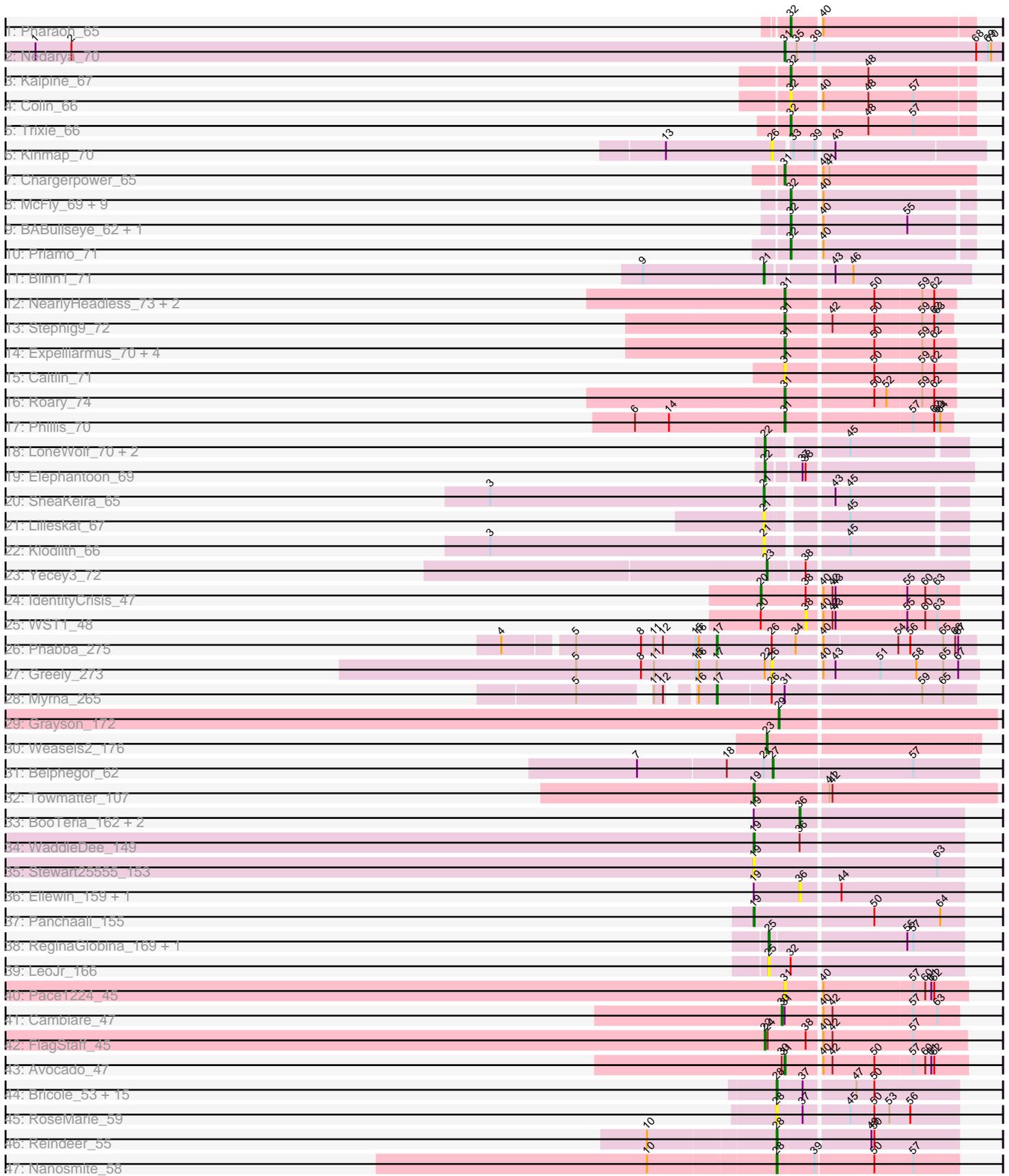# Pham 291067

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 291067 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291067 has 84 members, 19 are drafts.

