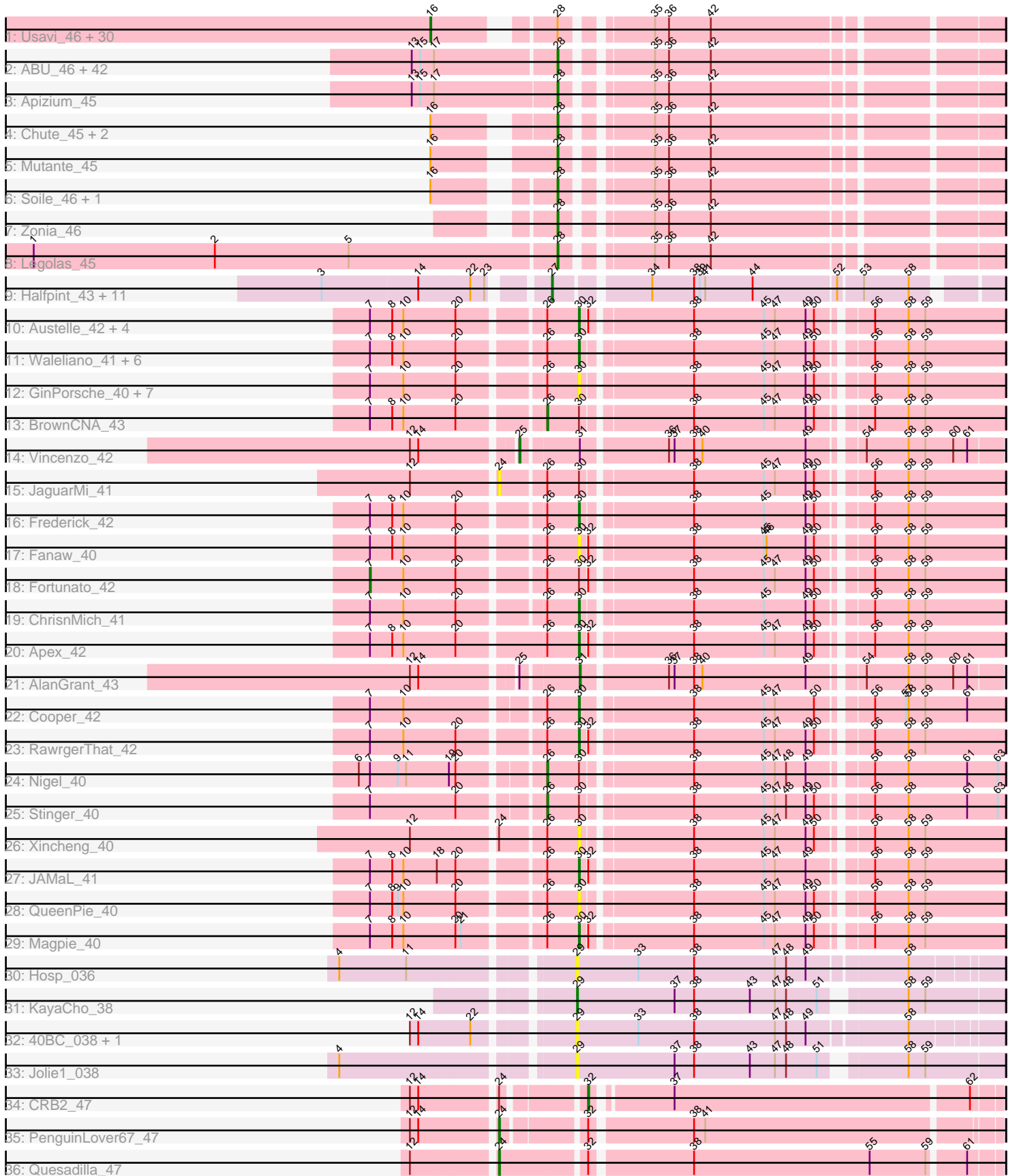


Pham 193810



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 193810 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193810 has 140 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Usavi_46, Mosaic_45, Chaelin_46, Suffolk_46, DonSanchon_45, Mikota_46, Windsor_45, Lopsy_45, Eremos_46, UncleHowie_46, Coletti_45, Prickles_46, Keitherie_46, Colbert_46, Daka_47, Cornobble_45, Lumine_45, TomBombadil_46, Aelin_45, Chunky_46, Bishoperium_45, HenryJackson_45, Gwilliam_47, Virgeve_45, Harvey_46, Robyn_45, Sheila_46, Manad_45, Antonia_45, Basato_47, Tooj_46
- Track 2 : ABU_46, PG1_46, PhrodoBaggins_45, Badfish_46, ThreeOh3D2_46, HighStump_45, LasagnaCat_46, Morty_46, ImtiyazSitla_45, Ashraf_45, RedMaple_45, Fang_46, Katniss_46, Mulan_45, Orion_46, Scoot17C_46, Nacho_0046, Trypo_46, Emiris_46, Megatron_46, CampRoach_46, Swish_46, PhatCats2014_46, IsaacEli_46, Craff_46, MelsMeow_45, Inchworm_46, Maskar_45, FluffyNinja_46, Chah_47, Yoshand_46, BlackStallion_46, Fringe_46, Kikipoo_46, Pherdinand_46, JacAttac_46, Phamished_46, Sigman_46, Durga_46, Andre_46, Adriana_46, OSmaximus_46, DuchessDung_44
- Track 3 : Apizium_45
- Track 4 : Chute_45, Dati_46, JDog_45
- Track 5 : Mutante_45
- Track 6 : Soile_46, Gareth_45
- Track 7 : Zonia_46
- Track 8 : Legolas_45
- Track 9 : Halfpint_43, Phayeta_45, Chandler_44, Casbah_43, Phaedrus_42, Jackstina_41, Ben11_43, Tydolla_44, Akoma_44, SlippinJimmy_44, Audrey_44, Morty007_44
- Track 10 : Austelle_42, Prince_41, Zemanar_42, Lolalove_41, VioletZ_42
- Track 11 : Waleliano_41, Hydro_41, Mudslide_41, Hangman_41, Mithril_41, Heath_40, BobbyK_42
- Track 12 : GinPorsche_40, Ahwei_40, Hally898_40, Antihero_40, Nanao_40, Lambano_40, Poster_40, Epah_40
- Track 13 : BrownCNA_43
- Track 14 : Vincenzo_42
- Track 15 : JaguarMi_41
- Track 16 : Frederick_42
- Track 17 : Fanaw_40
- Track 18 : Fortunato_42
- Track 19 : ChrisnMich_41
- Track 20 : Apex_42
- Track 21 : AlanGrant_43

- Track 22 : Cooper_42
- Track 23 : RawrgerThat_42
- Track 24 : Nigel_40
- Track 25 : Stinger_40
- Track 26 : Xincheng_40
- Track 27 : JAMaL_41
- Track 28 : QueenPie_40
- Track 29 : Magpie_40
- Track 30 : Hosp_036
- Track 31 : KayaCho_38
- Track 32 : 40BC_038, 39HC_038
- Track 33 : Jolie1_038
- Track 34 : CRB2_47
- Track 35 : PenguinLover67_47
- Track 36 : Quesadilla_47

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

The start number called the most often in the published annotations is 28, it was called in 51 of the 119 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU_46, Adriana_46, Andre_46, Apizium_45, Ashraf_45, Badfish_46, BlackStallion_46, CampRoach_46, Chah_47, Chute_45, Craff_46, Dati_46, DuchessDung_44, Durga_46, Emiris_46, Fang_46, FluffyNinja_46, Fringe_46, Gareth_45, HighStump_45, ImtiyazSitla_45, Inchworm_46, IsaacEli_46, JDog_45, JacAttac_46, Katniss_46, Kikipoo_46, LasagnaCat_46, Legolas_45, Maskar_45, Megatron_46, MelsMeow_45, Morty_46, Mulan_45, Mutante_45, Nacho_0046, OSmaximus_46, Orion_46, PG1_46, Phamished_46, PhatCats2014_46, Pherdinand_46, PhrodoBaggins_45, RedMaple_45, Scoot17C_46, Sigman_46, Soile_46, Swish_46, ThreeOh3D2_46, Trypo_46, Yoshand_46, Zonia_46,

