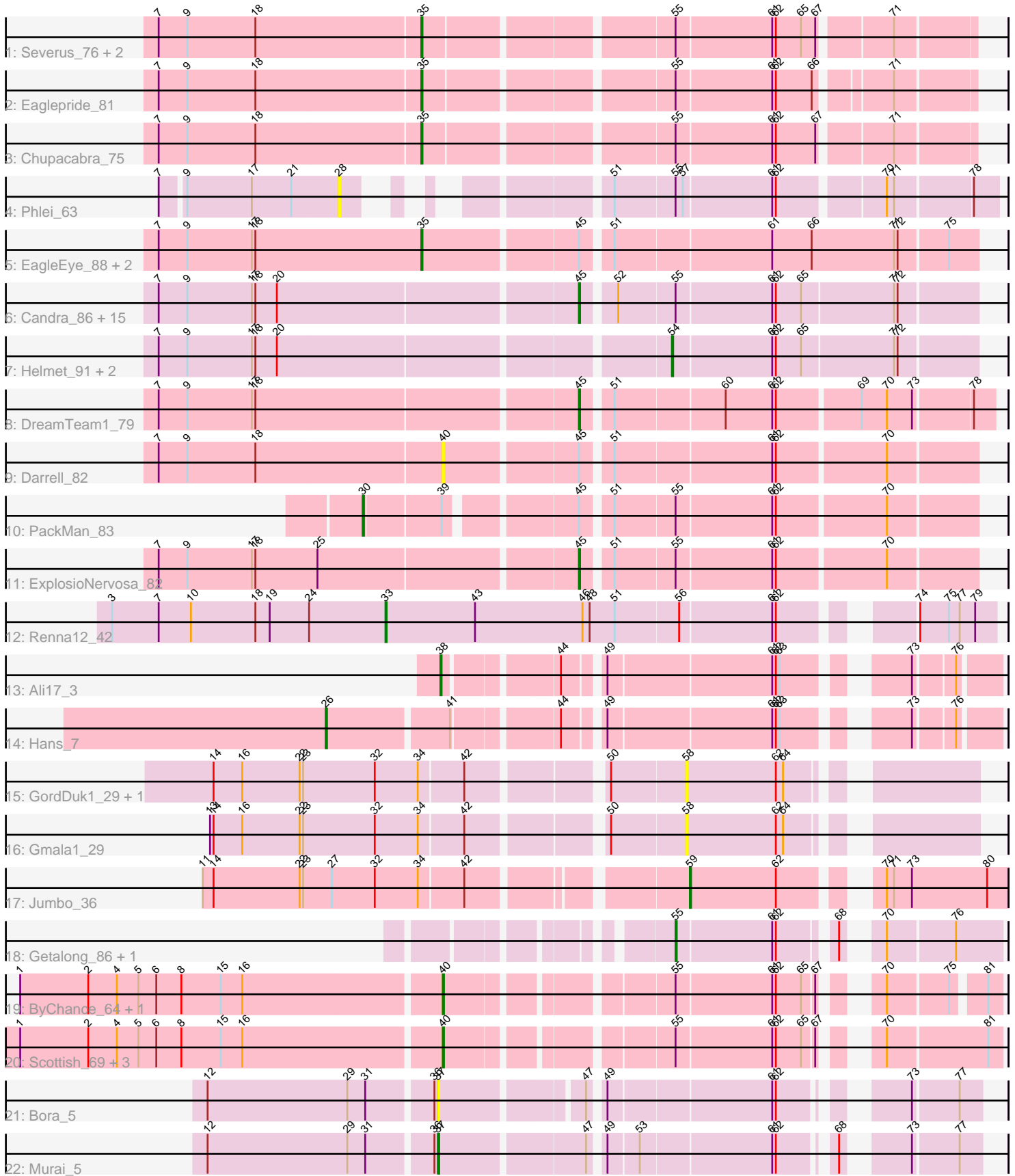


Pham 163666



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 163666 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 163666 has 49 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Severus_76, Poompha_75, PeaceMeal1_75
- Track 2 : Eaglepride_81
- Track 3 : Chupacabra_75
- Track 4 : Phlei_63
- Track 5 : EagleEye_88, Lucyedi_87, PainterBoy_86
- Track 6 : Candra_86, DaVinci_86, Pmask_87, Chartreuse_86, McFly_88, SuperCallie99_84, Neeharika16_87, GreedyLawyer_81, Newrala_87, SuperAwesome_88, VohminGhazi_88, Zulu_91, Kipper29_88, EricB_86, Dorothea_85, Priamo_89
- Track 7 : Helmet_91, Garak_91, Indra_93
- Track 8 : DreamTeam1_79
- Track 9 : Darrell_82
- Track 10 : PackMan_83
- Track 11 : ExplosioNervosa_82
- Track 12 : Renna12_42
- Track 13 : Ali17_3
- Track 14 : Hans_7
- Track 15 : GordDuk1_29, GordTnk2_29
- Track 16 : Gmala1_29
- Track 17 : Jumbo_36
- Track 18 : Getalong_86, Whitney_81
- Track 19 : ByChance_64, ShowerHandel_72
- Track 20 : Scottish_69, Sassafras_72, Inventum_69, KingMidas_70
- Track 21 : Bora_5
- Track 22 : Murai_5

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

The start number called the most often in the published annotations is 45, it was called in 14 of the 36 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Candra_86, Chartreuse_86, DaVinci_86, Dorothea_85, DreamTeam1_79, EricB_86, ExplosioNervosa_82, GreedyLawyer_81, Kipper29_88, McFly_88, Neeharika16_87, Newrala_87, Pmask_87, Priamo_89, SuperAwesome_88, SuperCallie99_84, VohminGhazi_88, Zulu_91,

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

- Darrell_82, EagleEye_88, Lucyedi_87, PackMan_83, PainterBoy_86,

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

- Ali17_3, Bora_5, ByChance_64, Chupacabra_75, Eaglepride_81, Garak_91, Getalong_86, Gmala1_29, GordDuk1_29, GordTnk2_29, Hans_7, Helmet_91, Indra_93, Inventum_69, Jumbo_36, KingMidas_70, Murai_5, PeaceMeal1_75, Phlei_63, Poompha_75, Renna12_42, Sassafras_72, Scottish_69, Severus_76, ShowerHandel_72, Whitney_81,

