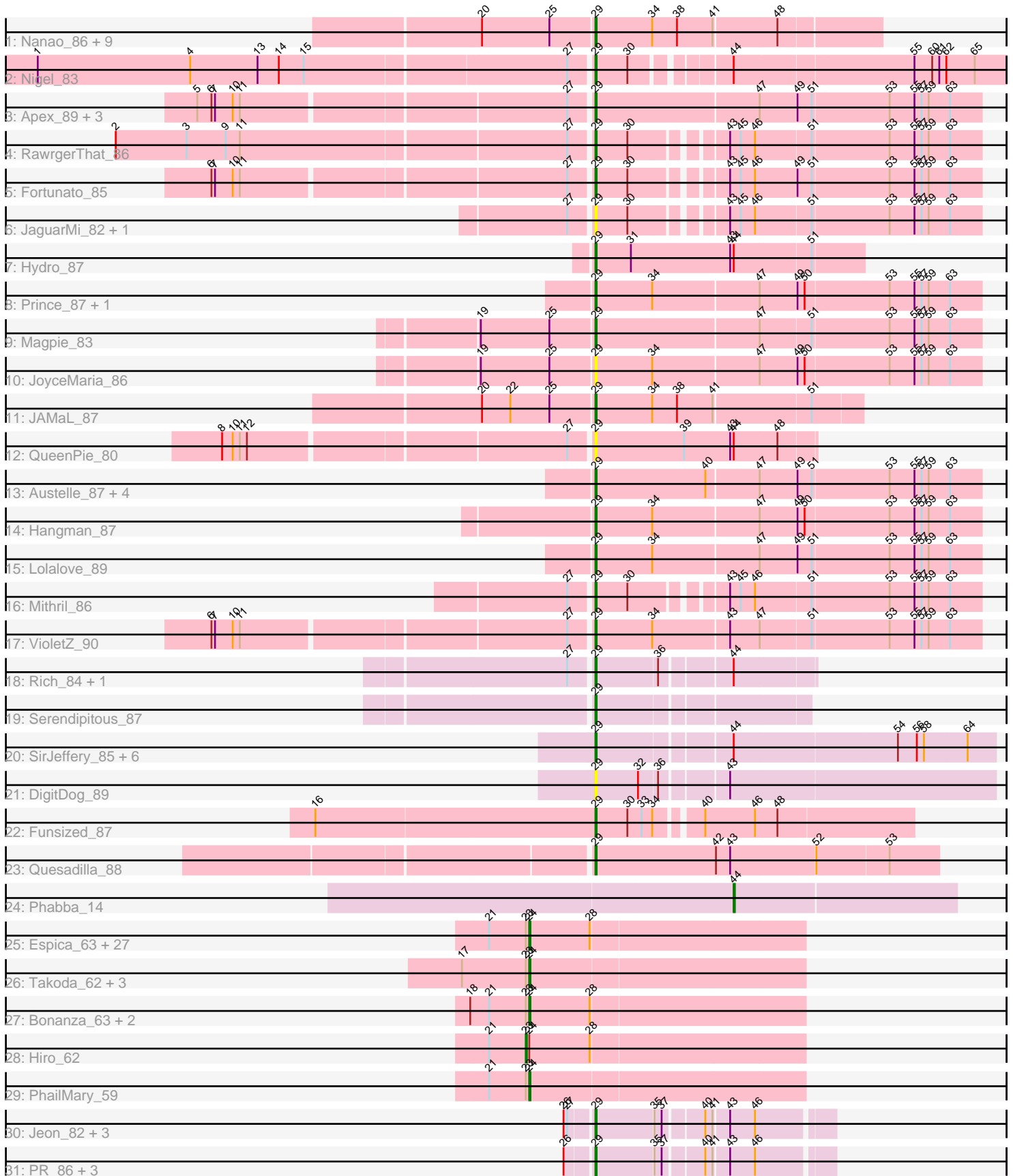


Pham 311450



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 311450 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311450 has 94 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Nanao_86, LittleDigger_86, Lambano_84, Poster_85, Renkei_86, Epah_86, GinPorsche_88, Hally898_84, Ahwei_85, Antihero_86
- Track 2 : Nigel_83
- Track 3 : Apex_89, BobbyK_88, Zemanar_86, Frederick_89
- Track 4 : RawrgerThat_86
- Track 5 : Fortunato_85
- Track 6 : JaguarMi_82, Xincheng_80
- Track 7 : Hydro_87
- Track 8 : Prince_87, Fanaw_82
- Track 9 : Magpie_83
- Track 10 : JoyceMaria_86
- Track 11 : JAMaL_87
- Track 12 : QueenPie_80
- Track 13 : Austelle_87, Waleliano_86, Mudslide_88, Heath_81, BrownCNA_88
- Track 14 : Hangman_87
- Track 15 : Lolalove_89
- Track 16 : Mithril_86
- Track 17 : VioletZ_90
- Track 18 : Rich_84, Bae_85
- Track 19 : Serendipitous_87
- Track 20 : SirJeffery_85, Suigeneris_88, Rita130_86, Donny_87, Reccee_88, EastView9101_86, Acadian_87
- Track 21 : DigitDog_89
- Track 22 : Funsized_87
- Track 23 : Quesadilla_88
- Track 24 : Phabba_14
- Track 25 : Espica_63, Nancinator_61, Lillie_62, Alatin_61, Jester_61, StCroix_61, Phrankenstein_62, Bryce_61, Rhodalysa_62, Natosaleda_61, BobbyDazzler_62, Naiad_61, Erik_62, AppleCloud_59, Belenaria_63, UhSalsa_62, RER2_56, Yoncess_61, Harlequin_62, Swann_62, Krishelle_62, Shuman_63, Rasputin_62, Gollum_62, Bradshaw_62, TWAMP_62, CosmicSans_62, RexFury_61
- Track 26 : Takoda_62, Partridge_61, Dinger_61, AngryOrchard_59
- Track 27 : Bonanza_63, Alpacados_61, Yogi_63
- Track 28 : Hiro_62
- Track 29 : PhailMary_59
- Track 30 : Jeon_82, Taptic_88, GodPhather_87, Cepens_87
- Track 31 : PR_86, Argie_88, Megabear_85, D12_85

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

The start number called the most often in the published annotations is 29, it was called in 41 