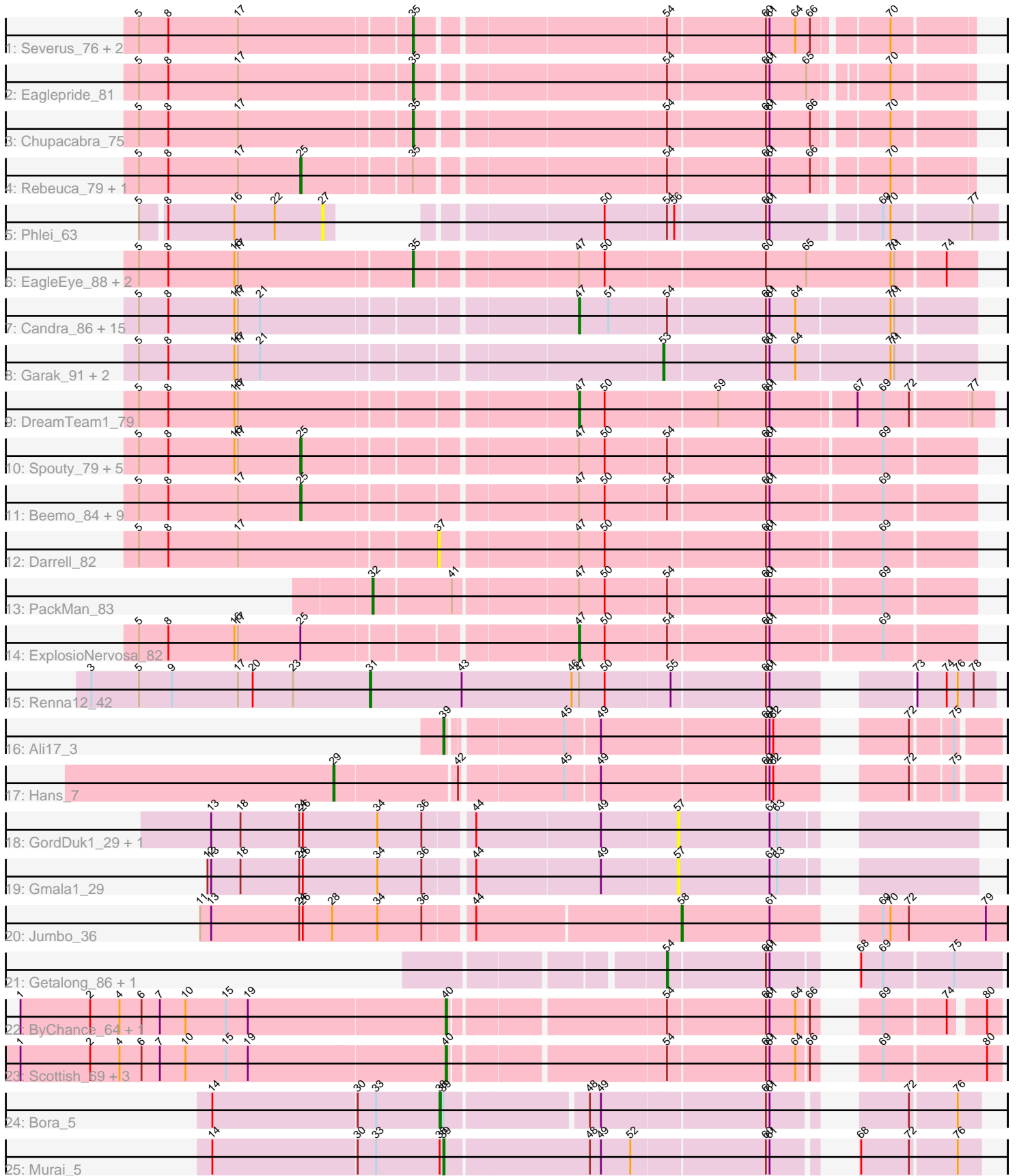


Pham 168214



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 168214 Report

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

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 168214 has 67 members, 11 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 : Rebeuca_79, Twister_78
- Track 5 : Phlei_63
- Track 6 : EagleEye_88, Lucyedi_87, PainterBoy_86
- Track 7 : Candra_86, DaVinci_86, Pmask_87, Chartreuse_86, McFly_88, SuperCallie99_84, Neeharika16_87, GreedyLawyer_81, Newrala_87, VohminGhazi_88, Zulu_91, Kipper29_88, EricB_86, Dorothea_85, Priamo_89, SuperAwesome_88
- Track 8 : Garak_91, Helmet_91, Indra_93
- Track 9 : DreamTeam1_79
- Track 10 : Spouty_79, Conquerage_82, Qobbit_82, EmyBug_81, Alma_82, Eidsmoe_82
- Track 11 : Beemo_84, HortumSL17_85, Tubs_84, Phonnegut_84, Catalina_86, Phaeder_84, Pioneer_84, Myxus_84, Scherzo_82, Fayely_82
- Track 12 : Darrell_82
- Track 13 : PackMan_83
- Track 14 : ExplosioNervosa_82
- Track 15 : Renna12_42
- Track 16 : Ali17_3
- Track 17 : Hans_7
- Track 18 : GordDuk1_29, GordTnk2_29
- Track 19 : Gmala1_29
- Track 20 : Jumbo_36
- Track 21 : Getalong_86, Whitney_81
- Track 22 : ByChance_64, ShowerHandel_74
- Track 23 : Scottish_69, Sassafra_72, Inventum_69, KingMidas_70
- Track 24 : Bora_5
- Track 25 : 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 25, it was called in 17 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alma_82, Beemo_84, Catalina_86, Conquerage_82, Eidsmoe_82, EmyBug_81, Fayely_82, HortumSL17_85, Myxus_84, Phaeder_84, Phonnegut_84, Pioneer_84, Qobbit_82, Rebeuca_79, Scherzo_82, Spouty_79, Tubs_84, Twister_78,

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

- ExplosioNervosa_82,

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

- Ali17_3, Bora_5, ByChance_64, Candra_86, Chartreuse_86, Chupacabra_75, DaVinci_86, Darrell_82, Dorothea_85, DreamTeam1_79, EagleEye_88, Eaglepride_81, EricB_86, Garak_91, Getalong_86, Gmala1_29, GordDuk1_29, GordTnk2_29, GreedyLawyer_81, Hans_7, Helmet_91, Indra_93, Inventum_69, Jumbo_36, KingMidas_70, Kipper29_88, Lucyedi_87, McFly_88, Murai_5, Neeharika16_87, Newrala_87, PackMan_83, PainterBoy_86, PeaceMeal1_75, Phlei_63, Pmask_87, Poompha_75, Priamo_89, Renna12_42, Sassafras_72, Scottish_69, Severus_76, ShowerHandel_74, SuperAwesome_88, SuperCallie99_84, VohminGhazi_88, Whitney_81, Zulu_91,

