, 40434), (6, 40446), (9, 40479), (12, 40521), (15, 40569), (Start: 28 @40713 has 13 MA's), (33, 40749), (34, 40752), (47, 40839), (50, 40866), (52, 40941),

Gene: Nymphadora_56 Start: 40435, Stop: 40722, Start Num: 20
Candidate Starts for Nymphadora_56:
(Start: 20 @40435 has 21 MA's), (37, 40510), (45, 40564), (49, 40609),

Gene: Oregano_53 Start: 35949, Stop: 36215, Start Num: 20
Candidate Starts for Oregano_53:
(Start: 20 @35949 has 21 MA's), (25, 35985), (45, 36057),

Gene: PantheRoc_56 Start: 39256, Stop: 39543, Start Num: 20
Candidate Starts for PantheRoc_56:
(Start: 20 @39256 has 21 MA's), (37, 39331), (45, 39385), (49, 39430), (50, 39445),

Gene: Phinally_48 Start: 41735, Stop: 42004, Start Num: 21
Candidate Starts for Phinally_48:
(Start: 21 @41735 has 8 MA's), (43, 41843), (45, 41861),

Gene: Phlop_51 Start: 40758, Stop: 41030, Start Num: 23
Candidate Starts for Phlop_51:
(1, 40374), (2, 40410), (3, 40440), (4, 40482), (5, 40515), (6, 40527), (9, 40560), (Start: 23 @40758 has 13 MA's), (45, 40881), (47, 40914), (50, 40941),

Gene: PinkCoffee_54 Start: 40861, Stop: 41133, Start Num: 23
Candidate Starts for PinkCoffee_54:
(1, 40477), (2, 40513), (3, 40543), (4, 40585), (5, 40618), (6, 40630), (9, 40663), (Start: 23 @40861 has 13 MA's), (45, 40984), (47, 41017), (50, 41044),

Gene: Pollux_55 Start: 39990, Stop: 40280, Start Num: 20
Candidate Starts for Pollux_55:
(Start: 20 @39990 has 21 MA's), (35, 40065), (45, 40119), (49, 40164), (51, 40236),

Gene: Portcullis_54 Start: 40400, Stop: 40642, Start Num: 28
Candidate Starts for Portcullis_54:
(1, 39980), (2, 40016), (3, 40046), (4, 40088), (5, 40121), (6, 40133), (9, 40166), (15, 40256), (Start: 28 @40400 has 13 MA's), (33, 40436), (34, 40439), (47, 40526), (50, 40553),

Gene: PullumCavea_51 Start: 40758, Stop: 41030, Start Num: 23
Candidate Starts for PullumCavea_51:
(1, 40374), (2, 40410), (3, 40440), (4, 40482), (5, 40515), (6, 40527), (9, 40560), (Start: 23 @40758 has 13 MA's), (45, 40881), (47, 40914), (50, 40941),

Gene: Pytheas_56 Start: 41462, Stop: 41779, Start Num: 20
Candidate Starts for Pytheas_56:
(Start: 20 @41462 has 21 MA's), (39, 41588), (45, 41621),

Gene: RoadKill_55 Start: 43934, Stop: 44122, Start Num: 40
Candidate Starts for RoadKill_55:
(16, 43679), (18, 43709), (22, 43787), (Start: 40 @43934 has 1 MA's),

Gene: RogerDodger_55 Start: 40901, Stop: 41152, Start Num: 23
Candidate Starts for RogerDodger_55:
(1, 40517), (2, 40553), (3, 40583), (4, 40625), (5, 40658), (6, 40670), (9, 40703), (12, 40745), (15, 40793), (Start: 23 @40901 has 13 MA's), (42, 40982), (47, 41036), (50, 41063),

Gene: Salvador_51 Start: 40606, Stop: 40848, Start Num: 28
Candidate Starts for Salvador_51:
(1, 40186), (2, 40222), (3, 40252), (4, 40294), (5, 40327), (6, 40339), (9, 40372), (15, 40462), (Start: 28 @40606 has 13 MA's), (33, 40642), (34, 40645), (47, 40732), (50, 40759), (52, 40834),

Gene: Savbucketdawg_52 Start: 40387, Stop: 40629, Start Num: 28
Candidate Starts for Savbucketdawg_52:
(1, 39967), (2, 40003), (3, 40033), (4, 40075), (5, 40108), (6, 40120), (9, 40153), (15, 40243), (Start: 28 @40387 has 13 MA's), (33, 40423), (34, 40426), (47, 40513), (50, 40540),