Phages represented in each track:
• Track 1 : Pharaoh_65
• Track 2 : Nedarya_70
• Track 3 : Kalpine_67
• Track 4 : Colin_66
• Track 5 : Trixie_66
• Track 6 : Kinmap_70
• Track 7 : Chargerpower_65
• Track 8 : McFly_69, Dorothea_69, Pmask_68, Chartreuse_68, Neeharika16_68, JewelBug_69, SuperCallie99_66, Cookiedough_69, DaVinci_67, DelvinSonDorr_66
• Track 9 : BABullseye_62, Jordennis_68
• Track 10 : Priamo_71
• Track 11 : Blinn1_71
• Track 12 : NearlyHeadless_73, Dixon_72, Saintus_68
• Track 13 : Stephig9_72
• Track 14 : Expelliarmus_70, Groundhog_72, Astro_73, Danforth_73, Smeadley_73
• Track 15 : Caitlin_71
• Track 16 : Roary_74
• Track 17 : Phillis_70
• Track 18 : LoneWolf_70, BogosyJay_70, Maminiaina_70
• Track 19 : Elephantoon_69
• Track 20 : SheaKeira_65
• Track 21 : Lilleskat_67
• Track 22 : Klodlith_66
• Track 23 : Yecey3_72
• Track 24 : IdentityCrisis_47
• Track 25 : WST1_48
• Track 26 : Phabba_275
• Track 27 : Greely_273
• Track 28 : Myrna_265
• Track 29 : Grayson_172
• Track 30 : Weasels2_176
• Track 31 : Belphegor_62
• Track 32 : Towmatter_107
• Track 33 : BooTeria_162, Emmetator_156, DunneganBoMo_153
• Track 34 : WaddleDee_149
• Track 35 : Stewart25555_153
• Track 36 : Ellewin_159, KSunshine22_158

- Track 37 : Panchaali_155
- Track 38 : ReginaGlobina_169, Atuin_156
- Track 39 : LeoJr_166
- Track 40 : Pace1224_45
- Track 41 : Cambiare_47
- Track 42 : FlagStaff_45
- Track 43 : Avocado_47
- Track 44 : Bricole_53, Dulcita_54, Glaske16_54, Bongo_53, Skinny_54, FreakyGoo_54, KleverKiS_54, Auspice_53, IPhane7_53, Diminimus_54, TpudiCK_55, PegLeg_53, SlimJimmy_52, LilhomieP_52, Izel_54, TyDawg_53
- Track 45 : RoseMarie_59
- Track 46 : Reindeer_55
- Track 47 : Nanosmite_58

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

The start number called the most often in the published annotations is 28, it was called in 16 of the 65 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Auspice_53, Bongo_53, Bricole_53, Diminimus_54, Dulcita_54, FreakyGoo_54, Glaske16_54, IPhane7_53, Izel_54, KleverKiS_54, LilhomieP_52, Nanosmite_58, PegLeg_53, Reindeer_55, RoseMarie_59, Skinny_54, SlimJimmy_52, TpudiCK_55, TyDawg_53,

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

Genes that do not have the "Most Annotated" start:
- Astro_73, Atuin_156, Avocado_47, BABullseye_62, Belphegor_62, Blinn1_71, BogosyJay_70, BooTeria_162, Caitlin_71, Cambiare_47, Chargerpower_65, Chartreuse_68, Colin_66, Cookiedough_69, DaVinci_67, Danforth_73, DelvinSonDorr_66, Dixon_72, Dorothea_69, DunneganBoMo_153, Elephantoon_69, Ellewin_159, Emmetator_156, Expelliarmus_70, FlagStaff_45, Grayson_172, Greely_273, Groundhog_72, IdentityCrisis_47, JewelBug_69, Jordennis_68, KSunshine22_158, Kalpine_67, Kinmap_70, Klodlith_66, LeoJr_166, Lilleskat_67, LoneWolf_70, Maminiaina_70, McFly_69, Myrna_265, NearlyHeadless_73, Nedarya_70, Neeharika16_68, Pace1224_45, Panchaali_155, Phabba_275, Pharaoh_65, Phillis_70, Pmask_68, Priamo_71, ReginaGlobina_169, Roary_74, Saintus_68, SheaKeira_65, Smeadley_73, Stephig9_72, Stewart25555_153, SuperCallie99_66, Towmatter_107, Trixie_66, WST1_48, WaddleDee_149, Weasels2_176, Yecey3_72,

Summary by start number:

Start 17:
- Found in 3 of 84 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 65
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Myrna_265 (C2), Phabba_275 (C2),