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

- Aelin_45, Antonia_45, Basato_47, Bishoperium_45, Chaelin_46, Chunky_46, Colbert_46, Coletti_45, Cornobble_45, Daka_47, DonSanchon_45, Eremos_46, Gwilliam_47, Harvey_46, HenryJackson_45, Keitherie_46, Lopsy_45, Lumine_45, Manad_45, Mikota_46, Mosaic_45, Prickles_46, Robyn_45, Sheila_46, Suffolk_46, TomBombadil_46, Tooj_46, UncleHowie_46, Usavi_46, Virgeve_45, Windsor_45,

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

- 39HC_038, 40BC_038, Ahwei_40, Akoma_44, AlanGrant_43, Antihero_40, Apex_42, Audrey_44, Austelle_42, Ben11_43, BobbyK_42, BrownCNA_43, CRB2_47, Casbah_43, Chandler_44, ChrisnMich_41, Cooper_42, Epah_40, Fanaw_40, Fortunato_42, Frederick_42, GinPorsche_40, Halfpint_43, Hally898_40, Hangman_41, Heath_40, Hosp_036, Hydro_41, JAMaL_41, Jackstina_41, JaguarMi_41, Jolie1_038, KayaCho_38, Lambano_40, Lolalove_41, Magpie_40, Mithril_41, Morty007_44, Mudslide_41, Nanao_40, Nigel_40, PenguinLover67_47, Phaedrus_42, Phayeta_45, Poster_40, Prince_41, QueenPie_40, Quesadilla_47, RawrgerThat_42, SlippinJimmy_44, Stinger_40, Tydolla_44, Vincenzo_42, VioletZ_42, Waleliano_41, Xincheng_40, Zemanar_42,

Summary by start number:

Start 7:

- Found in 33 of 140 (23.6%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 3.0% of time when present
- Phage (with cluster) where this start called: Fortunato_42 (B4),

Start 16:

- Found in 37 of 140 (26.4%) of genes in pham
- Manual Annotations of this start: 29 of 119
- Called 83.8% of time when present
- Phage (with cluster) where this start called: Aelin_45 (B1), Antonia_45 (B1), Basato_47 (B1), Bishoperium_45 (B1), Chaelin_46 (B1), Chunky_46 (B1), Colbert_46 (B1), Coletti_45 (B1), Cornobble_45 (B1), Daka_47 (B1), DonSanchon_45 (B1), Eremos_46 (B1), Gwilliam_47 (B1), Harvey_46 (B1), HenryJackson_45 (B1), Keitherie_46 (B1), Lopsy_45 (B1), Lumine_45 (B1), Manad_45 (B1), Mikota_46 (B1), Mosaic_45 (B1), Prickles_46 (B1), Robyn_45 (B1), Sheila_46 (B1), Suffolk_46 (B1), TomBombadil_46 (B1), Tooj_46 (B1), UncleHowie_46 (B1), Usavi_46 (B1), Virgeve_45 (B1), Windsor_45 (B1),

Start 24:

- Found in 5 of 140 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 119
- Called 60.0% of time when present
- Phage (with cluster) where this start called: JaguarMi_41 (B4), PenguinLover67_47 (B9), Quesadilla_47 (B9),

Start 25:

- Found in 2 of 140 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Vincenzo_42 (B4),

Start 26:

- Found in 35 of 140 (25.0%) of genes in pham
- Manual Annotations of this start: 3 of 119
- Called 8.6% of time when present
- Phage (with cluster) where this start called: BrownCNA_43 (B4), Nigel_40 (B4), Stinger_40 (B4),

Start 27:

- Found in 12 of 140 (8.6%) of genes in pham
- Manual Annotations of this start: 10 of 119
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akoma_44 (B3), Audrey_44 (B3), Ben11_43 (B3), Casbah_43 (B3), Chandler_44 (B3), Halfpint_43 (B3), Jackstina_41 (B3), Morty007_44 (B3), Phaedrus_42 (B3), Phayeta_45 (B3), SlippinJimmy_44 (B3), Tydolla_44 (B3),

Start 28:

- Found in 83 of 140 (59.3%) of genes in pham

- Manual Annotations of this start: 51 of 119
- Called 62.7% of time when present
- Phage (with cluster) where this start called: ABU_46 (B1), Adriana_46 (B1), Andre_46 (B1), Apizium_45 (B1), Ashraf_45 (B1), Badfish_46 (B1), BlackStallion_46 (B1), CampRoach_46 (B1), Chah_47 (B1), Chute_45 (B1), Craff_46 (B1), Dati_46 (B1), DuchessDung_44 (B1), Durga_46 (B1), Emiris_46 (B1), Fang_46 (B1), FluffyNinja_46 (B1), Fringe_46 (B1), Gareth_45 (B1), HighStump_45 (B1), ImtiyazSitla_45 (B1), Inchworm_46 (B1), IsaacEli_46 (B1), JDog_45 (B1), JacAttac_46 (B1), Katniss_46 (B1), Kikipoo_46 (B1), LasagnaCat_46 (B1), Legolas_45 (B1), Maskar_45 (B1), Megatron_46 (B1), MelsMeow_45 (B1), Morty_46 (B1), Mulan_45 (B1), Mutante_45 (B1), Nacho_0046 (B1), OSmaximus_46 (B1), Orion_46 (B1), PG1_46 (B1), Phamished_46 (B1), PhatCats2014_46 (B1), Pherdinand_46 (B1), PhrodoBaggins_45 (B1), RedMaple_45 (B1), Scoot17C_46 (B1), Sigman_46 (B1), Soile_46 (B1), Swish_46 (B1), ThreeOh3D2_46 (B1), Trypo_46 (B1), Yoshand_46 (B1), Zonia_46 (B1),

Start 29:

- Found in 5 of 140 (3.6%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC_038 (B6), 40BC_038 (B6), Hosp_036 (B6), Jolie1_038 (B6), KayaCho_38 (B6),

Start 30:

- Found in 35 of 140 (25.0%) of genes in pham
- Manual Annotations of this start: 19 of 119
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Ahwei_40 (B4), Antihero_40 (B4), Apex_42 (B4), Austelle_42 (B4), BobbyK_42 (B4), ChrisnMich_41 (B4), Cooper_42 (B4), Epah_40 (B4), Fanaw_40 (B4), Frederick_42 (B4), GinPorsche_40 (B4), Hally898_40 (B4), Hangman_41 (B4), Heath_40 (B4), Hydro_41 (B4), JAMaL_41 (B4), Lambano_40 (B4), Lolalove_41 (B4), Maggie_40 (B4), Mithril_41 (B4), Mudslide_41 (B4), Nanao_40 (B4), Poster_40 (B4), Prince_41 (B4), QueenPie_40 (B4), RawrgerThat_42 (B4), VioletZ_42 (B4), Waleliano_41 (B4), Xincheng_40 (B4), Zemanar_42 (B4),

Start 31:

- Found in 2 of 140 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AlanGrant_43 (B4),

Start 32:

- Found in 14 of 140 (10.0%) of genes in pham
- Manual Annotations of this start: 1 of 119
- Called 7.1% of time when present
- Phage (with cluster) where this start called: CRB2_47 (B9),

Summary by clusters:

There are 5 clusters represented in this pham: B4, B6, B9, B1, B3,

Info for manual annotations of cluster B1:

- Start number 16 was manually annotated 29 times for cluster B1.
- Start number 28 was manually annotated 51 times for cluster B1.

Info for manual annotations of cluster B3:

- Start number 27 was manually annotated 10 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 7 was manually annotated 1 time for cluster B4.
- Start number 25 was manually annotated 1 time for cluster B4.
- Start number 26 was manually annotated 3 times for cluster B4.
- Start number 30 was manually annotated 19 times for cluster B4.
- Start number 31 was manually annotated 1 time for cluster B4.