Summary by start number:

Start 25:

- Found in 19 of 67 (28.4%) of genes in pham
- Manual Annotations of this start: 17 of 56
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Alma_82 (A9), Beemo_84 (A9), Catalina_86 (A9), Conquerage_82 (A9), Eidsmoe_82 (A9), EmyBug_81 (A9), Fayely_82 (A9), HortumSL17_85 (A9), Myxus_84 (A9), Phaeder_84 (A9), Phonnegut_84 (A9), Pioneer_84 (A9), Qobbit_82 (A9), Rebeuca_79 (A10), Scherzo_82 (A9), Spouty_79 (A9), Tubs_84 (A9), Twister_78 (A10),

Start 27:

- Found in 1 of 67 (1.5%) 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 29:

- Found in 1 of 67 (1.5%) 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: Hans_7 (DE2),

Start 31:

- Found in 1 of 67 (1.5%) 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: Renna12_42 (AS3),

Start 32:

- Found in 1 of 67 (1.5%) 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: PackMan_83 (A9),

Start 35:

- Found in 10 of 67 (14.9%) of genes in pham
- Manual Annotations of this start: 8 of 56
- Called 80.0% 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 1 of 67 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Darrell_82 (A9),

Start 38:

- Found in 2 of 67 (3.0%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bora_5 (O),

Start 39:

- Found in 3 of 67 (4.5%) of genes in pham
- Manual Annotations of this start: 2 of 56
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Ali17_3 (DE2), Murai_5 (O),

Start 40:

- Found in 6 of 67 (9.0%) of genes in pham
- Manual Annotations of this start: 6 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ByChance_64 (F1), Inventum_69 (F1), KingMidas_70 (F1), Sassafras_72 (F1), Scottish_69 (F1), ShowerHandel_74 (F1),

Start 47:

- Found in 40 of 67 (59.7%) of genes in pham
- Manual Annotations of this start: 15 of 56
- Called 45.0% 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 53:

- Found in 3 of 67 (4.5%) 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: Garak_91 (A6), Helmet_91 (A6), Indra_93 (A6),

