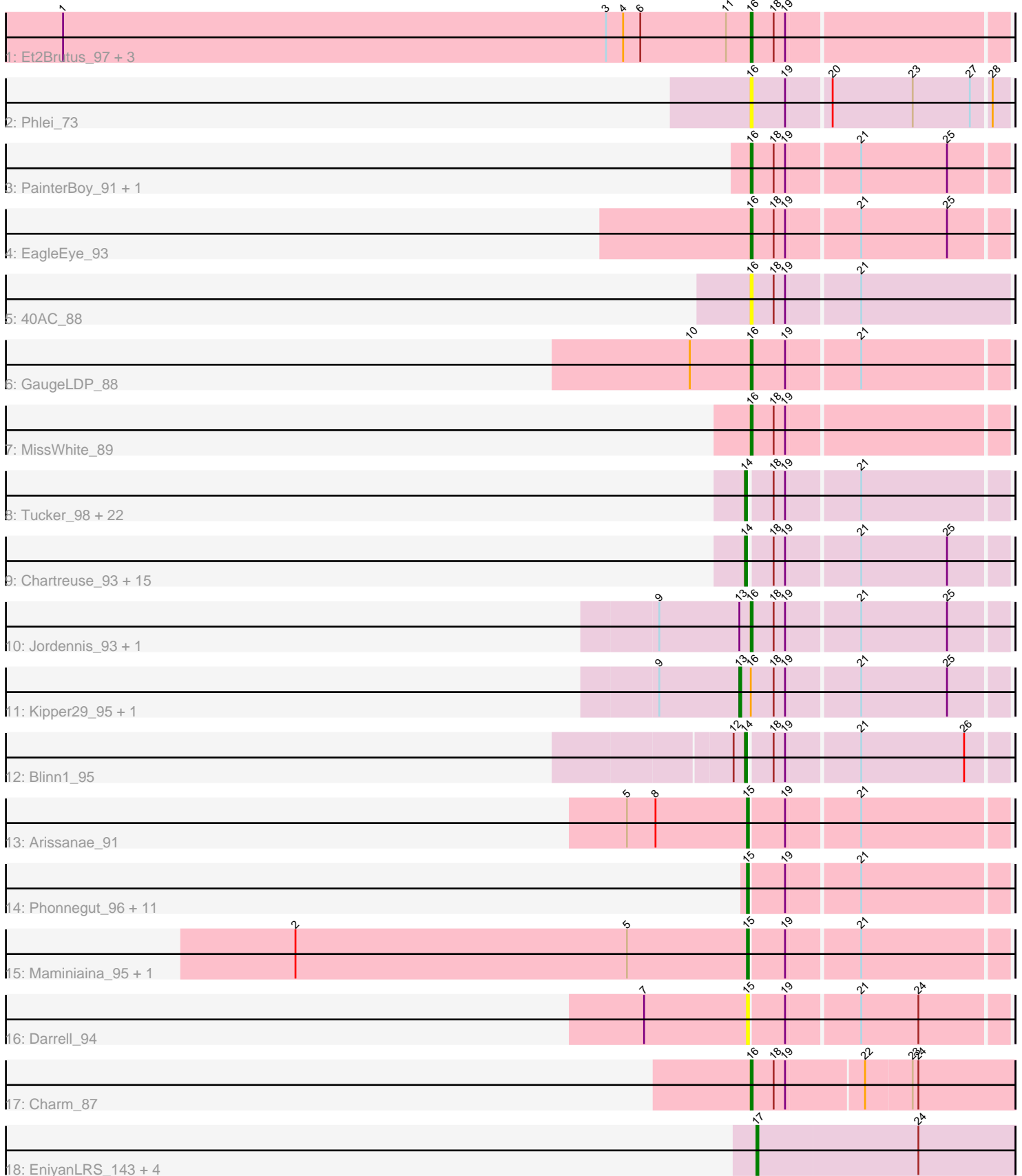


Pham 38676



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 38676 Report

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

Pham number 38676 has 77 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Et2Brutus_97, Salz_93, Hutc2_94, Jabith_97
- Track 2 : Phlei_73
- Track 3 : PainterBoy_91, Lucyedi_92
- Track 4 : EagleEye_93
- Track 5 : 40AC_88
- Track 6 : GaugeLDP_88
- Track 7 : MissWhite_89
- Track 8 : Tucker_98, Yokurt_97, Hexamo_97, Hammer_98, Zulu_99, SuperCallie99_92, Isiphiwo_92, Artemis2UCLA_97, Roksolana_98, Gruunaga_98, Rifter_98, Lilbunny_92, Blue7_99, Indra_100, Wiks_97, ToneTone_94, Koko_99, Garak_99, Zaka_98, Helmet_99, CloudWang3_98, Gladiator_94, Jeffabunny_86
- Track 9 : Chartreuse_93, Candra_93, Newrala_94, SuperAwesome_95, VohminGhazi_95, Neeharika16_94, Hoot_90, BABullseye_88, EricB_93, Priamo_95, DaVinci_93, Pmask_94, Cookiedough_95, Kazan_96, McFly_95, SmellyB_95
- Track 10 : Jordennis_93, JewelBug_87
- Track 11 : Kipper29_95, Dorothea_92
- Track 12 : Blinn1_95
- Track 13 : Arissanae_91
- Track 14 : Phonnegut_96, PackMan_91, Myxus_96, Pioneer_96, Phaeder_96, Catalina_98, Ugenie5_83, HortumSL17_97, Tubs_96, Beemo_96, Aliter_89, Scherzo_94
- Track 15 : Maminiaina_95, BogosyJay_95
- Track 16 : Darrell_94
- Track 17 : Charm_87
- Track 18 : EniyanLRS_143, MaryV_136, Wildcat_150, Cosmo_151, Azrael100_143

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

The start number called the most often in the published annotations is 14, it was called in 34 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artemis2UCLA_97, BABullseye_88, Blinn1_95, Blue7_99, Candra_93, Chartreuse_93, CloudWang3_98, Cookiedough_95, DaVinci_93, EricB_93,