Start 19:
• Found in 9 of 84 (10.7%) of genes in pham
• Manual Annotations of this start: 3 of 65
• Called 44.4% of time when present
• Phage (with cluster) where this start called: Panchaali_155 (FC), Stewart25555_153 (FC), Towmatter_107 (DL), WaddleDee_149 (FC),

Start 20:
• Found in 2 of 84 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 65
• Called 50.0% of time when present
• Phage (with cluster) where this start called: IdentityCrisis_47 (AJ),

Start 21:
• Found in 5 of 84 (6.0%) of genes in pham
• Manual Annotations of this start: 2 of 65
• Called 80.0% of time when present
• Phage (with cluster) where this start called: Blinn1_71 (A6), Klodlith_66 (A9), Lilleskat_67 (A9), SheaKeira_65 (A9),

Start 22:
• Found in 6 of 84 (7.1%) of genes in pham
• Manual Annotations of this start: 5 of 65
• Called 83.3% of time when present
• Phage (with cluster) where this start called: BogosyJay_70 (A9), Elephantoon_69 (A9), FlagStaff_45 (G2), LoneWolf_70 (A9), Maminiaina_70 (A9),

Start 23:
• Found in 2 of 84 (2.4%) of genes in pham
• Manual Annotations of this start: 2 of 65
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Weasels2_176 (CB), Yecey3_72 (A9),

Start 25:
• Found in 3 of 84 (3.6%) of genes in pham
• Manual Annotations of this start: 1 of 65
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Atuin_156 (FC), LeoJr_166 (FC), ReginaGlobina_169 (FC),

Start 26:
• Found in 4 of 84 (4.8%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Greely_273 (C2), Kinmap_70 (A21),

Start 27:
• Found in 1 of 84 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 65
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Belphegor_62 (DE2),

Start 28:
- Found in 19 of 84 (22.6%) of genes in pham
- Manual Annotations of this start: 16 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Auspice_53 (M1), Bongo_53 (M1), Bricole_53 (M1), Diminimus_54 (M1), Dulcita_54 (M1), FreakyGoo_54 (M1), Glaske16_54 (M1), IPhane7_53 (M1), Izel_54 (M1), KleverKiS_54 (M1), LilhomieP_52 (M1), Nanosmite_58 (M3), PegLeg_53 (M1), Reindeer_55 (M1), RoseMarie_59 (M1), Skinny_54 (M1), SlimJimmy_52 (M1), TpudiCK_55 (M1), TyDawg_53 (M1),

Start 29:
- Found in 1 of 84 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson_172 (CB),

Start 30:
- Found in 2 of 84 (2.4%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Cambiare_47 (G2),

Start 31:
- Found in 18 of 84 (21.4%) of genes in pham
- Manual Annotations of this start: 14 of 65
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Astro_73 (A8), Avocado_47 (G2), Caitlin_71 (A8), Chargerpower_65 (A22), Danforth_73 (A8), Dixon_72 (A8), Expelliarmus_70 (A8), Groundhog_72 (A8), NearlyHeadless_73 (A8), Nedarya_70 (A15), Pace1224_45 (G2), Phillis_70 (A8), Roary_74 (A8), Saintus_68 (A8), Smeadley_73 (A8), Stephig9_72 (A8),

Start 32:
- Found in 18 of 84 (21.4%) of genes in pham
- Manual Annotations of this start: 15 of 65
- Called 94.4% of time when present
- Phage (with cluster) where this start called: BABullseye_62 (A6), Chartreuse_68 (A6), Colin_66 (A2), Cookiedough_69 (A6), DaVinci_67 (A6), DelvinSonDorr_66 (A6), Dorothea_69 (A6), JewelBug_69 (A6), Jordennis_68 (A6), Kalpine_67 (A2), McFly_69 (A6), Neeharika16_68 (A6), Pharaoh_65 (A12), Pmask_68 (A6), Priamo_71 (A6), SuperCallie99_66 (A6), Trixie_66 (A2),

Start 36:
- Found in 6 of 84 (7.1%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BooTeria_162 (FC), DunneganBoMo_153 (FC), Ellewin_159 (FC), Emmetator_156 (FC), KSunshine22_158 (FC),

Start 38:
- Found in 5 of 84 (6.0%) of genes in pham

• No Manual Annotations of this start.
• Called 20.0% of time when present
• Phage (with cluster) where this start called: WST1_48 (AJ),

Summary by clusters:

There are 17 clusters represented in this pham: A15, A21, DL, G2, A12, FC, CB, DE2, AJ, A22, A8, A2, M1, M3, A6, A9, C2,

Info for manual annotations of cluster A12:
•Start number 32 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A15:
•Start number 31 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster A2:
•Start number 32 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A22:
•Start number 31 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A6:
•Start number 21 was manually annotated 1 time for cluster A6.
•Start number 32 was manually annotated 12 times for cluster A6.