Start 54:

- Found in 50 of 67 (74.6%) of genes in pham
- Manual Annotations of this start: 2 of 56
- Called 4.0% of time when present
- Phage (with cluster) where this start called: Getalong_86 (DN1), Whitney_81 (DN1),

Start 57:

- Found in 3 of 67 (4.5%) 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 58:

- Found in 1 of 67 (1.5%) 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: 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 25 was manually annotated 2 times for 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 47 was manually annotated 13 times for cluster A6.
- Start number 53 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster A9:

- Start number 25 was manually annotated 15 times for cluster A9.
- Start number 32 was manually annotated 1 time for cluster A9.
- Start number 47 was manually annotated 2 times for cluster A9.

Info for manual annotations of cluster AS3:

- Start number 31 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster DE2:

- Start number 29 was manually annotated 1 time for cluster DE2.
- Start number 39 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DF3:

- Start number 58 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DN1:

- Start number 54 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster F1:

- Start number 40 was manually annotated 6 times for cluster F1.

Info for manual annotations of cluster O:

- Start number 38 was manually annotated 1 time for cluster O.
- Start number 39 was manually annotated 1 time for cluster O.

Gene Information:

Gene: Ali17_3 Start: 3303, Stop: 3692, Start Num: 39

Candidate Starts for Ali17_3:

(Start: 39 @3303 has 2 MA's), (45, 3387), (49, 3414), (60, 3546), (61, 3549), (62, 3552), (72, 3630), (75, 3660),

Gene: Alma_82 Start: 46797, Stop: 46282, Start Num: 25

Candidate Starts for Alma_82:

(5, 46929), (8, 46905), (16, 46851), (17, 46848), (Start: 25 @46797 has 17 MA's), (Start: 47 @46590 has 15 MA's), (50, 46569), (Start: 54 @46521 has 2 MA's), (60, 46443), (61, 46440), (69, 46353),

Gene: Beemo_84 Start: 46790, Stop: 46275, Start Num: 25

Candidate Starts for Beemo_84:

(5, 46922), (8, 46898), (17, 46841), (Start: 25 @46790 has 17 MA's), (Start: 47 @46583 has 15 MA's), (50, 46562), (Start: 54 @46514 has 2 MA's), (60, 46436), (61, 46433), (69, 46346),

Gene: Bora_5 Start: 1666, Stop: 1286, Start Num: 38

Candidate Starts for Bora_5:

(14, 1849), (30, 1732), (33, 1717), (Start: 38 @1666 has 1 MA's), (Start: 39 @1663 has 2 MA's), (48, 1555), (49, 1546), (60, 1417), (61, 1414), (72, 1339), (76, 1303),

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

Candidate Starts for ByChance_64:

(1, 41784), (2, 41841), (4, 41865), (6, 41883), (7, 41898), (10, 41919), (15, 41952), (19, 41970), (Start: 40 @42129 has 6 MA's), (Start: 54 @42291 has 2 MA's), (60, 42369), (61, 42372), (64, 42393), (66, 42402), (69, 42429), (74, 42477), (80, 42501),

Gene: Candra_86 Start: 46902, Stop: 46591, Start Num: 47

Candidate Starts for Candra_86:

(5, 47241), (8, 47217), (16, 47163), (17, 47160), (21, 47142), (Start: 47 @46902 has 15 MA's), (51, 46878), (Start: 54 @46833 has 2 MA's), (60, 46755), (61, 46752), (64, 46731), (70, 46656), (71, 46653),

Gene: Catalina_86 Start: 46900, Stop: 46385, Start Num: 25

Candidate Starts for Catalina_86:

(5, 47032), (8, 47008), (17, 46951), (Start: 25 @46900 has 17 MA's), (Start: 47 @46693 has 15 MA's), (50, 46672), (Start: 54 @46624 has 2 MA's), (60, 46546), (61, 46543), (69, 46456),

Gene: Chartreuse_86 Start: 46203, Stop: 45892, Start Num: 47

Candidate Starts for Chartreuse_86:

(5, 46542), (8, 46518), (16, 46464), (17, 46461), (21, 46443), (Start: 47 @46203 has 15 MA's), (51, 46179), (Start: 54 @46134 has 2 MA's), (60, 46056), (61, 46053), (64, 46032), (70, 45957), (71, 45954),

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

Candidate Starts for Chupacabra_75:

(5, 46687), (8, 46663), (17, 46606), (Start: 35 @46471 has 8 MA's), (Start: 54 @46282 has 2 MA's), (60, 46204), (61, 46201), (66, 46168), (70, 46114),