Summary by start number:

Start 26:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hans_7 (DE2),

Start 28:

- Found in 1 of 49 (2.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phlei_63 (A13),

Start 30:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PackMan_83 (A9),

Start 33:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Renna12_42 (AS3),

Start 35:

- Found in 8 of 49 (16.3%) of genes in pham
- Manual Annotations of this start: 8 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chupacabra_75 (A10), EagleEye_88 (A16), Eaglepride_81 (A10), Lucyedi_87 (A16), PainterBoy_86 (A16), PeaceMeal1_75 (A10), Poompha_75 (A10), Severus_76 (A10),

Start 37:

- Found in 2 of 49 (4.1%) of genes in pham

- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bora_5 (O), Murai_5 (O),

Start 38:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ali17_3 (DE2),

Start 40:

- Found in 7 of 49 (14.3%) of genes in pham
- Manual Annotations of this start: 5 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ByChance_64 (F1), Darrell_82 (A9), Inventum_69 (F1), KingMidas_70 (F1), Sassafras_72 (F1), Scottish_69 (F1), ShowerHandel_72 (F1),

Start 45:

- Found in 23 of 49 (46.9%) of genes in pham
- Manual Annotations of this start: 14 of 36
- Called 78.3% of time when present
- Phage (with cluster) where this start called: Candra_86 (A6), Chartreuse_86 (A6), DaVinci_86 (A6), Dorothea_85 (A6), DreamTeam1_79 (A9), EricB_86 (A6), ExplosioNervosa_82 (A9), GreedyLawyer_81 (A6), Kipper29_88 (A6), McFly_88 (A6), Neeharika16_87 (A6), Newrala_87 (A6), Pmask_87 (A6), Priamo_89 (A6), SuperAwesome_88 (A6), SuperCallie99_84 (A6), VohminGhazi_88 (A6), Zulu_91 (A6),

Start 54:

- Found in 3 of 49 (6.1%) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Garak_91 (A6), Helmet_91 (A6), Indra_93 (A6),

