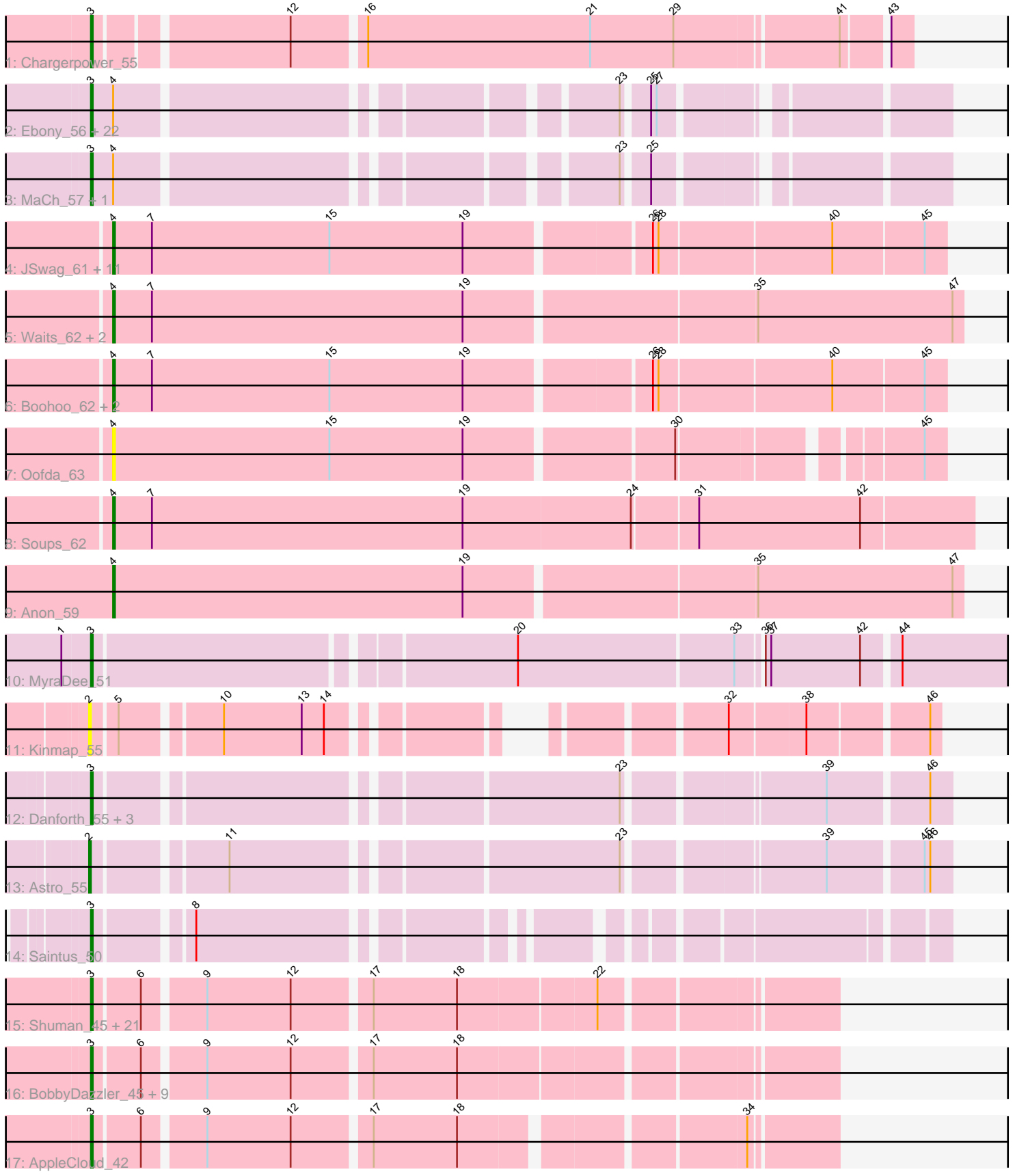


Pham 196460



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 196460 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196460 has 88 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower_55
- Track 2 : Ebony_56, Bud_56, Flaverint_57, Mulciber_56, Snape_56, Fibonacci_56, Petersenfast_55, Mabel_56, Timothy_56, Orange_56, Bowtie_57, Hutc2_56, Insomnia_57, Munch_57, Gilberta_57, Jabith_57, TinyTimmy_56, Aneem_57, Joselito_57, Salz_55, Lucivia_57, Et2Brutus_55, Sham4_56
- Track 3 : MaCh_57, Bachome_58
- Track 4 : JSwag_61, LastResort_60, Strosahl_62, Battleship_64, ShayRa_62, DekHockey33_63, Epsocamisio_59, Looper_61, ReMo_60, KatherineG_62, Remus_62, Switzerland_61
- Track 5 : Waits_62, Rosalind_60, MinecraftSteve_62
- Track 6 : Boohoo_62, Anaysia_62, Nebulosus_60
- Track 7 : Oofda_63
- Track 8 : Soups_62
- Track 9 : Anon_59
- Track 10 : MyraDee_51
- Track 11 : Kinmap_55
- Track 12 : Danforth_55, NearlyHeadless_55, Groundhog_54, Roary_56
- Track 13 : Astro_55
- Track 14 : Saintus_50
- Track 15 : Shuman_45, CosmicSans_45, UhSalsa_45, StCroix_44, Phrankenstein_45, Lillie_45, Natosaleda_44, Gollum_45, Nancinator_45, Alatin_44, Swann_45, Rasputin_45, Naiad_44, Rhodalysa_45, Erik_45, TWAMP_45, Belenaria_45, Espica_45, Bradshaw_45, RER2_38, RexFury_44, Krishelle_45
- Track 16 : BobbyDazzler_45, Hiro_45, Yogi_44, Jester_44, Bryce_44, Alpacados_44, Yoncess_44, Bonanza_45, Harlequin_44, PhailMary_44
- Track 17 : AppleCloud_42

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