Gene: Conquerage_82 Start: 46566, Stop: 46051, Start Num: 25

Candidate Starts for Conquerage_82:

(5, 46698), (8, 46674), (16, 46620), (17, 46617), (Start: 25 @46566 has 17 MA's), (Start: 47 @46359 has 15 MA's), (50, 46338), (Start: 54 @46290 has 2 MA's), (60, 46212), (61, 46209), (69, 46122),

Gene: DaVinci_86 Start: 46257, Stop: 45946, Start Num: 47

Candidate Starts for DaVinci_86:

(5, 46596), (8, 46572), (16, 46518), (17, 46515), (21, 46497), (Start: 47 @46257 has 15 MA's), (51, 46233), (Start: 54 @46188 has 2 MA's), (60, 46110), (61, 46107), (64, 46086), (70, 46011), (71, 46008),

Gene: Darrell_82 Start: 45898, Stop: 45485, Start Num: 37

Candidate Starts for Darrell_82:

(5, 46132), (8, 46108), (17, 46051), (37, 45898), (Start: 47 @45793 has 15 MA's), (50, 45772), (60, 45646), (61, 45643), (69, 45556),

Gene: Dorothea_85 Start: 47503, Stop: 47192, Start Num: 47

Candidate Starts for Dorothea_85:

(5, 47842), (8, 47818), (16, 47764), (17, 47761), (21, 47743), (Start: 47 @47503 has 15 MA's), (51, 47479), (Start: 54 @47434 has 2 MA's), (60, 47356), (61, 47353), (64, 47332), (70, 47257), (71, 47254),

Gene: DreamTeam1_79 Start: 45877, Stop: 45557, Start Num: 47

Candidate Starts for DreamTeam1_79:

(5, 46216), (8, 46192), (16, 46138), (17, 46135), (Start: 47 @45877 has 15 MA's), (50, 45856), (59, 45769), (60, 45730), (61, 45727), (67, 45661), (69, 45640), (72, 45619), (77, 45574),

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

Candidate Starts for EagleEye_88:

(5, 48824), (8, 48800), (16, 48746), (17, 48743), (Start: 35 @48605 has 8 MA's), (Start: 47 @48482 has 15 MA's), (50, 48461), (60, 48335), (65, 48302), (70, 48233), (71, 48230), (74, 48191),

Gene: Eaglepride_81 Start: 46551, Stop: 46135, Start Num: 35

Candidate Starts for Eaglepride_81:

(5, 46767), (8, 46743), (17, 46686), (Start: 35 @46551 has 8 MA's), (Start: 54 @46362 has 2 MA's), (60, 46284), (61, 46281), (65, 46251), (70, 46197),

Gene: Eidsmoe_82 Start: 46558, Stop: 46043, Start Num: 25

Candidate Starts for Eidsmoe_82:

(5, 46690), (8, 46666), (16, 46612), (17, 46609), (Start: 25 @46558 has 17 MA's), (Start: 47 @46351 has 15 MA's), (50, 46330), (Start: 54 @46282 has 2 MA's), (60, 46204), (61, 46201), (69, 46114),

Gene: EmyBug_81 Start: 46560, Stop: 46045, Start Num: 25

Candidate Starts for EmyBug_81:

(5, 46692), (8, 46668), (16, 46614), (17, 46611), (Start: 25 @46560 has 17 MA's), (Start: 47 @46353 has 15 MA's), (50, 46332), (Start: 54 @46284 has 2 MA's), (60, 46206), (61, 46203), (69, 46116),

Gene: EricB_86 Start: 46400, Stop: 46089, Start Num: 47

Candidate Starts for EricB_86:

(5, 46739), (8, 46715), (16, 46661), (17, 46658), (21, 46640), (Start: 47 @46400 has 15 MA's), (51, 46376), (Start: 54 @46331 has 2 MA's), (60, 46253), (61, 46250), (64, 46229), (70, 46154), (71, 46151),

Gene: ExplosioNervosa_82 Start: 46419, Stop: 46111, Start Num: 47

Candidate Starts for ExplosioNervosa_82:

(5, 46758), (8, 46734), (16, 46680), (17, 46677), (Start: 25 @46626 has 17 MA's), (Start: 47 @46419 has 15 MA's), (50, 46398), (Start: 54 @46350 has 2 MA's), (60, 46272), (61, 46269), (69, 46182),