Start 55:

- Found in 32 of 49 (65.3%) of genes in pham
- Manual Annotations of this start: 2 of 36
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Getalong_86 (DN1), Whitney_81 (DN1),

Start 58:

- Found in 3 of 49 (6.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gmala1_29 (DF1), GordDuk1_29 (DF1), GordTnk2_29 (DF1),

Start 59:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Jumbo_36 (DF3),

Summary by clusters:

There are 12 clusters represented in this pham: AS3, F1, A16, A10, A13, DE2, DF1, DF3, DN1, O, A6, A9,

Info for manual annotations of cluster A10:

- Start number 35 was manually annotated 5 times for cluster A10.

Info for manual annotations of cluster A16:

- Start number 35 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A6:

- Start number 45 was manually annotated 12 times for cluster A6.
- Start number 54 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster A9:

- Start number 30 was manually annotated 1 time for cluster A9.
- Start number 45 was manually annotated 2 times for cluster A9.

Info for manual annotations of cluster AS3:

- Start number 33 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster DE2:

- Start number 26 was manually annotated 1 time for cluster DE2.
- Start number 38 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DF3:

- Start number 59 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DN1:

- Start number 55 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster F1:

- Start number 40 was manually annotated 5 times for cluster F1.

Info for manual annotations of cluster O:

- Start number 37 was manually annotated 1 time for cluster O.

Gene Information:

Gene: Ali17_3 Start: 3303, Stop: 3692, Start Num: 38

Candidate Starts for Ali17_3:

(Start: 38 @3303 has 1 MA's), (44, 3387), (49, 3414), (61, 3546), (62, 3549), (63, 3552), (73, 3630), (76, 3660),

Gene: Bora_5 Start: 1663, Stop: 1286, Start Num: 37

Candidate Starts for Bora_5:

(12, 1849), (29, 1732), (31, 1717), (36, 1666), (Start: 37 @1663 has 1 MA's), (47, 1555), (49, 1546), (61, 1417), (62, 1414), (73, 1339), (77, 1303),

Gene: ByChance_64 Start: 42129, Stop: 42512, Start Num: 40

Candidate Starts for ByChance_64:

(1, 41784), (2, 41841), (4, 41865), (5, 41883), (6, 41898), (8, 41919), (15, 41952), (16, 41970), (Start: 40 @42129 has 5 MA's), (Start: 55 @42291 has 2 MA's), (61, 42369), (62, 42372), (65, 42393), (67, 42402), (70, 42429), (75, 42477), (81, 42501),

Gene: Candra_86 Start: 46902, Stop: 46591, Start Num: 45

Candidate Starts for Candra_86:

(7, 47241), (9, 47217), (17, 47163), (18, 47160), (20, 47142), (Start: 45 @46902 has 14 MA's), (52, 46878), (Start: 55 @46833 has 2 MA's), (61, 46755), (62, 46752), (65, 46731), (71, 46656), (72, 46653),

Gene: Chartreuse_86 Start: 46203, Stop: 45892, Start Num: 45

Candidate Starts for Chartreuse_86:

(7, 46542), (9, 46518), (17, 46464), (18, 46461), (20, 46443), (Start: 45 @46203 has 14 MA's), (52, 46179), (Start: 55 @46134 has 2 MA's), (61, 46056), (62, 46053), (65, 46032), (71, 45957), (72, 45954),

Gene: Chupacabra_75 Start: 46471, Stop: 46052, Start Num: 35

Candidate Starts for Chupacabra_75:

(7, 46687), (9, 46663), (18, 46606), (Start: 35 @46471 has 8 MA's), (Start: 55 @46282 has 2 MA's), (61, 46204), (62, 46201), (67, 46168), (71, 46114),

Gene: DaVinci_86 Start: 46257, Stop: 45946, Start Num: 45

Candidate Starts for DaVinci_86:

(7, 46596), (9, 46572), (17, 46518), (18, 46515), (20, 46497), (Start: 45 @46257 has 14 MA's), (52, 46233), (Start: 55 @46188 has 2 MA's), (61, 46110), (62, 46107), (65, 46086), (71, 46011), (72, 46008),