Info for manual annotations of cluster A8:
•Start number 31 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:
•Start number 21 was manually annotated 1 time for cluster A9.
•Start number 22 was manually annotated 4 times for cluster A9.
•Start number 23 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster AJ:
•Start number 20 was manually annotated 1 time for cluster AJ.

Info for manual annotations of cluster C2:
•Start number 17 was manually annotated 2 times for cluster C2.

Info for manual annotations of cluster CB:
•Start number 23 was manually annotated 1 time for cluster CB.
•Start number 29 was manually annotated 1 time for cluster CB.

Info for manual annotations of cluster DE2:
•Start number 27 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DL:
•Start number 19 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster FC:
•Start number 19 was manually annotated 2 times for cluster FC.
•Start number 25 was manually annotated 1 time for cluster FC.

•Start number 36 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster G2:
•Start number 22 was manually annotated 1 time for cluster G2.
•Start number 30 was manually annotated 1 time for cluster G2.
•Start number 31 was manually annotated 1 time for cluster G2.

Info for manual annotations of cluster M1:
•Start number 28 was manually annotated 15 times for cluster M1.

Info for manual annotations of cluster M3:
•Start number 28 was manually annotated 1 time for cluster M3.

Gene Information:

Gene: Astro_73 Start: 40939, Stop: 40778, Start Num: 31
Candidate Starts for Astro_73:
(Start: 31 @40939 has 14 MA's), (50, 40855), (59, 40810), (62, 40798),

Gene: Atuin_156 Start: 110180, Stop: 110365, Start Num: 25
Candidate Starts for Atuin_156:
(Start: 25 @110180 has 1 MA's), (55, 110309), (57, 110315),

Gene: Auspice_53 Start: 38208, Stop: 38381, Start Num: 28
Candidate Starts for Auspice_53:
(Start: 28 @38208 has 16 MA's), (37, 38232), (47, 38280), (50, 38298),

Gene: Avocado_47 Start: 37189, Stop: 37362, Start Num: 31
Candidate Starts for Avocado_47:
(Start: 30 @37186 has 1 MA's), (Start: 31 @37189 has 14 MA's), (40, 37222), (42, 37231), (50, 37273), (57, 37309), (60, 37321), (61, 37327), (62, 37330),

Gene: BABullseye_62 Start: 37899, Stop: 37726, Start Num: 32
Candidate Starts for BABullseye_62:
(Start: 32 @37899 has 15 MA's), (40, 37872), (55, 37788),

Gene: Belphegor_62 Start: 49602, Stop: 49805, Start Num: 27
Candidate Starts for Belphegor_62:
(7, 49470), (18, 49557), (Start: 21 @49593 has 2 MA's), (Start: 27 @49602 has 1 MA's), (57, 49740),

Gene: Blinn1_71 Start: 39967, Stop: 39776, Start Num: 21
Candidate Starts for Blinn1_71:
(9, 40087), (Start: 21 @39967 has 2 MA's), (43, 39910), (46, 39892),

Gene: BogosyJay_70 Start: 41590, Stop: 41414, Start Num: 22
Candidate Starts for BogosyJay_70:
(Start: 22 @41590 has 5 MA's), (45, 41524),

Gene: Bongo_53 Start: 38212, Stop: 38385, Start Num: 28
Candidate Starts for Bongo_53:
(Start: 28 @38212 has 16 MA's), (37, 38236), (47, 38284), (50, 38302),

Gene: BooTeria_162 Start: 107851, Stop: 108009, Start Num: 36
Candidate Starts for BooTeria_162:
(Start: 19 @107806 has 3 MA's), (Start: 36 @107851 has 1 MA's),

Gene: Bricole_53 Start: 38194, Stop: 38367, Start Num: 28
Candidate Starts for Bricole_53:
(Start: 28 @38194 has 16 MA's), (37, 38218), (47, 38266), (50, 38284),