Garak_99, Gladiator_94, Gruunaga_98, Hammer_98, Helmet_99, Hexamo_97, Hoot_90, Indra_100, Isiphiwo_92, Jeffabunny_86, Kazan_96, Koko_99, Lilbunny_92, McFly_95, Neeharika16_94, Newrala_94, Pmask_94, Priamo_95, Rifter_98, Roksolana_98, SmellyB_95, SuperAwesome_95, SuperCallie99_92, ToneTone_94, Tucker_98, VohminGhazi_95, Wiks_97, Yokurt_97, Zaka_98, Zulu_99,

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

-

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

- 40AC_88, Aliter_89, Arissanae_91, Azrael100_143, Beemo_96, BogosyJay_95, Catalina_98, Charm_87, Cosmo_151, Darrell_94, Dorothea_92, EagleEye_93, EniyanLRS_143, Et2Brutus_97, GaugeLDP_88, HortumSL17_97, Hutc2_94, Jabith_97, JewelBug_87, Jordennis_93, Kipper29_95, Lucyedi_92, Maminiaina_95, MaryV_136, MissWhite_89, Myxus_96, PackMan_91, PainterBoy_91, Phaeder_96, Phlei_73, Phonnegut_96, Pioneer_96, Salz_93, Scherzo_94, Tubs_96, Ugenie5_83, Wildcat_150,

Summary by start number:

Start 13:

- Found in 4 of 77 (5.2%) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dorothea_92 (A6), Kipper29_95 (A6),

Start 14:

- Found in 40 of 77 (51.9%) of genes in pham
- Manual Annotations of this start: 34 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA_97 (A6), BABullseye_88 (A6), Blinn1_95 (A6), Blue7_99 (A6), Candra_93 (A6), Chartreuse_93 (A6), CloudWang3_98 (A6), Cookiedough_95 (A6), DaVinci_93 (A6), EricB_93 (A6), Garak_99 (A6), Gladiator_94 (A6), Gruunaga_98 (A6), Hammer_98 (A6), Helmet_99 (A6), Hexamo_97 (A6), Hoot_90 (A6), Indra_100 (A6), Isiphiwo_92 (A6), Jeffabunny_86 (A6), Kazan_96 (A6), Koko_99 (A6), Lilbunny_92 (A6), McFly_95 (A6), Neeharika16_94 (A6), Newrala_94 (A6), Pmask_94 (A6), Priamo_95 (A6), Rifter_98 (A6), Roksolana_98 (A6), SmellyB_95 (A6), SuperAwesome_95 (A6), SuperCallie99_92 (A6), ToneTone_94 (A6), Tucker_98 (A6), VohminGhazi_95 (A6), Wiks_97 (A6), Yokurt_97 (A6), Zaka_98 (A6), Zulu_99 (A6),