Info for manual annotations of cluster B6:

- Start number 29 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B9:

- Start number 24 was manually annotated 2 times for cluster B9.
- Start number 32 was manually annotated 1 time for cluster B9.

Gene Information:

Gene: 39HC_038 Start: 37421, Stop: 36984, Start Num: 29

Candidate Starts for 39HC_038:

(12, 37574), (14, 37565), (22, 37511), (Start: 29 @37421 has 1 MA's), (33, 37355), (38, 37295), (47, 37208), (48, 37196), (49, 37175), (58, 37076),

Gene: 40BC_038 Start: 37421, Stop: 36984, Start Num: 29

Candidate Starts for 40BC_038:

(12, 37574), (14, 37565), (22, 37511), (Start: 29 @37421 has 1 MA's), (33, 37355), (38, 37295), (47, 37208), (48, 37196), (49, 37175), (58, 37076),

Gene: ABU_46 Start: 39612, Stop: 39187, Start Num: 28

Candidate Starts for ABU_46:

(13, 39762), (15, 39753), (17, 39738), (Start: 28 @39612 has 51 MA's), (35, 39534), (36, 39519), (42, 39474),

Gene: Adriana_46 Start: 39610, Stop: 39185, Start Num: 28

Candidate Starts for Adriana_46:

(13, 39760), (15, 39751), (17, 39736), (Start: 28 @39610 has 51 MA's), (35, 39532), (36, 39517), (42, 39472),

Gene: Aelin_45 Start: 39278, Stop: 38751, Start Num: 16

Candidate Starts for Aelin_45:

(Start: 16 @39278 has 29 MA's), (Start: 28 @39176 has 51 MA's), (35, 39098), (36, 39083), (42, 39038),

Gene: Ahwei_40 Start: 38593, Stop: 38168, Start Num: 30

Candidate Starts for Ahwei_40:

(Start: 7 @38797 has 1 MA's), (10, 38761), (20, 38707), (Start: 26 @38626 has 3 MA's), (Start: 30 @38593 has 19 MA's), (38, 38485), (45, 38410), (47, 38398), (49, 38365), (50, 38356), (56, 38308),

(58, 38272), (59, 38254),

Gene: Akoma_44 Start: 39465, Stop: 39028, Start Num: 27

Candidate Starts for Akoma_44:

(3, 39684), (14, 39582), (22, 39528), (23, 39513), (Start: 27 @39465 has 10 MA's), (34, 39375), (38, 39330), (39, 39324), (41, 39318), (44, 39267), (52, 39180), (53, 39156), (58, 39108),

Gene: AlanGrant_43 Start: 40379, Stop: 39954, Start Num: 31

Candidate Starts for AlanGrant_43:

(12, 40535), (14, 40526), (Start: 25 @40436 has 1 MA's), (Start: 31 @40379 has 1 MA's), (36, 40292), (37, 40286), (38, 40265), (40, 40256), (49, 40145), (54, 40097), (58, 40052), (59, 40034), (60, 40004), (61, 39989),

Gene: Andre_46 Start: 39604, Stop: 39179, Start Num: 28

Candidate Starts for Andre_46:

(13, 39754), (15, 39745), (17, 39730), (Start: 28 @39604 has 51 MA's), (35, 39526), (36, 39511), (42, 39466),

Gene: Antihero_40 Start: 38593, Stop: 38168, Start Num: 30

Candidate Starts for Antihero_40:

(Start: 7 @38797 has 1 MA's), (10, 38761), (20, 38707), (Start: 26 @38626 has 3 MA's), (Start: 30 @38593 has 19 MA's), (38, 38485), (45, 38410), (47, 38398), (49, 38365), (50, 38356), (56, 38308), (58, 38272), (59, 38254),

Gene: Antonia_45 Start: 39278, Stop: 38751, Start Num: 16

Candidate Starts for Antonia_45:

(Start: 16 @39278 has 29 MA's), (Start: 28 @39176 has 51 MA's), (35, 39098), (36, 39083), (42, 39038),

Gene: Apex_42 Start: 39799, Stop: 39374, Start Num: 30

Candidate Starts for Apex_42:

(Start: 7 @40009 has 1 MA's), (8, 39985), (10, 39973), (20, 39919), (Start: 26 @39832 has 3 MA's), (Start: 30 @39799 has 19 MA's), (Start: 32 @39793 has 1 MA's), (38, 39691), (45, 39616), (47, 39604), (49, 39571), (50, 39562), (56, 39514), (58, 39478), (59, 39460),

Gene: Apizium_45 Start: 39365, Stop: 38940, Start Num: 28

Candidate Starts for Apizium_45:

(13, 39518), (15, 39509), (17, 39494), (Start: 28 @39365 has 51 MA's), (35, 39287), (36, 39272), (42, 39227),

Gene: Ashraf_45 Start: 39169, Stop: 38744, Start Num: 28

Candidate Starts for Ashraf_45:

(13, 39319), (15, 39310), (17, 39295), (Start: 28 @39169 has 51 MA's), (35, 39091), (36, 39076), (42, 39031),

Gene: Audrey_44 Start: 39461, Stop: 39024, Start Num: 27

Candidate Starts for Audrey_44:

(3, 39680), (14, 39578), (22, 39524), (23, 39509), (Start: 27 @39461 has 10 MA's), (34, 39371), (38, 39326), (39, 39320), (41, 39314), (44, 39263), (52, 39176), (53, 39152), (58, 39104),

Gene: Austelle_42 Start: 40255, Stop: 39830, Start Num: 30

Candidate Starts for Austelle_42:

(Start: 7 @40459 has 1 MA's), (8, 40435), (10, 40423), (20, 40369), (Start: 26 @40288 has 3 MA's), (Start: 30 @40255 has 19 MA's), (Start: 32 @40249 has 1 MA's), (38, 40147), (45, 40072), (47, 40060), (49, 40027), (50, 40018), (56, 39970), (58, 39934), (59, 39916),

Gene: Badfish_46 Start: 39635, Stop: 39210, Start Num: 28

Candidate Starts for Badfish_46:

(13, 39785), (15, 39776), (17, 39761), (Start: 28 @39635 has 51 MA's), (35, 39557), (36, 39542), (42, 39497),

Gene: Basato_47 Start: 39988, Stop: 39464, Start Num: 16

Candidate Starts for Basato_47:

(Start: 16 @39988 has 29 MA's), (Start: 28 @39889 has 51 MA's), (35, 39811), (36, 39796), (42, 39751),

Gene: Ben11_43 Start: 39283, Stop: 38846, Start Num: 27

Candidate Starts for Ben11_43:

(3, 39502), (14, 39400), (22, 39346), (23, 39331), (Start: 27 @39283 has 10 MA's), (34, 39193), (38, 39148), (39, 39142), (41, 39136), (44, 39085), (52, 38998), (53, 38974), (58, 38926),

Gene: Bishoperium_45 Start: 39418, Stop: 38894, Start Num: 16

Candidate Starts for Bishoperium_45:

(Start: 16 @39418 has 29 MA's), (Start: 28 @39319 has 51 MA's), (35, 39241), (36, 39226), (42, 39181),

Gene: BlackStallion_46 Start: 39621, Stop: 39196, Start Num: 28

Candidate Starts for BlackStallion_46:

(13, 39771), (15, 39762), (17, 39747), (Start: 28 @39621 has 51 MA's), (35, 39543), (36, 39528), (42, 39483),

Gene: BobbyK_42 Start: 39624, Stop: 39199, Start Num: 30

Candidate Starts for BobbyK_42:

(Start: 7 @39828 has 1 MA's), (8, 39804), (10, 39792), (20, 39738), (Start: 26 @39657 has 3 MA's), (Start: 30 @39624 has 19 MA's), (38, 39516), (45, 39441), (47, 39429), (49, 39396), (50, 39387), (56, 39339), (58, 39303), (59, 39285),