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acadian_87, Ahwei_85, Antihero_86, Apex_89, Argie_88, Austelle_87, Bae_85, BobbyK_88, BrownCNA_88, Cepens_87, D12_85, DigitDog_89, Donny_87, EastView9101_86, Epah_86, Fanaw_82, Fortunato_85, Frederick_89, Funsized_87, GinPorsche_88, GodPhather_87, Hally898_84, Hangman_87, Heath_81, Hydro_87, JAMaL_87, JaguarMi_82, Jeon_82, JoyceMaria_86, Lambano_84, LittleDigger_86, Lolalove_89, Magpie_83, Megabear_85, Mithril_86, Mudslide_88, Nanao_86, Nigel_83, PR_86, Poster_85, Prince_87, QueenPie_80, Quesadilla_88, RawrgerThat_86, Reccee_88, Renkei_86, Rich_84, Rita130_86, Serendipitous_87, SirJeffery_85, Suigeneris_88, Taptic_88, VioletZ_90, Waleliano_86, Xincheng_80, Zemanar_86,

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

-

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

- Alatin_61, Alpacados_61, AngryOrchard_59, AppleCloud_59, Belenaria_63, BobbyDazzler_62, Bonanza_63, Bradshaw_62, Bryce_61, CosmicSans_62, Dinger_61, Erik_62, Espica_63, Gollum_62, Harlequin_62, Hiro_62, Jester_61, Krishelle_62, Lillie_62, Naiad_61, Nancinator_61, Natosaleda_61, Partridge_61, Phabba_14, PhailMary_59, Phrankenstein_62, RER2_56, Rasputin_62, RexFury_61, Rhodalysa_62, Shuman_63, StCroix_61, Swann_62, TWAMP_62, Takoda_62, UhSalsa_62, Yogi_63, Yoncess_61,

Summary by start number:

Start 23:

- Found in 37 of 94 (39.4%) of genes in pham
- Manual Annotations of this start: 1 of 78
- Called 2.7% of time when present
- Phage (with cluster) where this start called: Hiro_62 (CA),

Start 24:

- Found in 37 of 94 (39.4%) of genes in pham
- Manual Annotations of this start: 35 of 78
- Called 97.3% of time when present
- Phage (with cluster) where this start called: Alatin_61 (CA), Alpacados_61 (CA), AngryOrchard_59 (CA), AppleCloud_59 (CA), Belenaria_63 (CA), BobbyDazzler_62 (CA), Bonanza_63 (CA), Bradshaw_62 (CA), Bryce_61 (CA), CosmicSans_62 (CA), Dinger_61 (CA), Erik_62 (CA), Espica_63 (CA), Gollum_62 (CA), Harlequin_62 (CA), Jester_61 (CA), Krishelle_62 (CA), Lillie_62 (CA), Naiad_61 (CA), Nancinator_61 (CA), Natosaleda_61 (CA), Partridge_61 (CA), PhailMary_59 (CA), Phrankenstein_62 (CA), RER2_56 (CA), Rasputin_62 (CA), RexFury_61 (CA), Rhodalysa_62 (CA), Shuman_63 (CA), StCroix_61 (CA), Swann_62 (CA), TWAMP_62 (CA), Takoda_62

(CA), UhSalsa_62 (CA), Yogi_63 (CA), Yoncess_61 (CA),

Start 29:

- Found in 56 of 94 (59.6%) of genes in pham
- Manual Annotations of this start: 41 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian_87 (B5), Ahwei_85 (B4), Antihero_86 (B4), Apex_89 (B4), Argie_88 (W), Austelle_87 (B4), Bae_85 (B5), BobbyK_88 (B4), BrownCNA_88 (B4), Cepens_87 (W), D12_85 (W), DigitDog_89 (B5), Donny_87 (B5), EastView9101_86 (B5), Epah_86 (B4), Fanaw_82 (B4), Fortunato_85 (B4), Frederick_89 (B4), Funsized_87 (B9), GinPorsche_88 (B4), GodPhather_87 (W), Hally898_84 (B4), Hangman_87 (B4), Heath_81 (B4), Hydro_87 (B4), JAMaL_87 (B4), JaguarMi_82 (B4), Jeon_82 (W), JoyceMaria_86 (B4), Lambano_84 (B4), LittleDigger_86 (B4), Lolalove_89 (B4), Maggie_83 (B4), Megabear_85 (W), Mithril_86 (B4), Mudslide_88 (B4), Nanao_86 (B4), Nigel_83 (B4), PR_86 (W), Poster_85 (B4), Prince_87 (B4), QueenPie_80 (B4), Quesadilla_88 (B9), RawrgerThat_86 (B4), Reccee_88 (B5), Renkei_86 (B4), Rich_84 (B5), Rita130_86 (B5), Serendipitous_87 (B5), SirJeffery_85 (B5), Suigeneris_88 (B5), Taptic_88 (W), VioletZ_90 (B4), Waleliano_86 (B4), Xincheng_80 (B4), Zemanar_86 (B4),

Start 44:

- Found in 13 of 94 (13.8%) of genes in pham
- Manual Annotations of this start: 1 of 78
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Phabba_14 (C2),

Summary by clusters:

There are 6 clusters represented in this pham: CA, B4, B5, W, C2, B9,

Info for manual annotations of cluster B4:

- Start number 29 was manually annotated 23 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 29 was manually annotated 8 times for cluster B5.

Info for manual annotations of cluster B9:

- Start number 29 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster C2:

- Start number 44 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CA:

- Start number 23 was manually annotated 1 time for cluster CA.
- Start number 24 was manually annotated 35 times for cluster CA.

Info for manual annotations of cluster W:

- Start number 29 was manually annotated 8 times for cluster W.

Gene Information:

Gene: Acadian_87 Start: 65016, Stop: 64696, Start Num: 29
Candidate Starts for Acadian_87:
(Start: 29 @65016 has 41 MA's), (Start: 44 @64911 has 1 MA's), (54, 64776), (56, 64761), (58, 64755), (64, 64719),

Gene: Ahwei_85 Start: 65422, Stop: 65189, Start Num: 29
Candidate Starts for Ahwei_85:
(20, 65515), (25, 65458), (Start: 29 @65422 has 41 MA's), (34, 65374), (38, 65353), (41, 65323), (48, 65272),

Gene: Alatin_61 Start: 42128, Stop: 41901, Start Num: 24
Candidate Starts for Alatin_61:
(21, 42161), (Start: 23 @42131 has 1 MA's), (Start: 24 @42128 has 35 MA's), (28, 42077),

Gene: Alpacados_61 Start: 41951, Stop: 41724, Start Num: 24
Candidate Starts for Alpacados_61:
(18, 41999), (21, 41984), (Start: 23 @41954 has 1 MA's), (Start: 24 @41951 has 35 MA's), (28, 41900),

Gene: AngryOrchard_59 Start: 42181, Stop: 41954, Start Num: 24
Candidate Starts for AngryOrchard_59:
(17, 42238), (Start: 23 @42184 has 1 MA's), (Start: 24 @42181 has 35 MA's),

Gene: Antihero_86 Start: 65345, Stop: 65112, Start Num: 29
Candidate Starts for Antihero_86:
(20, 65438), (25, 65381), (Start: 29 @65345 has 41 MA's), (34, 65297), (38, 65276), (41, 65246), (48, 65195),

Gene: Apex_89 Start: 66595, Stop: 66278, Start Num: 29
Candidate Starts for Apex_89:
(5, 66910), (6, 66898), (7, 66895), (10, 66880), (11, 66874), (27, 66613), (Start: 29 @66595 has 41 MA's), (47, 66460), (49, 66430), (51, 66418), (53, 66355), (55, 66334), (57, 66328), (59, 66322), (63, 66304),

Gene: AppleCloud_59 Start: 41845, Stop: 41618, Start Num: 24
Candidate Starts for AppleCloud_59:
(21, 41878), (Start: 23 @41848 has 1 MA's), (Start: 24 @41845 has 35 MA's), (28, 41794),

Gene: Argie_88 Start: 59134, Stop: 59316, Start Num: 29
Candidate Starts for Argie_88:
(26, 59113), (Start: 29 @59134 has 41 MA's), (35, 59182), (37, 59188), (40, 59218), (41, 59224), (43, 59236), (46, 59257),

Gene: Austelle_87 Start: 67128, Stop: 66811, Start Num: 29
Candidate Starts for Austelle_87:
(Start: 29 @67128 has 41 MA's), (40, 67035), (47, 66993), (49, 66963), (51, 66951), (53, 66888), (55, 66867), (57, 66861), (59, 66855), (63, 66837),