Start 15:

- Found in 16 of 77 (20.8%) of genes in pham
- Manual Annotations of this start: 15 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aliter_89 (A9), Arissanae_91 (A9), Beemo_96 (A9), BogosyJay_95 (A9), Catalina_98 (A9), Darrell_94 (A9), HortumSL17_97 (A9), Maminiaina_95 (A9), Myxus_96 (A9), PackMan_91 (A9), Phaeder_96 (A9), Phonnegut_96 (A9), Pioneer_96 (A9), Scherzo_94 (A9), Tubs_96 (A9), Ugenie5_83 (A9),

Start 16:

- Found in 16 of 77 (20.8%) of genes in pham

- Manual Annotations of this start: 12 of 67
- Called 87.5% of time when present
- Phage (with cluster) where this start called: 40AC_88 (A17), Charm_87 (A9), EagleEye_93 (A16), Et2Brutus_97 (A11), GaugeLDP_88 (A2), Hutc2_94 (A11), Jabith_97 (A11), JewelBug_87 (A6), Jordennis_93 (A6), Lucyedi_92 (A16), MissWhite_89 (A2), PainterBoy_91 (A16), Phlei_73 (A13), Salz_93 (A11),

Start 17:

- Found in 5 of 77 (6.5%) of genes in pham
- Manual Annotations of this start: 5 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100_143 (V), Cosmo_151 (V), EniyanLRS_143 (V), MaryV_136 (V), Wildcat_150 (V),

Summary by clusters:

There are 8 clusters represented in this pham: A17, A16, A11, A13, A6, A2, V, A9,

Info for manual annotations of cluster A11:

- Start number 16 was manually annotated 4 times for cluster A11.

Info for manual annotations of cluster A16:

- Start number 16 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 16 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A6:

- Start number 13 was manually annotated 1 time for cluster A6.
- Start number 14 was manually annotated 34 times for cluster A6.
- Start number 16 was manually annotated 2 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 15 was manually annotated 15 times for cluster A9.
- Start number 16 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster V:

- Start number 17 was manually annotated 5 times for cluster V.

Gene Information:

Gene: 40AC_88 Start: 50616, Stop: 50485, Start Num: 16

Candidate Starts for 40AC_88:

(Start: 16 @50616 has 12 MA's), (18, 50604), (19, 50598), (21, 50562),

Gene: Aliter_89 Start: 47662, Stop: 47534, Start Num: 15

Candidate Starts for Aliter_89:

(Start: 15 @47662 has 15 MA's), (19, 47644), (21, 47608),

Gene: Arissanae_91 Start: 50357, Stop: 50229, Start Num: 15

Candidate Starts for Arissanae_91:

(5, 50420), (8, 50405), (Start: 15 @50357 has 15 MA's), (19, 50339), (21, 50303),

Gene: Artemis2UCLA_97 Start: 49085, Stop: 48957, Start Num: 14

Candidate Starts for Artemis2UCLA_97:

(Start: 14 @49085 has 34 MA's), (18, 49073), (19, 49067), (21, 49031),

Gene: Azrael100_143 Start: 69290, Stop: 69156, Start Num: 17

Candidate Starts for Azrael100_143:

(Start: 17 @69290 has 5 MA's), (24, 69206),

Gene: BABullseye_88 Start: 47223, Stop: 47095, Start Num: 14

Candidate Starts for BABullseye_88:

(Start: 14 @47223 has 34 MA's), (18, 47211), (19, 47205), (21, 47169), (25, 47124),

Gene: Beemo_96 Start: 50495, Stop: 50367, Start Num: 15

Candidate Starts for Beemo_96:

(Start: 15 @50495 has 15 MA's), (19, 50477), (21, 50441),

Gene: Blinn1_95 Start: 48852, Stop: 48724, Start Num: 14

Candidate Starts for Blinn1_95:

(12, 48858), (Start: 14 @48852 has 34 MA's), (18, 48840), (19, 48834), (21, 48798), (26, 48744),

Gene: Blue7_99 Start: 49319, Stop: 49191, Start Num: 14

Candidate Starts for Blue7_99:

(Start: 14 @49319 has 34 MA's), (18, 49307), (19, 49301), (21, 49265),

Gene: BogosyJay_95 Start: 50497, Stop: 50369, Start Num: 15

Candidate Starts for BogosyJay_95:

(2, 50734), (5, 50560), (Start: 15 @50497 has 15 MA's), (19, 50479), (21, 50443),

Gene: Candra_93 Start: 48931, Stop: 48803, Start Num: 14

Candidate Starts for Candra_93:

(Start: 14 @48931 has 34 MA's), (18, 48919), (19, 48913), (21, 48877), (25, 48832),

Gene: Catalina_98 Start: 50609, Stop: 50481, Start Num: 15

Candidate Starts for Catalina_98:

(Start: 15 @50609 has 15 MA's), (19, 50591), (21, 50555),

Gene: Charm_87 Start: 49003, Stop: 48869, Start Num: 16

Candidate Starts for Charm_87:

(Start: 16 @49003 has 12 MA's), (18, 48991), (19, 48985), (22, 48946), (23, 48922), (24, 48919),

Gene: Chartreuse_93 Start: 48232, Stop: 48104, Start Num: 14

Candidate Starts for Chartreuse_93:

(Start: 14 @48232 has 34 MA's), (18, 48220), (19, 48214), (21, 48178), (25, 48133),

Gene: CloudWang3_98 Start: 49614, Stop: 49486, Start Num: 14

Candidate Starts for CloudWang3_98:

(Start: 14 @49614 has 34 MA's), (18, 49602), (19, 49596), (21, 49560),

Gene: Cookie dough_95 Start: 49542, Stop: 49414, Start Num: 14

Candidate Starts for Cookiedough_95:

(Start: 14 @49542 has 34 MA's), (18, 49530), (19, 49524), (21, 49488), (25, 49443),

Gene: Cosmo_151 Start: 69454, Stop: 69320, Start Num: 17

Candidate Starts for Cosmo_151:

(Start: 17 @69454 has 5 MA's), (24, 69370),

Gene: DaVinci_93 Start: 48286, Stop: 48158, Start Num: 14

Candidate Starts for DaVinci_93:

(Start: 14 @48286 has 34 MA's), (18, 48274), (19, 48268), (21, 48232), (25, 48187),

Gene: Darrell_94 Start: 49660, Stop: 49532, Start Num: 15

Candidate Starts for Darrell_94:

(7, 49714), (Start: 15 @49660 has 15 MA's), (19, 49642), (21, 49606), (24, 49576),

Gene: Dorothea_92 Start: 49540, Stop: 49406, Start Num: 13

Candidate Starts for Dorothea_92:

(9, 49582), (Start: 13 @49540 has 1 MA's), (Start: 16 @49534 has 12 MA's), (18, 49522), (19, 49516), (21, 49480), (25, 49435),

Gene: EagleEye_93 Start: 50325, Stop: 50197, Start Num: 16

Candidate Starts for EagleEye_93:

(Start: 16 @50325 has 12 MA's), (18, 50313), (19, 50307), (21, 50271), (25, 50226),

Gene: EniyanLRS_143 Start: 69783, Stop: 69649, Start Num: 17

Candidate Starts for EniyanLRS_143:

(Start: 17 @69783 has 5 MA's), (24, 69699),

Gene: EricB_93 Start: 48431, Stop: 48303, Start Num: 14

Candidate Starts for EricB_93:

(Start: 14 @48431 has 34 MA's), (18, 48419), (19, 48413), (21, 48377), (25, 48332),

Gene: Et2Brutus_97 Start: 49951, Stop: 49823, Start Num: 16

Candidate Starts for Et2Brutus_97:

(1, 50311), (3, 50026), (4, 50017), (6, 50008), (11, 49963), (Start: 16 @49951 has 12 MA's), (18, 49939), (19, 49933),

Gene: Garak_99 Start: 49559, Stop: 49431, Start Num: 14

Candidate Starts for Garak_99:

(Start: 14 @49559 has 34 MA's), (18, 49547), (19, 49541), (21, 49505),

Gene: GaugeLDP_88 Start: 50406, Stop: 50278, Start Num: 16

Candidate Starts for GaugeLDP_88:

(10, 50436), (Start: 16 @50406 has 12 MA's), (19, 50388), (21, 50352),

Gene: Gladiator_94 Start: 49279, Stop: 49151, Start Num: 14

Candidate Starts for Gladiator_94:

(Start: 14 @49279 has 34 MA's), (18, 49267), (19, 49261), (21, 49225),

Gene: Gruunaga_98 Start: 49235, Stop: 49107, Start Num: 14

Candidate Starts for Gruunaga_98:

(Start: 14 @49235 has 34 MA's), (18, 49223), (19, 49217), (21, 49181),

Gene: Hammer_98 Start: 48932, Stop: 48804, Start Num: 14
Candidate Starts for Hammer_98:
(Start: 14 @48932 has 34 MA's), (18, 48920), (19, 48914), (21, 48878),

Gene: Helmet_99 Start: 49559, Stop: 49431, Start Num: 14
Candidate Starts for Helmet_99:
(Start: 14 @49559 has 34 MA's), (18, 49547), (19, 49541), (21, 49505),

Gene: Hexamo_97 Start: 49100, Stop: 48972, Start Num: 14
Candidate Starts for Hexamo_97:
(Start: 14 @49100 has 34 MA's), (18, 49088), (19, 49082), (21, 49046),

Gene: Hoot_90 Start: 46748, Stop: 46620, Start Num: 14
Candidate Starts for Hoot_90:
(Start: 14 @46748 has 34 MA's), (18, 46736), (19, 46730), (21, 46694), (25, 46649),

Gene: HortumSL17_97 Start: 50607, Stop: 50479, Start Num: 15
Candidate Starts for HortumSL17_97:
(Start: 15 @50607 has 15 MA's), (19, 50589), (21, 50553),

Gene: Hutc2_94 Start: 48841, Stop: 48713, Start Num: 16
Candidate Starts for Hutc2_94:
(1, 49201), (3, 48916), (4, 48907), (6, 48898), (11, 48853), (Start: 16 @48841 has 12 MA's), (18, 48829), (19, 48823),

Gene: Indra_100 Start: 49560, Stop: 49432, Start Num: 14
Candidate Starts for Indra_100:
(Start: 14 @49560 has 34 MA's), (18, 49548), (19, 49542), (21, 49506),

Gene: Isiphiwo_92 Start: 48650, Stop: 48522, Start Num: 14
Candidate Starts for Isiphiwo_92:
(Start: 14 @48650 has 34 MA's), (18, 48638), (19, 48632), (21, 48596),

Gene: Jabith_97 Start: 50149, Stop: 50021, Start Num: 16
Candidate Starts for Jabith_97:
(1, 50509), (3, 50224), (4, 50215), (6, 50206), (11, 50161), (Start: 16 @50149 has 12 MA's), (18, 50137), (19, 50131),

Gene: Jeffabunny_86 Start: 45703, Stop: 45575, Start Num: 14
Candidate Starts for Jeffabunny_86:
(Start: 14 @45703 has 34 MA's), (18, 45691), (19, 45685), (21, 45649),

Gene: JewelBug_87 Start: 47227, Stop: 47099, Start Num: 16
Candidate Starts for JewelBug_87:
(9, 47275), (Start: 13 @47233 has 1 MA's), (Start: 16 @47227 has 12 MA's), (18, 47215), (19, 47209), (21, 47173), (25, 47128),

Gene: Jordennis_93 Start: 49131, Stop: 49003, Start Num: 16
Candidate Starts for Jordennis_93:
(9, 49179), (Start: 13 @49137 has 1 MA's), (Start: 16 @49131 has 12 MA's), (18, 49119), (19, 49113), (21, 49077), (25, 49032),

Gene: Kazan_96 Start: 48901, Stop: 48773, Start Num: 14

Candidate Starts for Kazan_96:

(Start: 14 @48901 has 34 MA's), (18, 48889), (19, 48883), (21, 48847), (25, 48802),