The start number called the most often in the published annotations is 3, it was called in 63 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alatin_44, Alpacados_44, Aneem_57, AppleCloud_42, Bachome_58, Belenaria_45, BobbyDazzler_45, Bonanza_45, Bowtie_57, Bradshaw_45, Bryce_44, Bud_56, Chargerpower_55, CosmicSans_45, Danforth_55, Ebony_56, Erik_45, Espica_45, Et2Brutus_55, Fibonacci_56, Flaverint_57, Gilberta_57, Gollum_45, Groundhog_54, Harlequin_44, Hiro_45, Hutc2_56, Insomnia_57, Jabith_57, Jester_44, Joselito_57, Krishelle_45, Lillie_45, Lucivia_57, MaCh_57, Mabel_56, Mulciber_56, Munch_57, MyraDee_51, Naiad_44, Nancinator_45, Natosaleda_44, NearlyHeadless_55, Orange_56, Petersenfast_55, PhailMary_44, Phrankenstein_45, RER2_38, Rasputin_45, RexFury_44, Rhodalysa_45, Roary_56, Saintus_50, Salz_55, Sham4_56, Shuman_45, Snape_56, StCroix_44, Swann_45, TWAMP_45, Timothy_56, TinyTimmy_56, UhSalsa_45, Yogi_44, Yoncess_44,

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

-

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

- Anaysia_62, Anon_59, Astro_55, Battleship_64, Boohoo_62, DekHockey33_63, Epsocamisio_59, JSwag_61, KatherineG_62, Kinmap_55, LastResort_60, Looper_61, MinecraftSteve_62, Nebulosus_60, Oofda_63, ReMo_60, Remus_62, Rosalind_60, ShayRa_62, Soups_62, Strosahl_62, Switzerland_61, Waits_62,

Summary by start number:

Start 2:

- Found in 2 of 88 (2.3%) of genes in pham
- Manual Annotations of this start: 1 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astro_55 (A8), Kinmap_55 (A21),

Start 3:

- Found in 65 of 88 (73.9%) of genes in pham
- Manual Annotations of this start: 63 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alatin_44 (CA), Alpacados_44 (CA), Aneem_57 (A11), AppleCloud_42 (CA), Bachome_58 (A11), Belenaria_45 (CA), BobbyDazzler_45 (CA), Bonanza_45 (CA), Bowtie_57 (A11), Bradshaw_45 (CA), Bryce_44 (CA), Bud_56 (A11), Chargerpower_55 (A), CosmicSans_45 (CA), Danforth_55 (A8), Ebony_56 (A11), Erik_45 (CA), Espica_45 (CA), Et2Brutus_55 (A11), Fibonacci_56 (A11), Flaverint_57 (A11), Gilberta_57 (A11), Gollum_45 (CA), Groundhog_54 (A8), Harlequin_44 (CA), Hiro_45 (CA), Hutc2_56 (A11), Insomnia_57 (A11), Jabith_57 (A11), Jester_44 (CA), Joselito_57 (A11), Krishelle_45 (CA), Lillie_45 (CA), Lucivia_57 (A11), MaCh_57 (A11), Mabel_56 (A11), Mulciber_56 (A11), Munch_57 (A11), MyraDee_51 (A18), Naiad_44 (CA), Nancinator_45 (CA), Natosaleda_44 (CA), NearlyHeadless_55 (A8), Orange_56 (A11), Petersenfast_55 (A11), PhailMary_44 (CA), Phrankenstein_45 (CA), RER2_38 (CA), Rasputin_45 (CA), RexFury_44 (CA), Rhodalysa_45 (CA), Roary_56 (A8), Saintus_50 (A8), Salz_55 (A11), Sham4_56 (A11), Shuman_45 (CA), Snape_56 (A11), StCroix_44 (CA), Swann_45 (CA), TWAMP_45 (CA), Timothy_56 (A11), TinyTimmy_56 (A11), UhSalsa_45 (CA), Yogi_44 (CA), Yoncess_44 (CA),

Start 4:

- Found in 46 of 88 (52.3%) of genes in pham
- Manual Annotations of this start: 20 of 84

- Called 45.7% of time when present
- Phage (with cluster) where this start called: Anaysia_62 (A15), Anon_59 (A15), Battleship_64 (A15), Boohoo_62 (A15), DekHockey33_63 (A15), Epsocamisio_59 (A15), JSwag_61 (A15), KatherineG_62 (A15), LastResort_60 (A15), Looper_61 (A15), MinecraftSteve_62 (A15), Nebulosus_60 (A15), Oofda_63 (A15), ReMo_60 (A15), Remus_62 (A15), Rosalind_60 (A15), ShayRa_62 (A15), Soups_62 (A15), Strosahl_62 (A15), Switzerland_61 (A15), Waits_62 (A15),

Summary by clusters:

There are 7 clusters represented in this pham: A15, A21, A11, CA, A18, A, A8,

Info for manual annotations of cluster A:

- Start number 3 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A11:

- Start number 3 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A15:

- Start number 4 was manually annotated 20 times for cluster A15.

Info for manual annotations of cluster A18:

- Start number 3 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A8:

- Start number 2 was manually annotated 1 time for cluster A8.
- Start number 3 was manually annotated 5 times for cluster A8.

Info for manual annotations of cluster CA:

- Start number 3 was manually annotated 32 times for cluster CA.

Gene Information:

Gene: Alatin_44 Start: 34028, Stop: 33657, Start Num: 3

Candidate Starts for Alatin_44:

(Start: 3 @34028 has 63 MA's), (6, 34004), (9, 33974), (12, 33929), (17, 33890), (18, 33845), (22, 33773),

Gene: Alpacados_44 Start: 33933, Stop: 33562, Start Num: 3

Candidate Starts for Alpacados_44:

(Start: 3 @33933 has 63 MA's), (6, 33909), (9, 33879), (12, 33834), (17, 33795), (18, 33750),

Gene: Anaysia_62 Start: 37228, Stop: 36794, Start Num: 4

Candidate Starts for Anaysia_62:

(Start: 4 @37228 has 20 MA's), (7, 37207), (15, 37111), (19, 37039), (26, 36946), (28, 36943), (40, 36853), (45, 36805),

Gene: Aneem_57 Start: 37514, Stop: 37116, Start Num: 3

Candidate Starts for Aneem_57:

(Start: 3 @37514 has 63 MA's), (Start: 4 @37502 has 20 MA's), (23, 37265), (25, 37253), (27, 37250),