Gene: Bae_85 Start: 65223, Stop: 65053, Start Num: 29
Candidate Starts for Bae_85:
(27, 65241), (Start: 29 @65223 has 41 MA's), (36, 65172), (Start: 44 @65118 has 1 MA's),

Gene: Belenaria_63 Start: 41993, Stop: 41766, Start Num: 24
Candidate Starts for Belenaria_63:

(21, 42026), (Start: 23 @41996 has 1 MA's), (Start: 24 @41993 has 35 MA's), (28, 41942),

Gene: BobbyDazzler_62 Start: 42099, Stop: 41872, Start Num: 24

Candidate Starts for BobbyDazzler_62:

(21, 42132), (Start: 23 @42102 has 1 MA's), (Start: 24 @42099 has 35 MA's), (28, 42048),

Gene: BobbyK_88 Start: 66103, Stop: 65786, Start Num: 29

Candidate Starts for BobbyK_88:

(5, 66418), (6, 66406), (7, 66403), (10, 66388), (11, 66382), (27, 66121), (Start: 29 @66103 has 41 MA's), (47, 65968), (49, 65938), (51, 65926), (53, 65863), (55, 65842), (57, 65836), (59, 65830), (63, 65812),

Gene: Bonanza_63 Start: 42403, Stop: 42176, Start Num: 24

Candidate Starts for Bonanza_63:

(18, 42451), (21, 42436), (Start: 23 @42406 has 1 MA's), (Start: 24 @42403 has 35 MA's), (28, 42352),

Gene: Bradshaw_62 Start: 42061, Stop: 41834, Start Num: 24

Candidate Starts for Bradshaw_62:

(21, 42094), (Start: 23 @42064 has 1 MA's), (Start: 24 @42061 has 35 MA's), (28, 42010),

Gene: BrownCNA_88 Start: 66543, Stop: 66226, Start Num: 29

Candidate Starts for BrownCNA_88:

(Start: 29 @66543 has 41 MA's), (40, 66450), (47, 66408), (49, 66378), (51, 66366), (53, 66303), (55, 66282), (57, 66276), (59, 66270), (63, 66252),

Gene: Bryce_61 Start: 41807, Stop: 41580, Start Num: 24

Candidate Starts for Bryce_61:

(21, 41840), (Start: 23 @41810 has 1 MA's), (Start: 24 @41807 has 35 MA's), (28, 41756),

Gene: Cepens_87 Start: 58243, Stop: 58425, Start Num: 29

Candidate Starts for Cepens_87:

(26, 58222), (27, 58225), (Start: 29 @58243 has 41 MA's), (35, 58291), (37, 58297), (40, 58327), (41, 58333), (43, 58345), (46, 58366),

Gene: CosmicSans_62 Start: 42052, Stop: 41825, Start Num: 24

Candidate Starts for CosmicSans_62:

(21, 42085), (Start: 23 @42055 has 1 MA's), (Start: 24 @42052 has 35 MA's), (28, 42001),

Gene: D12_85 Start: 58877, Stop: 59059, Start Num: 29

Candidate Starts for D12_85:

(26, 58856), (Start: 29 @58877 has 41 MA's), (35, 58925), (37, 58931), (40, 58961), (41, 58967), (43, 58979), (46, 59000),

Gene: DigitDog_89 Start: 65516, Stop: 65193, Start Num: 29

Candidate Starts for DigitDog_89:

(Start: 29 @65516 has 41 MA's), (32, 65480), (36, 65465), (43, 65414),

Gene: Dinger_61 Start: 42199, Stop: 41972, Start Num: 24

Candidate Starts for Dinger_61:

(17, 42256), (Start: 23 @42202 has 1 MA's), (Start: 24 @42199 has 35 MA's),

Gene: Donny_87 Start: 64850, Stop: 64530, Start Num: 29

Candidate Starts for Donny_87:

(Start: 29 @64850 has 41 MA's), (Start: 44 @64745 has 1 MA's), (54, 64610), (56, 64595), (58, 64589), (64, 64553),

Gene: EastView9101_86 Start: 64761, Stop: 64441, Start Num: 29

Candidate Starts for EastView9101_86:

(Start: 29 @64761 has 41 MA's), (Start: 44 @64656 has 1 MA's), (54, 64521), (56, 64506), (58, 64500), (64, 64464),

Gene: Epah_86 Start: 65345, Stop: 65112, Start Num: 29

Candidate Starts for Epah_86:

(20, 65438), (25, 65381), (Start: 29 @65345 has 41 MA's), (34, 65297), (38, 65276), (41, 65246), (48, 65195),

Gene: Erik_62 Start: 41883, Stop: 41656, Start Num: 24

Candidate Starts for Erik_62:

(21, 41916), (Start: 23 @41886 has 1 MA's), (Start: 24 @41883 has 35 MA's), (28, 41832),

Gene: Espica_63 Start: 41993, Stop: 41766, Start Num: 24

Candidate Starts for Espica_63:

(21, 42026), (Start: 23 @41996 has 1 MA's), (Start: 24 @41993 has 35 MA's), (28, 41942),

Gene: Fanaw_82 Start: 66130, Stop: 65813, Start Num: 29

Candidate Starts for Fanaw_82:

(Start: 29 @66130 has 41 MA's), (34, 66082), (47, 65995), (49, 65965), (50, 65959), (53, 65890), (55, 65869), (57, 65863), (59, 65857), (63, 65839),

Gene: Fortunato_85 Start: 65904, Stop: 65605, Start Num: 29

Candidate Starts for Fortunato_85:

(6, 66207), (7, 66204), (10, 66189), (11, 66183), (27, 65922), (Start: 29 @65904 has 41 MA's), (30, 65877), (43, 65811), (45, 65802), (46, 65790), (49, 65757), (51, 65745), (53, 65682), (55, 65661), (57, 65655), (59, 65649), (63, 65631),

Gene: Frederick_89 Start: 66409, Stop: 66092, Start Num: 29

Candidate Starts for Frederick_89:

(5, 66724), (6, 66712), (7, 66709), (10, 66694), (11, 66688), (27, 66427), (Start: 29 @66409 has 41 MA's), (47, 66274), (49, 66244), (51, 66232), (53, 66169), (55, 66148), (57, 66142), (59, 66136), (63, 66118),

Gene: Funsized_87 Start: 67824, Stop: 67570, Start Num: 29

Candidate Starts for Funsized_87:

(16, 68058), (Start: 29 @67824 has 41 MA's), (30, 67797), (33, 67785), (34, 67776), (40, 67743), (46, 67701), (48, 67683),

Gene: GinPorsche_88 Start: 65342, Stop: 65109, Start Num: 29

Candidate Starts for GinPorsche_88:

(20, 65435), (25, 65378), (Start: 29 @65342 has 41 MA's), (34, 65294), (38, 65273), (41, 65243), (48, 65192),

Gene: GodPhather_87 Start: 59020, Stop: 59202, Start Num: 29

Candidate Starts for GodPhather_87:

(26, 58999), (27, 59002), (Start: 29 @59020 has 41 MA's), (35, 59068), (37, 59074), (40, 59104), (41, 59110), (43, 59122), (46, 59143),

Gene: Gollum_62 Start: 41994, Stop: 41767, Start Num: 24

Candidate Starts for Gollum_62:

(21, 42027), (Start: 23 @41997 has 1 MA's), (Start: 24 @41994 has 35 MA's), (28, 41943),

Gene: Hally898_84 Start: 65182, Stop: 64949, Start Num: 29

Candidate Starts for Hally898_84:

(20, 65275), (25, 65218), (Start: 29 @65182 has 41 MA's), (34, 65134), (38, 65113), (41, 65083), (48, 65032),

Gene: Hangman_87 Start: 66621, Stop: 66304, Start Num: 29

Candidate Starts for Hangman_87:

(Start: 29 @66621 has 41 MA's), (34, 66573), (47, 66486), (49, 66456), (50, 66450), (53, 66381), (55, 66360), (57, 66354), (59, 66348), (63, 66330),

Gene: Harlequin_62 Start: 41842, Stop: 41615, Start Num: 24

Candidate Starts for Harlequin_62:

(21, 41875), (Start: 23 @41845 has 1 MA's), (Start: 24 @41842 has 35 MA's), (28, 41791),

Gene: Heath_81 Start: 64409, Stop: 64092, Start Num: 29

Candidate Starts for Heath_81:

(Start: 29 @64409 has 41 MA's), (40, 64316), (47, 64274), (49, 64244), (51, 64232), (53, 64169), (55, 64148), (57, 64142), (59, 64136), (63, 64118),

Gene: Hiro_62 Start: 42316, Stop: 42086, Start Num: 23

Candidate Starts for Hiro_62:

(21, 42346), (Start: 23 @42316 has 1 MA's), (Start: 24 @42313 has 35 MA's), (28, 42262),

Gene: Hydro_87 Start: 66400, Stop: 66179, Start Num: 29

Candidate Starts for Hydro_87:

(Start: 29 @66400 has 41 MA's), (31, 66370), (43, 66286), (Start: 44 @66283 has 1 MA's), (51, 66220),

Gene: JAMaL_87 Start: 65869, Stop: 65651, Start Num: 29

Candidate Starts for JAMaL_87:

(20, 65962), (22, 65938), (25, 65905), (Start: 29 @65869 has 41 MA's), (34, 65821), (38, 65800), (41, 65770), (51, 65692),

Gene: JaguarMi_82 Start: 66456, Stop: 66157, Start Num: 29

Candidate Starts for JaguarMi_82:

(27, 66474), (Start: 29 @66456 has 41 MA's), (30, 66429), (43, 66363), (45, 66354), (46, 66342), (51, 66297), (53, 66234), (55, 66213), (57, 66207), (59, 66201), (63, 66183),