Gene: BrownCNA_43 Start: 39918, Stop: 39460, Start Num: 26

Candidate Starts for BrownCNA_43:

(Start: 7 @40089 has 1 MA's), (8, 40065), (10, 40053), (20, 39999), (Start: 26 @39918 has 3 MA's), (Start: 30 @39885 has 19 MA's), (38, 39777), (45, 39702), (47, 39690), (49, 39657), (50, 39648), (56, 39600), (58, 39564), (59, 39546),

Gene: CRB2_47 Start: 42140, Stop: 41727, Start Num: 32

Candidate Starts for CRB2_47:

(12, 42299), (14, 42290), (Start: 24 @42215 has 2 MA's), (Start: 32 @42140 has 1 MA's), (37, 42065), (62, 41756),

Gene: CampRoach_46 Start: 39607, Stop: 39182, Start Num: 28

Candidate Starts for CampRoach_46:

(13, 39757), (15, 39748), (17, 39733), (Start: 28 @39607 has 51 MA's), (35, 39529), (36, 39514), (42, 39469),

Gene: Casbah_43 Start: 39313, Stop: 38876, Start Num: 27

Candidate Starts for Casbah_43:

(3, 39532), (14, 39430), (22, 39376), (23, 39361), (Start: 27 @39313 has 10 MA's), (34, 39223), (38, 39178), (39, 39172), (41, 39166), (44, 39115), (52, 39028), (53, 39004), (58, 38956),

Gene: Chaelin_46 Start: 39416, Stop: 38889, Start Num: 16

Candidate Starts for Chaelin_46:

(Start: 16 @39416 has 29 MA's), (Start: 28 @39314 has 51 MA's), (35, 39236), (36, 39221), (42, 39176),

Gene: Chah_47 Start: 39634, Stop: 39209, Start Num: 28

Candidate Starts for Chah_47:

(13, 39784), (15, 39775), (17, 39760), (Start: 28 @39634 has 51 MA's), (35, 39556), (36, 39541), (42, 39496),

Gene: Chandler_44 Start: 40244, Stop: 39807, Start Num: 27

Candidate Starts for Chandler_44:

(3, 40463), (14, 40361), (22, 40307), (23, 40292), (Start: 27 @40244 has 10 MA's), (34, 40154), (38, 40109), (39, 40103), (41, 40097), (44, 40046), (52, 39959), (53, 39935), (58, 39887),

Gene: ChrisnMich_41 Start: 38585, Stop: 38160, Start Num: 30

Candidate Starts for ChrisnMich_41:

(Start: 7 @38789 has 1 MA's), (10, 38753), (20, 38699), (Start: 26 @38618 has 3 MA's), (Start: 30 @38585 has 19 MA's), (38, 38477), (45, 38402), (49, 38357), (50, 38348), (56, 38300), (58, 38264), (59, 38246),

Gene: Chunky_46 Start: 39724, Stop: 39200, Start Num: 16

Candidate Starts for Chunky_46:

(Start: 16 @39724 has 29 MA's), (Start: 28 @39625 has 51 MA's), (35, 39547), (36, 39532), (42, 39487),

Gene: Chute_45 Start: 39663, Stop: 39238, Start Num: 28

Candidate Starts for Chute_45:

(Start: 16 @39765 has 29 MA's), (Start: 28 @39663 has 51 MA's), (35, 39585), (36, 39570), (42, 39525),

Gene: Colbert_46 Start: 39777, Stop: 39253, Start Num: 16

Candidate Starts for Colbert_46:

(Start: 16 @39777 has 29 MA's), (Start: 28 @39678 has 51 MA's), (35, 39600), (36, 39585), (42, 39540),

Gene: Coletti_45 Start: 39765, Stop: 39238, Start Num: 16

Candidate Starts for Coletti_45:

(Start: 16 @39765 has 29 MA's), (Start: 28 @39663 has 51 MA's), (35, 39585), (36, 39570), (42, 39525),

Gene: Cooper_42 Start: 38807, Stop: 38379, Start Num: 30

Candidate Starts for Cooper_42:

(Start: 7 @39008 has 1 MA's), (10, 38972), (Start: 26 @38840 has 3 MA's), (Start: 30 @38807 has 19 MA's), (38, 38696), (45, 38621), (47, 38609), (50, 38567), (56, 38519), (57, 38486), (58, 38483), (59, 38465), (61, 38420),

Gene: Cornobble_45 Start: 39279, Stop: 38752, Start Num: 16

Candidate Starts for Cornobble_45:

(Start: 16 @39279 has 29 MA's), (Start: 28 @39177 has 51 MA's), (35, 39099), (36, 39084), (42, 39039),

Gene: Craff_46 Start: 39620, Stop: 39195, Start Num: 28

Candidate Starts for Craff_46:

(13, 39770), (15, 39761), (17, 39746), (Start: 28 @39620 has 51 MA's), (35, 39542), (36, 39527), (42, 39482),

Gene: Daka_47 Start: 39714, Stop: 39190, Start Num: 16

Candidate Starts for Daka_47:

(Start: 16 @39714 has 29 MA's), (Start: 28 @39615 has 51 MA's), (35, 39537), (36, 39522), (42, 39477),

Gene: Dati_46 Start: 39336, Stop: 38911, Start Num: 28

Candidate Starts for Dati_46:

(Start: 16 @39438 has 29 MA's), (Start: 28 @39336 has 51 MA's), (35, 39258), (36, 39243), (42, 39198),

Gene: DonSanchon_45 Start: 39417, Stop: 38890, Start Num: 16

Candidate Starts for DonSanchon_45:

(Start: 16 @39417 has 29 MA's), (Start: 28 @39315 has 51 MA's), (35, 39237), (36, 39222), (42, 39177),

Gene: DuchessDung_44 Start: 38469, Stop: 38044, Start Num: 28

Candidate Starts for DuchessDung_44:

(13, 38619), (15, 38610), (17, 38595), (Start: 28 @38469 has 51 MA's), (35, 38391), (36, 38376), (42, 38331),

Gene: Durga_46 Start: 39635, Stop: 39210, Start Num: 28

Candidate Starts for Durga_46:

(13, 39785), (15, 39776), (17, 39761), (Start: 28 @39635 has 51 MA's), (35, 39557), (36, 39542), (42, 39497),

Gene: Emiris_46 Start: 39603, Stop: 39178, Start Num: 28

Candidate Starts for Emiris_46:

(13, 39753), (15, 39744), (17, 39729), (Start: 28 @39603 has 51 MA's), (35, 39525), (36, 39510), (42, 39465),

Gene: Epah_40 Start: 38593, Stop: 38168, Start Num: 30

Candidate Starts for Epah_40:

(Start: 7 @38797 has 1 MA's), (10, 38761), (20, 38707), (Start: 26 @38626 has 3 MA's), (Start: 30 @38593 has 19 MA's), (38, 38485), (45, 38410), (47, 38398), (49, 38365), (50, 38356), (56, 38308), (58, 38272), (59, 38254),

Gene: Eremos_46 Start: 39713, Stop: 39189, Start Num: 16

Candidate Starts for Eremos_46:

(Start: 16 @39713 has 29 MA's), (Start: 28 @39614 has 51 MA's), (35, 39536), (36, 39521), (42, 39476),

Gene: Fanaw_40 Start: 39290, Stop: 38865, Start Num: 30

Candidate Starts for Fanaw_40:

(Start: 7 @39494 has 1 MA's), (8, 39470), (10, 39458), (20, 39404), (Start: 26 @39323 has 3 MA's), (Start: 30 @39290 has 19 MA's), (Start: 32 @39284 has 1 MA's), (38, 39182), (45, 39107), (46,

39104), (49, 39062), (50, 39053), (56, 39005), (58, 38969), (59, 38951),

Gene: Fang_46 Start: 39628, Stop: 39203, Start Num: 28

Candidate Starts for Fang_46:

(13, 39778), (15, 39769), (17, 39754), (Start: 28 @39628 has 51 MA's), (35, 39550), (36, 39535), (42, 39490),