Gene: Anon_59 Start: 36768, Stop: 36319, Start Num: 4
Candidate Starts for Anon_59:
(Start: 4 @36768 has 20 MA's), (19, 36579), (35, 36429), (47, 36324),

Gene: AppleCloud_42 Start: 33752, Stop: 33387, Start Num: 3
Candidate Starts for AppleCloud_42:
(Start: 3 @33752 has 63 MA's), (6, 33728), (9, 33698), (12, 33653), (17, 33614), (18, 33569), (34, 33431),

Gene: Astro_55 Start: 36581, Stop: 36168, Start Num: 2
Candidate Starts for Astro_55:
(Start: 2 @36581 has 1 MA's), (11, 36518), (23, 36326), (39, 36230), (45, 36182), (46, 36179),

Gene: Bachome_58 Start: 37494, Stop: 37096, Start Num: 3
Candidate Starts for Bachome_58:
(Start: 3 @37494 has 63 MA's), (Start: 4 @37482 has 20 MA's), (23, 37245), (25, 37233),

Gene: Battleship_64 Start: 37434, Stop: 37000, Start Num: 4
Candidate Starts for Battleship_64:
(Start: 4 @37434 has 20 MA's), (7, 37413), (15, 37317), (19, 37245), (26, 37152), (28, 37149), (40, 37059), (45, 37011),

Gene: Belenaria_45 Start: 33894, Stop: 33523, Start Num: 3
Candidate Starts for Belenaria_45:
(Start: 3 @33894 has 63 MA's), (6, 33870), (9, 33840), (12, 33795), (17, 33756), (18, 33711), (22, 33639),

Gene: BobbyDazzler_45 Start: 34007, Stop: 33636, Start Num: 3
Candidate Starts for BobbyDazzler_45:
(Start: 3 @34007 has 63 MA's), (6, 33983), (9, 33953), (12, 33908), (17, 33869), (18, 33824),

Gene: Bonanza_45 Start: 33935, Stop: 33564, Start Num: 3
Candidate Starts for Bonanza_45:
(Start: 3 @33935 has 63 MA's), (6, 33911), (9, 33881), (12, 33836), (17, 33797), (18, 33752),

Gene: Boohoo_62 Start: 37228, Stop: 36794, Start Num: 4
Candidate Starts for Boohoo_62:
(Start: 4 @37228 has 20 MA's), (7, 37207), (15, 37111), (19, 37039), (26, 36946), (28, 36943), (40, 36853), (45, 36805),

Gene: Bowtie_57 Start: 37521, Stop: 37123, Start Num: 3
Candidate Starts for Bowtie_57:
(Start: 3 @37521 has 63 MA's), (Start: 4 @37509 has 20 MA's), (23, 37272), (25, 37260), (27, 37257),

Gene: Bradshaw_45 Start: 33961, Stop: 33590, Start Num: 3
Candidate Starts for Bradshaw_45:
(Start: 3 @33961 has 63 MA's), (6, 33937), (9, 33907), (12, 33862), (17, 33823), (18, 33778), (22, 33706),

Gene: Bryce_44 Start: 33715, Stop: 33344, Start Num: 3
Candidate Starts for Bryce_44:
(Start: 3 @33715 has 63 MA's), (6, 33691), (9, 33661), (12, 33616), (17, 33577), (18, 33532),

Gene: Bud_56 Start: 37068, Stop: 36670, Start Num: 3

Candidate Starts for Bud_56:

(Start: 3 @37068 has 63 MA's), (Start: 4 @37056 has 20 MA's), (23, 36819), (25, 36807), (27, 36804),

Gene: Chargerpower_55 Start: 36865, Stop: 36452, Start Num: 3

Candidate Starts for Chargerpower_55:

(Start: 3 @36865 has 63 MA's), (12, 36769), (16, 36733), (21, 36613), (29, 36568), (41, 36484), (43, 36463),

Gene: CosmicSans_45 Start: 33961, Stop: 33590, Start Num: 3

Candidate Starts for CosmicSans_45:

(Start: 3 @33961 has 63 MA's), (6, 33937), (9, 33907), (12, 33862), (17, 33823), (18, 33778), (22, 33706),

Gene: Danforth_55 Start: 36610, Stop: 36197, Start Num: 3

Candidate Starts for Danforth_55:

(Start: 3 @36610 has 63 MA's), (23, 36355), (39, 36259), (46, 36208),

Gene: DekHockey33_63 Start: 37520, Stop: 37086, Start Num: 4

Candidate Starts for DekHockey33_63:

(Start: 4 @37520 has 20 MA's), (7, 37499), (15, 37403), (19, 37331), (26, 37238), (28, 37235), (40, 37145), (45, 37097),

Gene: Ebony_56 Start: 37085, Stop: 36687, Start Num: 3

Candidate Starts for Ebony_56:

(Start: 3 @37085 has 63 MA's), (Start: 4 @37073 has 20 MA's), (23, 36836), (25, 36824), (27, 36821),

Gene: Epsocamisio_59 Start: 36763, Stop: 36329, Start Num: 4

Candidate Starts for Epsocamisio_59:

(Start: 4 @36763 has 20 MA's), (7, 36742), (15, 36646), (19, 36574), (26, 36481), (28, 36478), (40, 36388), (45, 36340),

Gene: Erik_45 Start: 33893, Stop: 33522, Start Num: 3

Candidate Starts for Erik_45:

(Start: 3 @33893 has 63 MA's), (6, 33869), (9, 33839), (12, 33794), (17, 33755), (18, 33710), (22, 33638),

Gene: Espica_45 Start: 33894, Stop: 33523, Start Num: 3

Candidate Starts for Espica_45:

(Start: 3 @33894 has 63 MA's), (6, 33870), (9, 33840), (12, 33795), (17, 33756), (18, 33711), (22, 33639),

Gene: Et2Brutus_55 Start: 37048, Stop: 36650, Start Num: 3

Candidate Starts for Et2Brutus_55:

(Start: 3 @37048 has 63 MA's), (Start: 4 @37036 has 20 MA's), (23, 36799), (25, 36787), (27, 36784),

Gene: Fibonacci_56 Start: 37054, Stop: 36656, Start Num: 3

Candidate Starts for Fibonacci_56:

(Start: 3 @37054 has 63 MA's), (Start: 4 @37042 has 20 MA's), (23, 36805), (25, 36793), (27, 36790),

Gene: Flaverint_57 Start: 37512, Stop: 37114, Start Num: 3

Candidate Starts for Flaverint_57:

(Start: 3 @37512 has 63 MA's), (Start: 4 @37500 has 20 MA's), (23, 37263), (25, 37251), (27, 37248),

Gene: Gilberta_57 Start: 37505, Stop: 37107, Start Num: 3

Candidate Starts for Gilberta_57:

(Start: 3 @37505 has 63 MA's), (Start: 4 @37493 has 20 MA's), (23, 37256), (25, 37244), (27, 37241),

Gene: Gollum_45 Start: 33959, Stop: 33588, Start Num: 3

Candidate Starts for Gollum_45:

(Start: 3 @33959 has 63 MA's), (6, 33935), (9, 33905), (12, 33860), (17, 33821), (18, 33776), (22, 33704),

Gene: Groundhog_54 Start: 36525, Stop: 36112, Start Num: 3

Candidate Starts for Groundhog_54:

(Start: 3 @36525 has 63 MA's), (23, 36270), (39, 36174), (46, 36123),

Gene: Harlequin_44 Start: 33745, Stop: 33374, Start Num: 3

Candidate Starts for Harlequin_44:

(Start: 3 @33745 has 63 MA's), (6, 33721), (9, 33691), (12, 33646), (17, 33607), (18, 33562),

Gene: Hiro_45 Start: 34221, Stop: 33850, Start Num: 3

Candidate Starts for Hiro_45:

(Start: 3 @34221 has 63 MA's), (6, 34197), (9, 34167), (12, 34122), (17, 34083), (18, 34038),

Gene: Hutc2_56 Start: 37054, Stop: 36656, Start Num: 3

Candidate Starts for Hutc2_56:

(Start: 3 @37054 has 63 MA's), (Start: 4 @37042 has 20 MA's), (23, 36805), (25, 36793), (27, 36790),

Gene: Insomnia_57 Start: 37565, Stop: 37167, Start Num: 3

Candidate Starts for Insomnia_57:

(Start: 3 @37565 has 63 MA's), (Start: 4 @37553 has 20 MA's), (23, 37316), (25, 37304), (27, 37301),

Gene: JSwag_61 Start: 36952, Stop: 36518, Start Num: 4

Candidate Starts for JSwag_61:

(Start: 4 @36952 has 20 MA's), (7, 36931), (15, 36835), (19, 36763), (26, 36670), (28, 36667), (40, 36577), (45, 36529),

Gene: Jabith_57 Start: 37566, Stop: 37168, Start Num: 3

Candidate Starts for Jabith_57:

(Start: 3 @37566 has 63 MA's), (Start: 4 @37554 has 20 MA's), (23, 37317), (25, 37305), (27, 37302),

Gene: Jester_44 Start: 33676, Stop: 33305, Start Num: 3

Candidate Starts for Jester_44:

(Start: 3 @33676 has 63 MA's), (6, 33652), (9, 33622), (12, 33577), (17, 33538), (18, 33493),

Gene: Joselito_57 Start: 37514, Stop: 37116, Start Num: 3

Candidate Starts for Joselito_57:

(Start: 3 @37514 has 63 MA's), (Start: 4 @37502 has 20 MA's), (23, 37265), (25, 37253), (27, 37250),

Gene: KatherineG_62 Start: 37425, Stop: 36991, Start Num: 4

Candidate Starts for KatherineG_62:

(Start: 4 @37425 has 20 MA's), (7, 37404), (15, 37308), (19, 37236), (26, 37143), (28, 37140), (40, 37050), (45, 37002),

Gene: Kinmap_55 Start: 36580, Stop: 36203, Start Num: 2
Candidate Starts for Kinmap_55:
(Start: 2 @36580 has 1 MA's), (5, 36568), (10, 36520), (13, 36478), (14, 36466), (32, 36307), (38, 36268), (46, 36208),

Gene: Krishelle_45 Start: 34321, Stop: 33950, Start Num: 3
Candidate Starts for Krishelle_45:
(Start: 3 @34321 has 63 MA's), (6, 34297), (9, 34267), (12, 34222), (17, 34183), (18, 34138), (22, 34066),

Gene: LastResort_60 Start: 37004, Stop: 36570, Start Num: 4
Candidate Starts for LastResort_60:
(Start: 4 @37004 has 20 MA's), (7, 36983), (15, 36887), (19, 36815), (26, 36722), (28, 36719), (40, 36629), (45, 36581),

Gene: Lillie_45 Start: 33961, Stop: 33590, Start Num: 3
Candidate Starts for Lillie_45:
(Start: 3 @33961 has 63 MA's), (6, 33937), (9, 33907), (12, 33862), (17, 33823), (18, 33778), (22, 33706),

Gene: Looper_61 Start: 36916, Stop: 36482, Start Num: 4
Candidate Starts for Looper_61:
(Start: 4 @36916 has 20 MA's), (7, 36895), (15, 36799), (19, 36727), (26, 36634), (28, 36631), (40, 36541), (45, 36493),

Gene: Lucivia_57 Start: 37563, Stop: 37165, Start Num: 3
Candidate Starts for Lucivia_57:
(Start: 3 @37563 has 63 MA's), (Start: 4 @37551 has 20 MA's), (23, 37314), (25, 37302), (27, 37299),

Gene: MaCh_57 Start: 37493, Stop: 37095, Start Num: 3
Candidate Starts for MaCh_57:
(Start: 3 @37493 has 63 MA's), (Start: 4 @37481 has 20 MA's), (23, 37244), (25, 37232),

Gene: Mabel_56 Start: 37095, Stop: 36697, Start Num: 3
Candidate Starts for Mabel_56:
(Start: 3 @37095 has 63 MA's), (Start: 4 @37083 has 20 MA's), (23, 36846), (25, 36834), (27, 36831),

Gene: MinecraftSteve_62 Start: 37240, Stop: 36791, Start Num: 4
Candidate Starts for MinecraftSteve_62:
(Start: 4 @37240 has 20 MA's), (7, 37219), (19, 37051), (35, 36901), (47, 36796),

