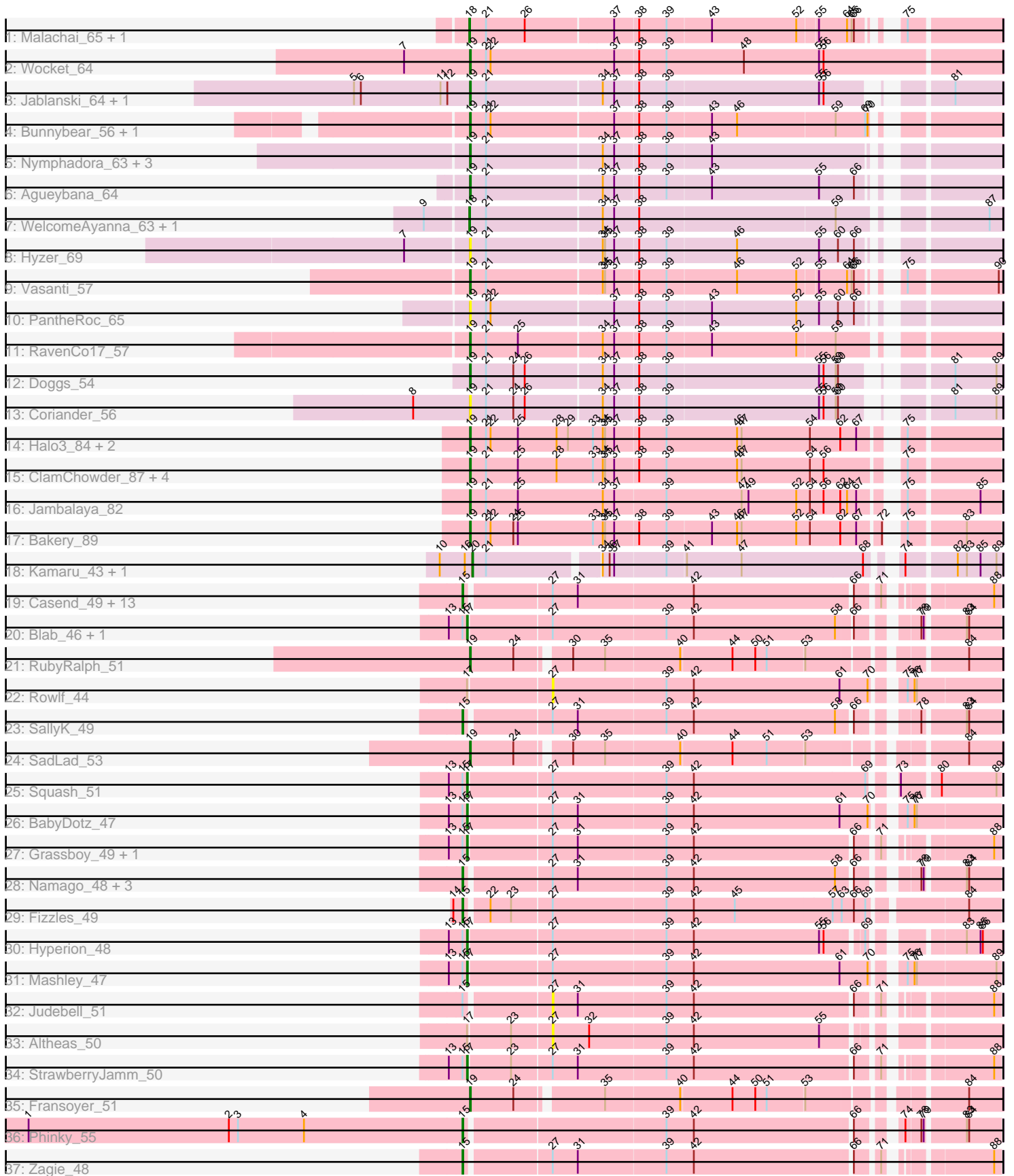


Pham 1613



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 1613 Report

This analysis was run 04/28/24 on database version 559.