Gene: Shinji_52 Start: 40150, Stop: 40392, Start Num: 28
Candidate Starts for Shinji_52:
(1, 39730), (2, 39766), (3, 39796), (4, 39838), (5, 39871), (6, 39883), (9, 39916), (15, 40006), (Start: 28 @40150 has 13 MA's), (33, 40186), (47, 40276), (50, 40303),

Gene: SmokingBunny_52 Start: 40699, Stop: 40941, Start Num: 28
Candidate Starts for SmokingBunny_52:
(1, 40279), (2, 40315), (3, 40345), (4, 40387), (5, 40420), (6, 40432), (9, 40465), (12, 40507), (15, 40555), (Start: 28 @40699 has 13 MA's), (33, 40735), (34, 40738), (47, 40825), (50, 40852), (52, 40927),

Gene: Suerte_48 Start: 35385, Stop: 35651, Start Num: 20
Candidate Starts for Suerte_48:
(Start: 20 @35385 has 21 MA's), (45, 35493),

Gene: ThankyouJordi_54 Start: 40335, Stop: 40622, Start Num: 20
Candidate Starts for ThankyouJordi_54:
(Start: 20 @40335 has 21 MA's), (37, 40410), (45, 40464), (49, 40509), (53, 40614),

Gene: Thimann_53 Start: 36829, Stop: 37095, Start Num: 20
Candidate Starts for Thimann_53:
(Start: 20 @36829 has 21 MA's), (25, 36865), (45, 36937), (48, 36973), (49, 36982), (52, 37072),

Gene: TillyBobJoe_54 Start: 42186, Stop: 42452, Start Num: 20

Candidate Starts for TillyBobJoe_54:

(17, 42120), (Start: 20 @42186 has 21 MA's), (38, 42255), (45, 42288),

Gene: TimTam_56 Start: 40435, Stop: 40722, Start Num: 20

Candidate Starts for TimTam_56:

(Start: 20 @40435 has 21 MA's), (37, 40510), (45, 40564), (49, 40609),

Gene: Togo_51 Start: 40699, Stop: 40941, Start Num: 28

Candidate Starts for Togo_51:

(1, 40279), (2, 40315), (3, 40345), (4, 40387), (5, 40420), (6, 40432), (9, 40465), (12, 40507), (15, 40555), (Start: 28 @40699 has 13 MA's), (33, 40735), (34, 40738), (47, 40825), (50, 40852), (52, 40927),

Gene: Twister6_54 Start: 40500, Stop: 40742, Start Num: 28

Candidate Starts for Twister6_54:

(1, 40080), (2, 40116), (3, 40146), (4, 40188), (5, 40221), (6, 40233), (9, 40266), (15, 40356), (Start: 28 @40500 has 13 MA's), (33, 40536), (34, 40539), (47, 40626), (50, 40653),

Gene: Valary_54 Start: 41506, Stop: 41757, Start Num: 23

Candidate Starts for Valary_54:

(1, 41122), (2, 41158), (3, 41188), (4, 41230), (5, 41263), (6, 41275), (9, 41308), (12, 41350), (15, 41398), (Start: 23 @41506 has 13 MA's), (42, 41587), (47, 41641), (50, 41668),

Gene: VanDeWege_55 Start: 40798, Stop: 41049, Start Num: 23

Candidate Starts for VanDeWege_55:

(1, 40414), (2, 40450), (3, 40480), (4, 40522), (5, 40555), (6, 40567), (9, 40600), (12, 40642), (15, 40690), (Start: 23 @40798 has 13 MA's), (42, 40879), (47, 40933), (50, 40960),

Gene: WelcomeAyanna_54 Start: 40482, Stop: 40769, Start Num: 20

Candidate Starts for WelcomeAyanna_54:

(Start: 20 @40482 has 21 MA's), (37, 40557), (45, 40611), (49, 40656), (53, 40761),

Gene: Wizard_51 Start: 40704, Stop: 40955, Start Num: 23

Candidate Starts for Wizard_51:

(1, 40320), (2, 40356), (3, 40386), (4, 40428), (5, 40461), (6, 40473), (9, 40506), (12, 40548), (15, 40596), (Start: 23 @40704 has 13 MA's), (42, 40785), (47, 40839), (50, 40866),

Gene: YungMoney_55 Start: 44258, Stop: 44500, Start Num: 28

Candidate Starts for YungMoney_55:

(2, 43874), (3, 43904), (4, 43946), (5, 43979), (6, 43991), (9, 44024), (15, 44114), (Start: 28 @44258 has 13 MA's), (33, 44294), (34, 44297), (47, 44384), (50, 44411),