Gene: Jeon_82 Start: 58513, Stop: 58695, Start Num: 29

Candidate Starts for Jeon_82:

(26, 58492), (27, 58495), (Start: 29 @58513 has 41 MA's), (35, 58561), (37, 58567), (40, 58597), (41, 58603), (43, 58615), (46, 58636),

Gene: Jester_61 Start: 41773, Stop: 41546, Start Num: 24

Candidate Starts for Jester_61:

(21, 41806), (Start: 23 @41776 has 1 MA's), (Start: 24 @41773 has 35 MA's), (28, 41722),

Gene: JoyceMaria_86 Start: 66447, Stop: 66130, Start Num: 29

Candidate Starts for JoyceMaria_86:

(19, 66540), (25, 66483), (Start: 29 @66447 has 41 MA's), (34, 66399), (47, 66312), (49, 66282), (50, 66276), (53, 66207), (55, 66186), (57, 66180), (59, 66174), (63, 66156),

Gene: Krishelle_62 Start: 42421, Stop: 42194, Start Num: 24

Candidate Starts for Krishelle_62:

(21, 42454), (Start: 23 @42424 has 1 MA's), (Start: 24 @42421 has 35 MA's), (28, 42370),

Gene: Lambano_84 Start: 65182, Stop: 64949, Start Num: 29

Candidate Starts for Lambano_84:

(20, 65275), (25, 65218), (Start: 29 @65182 has 41 MA's), (34, 65134), (38, 65113), (41, 65083), (48, 65032),

Gene: Lillie_62 Start: 42052, Stop: 41825, Start Num: 24

Candidate Starts for Lillie_62:

(21, 42085), (Start: 23 @42055 has 1 MA's), (Start: 24 @42052 has 35 MA's), (28, 42001),

Gene: LittleDigger_86 Start: 65282, Stop: 65049, Start Num: 29

Candidate Starts for LittleDigger_86:

(20, 65375), (25, 65318), (Start: 29 @65282 has 41 MA's), (34, 65234), (38, 65213), (41, 65183), (48, 65132),

Gene: Lolalove_89 Start: 66440, Stop: 66123, Start Num: 29

Candidate Starts for Lolalove_89:

(Start: 29 @66440 has 41 MA's), (34, 66392), (47, 66305), (49, 66275), (51, 66263), (53, 66200), (55, 66179), (57, 66173), (59, 66167), (63, 66149),

Gene: Magpie_83 Start: 66123, Stop: 65806, Start Num: 29

Candidate Starts for Magpie_83:

(19, 66216), (25, 66159), (Start: 29 @66123 has 41 MA's), (47, 65988), (51, 65946), (53, 65883), (55, 65862), (57, 65856), (59, 65850), (63, 65832),

Gene: Megabear_85 Start: 58166, Stop: 58348, Start Num: 29

Candidate Starts for Megabear_85:

(26, 58145), (Start: 29 @58166 has 41 MA's), (35, 58214), (37, 58220), (40, 58250), (41, 58256), (43, 58268), (46, 58289),

Gene: Mithril_86 Start: 66262, Stop: 65963, Start Num: 29

Candidate Starts for Mithril_86:

(27, 66280), (Start: 29 @66262 has 41 MA's), (30, 66235), (43, 66169), (45, 66160), (46, 66148), (51, 66103), (53, 66040), (55, 66019), (57, 66013), (59, 66007), (63, 65989),

Gene: Mudslide_88 Start: 66670, Stop: 66353, Start Num: 29

Candidate Starts for Mudslide_88:

(Start: 29 @66670 has 41 MA's), (40, 66577), (47, 66535), (49, 66505), (51, 66493), (53, 66430), (55, 66409), (57, 66403), (59, 66397), (63, 66379),

Gene: Naiad_61 Start: 42074, Stop: 41847, Start Num: 24

Candidate Starts for Naiad_61:

(21, 42107), (Start: 23 @42077 has 1 MA's), (Start: 24 @42074 has 35 MA's), (28, 42023),

Gene: Nanao_86 Start: 65195, Stop: 64962, Start Num: 29

Candidate Starts for Nanao_86:

(20, 65288), (25, 65231), (Start: 29 @65195 has 41 MA's), (34, 65147), (38, 65126), (41, 65096), (48, 65045),

Gene: Nancinator_61 Start: 41391, Stop: 41164, Start Num: 24

Candidate Starts for Nancinator_61:

(21, 41424), (Start: 23 @41394 has 1 MA's), (Start: 24 @41391 has 35 MA's), (28, 41340),

Gene: Natosaleda_61 Start: 41992, Stop: 41765, Start Num: 24

Candidate Starts for Natosaleda_61:

(21, 42025), (Start: 23 @41995 has 1 MA's), (Start: 24 @41992 has 35 MA's), (28, 41941),

Gene: Nigel_83 Start: 64806, Stop: 64486, Start Num: 29

Candidate Starts for Nigel_83:

(1, 65262), (4, 65133), (13, 65076), (14, 65058), (15, 65037), (27, 64824), (Start: 29 @64806 has 41 MA's), (30, 64779), (Start: 44 @64710 has 1 MA's), (55, 64563), (60, 64548), (61, 64542), (62, 64536), (65, 64512),

Gene: PR_86 Start: 58854, Stop: 59036, Start Num: 29

Candidate Starts for PR_86:

(26, 58833), (Start: 29 @58854 has 41 MA's), (35, 58902), (37, 58908), (40, 58938), (41, 58944), (43, 58956), (46, 58977),

Gene: Partridge_61 Start: 42353, Stop: 42126, Start Num: 24

Candidate Starts for Partridge_61:

(17, 42410), (Start: 23 @42356 has 1 MA's), (Start: 24 @42353 has 35 MA's),

Gene: Phabba_14 Start: 5257, Stop: 5442, Start Num: 44

Candidate Starts for Phabba_14:

(Start: 44 @5257 has 1 MA's),

Gene: PhailMary_59 Start: 41069, Stop: 40842, Start Num: 24

Candidate Starts for PhailMary_59:

(21, 41102), (Start: 23 @41072 has 1 MA's), (Start: 24 @41069 has 35 MA's),

Gene: Phrankenstein_62 Start: 41998, Stop: 41771, Start Num: 24

Candidate Starts for Phrankenstein_62:

(21, 42031), (Start: 23 @42001 has 1 MA's), (Start: 24 @41998 has 35 MA's), (28, 41947),

Gene: Poster_85 Start: 65196, Stop: 64963, Start Num: 29

Candidate Starts for Poster_85:

(20, 65289), (25, 65232), (Start: 29 @65196 has 41 MA's), (34, 65148), (38, 65127), (41, 65097), (48, 65046),

Gene: Prince_87 Start: 66537, Stop: 66220, Start Num: 29

Candidate Starts for Prince_87:

(Start: 29 @66537 has 41 MA's), (34, 66489), (47, 66402), (49, 66372), (50, 66366), (53, 66297), (55, 66276), (57, 66270), (59, 66264), (63, 66246),

Gene: QueenPie_80 Start: 64873, Stop: 64691, Start Num: 29

Candidate Starts for QueenPie_80:

(8, 65167), (10, 65158), (11, 65152), (12, 65146), (27, 64891), (Start: 29 @64873 has 41 MA's), (39, 64798), (43, 64759), (Start: 44 @64756 has 1 MA's), (48, 64720),

Gene: Quesadilla_88 Start: 65998, Stop: 65714, Start Num: 29

Candidate Starts for Quesadilla_88:

(Start: 29 @65998 has 41 MA's), (42, 65896), (43, 65884), (52, 65815), (53, 65755),

Gene: RER2_56 Start: 38924, Stop: 38697, Start Num: 24

Candidate Starts for RER2_56:

(21, 38957), (Start: 23 @38927 has 1 MA's), (Start: 24 @38924 has 35 MA's), (28, 38873),

Gene: Rasputin_62 Start: 42022, Stop: 41795, Start Num: 24

Candidate Starts for Rasputin_62:

(21, 42055), (Start: 23 @42025 has 1 MA's), (Start: 24 @42022 has 35 MA's), (28, 41971),

Gene: RawrgerThat_86 Start: 66110, Stop: 65811, Start Num: 29

Candidate Starts for RawrgerThat_86:

(2, 66500), (3, 66440), (9, 66407), (11, 66395), (27, 66128), (Start: 29 @66110 has 41 MA's), (30, 66083), (43, 66017), (45, 66008), (46, 65996), (51, 65951), (53, 65888), (55, 65867), (57, 65861), (59, 65855), (63, 65837),

Gene: Reccee_88 Start: 65320, Stop: 65000, Start Num: 29

Candidate Starts for Reccee_88:

(Start: 29 @65320 has 41 MA's), (Start: 44 @65215 has 1 MA's), (54, 65080), (56, 65065), (58, 65059), (64, 65023),

Gene: Renkei_86 Start: 65276, Stop: 65043, Start Num: 29

Candidate Starts for Renkei_86:

(20, 65369), (25, 65312), (Start: 29 @65276 has 41 MA's), (34, 65228), (38, 65207), (41, 65177), (48, 65126),

Gene: RexFury_61 Start: 42082, Stop: 41855, Start Num: 24

Candidate Starts for RexFury_61:

(21, 42115), (Start: 23 @42085 has 1 MA's), (Start: 24 @42082 has 35 MA's), (28, 42031),

Gene: Rhodalysa_62 Start: 42052, Stop: 41825, Start Num: 24

Candidate Starts for Rhodalysa_62:

(21, 42085), (Start: 23 @42055 has 1 MA's), (Start: 24 @42052 has 35 MA's), (28, 42001),

Gene: Rich_84 Start: 65290, Stop: 65120, Start Num: 29

Candidate Starts for Rich_84:

(27, 65308), (Start: 29 @65290 has 41 MA's), (36, 65239), (Start: 44 @65185 has 1 MA's),