Gene: Caitlin_71 Start: 40640, Stop: 40479, Start Num: 31
Candidate Starts for Caitlin_71:
(Start: 31 @40640 has 14 MA's), (50, 40556), (59, 40511), (62, 40499),

Gene: Cambiare_47 Start: 37281, Stop: 37448, Start Num: 30
Candidate Starts for Cambiare_47:
(Start: 30 @37281 has 1 MA's), (Start: 31 @37284 has 14 MA's), (40, 37317), (42, 37326), (57, 37404),
(63, 37428),

Gene: Chargerpower_65 Start: 39591, Stop: 39409, Start Num: 31
Candidate Starts for Chargerpower_65:
(Start: 31 @39591 has 14 MA's), (40, 39561), (41, 39555),

Gene: Chartreuse_68 Start: 39579, Stop: 39406, Start Num: 32
Candidate Starts for Chartreuse_68:
(Start: 32 @39579 has 15 MA's), (40, 39552),

Gene: Colin_66 Start: 42014, Stop: 41838, Start Num: 32
Candidate Starts for Colin_66:
(Start: 32 @42014 has 15 MA's), (40, 41987), (48, 41942), (57, 41897),

Gene: Cookiedough_69 Start: 40207, Stop: 40034, Start Num: 32
Candidate Starts for Cookiedough_69:
(Start: 32 @40207 has 15 MA's), (40, 40180),

Gene: DaVinci_67 Start: 39633, Stop: 39460, Start Num: 32
Candidate Starts for DaVinci_67:
(Start: 32 @39633 has 15 MA's), (40, 39606),

Gene: Danforth_73 Start: 40987, Stop: 40826, Start Num: 31
Candidate Starts for Danforth_73:
(Start: 31 @40987 has 14 MA's), (50, 40903), (59, 40858), (62, 40846),

Gene: DelvinSonDorr_66 Start: 40438, Stop: 40265, Start Num: 32
Candidate Starts for DelvinSonDorr_66:
(Start: 32 @40438 has 15 MA's), (40, 40411),

Gene: Diminimus_54 Start: 38207, Stop: 38380, Start Num: 28
Candidate Starts for Diminimus_54:
(Start: 28 @38207 has 16 MA's), (37, 38231), (47, 38279), (50, 38297),

Gene: Dixon_72 Start: 40507, Stop: 40346, Start Num: 31
Candidate Starts for Dixon_72:
(Start: 31 @40507 has 14 MA's), (50, 40423), (59, 40378), (62, 40366),

Gene: Dorothea_69 Start: 40205, Stop: 40032, Start Num: 32
Candidate Starts for Dorothea_69:
(Start: 32 @40205 has 15 MA's), (40, 40178),

Gene: Dulcita_54 Start: 38208, Stop: 38381, Start Num: 28
Candidate Starts for Dulcita_54:
(Start: 28 @38208 has 16 MA's), (37, 38232), (47, 38280), (50, 38298),

Gene: DunneganBoMo_153 Start: 107120, Stop: 107278, Start Num: 36
Candidate Starts for DunneganBoMo_153:
(Start: 19 @107075 has 3 MA's), (Start: 36 @107120 has 1 MA's),

Gene: Elephantoon_69 Start: 40932, Stop: 40738, Start Num: 22
Candidate Starts for Elephantoon_69:
(Start: 22 @40932 has 5 MA's), (37, 40902), (38, 40899),

Gene: Ellewin_159 Start: 107224, Stop: 107382, Start Num: 36
Candidate Starts for Ellewin_159:
(Start: 19 @107179 has 3 MA's), (Start: 36 @107224 has 1 MA's), (44, 107260),

Gene: Emmetator_156 Start: 107433, Stop: 107591, Start Num: 36
Candidate Starts for Emmetator_156:
(Start: 19 @107388 has 3 MA's), (Start: 36 @107433 has 1 MA's),

Gene: Expelliarmus_70 Start: 40711, Stop: 40550, Start Num: 31
Candidate Starts for Expelliarmus_70:
(Start: 31 @40711 has 14 MA's), (50, 40627), (59, 40582), (62, 40570),

Gene: FlagStaff_45 Start: 36055, Stop: 36249, Start Num: 22
Candidate Starts for FlagStaff_45:
(Start: 22 @36055 has 5 MA's), (24, 36058), (38, 36094), (40, 36106), (42, 36115), (57, 36196),