Gene: Darrell_82 Start: 45898, Stop: 45485, Start Num: 40

Candidate Starts for Darrell_82:

(7, 46132), (9, 46108), (18, 46051), (Start: 40 @45898 has 5 MA's), (Start: 45 @45793 has 14 MA's), (51, 45772), (61, 45646), (62, 45643), (70, 45556),

Gene: Dorothea_85 Start: 47503, Stop: 47192, Start Num: 45

Candidate Starts for Dorothea_85:

(7, 47842), (9, 47818), (17, 47764), (18, 47761), (20, 47743), (Start: 45 @47503 has 14 MA's), (52, 47479), (Start: 55 @47434 has 2 MA's), (61, 47356), (62, 47353), (65, 47332), (71, 47257), (72, 47254),

Gene: DreamTeam1_79 Start: 45877, Stop: 45557, Start Num: 45

Candidate Starts for DreamTeam1_79:

(7, 46216), (9, 46192), (17, 46138), (18, 46135), (Start: 45 @45877 has 14 MA's), (51, 45856), (60, 45769), (61, 45730), (62, 45727), (69, 45661), (70, 45640), (73, 45619), (78, 45574),

Gene: EagleEye_88 Start: 48605, Stop: 48168, Start Num: 35

Candidate Starts for EagleEye_88:

(7, 48824), (9, 48800), (17, 48746), (18, 48743), (Start: 35 @48605 has 8 MA's), (Start: 45 @48482 has 14 MA's), (51, 48461), (61, 48335), (66, 48302), (71, 48233), (72, 48230), (75, 48191),

Gene: Eaglepride_81 Start: 46551, Stop: 46135, Start Num: 35
Candidate Starts for Eaglepride_81:
(7, 46767), (9, 46743), (18, 46686), (Start: 35 @46551 has 8 MA's), (Start: 55 @46362 has 2 MA's),
(61, 46284), (62, 46281), (66, 46251), (71, 46197),

Gene: EricB_86 Start: 46400, Stop: 46089, Start Num: 45
Candidate Starts for EricB_86:
(7, 46739), (9, 46715), (17, 46661), (18, 46658), (20, 46640), (Start: 45 @46400 has 14 MA's), (52,
46376), (Start: 55 @46331 has 2 MA's), (61, 46253), (62, 46250), (65, 46229), (71, 46154), (72,
46151),

Gene: ExplosioNervosa_82 Start: 46419, Stop: 46111, Start Num: 45
Candidate Starts for ExplosioNervosa_82:
(7, 46758), (9, 46734), (17, 46680), (18, 46677), (25, 46626), (Start: 45 @46419 has 14 MA's), (51,
46398), (Start: 55 @46350 has 2 MA's), (61, 46272), (62, 46269), (70, 46182),

Gene: Garak_91 Start: 47274, Stop: 47029, Start Num: 54
Candidate Starts for Garak_91:
(7, 47679), (9, 47655), (17, 47601), (18, 47598), (20, 47580), (Start: 54 @47274 has 1 MA's), (61,
47193), (62, 47190), (65, 47169), (71, 47094), (72, 47091),

Gene: Getalong_86 Start: 49030, Stop: 49260, Start Num: 55
Candidate Starts for Getalong_86:
(Start: 55 @49030 has 2 MA's), (61, 49108), (62, 49111), (68, 49150), (70, 49168), (76, 49222),

Gene: Gmala1_29 Start: 35756, Stop: 35965, Start Num: 58
Candidate Starts for Gmala1_29:
(13, 35387), (14, 35390), (16, 35414), (22, 35462), (23, 35465), (32, 35525), (34, 35561), (42, 35597),
(50, 35696), (58, 35756), (62, 35831), (64, 35837),

Gene: GordDuk1_29 Start: 35694, Stop: 35903, Start Num: 58
Candidate Starts for GordDuk1_29:
(14, 35328), (16, 35352), (22, 35400), (23, 35403), (32, 35463), (34, 35499), (42, 35535), (50, 35634),
(58, 35694), (62, 35769), (64, 35775),