Gene: Rita130_86 Start: 64990, Stop: 64670, Start Num: 29

Candidate Starts for Rita130_86:

(Start: 29 @64990 has 41 MA's), (Start: 44 @64885 has 1 MA's), (54, 64750), (56, 64735), (58, 64729), (64, 64693),

Gene: Serendipitous_87 Start: 64709, Stop: 64542, Start Num: 29

Candidate Starts for Serendipitous_87:

(Start: 29 @64709 has 41 MA's),

Gene: Shuman_63 Start: 42003, Stop: 41776, Start Num: 24

Candidate Starts for Shuman_63:

(21, 42036), (Start: 23 @42006 has 1 MA's), (Start: 24 @42003 has 35 MA's), (28, 41952),

Gene: SirJeffery_85 Start: 64800, Stop: 64480, Start Num: 29

Candidate Starts for SirJeffery_85:

(Start: 29 @64800 has 41 MA's), (Start: 44 @64695 has 1 MA's), (54, 64560), (56, 64545), (58, 64539), (64, 64503),

Gene: StCroix_61 Start: 42074, Stop: 41847, Start Num: 24

Candidate Starts for StCroix_61:

(21, 42107), (Start: 23 @42077 has 1 MA's), (Start: 24 @42074 has 35 MA's), (28, 42023),

Gene: Suigeneris_88 Start: 65238, Stop: 64918, Start Num: 29

Candidate Starts for Suigeneris_88:

(Start: 29 @65238 has 41 MA's), (Start: 44 @65133 has 1 MA's), (54, 64998), (56, 64983), (58, 64977), (64, 64941),

Gene: Swann_62 Start: 42050, Stop: 41823, Start Num: 24

Candidate Starts for Swann_62:

(21, 42083), (Start: 23 @42053 has 1 MA's), (Start: 24 @42050 has 35 MA's), (28, 41999),

Gene: TWAMP_62 Start: 42052, Stop: 41825, Start Num: 24

Candidate Starts for TWAMP_62:

(21, 42085), (Start: 23 @42055 has 1 MA's), (Start: 24 @42052 has 35 MA's), (28, 42001),

Gene: Takoda_62 Start: 42235, Stop: 42008, Start Num: 24

Candidate Starts for Takoda_62:

(17, 42292), (Start: 23 @42238 has 1 MA's), (Start: 24 @42235 has 35 MA's),

Gene: Taptic_88 Start: 58560, Stop: 58742, Start Num: 29

Candidate Starts for Taptic_88:

(26, 58539), (27, 58542), (Start: 29 @58560 has 41 MA's), (35, 58608), (37, 58614), (40, 58644), (41, 58650), (43, 58662), (46, 58683),

Gene: UhSalsa_62 Start: 41993, Stop: 41766, Start Num: 24

Candidate Starts for UhSalsa_62:

(21, 42026), (Start: 23 @41996 has 1 MA's), (Start: 24 @41993 has 35 MA's), (28, 41942),

Gene: VioletZ_90 Start: 66627, Stop: 66310, Start Num: 29

Candidate Starts for VioletZ_90:

(6, 66930), (7, 66927), (10, 66912), (11, 66906), (27, 66645), (Start: 29 @66627 has 41 MA's), (34, 66579), (43, 66516), (47, 66492), (51, 66450), (53, 66387), (55, 66366), (57, 66360), (59, 66354), (63, 66336),

Gene: Waleliano_86 Start: 66295, Stop: 65978, Start Num: 29

Candidate Starts for Waleliano_86:

(Start: 29 @66295 has 41 MA's), (40, 66202), (47, 66160), (49, 66130), (51, 66118), (53, 66055), (55, 66034), (57, 66028), (59, 66022), (63, 66004),

Gene: Xincheng_80 Start: 66407, Stop: 66108, Start Num: 29

Candidate Starts for Xincheng_80:

(27, 66425), (Start: 29 @66407 has 41 MA's), (30, 66380), (43, 66314), (45, 66305), (46, 66293), (51, 66248), (53, 66185), (55, 66164), (57, 66158), (59, 66152), (63, 66134),

Gene: Yogi_63 Start: 42403, Stop: 42176, Start Num: 24

Candidate Starts for Yogi_63:

(18, 42451), (21, 42436), (Start: 23 @42406 has 1 MA's), (Start: 24 @42403 has 35 MA's), (28, 42352),

Gene: Yoncess_61 Start: 41810, Stop: 41583, Start Num: 24

Candidate Starts for Yoncess_61:

(21, 41843), (Start: 23 @41813 has 1 MA's), (Start: 24 @41810 has 35 MA's), (28, 41759),

Gene: Zemanar_86 Start: 66308, Stop: 65991, Start Num: 29

Candidate Starts for Zemanar_86:

(5, 66623), (6, 66611), (7, 66608), (10, 66593), (11, 66587), (27, 66326), (Start: 29 @66308 has 41 MA's), (47, 66173), (49, 66143), (51, 66131), (53, 66068), (55, 66047), (57, 66041), (59, 66035), (63, 66017),