Gene: Fayely_82 Start: 46533, Stop: 46018, Start Num: 25

Candidate Starts for Fayely_82:

(5, 46665), (8, 46641), (17, 46584), (Start: 25 @46533 has 17 MA's), (Start: 47 @46326 has 15 MA's), (50, 46305), (Start: 54 @46257 has 2 MA's), (60, 46179), (61, 46176), (69, 46089),

Gene: Garak_91 Start: 47274, Stop: 47029, Start Num: 53

Candidate Starts for Garak_91:

(5, 47679), (8, 47655), (16, 47601), (17, 47598), (21, 47580), (Start: 53 @47274 has 1 MA's), (60, 47193), (61, 47190), (64, 47169), (70, 47094), (71, 47091),

Gene: Getalong_86 Start: 49030, Stop: 49260, Start Num: 54

Candidate Starts for Getalong_86:

(Start: 54 @49030 has 2 MA's), (60, 49108), (61, 49111), (68, 49150), (69, 49168), (75, 49222),

Gene: Gmala1_29 Start: 35756, Stop: 35965, Start Num: 57

Candidate Starts for Gmala1_29:

(12, 35387), (13, 35390), (18, 35414), (24, 35462), (26, 35465), (34, 35525), (36, 35561), (44, 35597), (49, 35696), (57, 35756), (61, 35831), (63, 35837),

Gene: GordDuk1_29 Start: 35694, Stop: 35903, Start Num: 57

Candidate Starts for GordDuk1_29:

(13, 35328), (18, 35352), (24, 35400), (26, 35403), (34, 35463), (36, 35499), (44, 35535), (49, 35634), (57, 35694), (61, 35769), (63, 35775),

Gene: GordTnk2_29 Start: 35663, Stop: 35872, Start Num: 57

Candidate Starts for GordTnk2_29:

(13, 35297), (18, 35321), (24, 35369), (26, 35372), (34, 35432), (36, 35468), (44, 35504), (49, 35603), (57, 35663), (61, 35738), (63, 35744),

Gene: GreedyLawyer_81 Start: 46833, Stop: 46522, Start Num: 47

Candidate Starts for GreedyLawyer_81:

(5, 47172), (8, 47148), (16, 47094), (17, 47091), (21, 47073), (Start: 47 @46833 has 15 MA's), (51, 46809), (Start: 54 @46764 has 2 MA's), (60, 46686), (61, 46683), (64, 46662), (70, 46587), (71, 46584),

Gene: Hans_7 Start: 4390, Stop: 4869, Start Num: 29

Candidate Starts for Hans_7:

(Start: 29 @4390 has 1 MA's), (42, 4486), (45, 4564), (49, 4591), (60, 4723), (61, 4726), (62, 4729), (72, 4807), (75, 4837),

Gene: Helmet_91 Start: 47274, Stop: 47029, Start Num: 53

Candidate Starts for Helmet_91:

(5, 47679), (8, 47655), (16, 47601), (17, 47598), (21, 47580), (Start: 53 @47274 has 1 MA's), (60, 47193), (61, 47190), (64, 47169), (70, 47094), (71, 47091),

Gene: HortumSL17_85 Start: 46898, Stop: 46383, Start Num: 25

Candidate Starts for HortumSL17_85:

(5, 47030), (8, 47006), (17, 46949), (Start: 25 @46898 has 17 MA's), (Start: 47 @46691 has 15 MA's), (50, 46670), (Start: 54 @46622 has 2 MA's), (60, 46544), (61, 46541), (69, 46454),

Gene: Indra_93 Start: 47275, Stop: 47030, Start Num: 53

Candidate Starts for Indra_93:

(5, 47680), (8, 47656), (16, 47602), (17, 47599), (21, 47581), (Start: 53 @47275 has 1 MA's), (60, 47194), (61, 47191), (64, 47170), (70, 47095), (71, 47092),

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

Candidate Starts for Inventum_69:

(1, 44821), (2, 44878), (4, 44902), (6, 44920), (7, 44935), (10, 44956), (15, 44989), (19, 45007), (Start: 40 @45166 has 6 MA's), (Start: 54 @45328 has 2 MA's), (60, 45406), (61, 45409), (64, 45430), (66, 45439), (69, 45466), (80, 45547),

Gene: Jumbo_36 Start: 42029, Stop: 42262, Start Num: 58

Candidate Starts for Jumbo_36:

(11, 41654), (13, 41663), (24, 41735), (26, 41738), (28, 41762), (34, 41798), (36, 41834), (44, 41870), (Start: 58 @42029 has 1 MA's), (61, 42101), (69, 42161), (70, 42167), (72, 42182), (79, 42245),