Gene: Kipper29_95 Start: 48912, Stop: 48778, Start Num: 13

Candidate Starts for Kipper29_95:

(9, 48954), (Start: 13 @48912 has 1 MA's), (Start: 16 @48906 has 12 MA's), (18, 48894), (19, 48888), (21, 48852), (25, 48807),

Gene: Koko_99 Start: 49949, Stop: 49821, Start Num: 14

Candidate Starts for Koko_99:

(Start: 14 @49949 has 34 MA's), (18, 49937), (19, 49931), (21, 49895),

Gene: Lilbunny_92 Start: 47807, Stop: 47679, Start Num: 14

Candidate Starts for Lilbunny_92:

(Start: 14 @47807 has 34 MA's), (18, 47795), (19, 47789), (21, 47753),

Gene: Lucyedi_92 Start: 50524, Stop: 50396, Start Num: 16

Candidate Starts for Lucyedi_92:

(Start: 16 @50524 has 12 MA's), (18, 50512), (19, 50506), (21, 50470), (25, 50425),

Gene: Maminiaina_95 Start: 50479, Stop: 50351, Start Num: 15

Candidate Starts for Maminiaina_95:

(2, 50716), (5, 50542), (Start: 15 @50479 has 15 MA's), (19, 50461), (21, 50425),

Gene: MaryV_136 Start: 67629, Stop: 67495, Start Num: 17

Candidate Starts for MaryV_136:

(Start: 17 @67629 has 5 MA's), (24, 67545),

Gene: McFly_95 Start: 49240, Stop: 49112, Start Num: 14

Candidate Starts for McFly_95:

(Start: 14 @49240 has 34 MA's), (18, 49228), (19, 49222), (21, 49186), (25, 49141),

Gene: MissWhite_89 Start: 47475, Stop: 47347, Start Num: 16

Candidate Starts for MissWhite_89:

(Start: 16 @47475 has 12 MA's), (18, 47463), (19, 47457),

Gene: Myxus_96 Start: 50607, Stop: 50479, Start Num: 15

Candidate Starts for Myxus_96:

(Start: 15 @50607 has 15 MA's), (19, 50589), (21, 50553),

Gene: Neeharika16_94 Start: 48993, Stop: 48865, Start Num: 14

Candidate Starts for Neeharika16_94:

(Start: 14 @48993 has 34 MA's), (18, 48981), (19, 48975), (21, 48939), (25, 48894),

Gene: Newrala_94 Start: 49339, Stop: 49211, Start Num: 14

Candidate Starts for Newrala_94:

(Start: 14 @49339 has 34 MA's), (18, 49327), (19, 49321), (21, 49285), (25, 49240),

Gene: PackMan_91 Start: 48521, Stop: 48393, Start Num: 15

Candidate Starts for PackMan_91:

(Start: 15 @48521 has 15 MA's), (19, 48503), (21, 48467),

Gene: PainterBoy_91 Start: 50235, Stop: 50107, Start Num: 16

Candidate Starts for PainterBoy_91:

(Start: 16 @50235 has 12 MA's), (18, 50223), (19, 50217), (21, 50181), (25, 50136),

Gene: Phaeder_96 Start: 50482, Stop: 50354, Start Num: 15

Candidate Starts for Phaeder_96:

(Start: 15 @50482 has 15 MA's), (19, 50464), (21, 50428),

Gene: Phlei_73 Start: 46291, Stop: 46163, Start Num: 16

Candidate Starts for Phlei_73:

(Start: 16 @46291 has 12 MA's), (19, 46273), (20, 46252), (23, 46210), (27, 46180), (28, 46171),

Gene: Phonnegut_96 Start: 50494, Stop: 50366, Start Num: 15

Candidate Starts for Phonnegut_96:

(Start: 15 @50494 has 15 MA's), (19, 50476), (21, 50440),

Gene: Pioneer_96 Start: 50494, Stop: 50366, Start Num: 15

Candidate Starts for Pioneer_96:

(Start: 15 @50494 has 15 MA's), (19, 50476), (21, 50440),

Gene: Pmask_94 Start: 49540, Stop: 49412, Start Num: 14

Candidate Starts for Pmask_94:

(Start: 14 @49540 has 34 MA's), (18, 49528), (19, 49522), (21, 49486), (25, 49441),