Pham number 1613 has 69 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Malachai_65, Begonia_65
- Track 2 : Wocket_64
- Track 3 : Jablanski_64, Pytheas_64
- Track 4 : Bunnybear_56, Maridalia_64
- Track 5 : Nymphadora_63, TimTam_63, Eviarto_63, BatStarr_62
- Track 6 : Agueybana_64
- Track 7 : WelcomeAyanna_63, ThankyouJordi_63
- Track 8 : Hyzer_69
- Track 9 : Vasanti_57
- Track 10 : PantheRoc_65
- Track 11 : RavenCo17_57
- Track 12 : Doggs_54
- Track 13 : Coriander_56
- Track 14 : Halo3_84, YungMoney_84, Mutzi_84
- Track 15 : ClamChowder_87, Barb_88, Fugax_88, Danyall_85, Nubi_88
- Track 16 : Jambalaya_82
- Track 17 : Bakery_89
- Track 18 : Kamaru_43, LitninMcQueen_42
- Track 19 : Casend_49, DonaldDuck_48, Phabia_48, Llemily_48, Sillytadpoles_49, Wayne3_50, Teehee_49, Quammi_46, Viceroy_47, Wheelie_48, Jehoshaphat_50, Rudy_46, Zhafia_51, Lonelysoil_47
- Track 20 : Blab_46, AluminumJesus_46
- Track 21 : RubyRalph_51
- Track 22 : Rowlf_44
- Track 23 : SallyK_49
- Track 24 : SadLad_53
- Track 25 : Squash_51
- Track 26 : BabyDotz_47
- Track 27 : Grassboy_49, Gazebo_47
- Track 28 : Namago_48, Tissue_48, Nike_49, Kyva_50
- Track 29 : Fizzles_49
- Track 30 : Hyperion_48
- Track 31 : Mashley_47
- Track 32 : Judebell_51
- Track 33 : Altheas_50
- Track 34 : StrawberryJamm_50
- Track 35 : Fransoyer_51

- Track 36 : Phinky_55
- Track 37 : Zagie_48

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

The start number called the most often in the published annotations is 19, it was called in 26 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agueybana_64, Bakery_89, Barb_88, BatStarr_62, Bunnybear_56, ClamChowder_87, Coriander_56, Danyall_85, Doggs_54, Eviarto_63, Fransoyer_51, Fugax_88, Halo3_84, Hyzer_69, Jablanski_64, Jambalaya_82, Maridalia_64, Mutzi_84, Nubi_88, Nymphadora_63, PantheRoc_65, Pytheas_64, RavenCo17_57, RubyRalph_51, SadLad_53, TimTam_63, Vasanti_57, Wocket_64, YungMoney_84,

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

-

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

- Altheas_50, AluminumJesus_46, BabyDotz_47, Begonia_65, Blab_46, Casend_49, DonaldDuck_48, Fizzles_49, Gazebo_47, Grassboy_49, Hyperion_48, Jehoshaphat_50, Judebell_51, Kamaru_43, Kyva_50, LitninMcQueen_42, Llemily_48, Lonelysoil_47, Malachai_65, Mashley_47, Namago_48, Nike_49, Phabia_48, Phinky_55, Quammi_46, Rowlf_44, Rudy_46, SallyK_49, Sillytadpoles_49, Squash_51, StrawberryJamm_50, Teehee_49, ThankyouJordi_63, Tissue_48, Viceroy_47, Wayne3_50, WelcomeAyanna_63, Wheelie_48, Zagie_48, Zhafia_51,

Summary by start number:

Start 15:

- Found in 32 of 69 (46.4%) of genes in pham
- Manual Annotations of this start: 16 of 56
- Called 68.8% of time when present
- Phage (with cluster) where this start called: Casend_49 (EG), DonaldDuck_48 (EG), Fizzles_49 (EG), Jehoshaphat_50 (EG), Kyva_50 (EG), Llemily_48 (EG), Lonelysoil_47 (EG), Namago_48 (EG), Nike_49 (EG), Phabia_48 (EG), Phinky_55 (EG), Quammi_46 (EG), Rudy_46 (EG), SallyK_49 (EG), Sillytadpoles_49 (EG), Teehee_49 (EG), Tissue_48 (EG), Viceroy_47 (EG), Wayne3_50 (EG), Wheelie_48 (EG), Zagie_48 (EG), Zhafia_51 (EG),

Start 17:

- Found in 11 of 69 (15.9%) of genes in pham
- Manual Annotations of this start: 9 of 56
- Called 81.8% of time when present
- Phage (with cluster) where this start called: AluminumJesus_46 (EG), BabyDotz_47 (EG), Blab_46 (EG), Gazebo_47 (EG), Grassboy_49 (EG), Hyperion_48 (EG), Mashley_47 (EG), Squash_51 (EG), StrawberryJamm_50 (EG),

Start 18:

- Found in 4 of 69 (5.8%) of genes in pham
- Manual Annotations of this start: 4 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Begonia_65 (CV), Malachai_65 (CV), ThankyouJordi_63 (CZ1), WelcomeAyanna_63 (CZ1),