Gene: FluffyNinja_46 Start: 39621, Stop: 39196, Start Num: 28

Candidate Starts for FluffyNinja_46:

(13, 39771), (15, 39762), (17, 39747), (Start: 28 @39621 has 51 MA's), (35, 39543), (36, 39528), (42, 39483),

Gene: Fortunato_42 Start: 39822, Stop: 39193, Start Num: 7

Candidate Starts for Fortunato_42:

(Start: 7 @39822 has 1 MA's), (10, 39786), (20, 39732), (Start: 26 @39651 has 3 MA's), (Start: 30 @39618 has 19 MA's), (Start: 32 @39612 has 1 MA's), (38, 39510), (45, 39435), (47, 39423), (49, 39390), (50, 39381), (56, 39333), (58, 39297), (59, 39279),

Gene: Frederick_42 Start: 39624, Stop: 39199, Start Num: 30

Candidate Starts for Frederick_42:

(Start: 7 @39828 has 1 MA's), (8, 39804), (10, 39792), (20, 39738), (Start: 26 @39657 has 3 MA's), (Start: 30 @39624 has 19 MA's), (38, 39516), (45, 39441), (49, 39396), (50, 39387), (56, 39339), (58, 39303), (59, 39285),

Gene: Fringe_46 Start: 39604, Stop: 39179, Start Num: 28

Candidate Starts for Fringe_46:

(13, 39754), (15, 39745), (17, 39730), (Start: 28 @39604 has 51 MA's), (35, 39526), (36, 39511), (42, 39466),

Gene: Gareth_45 Start: 39320, Stop: 38895, Start Num: 28

Candidate Starts for Gareth_45:

(Start: 16 @39419 has 29 MA's), (Start: 28 @39320 has 51 MA's), (35, 39242), (36, 39227), (42, 39182),

Gene: GinPorsche_40 Start: 38593, Stop: 38168, Start Num: 30

Candidate Starts for GinPorsche_40:

(Start: 7 @38797 has 1 MA's), (10, 38761), (20, 38707), (Start: 26 @38626 has 3 MA's), (Start: 30 @38593 has 19 MA's), (38, 38485), (45, 38410), (47, 38398), (49, 38365), (50, 38356), (56, 38308), (58, 38272), (59, 38254),

Gene: Gwilliam_47 Start: 39717, Stop: 39193, Start Num: 16

Candidate Starts for Gwilliam_47:

(Start: 16 @39717 has 29 MA's), (Start: 28 @39618 has 51 MA's), (35, 39540), (36, 39525), (42, 39480),

Gene: Halfpint_43 Start: 39281, Stop: 38844, Start Num: 27

Candidate Starts for Halfpint_43:

(3, 39500), (14, 39398), (22, 39344), (23, 39329), (Start: 27 @39281 has 10 MA's), (34, 39191), (38, 39146), (39, 39140), (41, 39134), (44, 39083), (52, 38996), (53, 38972), (58, 38924),

Gene: Hally898_40 Start: 38605, Stop: 38180, Start Num: 30

Candidate Starts for Hally898_40:

(Start: 7 @38809 has 1 MA's), (10, 38773), (20, 38719), (Start: 26 @38638 has 3 MA's), (Start: 30 @38605 has 19 MA's), (38, 38497), (45, 38422), (47, 38410), (49, 38377), (50, 38368), (56, 38320), (58, 38284), (59, 38266),

Gene: Hangman_41 Start: 39616, Stop: 39191, Start Num: 30

Candidate Starts for Hangman_41:

(Start: 7 @39820 has 1 MA's), (8, 39796), (10, 39784), (20, 39730), (Start: 26 @39649 has 3 MA's), (Start: 30 @39616 has 19 MA's), (38, 39508), (45, 39433), (47, 39421), (49, 39388), (50, 39379), (56, 39331), (58, 39295), (59, 39277),

Gene: Harvey_46 Start: 39735, Stop: 39208, Start Num: 16

Candidate Starts for Harvey_46:

(Start: 16 @39735 has 29 MA's), (Start: 28 @39633 has 51 MA's), (35, 39555), (36, 39540), (42, 39495),

Gene: Heath_40 Start: 39223, Stop: 38798, Start Num: 30

Candidate Starts for Heath_40:

(Start: 7 @39427 has 1 MA's), (8, 39403), (10, 39391), (20, 39337), (Start: 26 @39256 has 3 MA's), (Start: 30 @39223 has 19 MA's), (38, 39115), (45, 39040), (47, 39028), (49, 38995), (50, 38986), (56, 38938), (58, 38902), (59, 38884),

Gene: HenryJackson_45 Start: 39437, Stop: 38913, Start Num: 16

Candidate Starts for HenryJackson_45:

(Start: 16 @39437 has 29 MA's), (Start: 28 @39338 has 51 MA's), (35, 39260), (36, 39245), (42, 39200),

Gene: HighStump_45 Start: 39321, Stop: 38896, Start Num: 28

Candidate Starts for HighStump_45:

(13, 39471), (15, 39462), (17, 39447), (Start: 28 @39321 has 51 MA's), (35, 39243), (36, 39228), (42, 39183),

Gene: Hosp_036 Start: 35614, Stop: 35177, Start Num: 29

Candidate Starts for Hosp_036:

(4, 35842), (11, 35770), (Start: 29 @35614 has 1 MA's), (33, 35548), (38, 35488), (47, 35401), (48, 35389), (49, 35368), (58, 35269),

Gene: Hydro_41 Start: 39633, Stop: 39208, Start Num: 30

Candidate Starts for Hydro_41:

(Start: 7 @39837 has 1 MA's), (8, 39813), (10, 39801), (20, 39747), (Start: 26 @39666 has 3 MA's), (Start: 30 @39633 has 19 MA's), (38, 39525), (45, 39450), (47, 39438), (49, 39405), (50, 39396), (56, 39348), (58, 39312), (59, 39294),

Gene: ImtiyazSitla_45 Start: 39169, Stop: 38744, Start Num: 28

Candidate Starts for ImtiyazSitla_45:

(13, 39319), (15, 39310), (17, 39295), (Start: 28 @39169 has 51 MA's), (35, 39091), (36, 39076), (42, 39031),

Gene: Inchworm_46 Start: 39607, Stop: 39182, Start Num: 28

Candidate Starts for Inchworm_46:

(13, 39757), (15, 39748), (17, 39733), (Start: 28 @39607 has 51 MA's), (35, 39529), (36, 39514), (42, 39469),

Gene: IsaacEli_46 Start: 39625, Stop: 39200, Start Num: 28

Candidate Starts for IsaacEli_46:

(13, 39775), (15, 39766), (17, 39751), (Start: 28 @39625 has 51 MA's), (35, 39547), (36, 39532), (42, 39487),

Gene: JAMaL_41 Start: 39804, Stop: 39379, Start Num: 30

Candidate Starts for JAMaL_41:

(Start: 7 @40008 has 1 MA's), (8, 39984), (10, 39972), (18, 39936), (20, 39918), (Start: 26 @39837 has 3 MA's), (Start: 30 @39804 has 19 MA's), (Start: 32 @39798 has 1 MA's), (38, 39696), (45, 39621), (47, 39609), (49, 39576), (56, 39519), (58, 39483), (59, 39465),

Gene: JDog_45 Start: 39338, Stop: 38913, Start Num: 28

Candidate Starts for JDog_45:

(Start: 16 @39440 has 29 MA's), (Start: 28 @39338 has 51 MA's), (35, 39260), (36, 39245), (42, 39200),

Gene: JacAttac_46 Start: 39607, Stop: 39182, Start Num: 28

Candidate Starts for JacAttac_46:

(13, 39757), (15, 39748), (17, 39733), (Start: 28 @39607 has 51 MA's), (35, 39529), (36, 39514), (42, 39469),

Gene: Jackstina_41 Start: 39385, Stop: 38948, Start Num: 27

Candidate Starts for Jackstina_41:

(3, 39604), (14, 39502), (22, 39448), (23, 39433), (Start: 27 @39385 has 10 MA's), (34, 39295), (38, 39250), (39, 39244), (41, 39238), (44, 39187), (52, 39100), (53, 39076), (58, 39028),

Gene: JaguarMi_41 Start: 39177, Stop: 38674, Start Num: 24

Candidate Starts for JaguarMi_41:

(12, 39261), (Start: 24 @39177 has 2 MA's), (Start: 26 @39132 has 3 MA's), (Start: 30 @39099 has 19 MA's), (38, 38991), (45, 38916), (47, 38904), (49, 38871), (50, 38862), (56, 38814), (58, 38778), (59, 38760),

Gene: Jolie1_038 Start: 37398, Stop: 36964, Start Num: 29

Candidate Starts for Jolie1_038:

(4, 37626), (Start: 29 @37398 has 1 MA's), (37, 37293), (38, 37272), (43, 37212), (47, 37185), (48, 37173), (51, 37140), (58, 37065), (59, 37047),

Gene: Katniss_46 Start: 39634, Stop: 39209, Start Num: 28

Candidate Starts for Katniss_46:

(13, 39784), (15, 39775), (17, 39760), (Start: 28 @39634 has 51 MA's), (35, 39556), (36, 39541), (42, 39496),

Gene: KayaCho_38 Start: 37397, Stop: 36963, Start Num: 29

Candidate Starts for KayaCho_38:

(Start: 29 @37397 has 1 MA's), (37, 37292), (38, 37271), (43, 37211), (47, 37184), (48, 37172), (51, 37139), (58, 37064), (59, 37046),

Gene: Keitherie_46 Start: 39774, Stop: 39247, Start Num: 16

Candidate Starts for Keitherie_46:

(Start: 16 @39774 has 29 MA's), (Start: 28 @39672 has 51 MA's), (35, 39594), (36, 39579), (42, 39534),

Gene: Kikipoo_46 Start: 39625, Stop: 39200, Start Num: 28

Candidate Starts for Kikipoo_46:

(13, 39775), (15, 39766), (17, 39751), (Start: 28 @39625 has 51 MA's), (35, 39547), (36, 39532), (42, 39487),

Gene: Lambano_40 Start: 38605, Stop: 38180, Start Num: 30

Candidate Starts for Lambano_40:

(Start: 7 @38809 has 1 MA's), (10, 38773), (20, 38719), (Start: 26 @38638 has 3 MA's), (Start: 30 @38605 has 19 MA's), (38, 38497), (45, 38422), (47, 38410), (49, 38377), (50, 38368), (56, 38320), (58, 38284), (59, 38266),

Gene: LasagnaCat_46 Start: 39619, Stop: 39194, Start Num: 28

Candidate Starts for LasagnaCat_46:

(13, 39769), (15, 39760), (17, 39745), (Start: 28 @39619 has 51 MA's), (35, 39541), (36, 39526), (42, 39481),

Gene: Legolas_45 Start: 39333, Stop: 38908, Start Num: 28

Candidate Starts for Legolas_45:

(1, 39888), (2, 39693), (5, 39549), (Start: 28 @39333 has 51 MA's), (35, 39255), (36, 39240), (42, 39195),

Gene: Lolalove_41 Start: 39630, Stop: 39205, Start Num: 30

Candidate Starts for Lolalove_41:

(Start: 7 @39834 has 1 MA's), (8, 39810), (10, 39798), (20, 39744), (Start: 26 @39663 has 3 MA's), (Start: 30 @39630 has 19 MA's), (Start: 32 @39624 has 1 MA's), (38, 39522), (45, 39447), (47, 39435), (49, 39402), (50, 39393), (56, 39345), (58, 39309), (59, 39291),

Gene: Lopsy_45 Start: 39277, Stop: 38750, Start Num: 16

Candidate Starts for Lopsy_45:

(Start: 16 @39277 has 29 MA's), (Start: 28 @39175 has 51 MA's), (35, 39097), (36, 39082), (42, 39037),

Gene: Lumine_45 Start: 39412, Stop: 38888, Start Num: 16

Candidate Starts for Lumine_45:

(Start: 16 @39412 has 29 MA's), (Start: 28 @39313 has 51 MA's), (35, 39235), (36, 39220), (42, 39175),

Gene: Magpie_40 Start: 39466, Stop: 39041, Start Num: 30

Candidate Starts for Magpie_40:

(Start: 7 @39670 has 1 MA's), (8, 39646), (10, 39634), (20, 39580), (21, 39574), (Start: 26 @39499 has 3 MA's), (Start: 30 @39466 has 19 MA's), (Start: 32 @39460 has 1 MA's), (38, 39358), (45, 39283), (47, 39271), (49, 39238), (50, 39229), (56, 39181), (58, 39145), (59, 39127),

Gene: Manad_45 Start: 39276, Stop: 38749, Start Num: 16

Candidate Starts for Manad_45:

(Start: 16 @39276 has 29 MA's), (Start: 28 @39174 has 51 MA's), (35, 39096), (36, 39081), (42, 39036),

Gene: Maskar_45 Start: 39169, Stop: 38744, Start Num: 28

Candidate Starts for Maskar_45:

(13, 39319), (15, 39310), (17, 39295), (Start: 28 @39169 has 51 MA's), (35, 39091), (36, 39076), (42, 39031),

Gene: Megatron_46 Start: 39616, Stop: 39191, Start Num: 28

Candidate Starts for Megatron_46:

(13, 39766), (15, 39757), (17, 39742), (Start: 28 @39616 has 51 MA's), (35, 39538), (36, 39523), (42, 39478),

Gene: MelsMeow_45 Start: 39219, Stop: 38794, Start Num: 28

Candidate Starts for MelsMeow_45:

(13, 39369), (15, 39360), (17, 39345), (Start: 28 @39219 has 51 MA's), (35, 39141), (36, 39126), (42, 39081),

Gene: Mikota_46 Start: 39702, Stop: 39178, Start Num: 16

Candidate Starts for Mikota_46:

(Start: 16 @39702 has 29 MA's), (Start: 28 @39603 has 51 MA's), (35, 39525), (36, 39510), (42, 39465),

Gene: Mithril_41 Start: 39634, Stop: 39209, Start Num: 30

Candidate Starts for Mithril_41:

(Start: 7 @39838 has 1 MA's), (8, 39814), (10, 39802), (20, 39748), (Start: 26 @39667 has 3 MA's), (Start: 30 @39634 has 19 MA's), (38, 39526), (45, 39451), (47, 39439), (49, 39406), (50, 39397), (56, 39349), (58, 39313), (59, 39295),

Gene: Morty_46 Start: 39625, Stop: 39200, Start Num: 28

Candidate Starts for Morty_46:

(13, 39775), (15, 39766), (17, 39751), (Start: 28 @39625 has 51 MA's), (35, 39547), (36, 39532), (42, 39487),

Gene: Morty007_44 Start: 40243, Stop: 39806, Start Num: 27

Candidate Starts for Morty007_44:

(3, 40462), (14, 40360), (22, 40306), (23, 40291), (Start: 27 @40243 has 10 MA's), (34, 40153), (38, 40108), (39, 40102), (41, 40096), (44, 40045), (52, 39958), (53, 39934), (58, 39886),

Gene: Mosaic_45 Start: 39417, Stop: 38905, Start Num: 16

Candidate Starts for Mosaic_45:

(Start: 16 @39417 has 29 MA's), (Start: 28 @39318 has 51 MA's), (35, 39252), (36, 39237), (42, 39192),

Gene: Mudslide_41 Start: 39866, Stop: 39441, Start Num: 30

Candidate Starts for Mudslide_41:

(Start: 7 @40070 has 1 MA's), (8, 40046), (10, 40034), (20, 39980), (Start: 26 @39899 has 3 MA's), (Start: 30 @39866 has 19 MA's), (38, 39758), (45, 39683), (47, 39671), (49, 39638), (50, 39629), (56, 39581), (58, 39545), (59, 39527),