Gene: Priamo_95 Start: 48583, Stop: 48455, Start Num: 14

Candidate Starts for Priamo_95:

(Start: 14 @48583 has 34 MA's), (18, 48571), (19, 48565), (21, 48529), (25, 48484),

Gene: Rifter_98 Start: 48727, Stop: 48599, Start Num: 14

Candidate Starts for Rifter_98:

(Start: 14 @48727 has 34 MA's), (18, 48715), (19, 48709), (21, 48673),

Gene: Roksolana_98 Start: 49443, Stop: 49315, Start Num: 14

Candidate Starts for Roksolana_98:

(Start: 14 @49443 has 34 MA's), (18, 49431), (19, 49425), (21, 49389),

Gene: Salz_93 Start: 48763, Stop: 48635, Start Num: 16

Candidate Starts for Salz_93:

(1, 49123), (3, 48838), (4, 48829), (6, 48820), (11, 48775), (Start: 16 @48763 has 12 MA's), (18, 48751), (19, 48745),

Gene: Scherzo_94 Start: 50525, Stop: 50397, Start Num: 15

Candidate Starts for Scherzo_94:

(Start: 15 @50525 has 15 MA's), (19, 50507), (21, 50471),

Gene: SmellyB_95 Start: 48895, Stop: 48767, Start Num: 14

Candidate Starts for SmellyB_95:

(Start: 14 @48895 has 34 MA's), (18, 48883), (19, 48877), (21, 48841), (25, 48796),

Gene: SuperAwesome_95 Start: 49579, Stop: 49451, Start Num: 14

Candidate Starts for SuperAwesome_95:

(Start: 14 @49579 has 34 MA's), (18, 49567), (19, 49561), (21, 49525), (25, 49480),

Gene: SuperCallie99_92 Start: 49151, Stop: 49023, Start Num: 14

Candidate Starts for SuperCallie99_92:
(Start: 14 @49151 has 34 MA's), (18, 49139), (19, 49133), (21, 49097),

Gene: ToneTone_94 Start: 49110, Stop: 48982, Start Num: 14
Candidate Starts for ToneTone_94:
(Start: 14 @49110 has 34 MA's), (18, 49098), (19, 49092), (21, 49056),

Gene: Tubs_96 Start: 50482, Stop: 50354, Start Num: 15
Candidate Starts for Tubs_96:
(Start: 15 @50482 has 15 MA's), (19, 50464), (21, 50428),

Gene: Tucker_98 Start: 49313, Stop: 49185, Start Num: 14
Candidate Starts for Tucker_98:
(Start: 14 @49313 has 34 MA's), (18, 49301), (19, 49295), (21, 49259),

Gene: Ugenie5_83 Start: 47969, Stop: 47841, Start Num: 15
Candidate Starts for Ugenie5_83:
(Start: 15 @47969 has 15 MA's), (19, 47951), (21, 47915),

Gene: VohminGhazi_95 Start: 48896, Stop: 48768, Start Num: 14
Candidate Starts for VohminGhazi_95:
(Start: 14 @48896 has 34 MA's), (18, 48884), (19, 48878), (21, 48842), (25, 48797),

Gene: Wiks_97 Start: 49190, Stop: 49062, Start Num: 14
Candidate Starts for Wiks_97:
(Start: 14 @49190 has 34 MA's), (18, 49178), (19, 49172), (21, 49136),

Gene: Wildcat_150 Start: 69522, Stop: 69388, Start Num: 17
Candidate Starts for Wildcat_150:
(Start: 17 @69522 has 5 MA's), (24, 69438),

Gene: Yokurt_97 Start: 49190, Stop: 49062, Start Num: 14
Candidate Starts for Yokurt_97:
(Start: 14 @49190 has 34 MA's), (18, 49178), (19, 49172), (21, 49136),

Gene: Zaka_98 Start: 49190, Stop: 49062, Start Num: 14
Candidate Starts for Zaka_98:
(Start: 14 @49190 has 34 MA's), (18, 49178), (19, 49172), (21, 49136),

Gene: Zulu_99 Start: 49567, Stop: 49439, Start Num: 14
Candidate Starts for Zulu_99:
(Start: 14 @49567 has 34 MA's), (18, 49555), (19, 49549), (21, 49513),