Start 19:

- Found in 29 of 69 (42.0%) of genes in pham
- Manual Annotations of this start: 26 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agueybana_64 (CZ1), Bakery_89 (DC1), Barb_88 (DC1), BatStarr_62 (CZ1), Bunnybear_56 (CZ), ClamChowder_87 (DC1), Coriander_56 (DB), Danyall_85 (DC1), Doggs_54 (DB), Eviarto_63 (CZ1), Fransoyer_51 (EG), Fugax_88 (DC1), Halo3_84 (DC1), Hyzer_69 (CZ1), Jablanski_64 (CY), Jambalaya_82 (DC1), Maridalia_64 (CZ1), Mutzi_84 (DC1), Nubi_88 (DC1), Nymphadora_63 (CZ1), PantheRoc_65 (CZ3), Pytheas_64 (CY), RavenCo17_57 (CZ8), RubyRalph_51 (EG), SadLad_53 (EG), TimTam_63 (CZ1), Vasanti_57 (CZ2), Wocket_64 (CV), YungMoney_84 (DC1),

Start 20:

- Found in 2 of 69 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kamaru_43 (DN1), LitninMcQueen_42 (DN1),

Start 27:

- Found in 33 of 69 (47.8%) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Altheas_50 (EG), Judebell_51 (EG), Rowlf_44 (EG),

Summary by clusters:

There are 11 clusters represented in this pham: CZ8, CZ2, CZ3, EG, CZ1, DB, CZ, CY, DN1, CV, DC1,

Info for manual annotations of cluster CV:

- Start number 18 was manually annotated 2 times for cluster CV.
- Start number 19 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY:

- Start number 19 was manually annotated 2 times for cluster CY.

Info for manual annotations of cluster CZ:

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

Info for manual annotations of cluster CZ1:

- Start number 18 was manually annotated 2 times for cluster CZ1.
- Start number 19 was manually annotated 6 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 19 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ8:

- Start number 19 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DC1:

- Start number 19 was manually annotated 10 times for cluster DC1.

Info for manual annotations of cluster DN1:

- Start number 20 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster EG:

- Start number 15 was manually annotated 16 times for cluster EG.
- Start number 17 was manually annotated 9 times for cluster EG.
- Start number 19 was manually annotated 3 times for cluster EG.

Gene Information:

Gene: Agueybana_64 Start: 43649, Stop: 44284, Start Num: 19

Candidate Starts for Agueybana_64:

(Start: 19 @43649 has 26 MA's), (21, 43670), (34, 43817), (37, 43832), (38, 43862), (39, 43898), (43, 43955), (55, 44096), (66, 44141),

Gene: Altheas_50 Start: 36962, Stop: 36429, Start Num: 27

Candidate Starts for Altheas_50:

(Start: 17 @37067 has 9 MA's), (23, 37013), (27, 36962), (32, 36914), (39, 36815), (42, 36779), (55, 36614),

Gene: AluminumJesus_46 Start: 36665, Stop: 36024, Start Num: 17

Candidate Starts for AluminumJesus_46:

(13, 36689), (Start: 15 @36671 has 16 MA's), (Start: 17 @36665 has 9 MA's), (27, 36560), (39, 36413), (42, 36377), (58, 36191), (66, 36176), (78, 36119), (79, 36116), (83, 36068), (84, 36065),

Gene: BabyDotz_47 Start: 37477, Stop: 36815, Start Num: 17

Candidate Starts for BabyDotz_47:

(13, 37501), (Start: 15 @37483 has 16 MA's), (Start: 17 @37477 has 9 MA's), (27, 37372), (31, 37339), (39, 37225), (42, 37189), (61, 36997), (70, 36961), (75, 36934), (76, 36925), (77, 36922),

Gene: Bakery_89 Start: 58398, Stop: 57748, Start Num: 19

Candidate Starts for Bakery_89:

(Start: 19 @58398 has 26 MA's), (21, 58377), (22, 58371), (24, 58341), (25, 58335), (33, 58236), (34, 58224), (35, 58221), (37, 58209), (38, 58179), (39, 58143), (43, 58086), (46, 58053), (47, 58047), (52, 57975), (54, 57957), (62, 57918), (67, 57897), (72, 57870), (75, 57861), (83, 57792),

Gene: Barb_88 Start: 56546, Stop: 55893, Start Num: 19

Candidate Starts for Barb_88:

(Start: 19 @56546 has 26 MA's), (21, 56525), (25, 56483), (28, 56432), (33, 56384), (34, 56372), (35, 56369), (37, 56357), (38, 56327), (39, 56291), (46, 56198), (47, 56192), (54, 56102), (56, 56084), (75, 56006),

Gene: BatStarr_62 Start: 43839, Stop: 44474, Start Num: 19

Candidate Starts for BatStarr_62:

(Start: 19 @43839 has 26 MA's), (21, 43860), (34, 44007), (37, 44022), (38, 44052), (39, 44088), (43, 44145),

Gene: Begonia_65 Start: 43902, Stop: 44531, Start Num: 18

Candidate Starts for Begonia_65:

(Start: 18 @43902 has 4 MA's), (21, 43923), (26, 43974), (37, 44085), (38, 44115), (39, 44151), (43, 44208), (52, 44319), (55, 44343), (64, 44379), (65, 44385), (66, 44388), (75, 44415),

Gene: Blab_46 Start: 36578, Stop: 35937, Start Num: 17

Candidate Starts for Blab_46:

(13, 36602), (Start: 15 @36584 has 16 MA's), (Start: 17 @36578 has 9 MA's), (27, 36473), (39, 36326), (42, 36290), (58, 36104), (66, 36089), (78, 36032), (79, 36029), (83, 35981), (84, 35978),

Gene: Bunnybear_56 Start: 41244, Stop: 41882, Start Num: 19

Candidate Starts for Bunnybear_56:

(Start: 19 @41244 has 26 MA's), (21, 41265), (22, 41271), (37, 41427), (38, 41457), (39, 41493), (43, 41550), (46, 41583), (59, 41709), (69, 41748), (70, 41751),

Gene: Casend_49 Start: 37205, Stop: 36573, Start Num: 15

Candidate Starts for Casend_49:

(Start: 15 @37205 has 16 MA's), (27, 37100), (31, 37067), (42, 36917), (66, 36716), (71, 36692), (88, 36581),

Gene: ClamChowder_87 Start: 56546, Stop: 55893, Start Num: 19

Candidate Starts for ClamChowder_87:

(Start: 19 @56546 has 26 MA's), (21, 56525), (25, 56483), (28, 56432), (33, 56384), (34, 56372), (35, 56369), (37, 56357), (38, 56327), (39, 56291), (46, 56198), (47, 56192), (54, 56102), (56, 56084), (75, 56006),

Gene: Coriander_56 Start: 39129, Stop: 39758, Start Num: 19

Candidate Starts for Coriander_56:

(8, 39057), (Start: 19 @39129 has 26 MA's), (21, 39150), (24, 39186), (26, 39201), (34, 39297), (37, 39312), (38, 39342), (39, 39378), (55, 39576), (56, 39582), (59, 39597), (60, 39600), (81, 39696), (89, 39750),

Gene: Danyall_85 Start: 55727, Stop: 55074, Start Num: 19

Candidate Starts for Danyall_85:

(Start: 19 @55727 has 26 MA's), (21, 55706), (25, 55664), (28, 55613), (33, 55565), (34, 55553), (35, 55550), (37, 55538), (38, 55508), (39, 55472), (46, 55379), (47, 55373), (54, 55283), (56, 55265), (75, 55187),

Gene: Doggs_54 Start: 39462, Stop: 40091, Start Num: 19

Candidate Starts for Doggs_54:

(Start: 19 @39462 has 26 MA's), (21, 39483), (24, 39519), (26, 39534), (34, 39630), (37, 39645), (38, 39675), (39, 39711), (55, 39909), (56, 39915), (59, 39930), (60, 39933), (81, 40029), (89, 40083),

Gene: DonaldDuck_48 Start: 36554, Stop: 35922, Start Num: 15

Candidate Starts for DonaldDuck_48:

(Start: 15 @36554 has 16 MA's), (27, 36449), (31, 36416), (42, 36266), (66, 36065), (71, 36041), (88, 35930),

Gene: Eviarto_63 Start: 43814, Stop: 44449, Start Num: 19

Candidate Starts for Eviarto_63:

(Start: 19 @43814 has 26 MA's), (21, 43835), (34, 43982), (37, 43997), (38, 44027), (39, 44063), (43, 44120),

Gene: Fizzles_49 Start: 36189, Stop: 35524, Start Num: 15

Candidate Starts for Fizzles_49:

(14, 36201), (Start: 15 @36189 has 16 MA's), (22, 36162), (23, 36135), (27, 36084), (39, 35937), (42, 35901), (45, 35847), (57, 35721), (63, 35709), (66, 35694), (69, 35679), (84, 35565),