Gene: Mulan_45 Start: 39342, Stop: 38917, Start Num: 28

Candidate Starts for Mulan_45:

(13, 39492), (15, 39483), (17, 39468), (Start: 28 @39342 has 51 MA's), (35, 39264), (36, 39249), (42, 39204),

Gene: Mutante_45 Start: 39324, Stop: 38899, Start Num: 28

Candidate Starts for Mutante_45:

(Start: 16 @39429 has 29 MA's), (Start: 28 @39324 has 51 MA's), (35, 39246), (36, 39231), (42, 39186),

Gene: Nacho_0046 Start: 39619, Stop: 39194, Start Num: 28

Candidate Starts for Nacho_0046:

(13, 39769), (15, 39760), (17, 39745), (Start: 28 @39619 has 51 MA's), (35, 39541), (36, 39526), (42, 39481),

Gene: Nanao_40 Start: 38592, Stop: 38167, Start Num: 30

Candidate Starts for Nanao_40:

(Start: 7 @38796 has 1 MA's), (10, 38760), (20, 38706), (Start: 26 @38625 has 3 MA's), (Start: 30 @38592 has 19 MA's), (38, 38484), (45, 38409), (47, 38397), (49, 38364), (50, 38355), (56, 38307), (58, 38271), (59, 38253),

Gene: Nigel_40 Start: 38541, Stop: 38083, Start Num: 26

Candidate Starts for Nigel_40:

(6, 38721), (Start: 7 @38709 has 1 MA's), (9, 38679), (11, 38670), (19, 38625), (20, 38619), (Start: 26 @38541 has 3 MA's), (Start: 30 @38508 has 19 MA's), (38, 38400), (45, 38325), (47, 38313), (48, 38301), (49, 38280), (56, 38223), (58, 38187), (61, 38124), (63, 38091),

Gene: OSmaximus_46 Start: 39658, Stop: 39233, Start Num: 28

Candidate Starts for OSmaximus_46:

(13, 39808), (15, 39799), (17, 39784), (Start: 28 @39658 has 51 MA's), (35, 39580), (36, 39565), (42, 39520),

Gene: Orion_46 Start: 39614, Stop: 39189, Start Num: 28

Candidate Starts for Orion_46:

(13, 39764), (15, 39755), (17, 39740), (Start: 28 @39614 has 51 MA's), (35, 39536), (36, 39521), (42, 39476),

Gene: PG1_46 Start: 39627, Stop: 39202, Start Num: 28

Candidate Starts for PG1_46:

(13, 39777), (15, 39768), (17, 39753), (Start: 28 @39627 has 51 MA's), (35, 39549), (36, 39534), (42, 39489),

Gene: PenguinLover67_47 Start: 41507, Stop: 41013, Start Num: 24

Candidate Starts for PenguinLover67_47:

(12, 41591), (14, 41582), (Start: 24 @41507 has 2 MA's), (Start: 32 @41429 has 1 MA's), (38, 41327), (41, 41315),

Gene: Phaedrus_42 Start: 39384, Stop: 38947, Start Num: 27

Candidate Starts for Phaedrus_42:

(3, 39603), (14, 39501), (22, 39447), (23, 39432), (Start: 27 @39384 has 10 MA's), (34, 39294), (38, 39249), (39, 39243), (41, 39237), (44, 39186), (52, 39099), (53, 39075), (58, 39027),

Gene: Phamished_46 Start: 39622, Stop: 39197, Start Num: 28

Candidate Starts for Phamished_46:

(13, 39772), (15, 39763), (17, 39748), (Start: 28 @39622 has 51 MA's), (35, 39544), (36, 39529), (42, 39484),

Gene: PhatCats2014_46 Start: 39631, Stop: 39206, Start Num: 28

Candidate Starts for PhatCats2014_46:

(13, 39781), (15, 39772), (17, 39757), (Start: 28 @39631 has 51 MA's), (35, 39553), (36, 39538), (42, 39493),

Gene: Phayeta_45 Start: 39329, Stop: 38892, Start Num: 27

Candidate Starts for Phayeta_45:

(3, 39548), (14, 39446), (22, 39392), (23, 39377), (Start: 27 @39329 has 10 MA's), (34, 39239), (38, 39194), (39, 39188), (41, 39182), (44, 39131), (52, 39044), (53, 39020), (58, 38972),

Gene: Pherdinand_46 Start: 39622, Stop: 39197, Start Num: 28

Candidate Starts for Pherdinand_46:

(13, 39772), (15, 39763), (17, 39748), (Start: 28 @39622 has 51 MA's), (35, 39544), (36, 39529), (42, 39484),

Gene: PhrodoBaggins_45 Start: 39610, Stop: 39185, Start Num: 28

Candidate Starts for PhrodoBaggins_45:

(13, 39760), (15, 39751), (17, 39736), (Start: 28 @39610 has 51 MA's), (35, 39532), (36, 39517), (42, 39472),

Gene: Poster_40 Start: 38593, Stop: 38168, Start Num: 30

Candidate Starts for Poster_40:

(Start: 7 @38797 has 1 MA's), (10, 38761), (20, 38707), (Start: 26 @38626 has 3 MA's), (Start: 30 @38593 has 19 MA's), (38, 38485), (45, 38410), (47, 38398), (49, 38365), (50, 38356), (56, 38308), (58, 38272), (59, 38254),

Gene: Prickles_46 Start: 39710, Stop: 39186, Start Num: 16

Candidate Starts for Prickles_46:

(Start: 16 @39710 has 29 MA's), (Start: 28 @39611 has 51 MA's), (35, 39533), (36, 39518), (42, 39473),

Gene: Prince_41 Start: 39776, Stop: 39351, Start Num: 30

Candidate Starts for Prince_41:

(Start: 7 @39980 has 1 MA's), (8, 39956), (10, 39944), (20, 39890), (Start: 26 @39809 has 3 MA's), (Start: 30 @39776 has 19 MA's), (Start: 32 @39770 has 1 MA's), (38, 39668), (45, 39593), (47, 39581), (49, 39548), (50, 39539), (56, 39491), (58, 39455), (59, 39437),

Gene: QueenPie_40 Start: 39717, Stop: 39292, Start Num: 30

Candidate Starts for QueenPie_40:

(Start: 7 @39921 has 1 MA's), (8, 39897), (9, 39891), (10, 39885), (20, 39831), (Start: 26 @39750 has 3 MA's), (Start: 30 @39717 has 19 MA's), (38, 39609), (45, 39534), (47, 39522), (49, 39489), (50, 39480), (56, 39432), (58, 39396), (59, 39378),

Gene: Quesadilla_47 Start: 41493, Stop: 40987, Start Num: 24

Candidate Starts for Quesadilla_47:

(12, 41577), (Start: 24 @41493 has 2 MA's), (Start: 32 @41406 has 1 MA's), (38, 41304), (55, 41115), (59, 41055), (61, 41019),

Gene: RawrgerThat_42 Start: 39621, Stop: 39196, Start Num: 30

Candidate Starts for RawrgerThat_42:

(Start: 7 @39825 has 1 MA's), (10, 39789), (20, 39735), (Start: 26 @39654 has 3 MA's), (Start: 30 @39621 has 19 MA's), (Start: 32 @39615 has 1 MA's), (38, 39513), (45, 39438), (47, 39426), (49, 39393), (50, 39384), (56, 39336), (58, 39300), (59, 39282),

Gene: RedMaple_45 Start: 39624, Stop: 39199, Start Num: 28

Candidate Starts for RedMaple_45:

(13, 39774), (15, 39765), (17, 39750), (Start: 28 @39624 has 51 MA's), (35, 39546), (36, 39531), (42, 39486),

Gene: Robyn_45 Start: 39290, Stop: 38763, Start Num: 16

Candidate Starts for Robyn_45:

(Start: 16 @39290 has 29 MA's), (Start: 28 @39188 has 51 MA's), (35, 39110), (36, 39095), (42, 39050),