Gene: FreakyGoo_54 Start: 38208, Stop: 38381, Start Num: 28
Candidate Starts for FreakyGoo_54:
(Start: 28 @38208 has 16 MA's), (37, 38232), (47, 38280), (50, 38298),

Gene: Glaske16_54 Start: 38207, Stop: 38380, Start Num: 28
Candidate Starts for Glaske16_54:
(Start: 28 @38207 has 16 MA's), (37, 38231), (47, 38279), (50, 38297),

Gene: Grayson_172 Start: 92452, Stop: 92664, Start Num: 29
Candidate Starts for Grayson_172:
(Start: 29 @92452 has 1 MA's),

Gene: Greely_273 Start: 162469, Stop: 162666, Start Num: 26
Candidate Starts for Greely_273:
(5, 162277), (8, 162340), (11, 162352), (15, 162394), (16, 162397), (Start: 17 @162415 has 2 MA's),
(Start: 22 @162463 has 5 MA's), (26, 162469), (40, 162511), (43, 162523), (51, 162568), (58, 162604),
(65, 162631), (67, 162646),

Gene: Groundhog_72 Start: 40917, Stop: 40756, Start Num: 31
Candidate Starts for Groundhog_72:

(Start: 31 @40917 has 14 MA's), (50, 40833), (59, 40788), (62, 40776),

Gene: IPhane7_53 Start: 38212, Stop: 38385, Start Num: 28
Candidate Starts for IPhane7_53:
(Start: 28 @38212 has 16 MA's), (37, 38236), (47, 38284), (50, 38302),

Gene: IdentityCrisis_47 Start: 31026, Stop: 31214, Start Num: 20
Candidate Starts for IdentityCrisis_47:
(Start: 20 @31026 has 1 MA's), (38, 31071), (40, 31083), (42, 31092), (43, 31095), (55, 31164), (60, 31182), (63, 31194),

Gene: Izel_54 Start: 38207, Stop: 38380, Start Num: 28
Candidate Starts for Izel_54:
(Start: 28 @38207 has 16 MA's), (37, 38231), (47, 38279), (50, 38297),

Gene: JewelBug_69 Start: 40499, Stop: 40326, Start Num: 32
Candidate Starts for JewelBug_69:
(Start: 32 @40499 has 15 MA's), (40, 40472),

Gene: Jordennis_68 Start: 39980, Stop: 39807, Start Num: 32
Candidate Starts for Jordennis_68:
(Start: 32 @39980 has 15 MA's), (40, 39953), (55, 39869),

Gene: KSunshine22_158 Start: 108183, Stop: 108341, Start Num: 36
Candidate Starts for KSunshine22_158:
(Start: 19 @108138 has 3 MA's), (Start: 36 @108183 has 1 MA's), (44, 108219),

Gene: Kalpine_67 Start: 42195, Stop: 42019, Start Num: 32
Candidate Starts for Kalpine_67:
(Start: 32 @42195 has 15 MA's), (48, 42123),

Gene: Kinmap_70 Start: 40504, Stop: 40307, Start Num: 26
Candidate Starts for Kinmap_70:
(13, 40609), (26, 40504), (33, 40489), (39, 40468), (43, 40453),

Gene: KleverKiS_54 Start: 38188, Stop: 38361, Start Num: 28
Candidate Starts for KleverKiS_54:
(Start: 28 @38188 has 16 MA's), (37, 38212), (47, 38260), (50, 38278),

Gene: Klodlith_66 Start: 40644, Stop: 40468, Start Num: 21
Candidate Starts for Klodlith_66:
(3, 40917), (Start: 21 @40644 has 2 MA's), (45, 40578),

Gene: LeoJr_166 Start: 110788, Stop: 110976, Start Num: 25
Candidate Starts for LeoJr_166:
(Start: 25 @110788 has 1 MA's), (Start: 32 @110809 has 15 MA's),

Gene: LilhomieP_52 Start: 38212, Stop: 38385, Start Num: 28
Candidate Starts for LilhomieP_52:
(Start: 28 @38212 has 16 MA's), (37, 38236), (47, 38284), (50, 38302),

Gene: Lilleskat_67 Start: 41392, Stop: 41216, Start Num: 21
Candidate Starts for Lilleskat_67:

(Start: 21 @41392 has 2 MA's), (45, 41326),

Gene: LoneWolf_70 Start: 41439, Stop: 41263, Start Num: 22
Candidate Starts for LoneWolf_70:
(Start: 22 @41439 has 5 MA's), (45, 41373),

Gene: Maminiaina_70 Start: 41572, Stop: 41396, Start Num: 22
Candidate Starts for Maminiaina_70:
(Start: 22 @41572 has 5 MA's), (45, 41506),

Gene: McFly_69 Start: 40192, Stop: 40019, Start Num: 32
Candidate Starts for McFly_69:
(Start: 32 @40192 has 15 MA's), (40, 40165),

Gene: Myrna_265 Start: 162813, Stop: 163058, Start Num: 17
Candidate Starts for Myrna_265:
(5, 162711), (11, 162771), (12, 162780), (16, 162795), (Start: 17 @162813 has 2 MA's), (26, 162864),
(Start: 31 @162876 has 14 MA's), (59, 163005), (65, 163026),

Gene: Nanosmite_58 Start: 39866, Stop: 40042, Start Num: 28
Candidate Starts for Nanosmite_58:
(10, 39743), (Start: 28 @39866 has 16 MA's), (39, 39902), (50, 39959), (57, 39998),

Gene: NearlyHeadless_73 Start: 40753, Stop: 40592, Start Num: 31
Candidate Starts for NearlyHeadless_73:
(Start: 31 @40753 has 14 MA's), (50, 40669), (59, 40624), (62, 40612),

Gene: Nedarya_70 Start: 40759, Stop: 40541, Start Num: 31
Candidate Starts for Nedarya_70:
(1, 41509), (2, 41473), (Start: 31 @40759 has 14 MA's), (35, 40747), (39, 40729), (68, 40567), (69,
40555), (70, 40552),

Gene: Neeharika16_68 Start: 39659, Stop: 39486, Start Num: 32
Candidate Starts for Neeharika16_68:
(Start: 32 @39659 has 15 MA's), (40, 39632),

Gene: Pace1224_45 Start: 36103, Stop: 36276, Start Num: 31
Candidate Starts for Pace1224_45:
(Start: 31 @36103 has 14 MA's), (40, 36136), (57, 36223), (60, 36235), (61, 36241), (62, 36244),

Gene: Panchaali_155 Start: 107904, Stop: 108107, Start Num: 19
Candidate Starts for Panchaali_155:
(Start: 19 @107904 has 3 MA's), (50, 108018), (64, 108084),

Gene: PegLeg_53 Start: 38211, Stop: 38384, Start Num: 28
Candidate Starts for PegLeg_53:
(Start: 28 @38211 has 16 MA's), (37, 38235), (47, 38283), (50, 38301),

Gene: Phabba_275 Start: 161775, Stop: 162020, Start Num: 17
Candidate Starts for Phabba_275:
(4, 161574), (5, 161637), (8, 161700), (11, 161712), (12, 161721), (15, 161754), (16, 161757), (Start:
17 @161775 has 2 MA's), (26, 161829), (34, 161850), (40, 161871), (54, 161943), (56, 161955), (65,
161988), (66, 162000), (67, 162003),

Gene: Pharaoh_65 Start: 41502, Stop: 41326, Start Num: 32
Candidate Starts for Pharaoh_65:
(Start: 32 @41502 has 15 MA's), (40, 41475),

Gene: Phillis_70 Start: 40207, Stop: 40049, Start Num: 31
Candidate Starts for Phillis_70:
(6, 40354), (14, 40321), (Start: 31 @40207 has 14 MA's), (57, 40087), (62, 40066), (63, 40063), (64, 40060),

Gene: Pmask_68 Start: 40195, Stop: 40022, Start Num: 32
Candidate Starts for Pmask_68:
(Start: 32 @40195 has 15 MA's), (40, 40168),

Gene: Priamo_71 Start: 40046, Stop: 39873, Start Num: 32
Candidate Starts for Priamo_71:
(Start: 32 @40046 has 15 MA's), (40, 40019),

Gene: ReginaGlobina_169 Start: 112062, Stop: 112247, Start Num: 25
Candidate Starts for ReginaGlobina_169:
(Start: 25 @112062 has 1 MA's), (55, 112191), (57, 112197),