Gene: Fransoyer_51 Start: 39000, Stop: 38368, Start Num: 19

Candidate Starts for Fransoyer_51:

(Start: 19 @39000 has 26 MA's), (24, 38943), (35, 38841), (40, 38745), (44, 38679), (50, 38649), (51, 38634), (53, 38586), (84, 38412),

Gene: Fugax_88 Start: 56538, Stop: 55885, Start Num: 19

Candidate Starts for Fugax_88:

(Start: 19 @56538 has 26 MA's), (21, 56517), (25, 56475), (28, 56424), (33, 56376), (34, 56364), (35, 56361), (37, 56349), (38, 56319), (39, 56283), (46, 56190), (47, 56184), (54, 56094), (56, 56076), (75, 55998),

Gene: Gazebo_47 Start: 37076, Stop: 36444, Start Num: 17

Candidate Starts for Gazebo_47:

(13, 37100), (Start: 15 @37082 has 16 MA's), (Start: 17 @37076 has 9 MA's), (27, 36971), (31, 36938), (39, 36824), (42, 36788), (66, 36587), (71, 36563), (88, 36452),

Gene: Grassboy_49 Start: 37128, Stop: 36496, Start Num: 17

Candidate Starts for Grassboy_49:

(13, 37152), (Start: 15 @37134 has 16 MA's), (Start: 17 @37128 has 9 MA's), (27, 37023), (31, 36990), (39, 36876), (42, 36840), (66, 36639), (71, 36615), (88, 36504),

Gene: Halo3_84 Start: 56552, Stop: 55899, Start Num: 19

Candidate Starts for Halo3_84:

(Start: 19 @56552 has 26 MA's), (21, 56531), (22, 56525), (25, 56489), (28, 56438), (29, 56423), (33, 56390), (34, 56378), (35, 56375), (37, 56363), (38, 56333), (39, 56297), (46, 56204), (47, 56198), (54, 56108), (62, 56069), (67, 56048), (75, 56012),

Gene: Hyperion_48 Start: 37080, Stop: 36442, Start Num: 17

Candidate Starts for Hyperion_48:

(13, 37104), (Start: 15 @37086 has 16 MA's), (Start: 17 @37080 has 9 MA's), (27, 36975), (39, 36828), (42, 36792), (55, 36627), (56, 36621), (69, 36582), (83, 36489), (85, 36471), (86, 36468),

Gene: Hyzer_69 Start: 45805, Stop: 46440, Start Num: 19

Candidate Starts for Hyzer_69:

(7, 45727), (Start: 19 @45805 has 26 MA's), (21, 45826), (34, 45973), (35, 45976), (37, 45988), (38, 46018), (39, 46054), (46, 46144), (55, 46252), (60, 46276), (66, 46297),

Gene: Jablanski_64 Start: 45529, Stop: 46158, Start Num: 19

Candidate Starts for Jablanski_64:

(5, 45379), (6, 45388), (11, 45490), (12, 45499), (Start: 19 @45529 has 26 MA's), (21, 45550), (34, 45697), (37, 45712), (38, 45742), (39, 45778), (55, 45976), (56, 45982), (81, 46096),

Gene: Jambalaya_82 Start: 55134, Stop: 54481, Start Num: 19

Candidate Starts for Jambalaya_82:

(Start: 19 @55134 has 26 MA's), (21, 55113), (25, 55071), (34, 54960), (37, 54945), (39, 54879), (47, 54780), (49, 54771), (52, 54708), (54, 54690), (56, 54672), (62, 54651), (64, 54642), (67, 54630), (75, 54594), (85, 54507),

Gene: Jehoshaphat_50 Start: 37473, Stop: 36841, Start Num: 15

Candidate Starts for Jehoshaphat_50:

(Start: 15 @37473 has 16 MA's), (27, 37368), (31, 37335), (42, 37185), (66, 36984), (71, 36960), (88, 36849),

Gene: Judebell_51 Start: 36865, Stop: 36338, Start Num: 27

Candidate Starts for Judebell_51:

(Start: 15 @36970 has 16 MA's), (27, 36865), (31, 36832), (39, 36718), (42, 36682), (66, 36481), (71, 36457), (88, 36346),

Gene: Kamaru_43 Start: 30923, Stop: 31555, Start Num: 20

Candidate Starts for Kamaru_43:

(10, 30881), (16, 30914), (Start: 20 @30923 has 1 MA's), (21, 30941), (34, 31076), (36, 31085), (37, 31091), (39, 31157), (41, 31181), (47, 31253), (68, 31412), (74, 31436), (82, 31496), (83, 31508), (85, 31526), (89, 31547),

Gene: Kyva_50 Start: 37172, Stop: 36531, Start Num: 15

Candidate Starts for Kyva_50:

(Start: 15 @37172 has 16 MA's), (27, 37067), (31, 37034), (39, 36920), (42, 36884), (58, 36698), (66, 36683), (78, 36626), (79, 36623), (83, 36575), (84, 36572),

Gene: LitninMcQueen_42 Start: 30672, Stop: 31304, Start Num: 20

Candidate Starts for LitninMcQueen_42:

(10, 30630), (16, 30663), (Start: 20 @30672 has 1 MA's), (21, 30690), (34, 30825), (36, 30834), (37, 30840), (39, 30906), (41, 30930), (47, 31002), (68, 31161), (74, 31185), (82, 31245), (83, 31257), (85, 31275), (89, 31296),

Gene: Llemily_48 Start: 36249, Stop: 35617, Start Num: 15

Candidate Starts for Llemily_48:

(Start: 15 @36249 has 16 MA's), (27, 36144), (31, 36111), (42, 35961), (66, 35760), (71, 35736), (88, 35625),

Gene: Lonelysoil_47 Start: 36491, Stop: 35859, Start Num: 15

Candidate Starts for Lonelysoil_47:

(Start: 15 @36491 has 16 MA's), (27, 36386), (31, 36353), (42, 36203), (66, 36002), (71, 35978), (88, 35867),

Gene: Malachai_65 Start: 43902, Stop: 44531, Start Num: 18

Candidate Starts for Malachai_65:

(Start: 18 @43902 has 4 MA's), (21, 43923), (26, 43974), (37, 44085), (38, 44115), (39, 44151), (43, 44208), (52, 44319), (55, 44343), (64, 44379), (65, 44385), (66, 44388), (75, 44415),

Gene: Maridalia_64 Start: 42906, Stop: 43544, Start Num: 19

Candidate Starts for Maridalia_64:

(Start: 19 @42906 has 26 MA's), (21, 42927), (22, 42933), (37, 43089), (38, 43119), (39, 43155), (43, 43212), (46, 43245), (59, 43371), (69, 43410), (70, 43413),

Gene: Mashley_47 Start: 36919, Stop: 36257, Start Num: 17

Candidate Starts for Mashley_47:

(13, 36943), (Start: 15 @36925 has 16 MA's), (Start: 17 @36919 has 9 MA's), (27, 36814), (39, 36667), (42, 36631), (61, 36439), (70, 36403), (75, 36376), (76, 36367), (77, 36364), (89, 36262),

Gene: Mutzi_84 Start: 56687, Stop: 56034, Start Num: 19

Candidate Starts for Mutzi_84:

(Start: 19 @56687 has 26 MA's), (21, 56666), (22, 56660), (25, 56624), (28, 56573), (29, 56558), (33, 56525), (34, 56513), (35, 56510), (37, 56498), (38, 56468), (39, 56432), (46, 56339), (47, 56333), (54, 56243), (62, 56204), (67, 56183), (75, 56147),

Gene: Namago_48 Start: 36302, Stop: 35661, Start Num: 15

Candidate Starts for Namago_48:

(Start: 15 @36302 has 16 MA's), (27, 36197), (31, 36164), (39, 36050), (42, 36014), (58, 35828), (66, 35813), (78, 35756), (79, 35753), (83, 35705), (84, 35702),

Gene: Nike_49 Start: 37257, Stop: 36616, Start Num: 15

Candidate Starts for Nike_49:

(Start: 15 @37257 has 16 MA's), (27, 37152), (31, 37119), (39, 37005), (42, 36969), (58, 36783), (66, 36768), (78, 36711), (79, 36708), (83, 36660), (84, 36657),

Gene: Nubi_88 Start: 56090, Stop: 55437, Start Num: 19

Candidate Starts for Nubi_88:

(Start: 19 @56090 has 26 MA's), (21, 56069), (25, 56027), (28, 55976), (33, 55928), (34, 55916), (35, 55913), (37, 55901), (38, 55871), (39, 55835), (46, 55742), (47, 55736), (54, 55646), (56, 55628), (75, 55550),

Gene: Nymphadora_63 Start: 43838, Stop: 44473, Start Num: 19

Candidate Starts for Nymphadora_63:

(Start: 19 @43838 has 26 MA's), (21, 43859), (34, 44006), (37, 44021), (38, 44051), (39, 44087), (43, 44144),

Gene: PantheRoc_65 Start: 43389, Stop: 44027, Start Num: 19

Candidate Starts for PantheRoc_65:

(Start: 19 @43389 has 26 MA's), (21, 43410), (22, 43416), (37, 43572), (38, 43605), (39, 43641), (43, 43698), (52, 43809), (55, 43839), (60, 43863), (66, 43884),

Gene: Phabia_48 Start: 36664, Stop: 36032, Start Num: 15

Candidate Starts for Phabia_48:

(Start: 15 @36664 has 16 MA's), (27, 36559), (31, 36526), (42, 36376), (66, 36175), (71, 36151), (88, 36040),

Gene: Phinky_55 Start: 38496, Stop: 37855, Start Num: 15

Candidate Starts for Phinky_55:

(1, 39066), (2, 38802), (3, 38790), (4, 38703), (Start: 15 @38496 has 16 MA's), (39, 38244), (42, 38208), (66, 38007), (74, 37968), (78, 37950), (79, 37947), (83, 37899), (84, 37896),

Gene: Pytheas_64 Start: 45528, Stop: 46157, Start Num: 19

Candidate Starts for Pytheas_64:

(5, 45378), (6, 45387), (11, 45489), (12, 45498), (Start: 19 @45528 has 26 MA's), (21, 45549), (34, 45696), (37, 45711), (38, 45741), (39, 45777), (55, 45975), (56, 45981), (81, 46095),

Gene: Quammi_46 Start: 36364, Stop: 35732, Start Num: 15

Candidate Starts for Quammi_46:

(Start: 15 @36364 has 16 MA's), (27, 36259), (31, 36226), (42, 36076), (66, 35875), (71, 35851), (88, 35740),

Gene: RavenCo17_57 Start: 41660, Stop: 42298, Start Num: 19

Candidate Starts for RavenCo17_57:

(Start: 19 @41660 has 26 MA's), (21, 41681), (25, 41723), (34, 41828), (37, 41843), (38, 41873), (39, 41909), (43, 41966), (52, 42077), (59, 42125),

Gene: Rowlf_44 Start: 36262, Stop: 35705, Start Num: 27

Candidate Starts for Rowlf_44:

(Start: 17 @36367 has 9 MA's), (27, 36262), (39, 36115), (42, 36079), (61, 35887), (70, 35851), (75, 35824), (76, 35815), (77, 35812),

Gene: RubyRalph_51 Start: 38929, Stop: 38297, Start Num: 19

Candidate Starts for RubyRalph_51:

(Start: 19 @38929 has 26 MA's), (24, 38872), (30, 38812), (35, 38770), (40, 38674), (44, 38608), (50, 38578), (51, 38563), (53, 38515), (84, 38341),

Gene: Rudy_46 Start: 36397, Stop: 35765, Start Num: 15

Candidate Starts for Rudy_46:

(Start: 15 @36397 has 16 MA's), (27, 36292), (31, 36259), (42, 36109), (66, 35908), (71, 35884), (88, 35773),

Gene: SadLad_53 Start: 39872, Stop: 39240, Start Num: 19

Candidate Starts for SadLad_53:

(Start: 19 @39872 has 26 MA's), (24, 39815), (30, 39755), (35, 39713), (40, 39617), (44, 39551), (51, 39506), (53, 39458), (84, 39284),

Gene: SallyK_49 Start: 37316, Stop: 36675, Start Num: 15

Candidate Starts for SallyK_49:

(Start: 15 @37316 has 16 MA's), (27, 37211), (31, 37178), (39, 37064), (42, 37028), (58, 36842), (66, 36827), (78, 36770), (83, 36719), (84, 36716),

Gene: Sillytadpoles_49 Start: 36237, Stop: 35605, Start Num: 15

Candidate Starts for Sillytadpoles_49:

(Start: 15 @36237 has 16 MA's), (27, 36132), (31, 36099), (42, 35949), (66, 35748), (71, 35724), (88, 35613),

Gene: Squash_51 Start: 37277, Stop: 36627, Start Num: 17

Candidate Starts for Squash_51:

(13, 37301), (Start: 15 @37283 has 16 MA's), (Start: 17 @37277 has 9 MA's), (27, 37172), (39, 37025), (42, 36989), (69, 36767), (73, 36749), (80, 36704), (89, 36632),

Gene: StrawberryJamm_50 Start: 36561, Stop: 35929, Start Num: 17

Candidate Starts for StrawberryJamm_50:

(13, 36585), (Start: 15 @36567 has 16 MA's), (Start: 17 @36561 has 9 MA's), (23, 36507), (27, 36456), (31, 36423), (39, 36309), (42, 36273), (66, 36072), (71, 36048), (88, 35937),

Gene: Teehee_49 Start: 37470, Stop: 36838, Start Num: 15

Candidate Starts for Teehee_49:

(Start: 15 @37470 has 16 MA's), (27, 37365), (31, 37332), (42, 37182), (66, 36981), (71, 36957), (88, 36846),

Gene: ThankyouJordi_63 Start: 44547, Stop: 45188, Start Num: 18

Candidate Starts for ThankyouJordi_63:

(9, 44496), (Start: 18 @44547 has 4 MA's), (21, 44568), (34, 44715), (37, 44730), (38, 44763), (59, 45015), (87, 45171),

Gene: TimTam_63 Start: 43838, Stop: 44473, Start Num: 19

Candidate Starts for TimTam_63:

(Start: 19 @43838 has 26 MA's), (21, 43859), (34, 44006), (37, 44021), (38, 44051), (39, 44087), (43, 44144),

Gene: Tissue_48 Start: 36945, Stop: 36304, Start Num: 15

Candidate Starts for Tissue_48:

(Start: 15 @36945 has 16 MA's), (27, 36840), (31, 36807), (39, 36693), (42, 36657), (58, 36471), (66, 36456), (78, 36399), (79, 36396), (83, 36348), (84, 36345),

Gene: Vasanti_57 Start: 37937, Stop: 38566, Start Num: 19

Candidate Starts for Vasanti_57:

(Start: 19 @37937 has 26 MA's), (21, 37958), (34, 38105), (35, 38108), (37, 38120), (38, 38150), (39, 38186), (46, 38276), (52, 38354), (55, 38378), (64, 38414), (65, 38420), (66, 38423), (75, 38450), (90, 38561),

Gene: Viceroy_47 Start: 36367, Stop: 35735, Start Num: 15

Candidate Starts for Viceroy_47:

(Start: 15 @36367 has 16 MA's), (27, 36262), (31, 36229), (42, 36079), (66, 35878), (71, 35854), (88, 35743),

Gene: Wayne3_50 Start: 37233, Stop: 36601, Start Num: 15

Candidate Starts for Wayne3_50:

(Start: 15 @37233 has 16 MA's), (27, 37128), (31, 37095), (42, 36945), (66, 36744), (71, 36720), (88, 36609),

Gene: WelcomeAyanna_63 Start: 44694, Stop: 45335, Start Num: 18

Candidate Starts for WelcomeAyanna_63:

(9, 44643), (Start: 18 @44694 has 4 MA's), (21, 44715), (34, 44862), (37, 44877), (38, 44910), (59, 45162), (87, 45318),

Gene: Wheelie_48 Start: 36554, Stop: 35922, Start Num: 15

Candidate Starts for Wheelie_48:

(Start: 15 @36554 has 16 MA's), (27, 36449), (31, 36416), (42, 36266), (66, 36065), (71, 36041), (88, 35930),

Gene: Wocket_64 Start: 40982, Stop: 41671, Start Num: 19

Candidate Starts for Wocket_64:

(7, 40898), (Start: 19 @40982 has 26 MA's), (21, 41003), (22, 41009), (37, 41171), (38, 41201), (39, 41237), (48, 41339), (55, 41438), (56, 41444),

Gene: YungMoney_84 Start: 57527, Stop: 56874, Start Num: 19

Candidate Starts for YungMoney_84:

(Start: 19 @57527 has 26 MA's), (21, 57506), (22, 57500), (25, 57464), (28, 57413), (29, 57398), (33, 57365), (34, 57353), (35, 57350), (37, 57338), (38, 57308), (39, 57272), (46, 57179), (47, 57173), (54, 57083), (62, 57044), (67, 57023), (75, 56987),

Gene: Zagie_48 Start: 36802, Stop: 36170, Start Num: 15

Candidate Starts for Zagie_48:

(Start: 15 @36802 has 16 MA's), (27, 36697), (31, 36664), (39, 36550), (42, 36514), (66, 36313), (71, 36289), (88, 36178),

Gene: Zhafia_51 Start: 37034, Stop: 36402, Start Num: 15

Candidate Starts for Zhafia_51:

(Start: 15 @37034 has 16 MA's), (27, 36929), (31, 36896), (42, 36746), (66, 36545), (71, 36521), (88, 36410),