Gene: Scoot17C_46 Start: 39616, Stop: 39191, Start Num: 28

Candidate Starts for Scoot17C_46:

(13, 39766), (15, 39757), (17, 39742), (Start: 28 @39616 has 51 MA's), (35, 39538), (36, 39523), (42, 39478),

Gene: Sheila_46 Start: 39758, Stop: 39234, Start Num: 16

Candidate Starts for Sheila_46:

(Start: 16 @39758 has 29 MA's), (Start: 28 @39659 has 51 MA's), (35, 39581), (36, 39566), (42, 39521),

Gene: Sigman_46 Start: 39607, Stop: 39182, Start Num: 28

Candidate Starts for Sigman_46:

(13, 39757), (15, 39748), (17, 39733), (Start: 28 @39607 has 51 MA's), (35, 39529), (36, 39514), (42, 39469),

Gene: SlippinJimmy_44 Start: 40230, Stop: 39793, Start Num: 27

Candidate Starts for SlippinJimmy_44:

(3, 40449), (14, 40347), (22, 40293), (23, 40278), (Start: 27 @40230 has 10 MA's), (34, 40140), (38, 40095), (39, 40089), (41, 40083), (44, 40032), (52, 39945), (53, 39921), (58, 39873),

Gene: Soile_46 Start: 39334, Stop: 38909, Start Num: 28

Candidate Starts for Soile_46:

(Start: 16 @39433 has 29 MA's), (Start: 28 @39334 has 51 MA's), (35, 39256), (36, 39241), (42, 39196),

Gene: Stinger_40 Start: 38231, Stop: 37773, Start Num: 26

Candidate Starts for Stinger_40:

(Start: 7 @38399 has 1 MA's), (20, 38309), (Start: 26 @38231 has 3 MA's), (Start: 30 @38198 has 19 MA's), (38, 38090), (45, 38015), (47, 38003), (48, 37991), (49, 37970), (50, 37961), (56, 37913), (58, 37877), (61, 37814), (63, 37781),

Gene: Suffolk_46 Start: 39721, Stop: 39197, Start Num: 16

Candidate Starts for Suffolk_46:

(Start: 16 @39721 has 29 MA's), (Start: 28 @39622 has 51 MA's), (35, 39544), (36, 39529), (42, 39484),

Gene: Swish_46 Start: 39608, Stop: 39183, Start Num: 28

Candidate Starts for Swish_46:

(13, 39758), (15, 39749), (17, 39734), (Start: 28 @39608 has 51 MA's), (35, 39530), (36, 39515), (42, 39470),

Gene: ThreeOh3D2_46 Start: 39622, Stop: 39197, Start Num: 28

Candidate Starts for ThreeOh3D2_46:

(13, 39772), (15, 39763), (17, 39748), (Start: 28 @39622 has 51 MA's), (35, 39544), (36, 39529), (42, 39484),

Gene: TomBombadil_46 Start: 39717, Stop: 39193, Start Num: 16

Candidate Starts for TomBombadil_46:

(Start: 16 @39717 has 29 MA's), (Start: 28 @39618 has 51 MA's), (35, 39540), (36, 39525), (42, 39480),

Gene: Tooj_46 Start: 39781, Stop: 39257, Start Num: 16

Candidate Starts for Tooj_46:

(Start: 16 @39781 has 29 MA's), (Start: 28 @39682 has 51 MA's), (35, 39604), (36, 39589), (42, 39544),

Gene: Trypo_46 Start: 39618, Stop: 39193, Start Num: 28

Candidate Starts for Trypo_46:

(13, 39768), (15, 39759), (17, 39744), (Start: 28 @39618 has 51 MA's), (35, 39540), (36, 39525), (42, 39480),

Gene: Tydolla_44 Start: 40199, Stop: 39762, Start Num: 27

Candidate Starts for Tydolla_44:

(3, 40418), (14, 40316), (22, 40262), (23, 40247), (Start: 27 @40199 has 10 MA's), (34, 40109), (38, 40064), (39, 40058), (41, 40052), (44, 40001), (52, 39914), (53, 39890), (58, 39842),

Gene: UncleHowie_46 Start: 39423, Stop: 38896, Start Num: 16

Candidate Starts for UncleHowie_46:

(Start: 16 @39423 has 29 MA's), (Start: 28 @39321 has 51 MA's), (35, 39243), (36, 39228), (42, 39183),

Gene: Usavi_46 Start: 39721, Stop: 39197, Start Num: 16

Candidate Starts for Usavi_46:

(Start: 16 @39721 has 29 MA's), (Start: 28 @39622 has 51 MA's), (35, 39544), (36, 39529), (42, 39484),

Gene: Vincenzo_42 Start: 40436, Stop: 39954, Start Num: 25

Candidate Starts for Vincenzo_42:

(12, 40535), (14, 40526), (Start: 25 @40436 has 1 MA's), (Start: 31 @40379 has 1 MA's), (36, 40292), (37, 40286), (38, 40265), (40, 40256), (49, 40145), (54, 40097), (58, 40052), (59, 40034), (60, 40004), (61, 39989),

Gene: VioletZ_42 Start: 39692, Stop: 39267, Start Num: 30

Candidate Starts for VioletZ_42:

(Start: 7 @39896 has 1 MA's), (8, 39872), (10, 39860), (20, 39806), (Start: 26 @39725 has 3 MA's), (Start: 30 @39692 has 19 MA's), (Start: 32 @39686 has 1 MA's), (38, 39584), (45, 39509), (47, 39497), (49, 39464), (50, 39455), (56, 39407), (58, 39371), (59, 39353),

Gene: Virgeve_45 Start: 39491, Stop: 38964, Start Num: 16

Candidate Starts for Virgeve_45:

(Start: 16 @39491 has 29 MA's), (Start: 28 @39389 has 51 MA's), (35, 39311), (36, 39296), (42, 39251),

Gene: Waleliano_41 Start: 39619, Stop: 39194, Start Num: 30

Candidate Starts for Waleliano_41:

(Start: 7 @39823 has 1 MA's), (8, 39799), (10, 39787), (20, 39733), (Start: 26 @39652 has 3 MA's), (Start: 30 @39619 has 19 MA's), (38, 39511), (45, 39436), (47, 39424), (49, 39391), (50, 39382), (56, 39334), (58, 39298), (59, 39280),

Gene: Windsor_45 Start: 39420, Stop: 38893, Start Num: 16

Candidate Starts for Windsor_45:

(Start: 16 @39420 has 29 MA's), (Start: 28 @39318 has 51 MA's), (35, 39240), (36, 39225), (42, 39180),

Gene: Xincheng_40 Start: 39075, Stop: 38650, Start Num: 30

Candidate Starts for Xincheng_40:

(12, 39237), (Start: 24 @39153 has 2 MA's), (Start: 26 @39108 has 3 MA's), (Start: 30 @39075 has 19 MA's), (38, 38967), (45, 38892), (47, 38880), (49, 38847), (50, 38838), (56, 38790), (58, 38754), (59, 38736),

Gene: Yoshand_46 Start: 39621, Stop: 39196, Start Num: 28

Candidate Starts for Yoshand_46:

(13, 39771), (15, 39762), (17, 39747), (Start: 28 @39621 has 51 MA's), (35, 39543), (36, 39528), (42, 39483),

Gene: Zemanar_42 Start: 39622, Stop: 39197, Start Num: 30

Candidate Starts for Zemanar_42:

(Start: 7 @39826 has 1 MA's), (8, 39802), (10, 39790), (20, 39736), (Start: 26 @39655 has 3 MA's), (Start: 30 @39622 has 19 MA's), (Start: 32 @39616 has 1 MA's), (38, 39514), (45, 39439), (47, 39427), (49, 39394), (50, 39385), (56, 39337), (58, 39301), (59, 39283),

Gene: Zonia_46 Start: 39635, Stop: 39210, Start Num: 28

Candidate Starts for Zonia_46:

(Start: 28 @39635 has 51 MA's), (35, 39557), (36, 39542), (42, 39497),