Gene: Reindeer_55 Start: 39414, Stop: 39587, Start Num: 28
Candidate Starts for Reindeer_55:
(10, 39291), (Start: 28 @39414 has 16 MA's), (49, 39501), (50, 39504),

Gene: Roary_74 Start: 40972, Stop: 40811, Start Num: 31
Candidate Starts for Roary_74:
(Start: 31 @40972 has 14 MA's), (50, 40888), (52, 40876), (59, 40843), (62, 40831),

Gene: RoseMarie_59 Start: 41858, Stop: 42031, Start Num: 28
Candidate Starts for RoseMarie_59:
(Start: 28 @41858 has 16 MA's), (37, 41882), (45, 41924), (50, 41948), (53, 41963), (56, 41984),

Gene: Saintus_68 Start: 37637, Stop: 37476, Start Num: 31
Candidate Starts for Saintus_68:
(Start: 31 @37637 has 14 MA's), (50, 37553), (59, 37508), (62, 37496),

Gene: SheaKeira_65 Start: 40520, Stop: 40344, Start Num: 21
Candidate Starts for SheaKeira_65:
(3, 40793), (Start: 21 @40520 has 2 MA's), (43, 40469), (45, 40454),

Gene: Skinny_54 Start: 38641, Stop: 38814, Start Num: 28
Candidate Starts for Skinny_54:
(Start: 28 @38641 has 16 MA's), (37, 38665), (47, 38713), (50, 38731),

Gene: SlimJimmy_52 Start: 38195, Stop: 38368, Start Num: 28
Candidate Starts for SlimJimmy_52:
(Start: 28 @38195 has 16 MA's), (37, 38219), (47, 38267), (50, 38285),

Gene: Smeadley_73 Start: 40833, Stop: 40672, Start Num: 31
Candidate Starts for Smeadley_73:
(Start: 31 @40833 has 14 MA's), (50, 40749), (59, 40704), (62, 40692),

Gene: Stephig9_72 Start: 40770, Stop: 40612, Start Num: 31
Candidate Starts for Stephig9_72:
(Start: 31 @40770 has 14 MA's), (42, 40728), (50, 40686), (59, 40641), (62, 40629), (63, 40626),

Gene: Stewart25555_153 Start: 108142, Stop: 108345, Start Num: 19
Candidate Starts for Stewart25555_153:
(Start: 19 @108142 has 3 MA's), (63, 108319),

Gene: SuperCallie99_66 Start: 40079, Stop: 39906, Start Num: 32
Candidate Starts for SuperCallie99_66:
(Start: 32 @40079 has 15 MA's), (40, 40052),

Gene: Towmatter_107 Start: 68561, Stop: 68797, Start Num: 19
Candidate Starts for Towmatter_107:
(Start: 19 @68561 has 3 MA's), (41, 68630), (42, 68633),

Gene: TpudiCK_55 Start: 38211, Stop: 38384, Start Num: 28
Candidate Starts for TpudiCK_55:
(Start: 28 @38211 has 16 MA's), (37, 38235), (47, 38283), (50, 38301),

Gene: Trixie_66 Start: 41830, Stop: 41654, Start Num: 32
Candidate Starts for Trixie_66:
(Start: 32 @41830 has 15 MA's), (48, 41758), (57, 41713),

Gene: TyDawg_53 Start: 38212, Stop: 38385, Start Num: 28
Candidate Starts for TyDawg_53:
(Start: 28 @38212 has 16 MA's), (37, 38236), (47, 38284), (50, 38302),

Gene: WST1_48 Start: 30928, Stop: 31071, Start Num: 38
Candidate Starts for WST1_48:
(Start: 20 @30883 has 1 MA's), (38, 30928), (40, 30940), (42, 30949), (43, 30952), (55, 31021), (60, 31039), (63, 31051),

Gene: WaddleDee_149 Start: 106261, Stop: 106464, Start Num: 19
Candidate Starts for WaddleDee_149:
(Start: 19 @106261 has 3 MA's), (Start: 36 @106306 has 1 MA's),

Gene: Weasels2_176 Start: 96304, Stop: 96510, Start Num: 23
Candidate Starts for Weasels2_176:
(Start: 23 @96304 has 2 MA's),

Gene: Yecey3_72 Start: 41315, Stop: 41127, Start Num: 23
Candidate Starts for Yecey3_72:
(Start: 23 @41315 has 2 MA's), (38, 41282),