Gene: GordTnk2_29 Start: 35663, Stop: 35872, Start Num: 58
Candidate Starts for GordTnk2_29:
(14, 35297), (16, 35321), (22, 35369), (23, 35372), (32, 35432), (34, 35468), (42, 35504), (50, 35603),
(58, 35663), (62, 35738), (64, 35744),

Gene: GreedyLawyer_81 Start: 46833, Stop: 46522, Start Num: 45
Candidate Starts for GreedyLawyer_81:
(7, 47172), (9, 47148), (17, 47094), (18, 47091), (20, 47073), (Start: 45 @46833 has 14 MA's), (52,
46809), (Start: 55 @46764 has 2 MA's), (61, 46686), (62, 46683), (65, 46662), (71, 46587), (72,
46584),

Gene: Hans_7 Start: 4390, Stop: 4869, Start Num: 26
Candidate Starts for Hans_7:
(Start: 26 @4390 has 1 MA's), (41, 4486), (44, 4564), (49, 4591), (61, 4723), (62, 4726), (63, 4729),
(73, 4807), (76, 4837),

Gene: Helmet_91 Start: 47274, Stop: 47029, Start Num: 54
Candidate Starts for Helmet_91:

(7, 47679), (9, 47655), (17, 47601), (18, 47598), (20, 47580), (Start: 54 @47274 has 1 MA's), (61, 47193), (62, 47190), (65, 47169), (71, 47094), (72, 47091),

Gene: Indra_93 Start: 47275, Stop: 47030, Start Num: 54

Candidate Starts for Indra_93:

(7, 47680), (9, 47656), (17, 47602), (18, 47599), (20, 47581), (Start: 54 @47275 has 1 MA's), (61, 47194), (62, 47191), (65, 47170), (71, 47095), (72, 47092),

Gene: Inventum_69 Start: 45166, Stop: 45558, Start Num: 40

Candidate Starts for Inventum_69:

(1, 44821), (2, 44878), (4, 44902), (5, 44920), (6, 44935), (8, 44956), (15, 44989), (16, 45007), (Start: 40 @45166 has 5 MA's), (Start: 55 @45328 has 2 MA's), (61, 45406), (62, 45409), (65, 45430), (67, 45439), (70, 45466), (81, 45547),

Gene: Jumbo_36 Start: 42029, Stop: 42262, Start Num: 59

Candidate Starts for Jumbo_36:

(11, 41654), (14, 41663), (22, 41735), (23, 41738), (27, 41762), (32, 41798), (34, 41834), (42, 41870), (Start: 59 @42029 has 1 MA's), (62, 42101), (70, 42161), (71, 42167), (73, 42182), (80, 42245),

Gene: KingMidas_70 Start: 45569, Stop: 45961, Start Num: 40

Candidate Starts for KingMidas_70:

(1, 45224), (2, 45281), (4, 45305), (5, 45323), (6, 45338), (8, 45359), (15, 45392), (16, 45410), (Start: 40 @45569 has 5 MA's), (Start: 55 @45731 has 2 MA's), (61, 45809), (62, 45812), (65, 45833), (67, 45842), (70, 45869), (81, 45950),

Gene: Kipper29_88 Start: 46875, Stop: 46564, Start Num: 45

Candidate Starts for Kipper29_88:

(7, 47214), (9, 47190), (17, 47136), (18, 47133), (20, 47115), (Start: 45 @46875 has 14 MA's), (52, 46851), (Start: 55 @46806 has 2 MA's), (61, 46728), (62, 46725), (65, 46704), (71, 46629), (72, 46626),

Gene: Lucyedi_87 Start: 48804, Stop: 48367, Start Num: 35

Candidate Starts for Lucyedi_87:

(7, 49023), (9, 48999), (17, 48945), (18, 48942), (Start: 35 @48804 has 8 MA's), (Start: 45 @48681 has 14 MA's), (51, 48660), (61, 48534), (66, 48501), (71, 48432), (72, 48429), (75, 48390),

Gene: McFly_88 Start: 47211, Stop: 46900, Start Num: 45

Candidate Starts for McFly_88:

(7, 47550), (9, 47526), (17, 47472), (18, 47469), (20, 47451), (Start: 45 @47211 has 14 MA's), (52, 47187), (Start: 55 @47142 has 2 MA's), (61, 47064), (62, 47061), (65, 47040), (71, 46965), (72, 46962),