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

Candidate Starts for KingMidas_70:

(1, 45224), (2, 45281), (4, 45305), (6, 45323), (7, 45338), (10, 45359), (15, 45392), (19, 45410), (Start: 40 @45569 has 6 MA's), (Start: 54 @45731 has 2 MA's), (60, 45809), (61, 45812), (64, 45833), (66, 45842), (69, 45869), (80, 45950),

Gene: Kipper29_88 Start: 46875, Stop: 46564, Start Num: 47

Candidate Starts for Kipper29_88:

(5, 47214), (8, 47190), (16, 47136), (17, 47133), (21, 47115), (Start: 47 @46875 has 15 MA's), (51, 46851), (Start: 54 @46806 has 2 MA's), (60, 46728), (61, 46725), (64, 46704), (70, 46629), (71, 46626),

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

Candidate Starts for Lucyedi_87:

(5, 49023), (8, 48999), (16, 48945), (17, 48942), (Start: 35 @48804 has 8 MA's), (Start: 47 @48681 has 15 MA's), (50, 48660), (60, 48534), (65, 48501), (70, 48432), (71, 48429), (74, 48390),

Gene: McFly_88 Start: 47211, Stop: 46900, Start Num: 47

Candidate Starts for McFly_88:

(5, 47550), (8, 47526), (16, 47472), (17, 47469), (21, 47451), (Start: 47 @47211 has 15 MA's), (51, 47187), (Start: 54 @47142 has 2 MA's), (60, 47064), (61, 47061), (64, 47040), (70, 46965), (71,

46962),

Gene: Murai_5 Start: 1530, Stop: 1147, Start Num: 39

Candidate Starts for Murai_5:

(14, 1716), (30, 1599), (33, 1584), (Start: 38 @1533 has 1 MA's), (Start: 39 @1530 has 2 MA's), (48, 1416), (49, 1407), (52, 1383), (60, 1278), (61, 1275), (68, 1239), (72, 1200), (76, 1164),

Gene: Myxus_84 Start: 46898, Stop: 46383, Start Num: 25

Candidate Starts for Myxus_84:

(5, 47030), (8, 47006), (17, 46949), (Start: 25 @46898 has 17 MA's), (Start: 47 @46691 has 15 MA's), (50, 46670), (Start: 54 @46622 has 2 MA's), (60, 46544), (61, 46541), (69, 46454),

Gene: Neeharika16_87 Start: 46962, Stop: 46651, Start Num: 47

Candidate Starts for Neeharika16_87:

(5, 47301), (8, 47277), (16, 47223), (17, 47220), (21, 47202), (Start: 47 @46962 has 15 MA's), (51, 46938), (Start: 54 @46893 has 2 MA's), (60, 46815), (61, 46812), (64, 46791), (70, 46716), (71, 46713),

Gene: Newrala_87 Start: 47308, Stop: 46997, Start Num: 47

Candidate Starts for Newrala_87:

(5, 47647), (8, 47623), (16, 47569), (17, 47566), (21, 47548), (Start: 47 @47308 has 15 MA's), (51, 47284), (Start: 54 @47239 has 2 MA's), (60, 47161), (61, 47158), (64, 47137), (70, 47062), (71, 47059),

Gene: PackMan_83 Start: 46722, Stop: 46258, Start Num: 32

Candidate Starts for PackMan_83:

(Start: 32 @46722 has 1 MA's), (41, 46662), (Start: 47 @46566 has 15 MA's), (50, 46545), (Start: 54 @46497 has 2 MA's), (60, 46419), (61, 46416), (69, 46329),

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

Candidate Starts for PainterBoy_86:

(5, 48734), (8, 48710), (16, 48656), (17, 48653), (Start: 35 @48515 has 8 MA's), (Start: 47 @48392 has 15 MA's), (50, 48371), (60, 48245), (65, 48212), (70, 48143), (71, 48140), (74, 48101),

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

Candidate Starts for PeaceMeal1_75:

(5, 45855), (8, 45831), (17, 45774), (Start: 35 @45639 has 8 MA's), (Start: 54 @45450 has 2 MA's), (60, 45372), (61, 45369), (64, 45348), (66, 45336), (70, 45282),

Gene: Phaeder_84 Start: 46773, Stop: 46258, Start Num: 25

Candidate Starts for Phaeder_84:

(5, 46905), (8, 46881), (17, 46824), (Start: 25 @46773 has 17 MA's), (Start: 47 @46566 has 15 MA's), (50, 46545), (Start: 54 @46497 has 2 MA's), (60, 46419), (61, 46416), (69, 46329),

Gene: Phlei_63 Start: 43732, Stop: 43292, Start Num: 27

Candidate Starts for Phlei_63:

(5, 43876), (8, 43858), (16, 43804), (22, 43771), (27, 43732), (50, 43588), (Start: 54 @43540 has 2 MA's), (56, 43534), (60, 43462), (61, 43459), (69, 43378), (70, 43372), (77, 43312),

Gene: Phonnegut_84 Start: 46789, Stop: 46274, Start Num: 25

Candidate Starts for Phonnegut_84:

(5, 46921), (8, 46897), (17, 46840), (Start: 25 @46789 has 17 MA's), (Start: 47 @46582 has 15 MA's), (50, 46561), (Start: 54 @46513 has 2 MA's), (60, 46435), (61, 46432), (69, 46345),

Gene: Pioneer_84 Start: 46789, Stop: 46274, Start Num: 25

Candidate Starts for Pioneer_84:

(5, 46921), (8, 46897), (17, 46840), (Start: 25 @46789 has 17 MA's), (Start: 47 @46582 has 15 MA's), (50, 46561), (Start: 54 @46513 has 2 MA's), (60, 46435), (61, 46432), (69, 46345),

Gene: Pmask_87 Start: 47509, Stop: 47198, Start Num: 47

Candidate Starts for Pmask_87:

(5, 47848), (8, 47824), (16, 47770), (17, 47767), (21, 47749), (Start: 47 @47509 has 15 MA's), (51, 47485), (Start: 54 @47440 has 2 MA's), (60, 47362), (61, 47359), (64, 47338), (70, 47263), (71, 47260),

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

Candidate Starts for Poompha_75:

(5, 45853), (8, 45829), (17, 45772), (Start: 35 @45637 has 8 MA's), (Start: 54 @45448 has 2 MA's), (60, 45370), (61, 45367), (64, 45346), (66, 45334), (70, 45280),

Gene: Priamo_89 Start: 46752, Stop: 46441, Start Num: 47

Candidate Starts for Priamo_89:

(5, 47091), (8, 47067), (16, 47013), (17, 47010), (21, 46992), (Start: 47 @46752 has 15 MA's), (51, 46728), (Start: 54 @46683 has 2 MA's), (60, 46605), (61, 46602), (64, 46581), (70, 46506), (71, 46503),

Gene: Qobbit_82 Start: 46523, Stop: 46008, Start Num: 25

Candidate Starts for Qobbit_82:

(5, 46655), (8, 46631), (16, 46577), (17, 46574), (Start: 25 @46523 has 17 MA's), (Start: 47 @46316 has 15 MA's), (50, 46295), (Start: 54 @46247 has 2 MA's), (60, 46169), (61, 46166), (69, 46079),

Gene: Rebeuca_79 Start: 46991, Stop: 46488, Start Num: 25

Candidate Starts for Rebeuca_79:

(5, 47123), (8, 47099), (17, 47042), (Start: 25 @46991 has 17 MA's), (Start: 35 @46907 has 8 MA's), (Start: 54 @46718 has 2 MA's), (60, 46640), (61, 46637), (66, 46604), (70, 46550),

Gene: Renna12_42 Start: 27456, Stop: 27923, Start Num: 31

Candidate Starts for Renna12_42:

(3, 27228), (5, 27267), (9, 27294), (17, 27348), (20, 27360), (23, 27393), (Start: 31 @27456 has 1 MA's), (43, 27531), (46, 27621), (Start: 47 @27627 has 15 MA's), (50, 27648), (55, 27699), (60, 27774), (61, 27777), (73, 27861), (74, 27885), (76, 27894), (78, 27906),

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

Candidate Starts for Sassafras_72:

(1, 44820), (2, 44877), (4, 44901), (6, 44919), (7, 44934), (10, 44955), (15, 44988), (19, 45006), (Start: 40 @45165 has 6 MA's), (Start: 54 @45327 has 2 MA's), (60, 45405), (61, 45408), (64, 45429), (66, 45438), (69, 45465), (80, 45546),

Gene: Scherzo_82 Start: 46821, Stop: 46306, Start Num: 25

Candidate Starts for Scherzo_82:

(5, 46953), (8, 46929), (17, 46872), (Start: 25 @46821 has 17 MA's), (Start: 47 @46614 has 15 MA's), (50, 46593), (Start: 54 @46545 has 2 MA's), (60, 46467), (61, 46464), (69, 46377),

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

Candidate Starts for Scottish_69:

(1, 44479), (2, 44536), (4, 44560), (6, 44578), (7, 44593), (10, 44614), (15, 44647), (19, 44665), (Start: 40 @44824 has 6 MA's), (Start: 54 @44986 has 2 MA's), (60, 45064), (61, 45067), (64, 45088), (66, 45097), (69, 45124), (80, 45205),

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

Candidate Starts for Severus_76:

(5, 45853), (8, 45829), (17, 45772), (Start: 35 @45637 has 8 MA's), (Start: 54 @45448 has 2 MA's), (60, 45370), (61, 45367), (64, 45346), (66, 45334), (70, 45280),

Gene: ShowerHandel_74 Start: 46069, Stop: 46452, Start Num: 40

Candidate Starts for ShowerHandel_74:

(1, 45724), (2, 45781), (4, 45805), (6, 45823), (7, 45838), (10, 45859), (15, 45892), (19, 45910), (Start: 40 @46069 has 6 MA's), (Start: 54 @46231 has 2 MA's), (60, 46309), (61, 46312), (64, 46333), (66, 46342), (69, 46369), (74, 46417), (80, 46441),

Gene: Spouty_79 Start: 46560, Stop: 46045, Start Num: 25

Candidate Starts for Spouty_79:

(5, 46692), (8, 46668), (16, 46614), (17, 46611), (Start: 25 @46560 has 17 MA's), (Start: 47 @46353 has 15 MA's), (50, 46332), (Start: 54 @46284 has 2 MA's), (60, 46206), (61, 46203), (69, 46116),

Gene: SuperAwesome_88 Start: 47548, Stop: 47237, Start Num: 47

Candidate Starts for SuperAwesome_88:

(5, 47887), (8, 47863), (16, 47809), (17, 47806), (21, 47788), (Start: 47 @47548 has 15 MA's), (51, 47524), (Start: 54 @47479 has 2 MA's), (60, 47401), (61, 47398), (64, 47377), (70, 47302), (71, 47299),

Gene: SuperCallie99_84 Start: 46929, Stop: 46618, Start Num: 47

Candidate Starts for SuperCallie99_84:

(5, 47268), (8, 47244), (16, 47190), (17, 47187), (21, 47169), (Start: 47 @46929 has 15 MA's), (51, 46905), (Start: 54 @46860 has 2 MA's), (60, 46782), (61, 46779), (64, 46758), (70, 46683), (71, 46680),

Gene: Tubs_84 Start: 46773, Stop: 46258, Start Num: 25

Candidate Starts for Tubs_84:

(5, 46905), (8, 46881), (17, 46824), (Start: 25 @46773 has 17 MA's), (Start: 47 @46566 has 15 MA's), (50, 46545), (Start: 54 @46497 has 2 MA's), (60, 46419), (61, 46416), (69, 46329),

Gene: Twister_78 Start: 46549, Stop: 46046, Start Num: 25

Candidate Starts for Twister_78:

(5, 46681), (8, 46657), (17, 46600), (Start: 25 @46549 has 17 MA's), (Start: 35 @46465 has 8 MA's), (Start: 54 @46276 has 2 MA's), (60, 46198), (61, 46195), (66, 46162), (70, 46108),

Gene: VohminGhazi_88 Start: 46867, Stop: 46556, Start Num: 47

Candidate Starts for VohminGhazi_88:

(5, 47206), (8, 47182), (16, 47128), (17, 47125), (21, 47107), (Start: 47 @46867 has 15 MA's), (51, 46843), (Start: 54 @46798 has 2 MA's), (60, 46720), (61, 46717), (64, 46696), (70, 46621), (71, 46618),

Gene: Whitney_81 Start: 48351, Stop: 48581, Start Num: 54

Candidate Starts for Whitney_81:

(Start: 54 @48351 has 2 MA's), (60, 48429), (61, 48432), (68, 48471), (69, 48489), (75, 48543),

Gene: Zulu_91 Start: 47348, Stop: 47037, Start Num: 47

Candidate Starts for Zulu_91:

(5, 47687), (8, 47663), (16, 47609), (17, 47606), (21, 47588), (Start: 47 @47348 has 15 MA's), (51, 47324), (Start: 54 @47279 has 2 MA's), (60, 47201), (61, 47198), (64, 47177), (70, 47102), (71, 47099),