Gene: Murai_5 Start: 1530, Stop: 1147, Start Num: 37

Candidate Starts for Murai_5:

(12, 1716), (29, 1599), (31, 1584), (36, 1533), (Start: 37 @1530 has 1 MA's), (47, 1416), (49, 1407), (53, 1383), (61, 1278), (62, 1275), (68, 1239), (73, 1200), (77, 1164),

Gene: Neeharika16_87 Start: 46962, Stop: 46651, Start Num: 45

Candidate Starts for Neeharika16_87:

(7, 47301), (9, 47277), (17, 47223), (18, 47220), (20, 47202), (Start: 45 @46962 has 14 MA's), (52, 46938), (Start: 55 @46893 has 2 MA's), (61, 46815), (62, 46812), (65, 46791), (71, 46716), (72, 46713),

Gene: Newrala_87 Start: 47308, Stop: 46997, Start Num: 45

Candidate Starts for Newrala_87:

(7, 47647), (9, 47623), (17, 47569), (18, 47566), (20, 47548), (Start: 45 @47308 has 14 MA's), (52, 47284), (Start: 55 @47239 has 2 MA's), (61, 47161), (62, 47158), (65, 47137), (71, 47062), (72, 47059),

Gene: PackMan_83 Start: 46722, Stop: 46258, Start Num: 30

Candidate Starts for PackMan_83:

(Start: 30 @46722 has 1 MA's), (39, 46662), (Start: 45 @46566 has 14 MA's), (51, 46545), (Start: 55 @46497 has 2 MA's), (61, 46419), (62, 46416), (70, 46329),

Gene: PainterBoy_86 Start: 48515, Stop: 48078, Start Num: 35

Candidate Starts for PainterBoy_86:

(7, 48734), (9, 48710), (17, 48656), (18, 48653), (Start: 35 @48515 has 8 MA's), (Start: 45 @48392 has 14 MA's), (51, 48371), (61, 48245), (66, 48212), (71, 48143), (72, 48140), (75, 48101),

Gene: PeaceMeal1_75 Start: 45639, Stop: 45220, Start Num: 35

Candidate Starts for PeaceMeal1_75:

(7, 45855), (9, 45831), (18, 45774), (Start: 35 @45639 has 8 MA's), (Start: 55 @45450 has 2 MA's), (61, 45372), (62, 45369), (65, 45348), (67, 45336), (71, 45282),

Gene: Phlei_63 Start: 43732, Stop: 43292, Start Num: 28

Candidate Starts for Phlei_63:

(7, 43876), (9, 43858), (17, 43804), (21, 43771), (28, 43732), (51, 43588), (Start: 55 @43540 has 2 MA's), (57, 43534), (61, 43462), (62, 43459), (70, 43378), (71, 43372), (78, 43312),

Gene: Pmask_87 Start: 47509, Stop: 47198, Start Num: 45

Candidate Starts for Pmask_87:

(7, 47848), (9, 47824), (17, 47770), (18, 47767), (20, 47749), (Start: 45 @47509 has 14 MA's), (52, 47485), (Start: 55 @47440 has 2 MA's), (61, 47362), (62, 47359), (65, 47338), (71, 47263), (72, 47260),

Gene: Poompha_75 Start: 45637, Stop: 45218, Start Num: 35

Candidate Starts for Poompha_75:

(7, 45853), (9, 45829), (18, 45772), (Start: 35 @45637 has 8 MA's), (Start: 55 @45448 has 2 MA's), (61, 45370), (62, 45367), (65, 45346), (67, 45334), (71, 45280),

Gene: Priamo_89 Start: 46752, Stop: 46441, Start Num: 45

Candidate Starts for Priamo_89:

(7, 47091), (9, 47067), (17, 47013), (18, 47010), (20, 46992), (Start: 45 @46752 has 14 MA's), (52, 46728), (Start: 55 @46683 has 2 MA's), (61, 46605), (62, 46602), (65, 46581), (71, 46506), (72, 46503),

Gene: Renna12_42 Start: 27456, Stop: 27923, Start Num: 33

Candidate Starts for Renna12_42:

(3, 27228), (7, 27267), (10, 27294), (18, 27348), (19, 27360), (24, 27393), (Start: 33 @27456 has 1 MA's), (43, 27531), (46, 27621), (48, 27627), (51, 27648), (56, 27699), (61, 27774), (62, 27777), (74, 27861), (75, 27885), (77, 27894), (79, 27906),

Gene: Sassafras_72 Start: 45165, Stop: 45557, Start Num: 40

Candidate Starts for Sassafras_72:

(1, 44820), (2, 44877), (4, 44901), (5, 44919), (6, 44934), (8, 44955), (15, 44988), (16, 45006), (Start: 40 @45165 has 5 MA's), (Start: 55 @45327 has 2 MA's), (61, 45405), (62, 45408), (65, 45429), (67,

45438), (70, 45465), (81, 45546),

Gene: Scottish_69 Start: 44824, Stop: 45216, Start Num: 40

Candidate Starts for Scottish_69:

(1, 44479), (2, 44536), (4, 44560), (5, 44578), (6, 44593), (8, 44614), (15, 44647), (16, 44665), (Start: 40 @44824 has 5 MA's), (Start: 55 @44986 has 2 MA's), (61, 45064), (62, 45067), (65, 45088), (67, 45097), (70, 45124), (81, 45205),

Gene: Severus_76 Start: 45637, Stop: 45218, Start Num: 35

Candidate Starts for Severus_76:

(7, 45853), (9, 45829), (18, 45772), (Start: 35 @45637 has 8 MA's), (Start: 55 @45448 has 2 MA's), (61, 45370), (62, 45367), (65, 45346), (67, 45334), (71, 45280),

Gene: ShowerHandel_72 Start: 46069, Stop: 46452, Start Num: 40

Candidate Starts for ShowerHandel_72:

(1, 45724), (2, 45781), (4, 45805), (5, 45823), (6, 45838), (8, 45859), (15, 45892), (16, 45910), (Start: 40 @46069 has 5 MA's), (Start: 55 @46231 has 2 MA's), (61, 46309), (62, 46312), (65, 46333), (67, 46342), (70, 46369), (75, 46417), (81, 46441),

Gene: SuperAwesome_88 Start: 47548, Stop: 47237, Start Num: 45

Candidate Starts for SuperAwesome_88:

(7, 47887), (9, 47863), (17, 47809), (18, 47806), (20, 47788), (Start: 45 @47548 has 14 MA's), (52, 47524), (Start: 55 @47479 has 2 MA's), (61, 47401), (62, 47398), (65, 47377), (71, 47302), (72, 47299),

Gene: SuperCallie99_84 Start: 46929, Stop: 46618, Start Num: 45

Candidate Starts for SuperCallie99_84:

(7, 47268), (9, 47244), (17, 47190), (18, 47187), (20, 47169), (Start: 45 @46929 has 14 MA's), (52, 46905), (Start: 55 @46860 has 2 MA's), (61, 46782), (62, 46779), (65, 46758), (71, 46683), (72, 46680),

Gene: VohminGhazi_88 Start: 46867, Stop: 46556, Start Num: 45

Candidate Starts for VohminGhazi_88:

(7, 47206), (9, 47182), (17, 47128), (18, 47125), (20, 47107), (Start: 45 @46867 has 14 MA's), (52, 46843), (Start: 55 @46798 has 2 MA's), (61, 46720), (62, 46717), (65, 46696), (71, 46621), (72, 46618),

Gene: Whitney_81 Start: 48351, Stop: 48581, Start Num: 55

Candidate Starts for Whitney_81:

(Start: 55 @48351 has 2 MA's), (61, 48429), (62, 48432), (68, 48471), (70, 48489), (76, 48543),

Gene: Zulu_91 Start: 47348, Stop: 47037, Start Num: 45

Candidate Starts for Zulu_91:

(7, 47687), (9, 47663), (17, 47609), (18, 47606), (20, 47588), (Start: 45 @47348 has 14 MA's), (52, 47324), (Start: 55 @47279 has 2 MA's), (61, 47201), (62, 47198), (65, 47177), (71, 47102), (72, 47099),