Gene: Mulciber_56 Start: 37051, Stop: 36653, Start Num: 3
Candidate Starts for Mulciber_56:
(Start: 3 @37051 has 63 MA's), (Start: 4 @37039 has 20 MA's), (23, 36802), (25, 36790), (27, 36787),

Gene: Munch_57 Start: 37514, Stop: 37116, Start Num: 3
Candidate Starts for Munch_57:
(Start: 3 @37514 has 63 MA's), (Start: 4 @37502 has 20 MA's), (23, 37265), (25, 37253), (27, 37250),

Gene: MyraDee_51 Start: 34558, Stop: 34052, Start Num: 3
Candidate Starts for MyraDee_51:
(1, 34573), (Start: 3 @34558 has 63 MA's), (20, 34345), (33, 34231), (36, 34219), (37, 34216), (42, 34168), (44, 34150),

Gene: Naiad_44 Start: 33974, Stop: 33603, Start Num: 3

Candidate Starts for Naiad_44:

(Start: 3 @33974 has 63 MA's), (6, 33950), (9, 33920), (12, 33875), (17, 33836), (18, 33791), (22, 33719),

Gene: Nancinator_45 Start: 33894, Stop: 33523, Start Num: 3

Candidate Starts for Nancinator_45:

(Start: 3 @33894 has 63 MA's), (6, 33870), (9, 33840), (12, 33795), (17, 33756), (18, 33711), (22, 33639),

Gene: Natosaleda_44 Start: 33893, Stop: 33522, Start Num: 3

Candidate Starts for Natosaleda_44:

(Start: 3 @33893 has 63 MA's), (6, 33869), (9, 33839), (12, 33794), (17, 33755), (18, 33710), (22, 33638),

Gene: NearlyHeadless_55 Start: 36376, Stop: 35963, Start Num: 3

Candidate Starts for NearlyHeadless_55:

(Start: 3 @36376 has 63 MA's), (23, 36121), (39, 36025), (46, 35974),

Gene: Nebulosus_60 Start: 37000, Stop: 36566, Start Num: 4

Candidate Starts for Nebulosus_60:

(Start: 4 @37000 has 20 MA's), (7, 36979), (15, 36883), (19, 36811), (26, 36718), (28, 36715), (40, 36625), (45, 36577),

Gene: Oofda_63 Start: 37203, Stop: 36784, Start Num: 4

Candidate Starts for Oofda_63:

(Start: 4 @37203 has 20 MA's), (15, 37086), (19, 37014), (30, 36909), (45, 36795),

Gene: Orange_56 Start: 37063, Stop: 36665, Start Num: 3

Candidate Starts for Orange_56:

(Start: 3 @37063 has 63 MA's), (Start: 4 @37051 has 20 MA's), (23, 36814), (25, 36802), (27, 36799),

Gene: Petersenfast_55 Start: 37062, Stop: 36664, Start Num: 3

Candidate Starts for Petersenfast_55:

(Start: 3 @37062 has 63 MA's), (Start: 4 @37050 has 20 MA's), (23, 36813), (25, 36801), (27, 36798),

Gene: PhailMary_44 Start: 34283, Stop: 33912, Start Num: 3

Candidate Starts for PhailMary_44:

(Start: 3 @34283 has 63 MA's), (6, 34259), (9, 34229), (12, 34184), (17, 34145), (18, 34100),

Gene: Phrankenstein_45 Start: 33907, Stop: 33536, Start Num: 3

Candidate Starts for Phrankenstein_45:

(Start: 3 @33907 has 63 MA's), (6, 33883), (9, 33853), (12, 33808), (17, 33769), (18, 33724), (22, 33652),

Gene: RER2_38 Start: 30833, Stop: 30462, Start Num: 3

Candidate Starts for RER2_38:

(Start: 3 @30833 has 63 MA's), (6, 30809), (9, 30779), (12, 30734), (17, 30695), (18, 30650), (22, 30578),

Gene: Rasputin_45 Start: 33931, Stop: 33560, Start Num: 3

Candidate Starts for Rasputin_45:

(Start: 3 @33931 has 63 MA's), (6, 33907), (9, 33877), (12, 33832), (17, 33793), (18, 33748), (22, 33676),

Gene: ReMo_60 Start: 37001, Stop: 36567, Start Num: 4

Candidate Starts for ReMo_60:

(Start: 4 @37001 has 20 MA's), (7, 36980), (15, 36884), (19, 36812), (26, 36719), (28, 36716), (40, 36626), (45, 36578),

Gene: Remus_62 Start: 37007, Stop: 36573, Start Num: 4

Candidate Starts for Remus_62:

(Start: 4 @37007 has 20 MA's), (7, 36986), (15, 36890), (19, 36818), (26, 36725), (28, 36722), (40, 36632), (45, 36584),

Gene: RexFury_44 Start: 33992, Stop: 33621, Start Num: 3

Candidate Starts for RexFury_44:

(Start: 3 @33992 has 63 MA's), (6, 33968), (9, 33938), (12, 33893), (17, 33854), (18, 33809), (22, 33737),

Gene: Rhodalysa_45 Start: 33961, Stop: 33590, Start Num: 3

Candidate Starts for Rhodalysa_45:

(Start: 3 @33961 has 63 MA's), (6, 33937), (9, 33907), (12, 33862), (17, 33823), (18, 33778), (22, 33706),

Gene: Roary_56 Start: 36595, Stop: 36182, Start Num: 3

Candidate Starts for Roary_56:

(Start: 3 @36595 has 63 MA's), (23, 36340), (39, 36244), (46, 36193),

Gene: Rosalind_60 Start: 37159, Stop: 36710, Start Num: 4

Candidate Starts for Rosalind_60:

(Start: 4 @37159 has 20 MA's), (7, 37138), (19, 36970), (35, 36820), (47, 36715),

Gene: Saintus_50 Start: 33275, Stop: 32889, Start Num: 3

Candidate Starts for Saintus_50:

(Start: 3 @33275 has 63 MA's), (8, 33230),

Gene: Salz_55 Start: 37033, Stop: 36635, Start Num: 3

Candidate Starts for Salz_55:

(Start: 3 @37033 has 63 MA's), (Start: 4 @37021 has 20 MA's), (23, 36784), (25, 36772), (27, 36769),

Gene: Sham4_56 Start: 37061, Stop: 36663, Start Num: 3

Candidate Starts for Sham4_56:

(Start: 3 @37061 has 63 MA's), (Start: 4 @37049 has 20 MA's), (23, 36812), (25, 36800), (27, 36797),

Gene: ShayRa_62 Start: 37188, Stop: 36754, Start Num: 4

Candidate Starts for ShayRa_62:

(Start: 4 @37188 has 20 MA's), (7, 37167), (15, 37071), (19, 36999), (26, 36906), (28, 36903), (40, 36813), (45, 36765),

Gene: Shuman_45 Start: 33906, Stop: 33535, Start Num: 3

Candidate Starts for Shuman_45:

(Start: 3 @33906 has 63 MA's), (6, 33882), (9, 33852), (12, 33807), (17, 33768), (18, 33723), (22, 33651),

Gene: Snape_56 Start: 37053, Stop: 36655, Start Num: 3
Candidate Starts for Snape_56:
(Start: 3 @37053 has 63 MA's), (Start: 4 @37041 has 20 MA's), (23, 36804), (25, 36792), (27, 36789),

Gene: Soups_62 Start: 37451, Stop: 36993, Start Num: 4
Candidate Starts for Soups_62:
(Start: 4 @37451 has 20 MA's), (7, 37430), (19, 37262), (24, 37172), (31, 37139), (42, 37052),

Gene: StCroix_44 Start: 33974, Stop: 33603, Start Num: 3
Candidate Starts for StCroix_44:
(Start: 3 @33974 has 63 MA's), (6, 33950), (9, 33920), (12, 33875), (17, 33836), (18, 33791), (22, 33719),

Gene: Strosahl_62 Start: 37007, Stop: 36573, Start Num: 4
Candidate Starts for Strosahl_62:
(Start: 4 @37007 has 20 MA's), (7, 36986), (15, 36890), (19, 36818), (26, 36725), (28, 36722), (40, 36632), (45, 36584),

Gene: Swann_45 Start: 33959, Stop: 33588, Start Num: 3
Candidate Starts for Swann_45:
(Start: 3 @33959 has 63 MA's), (6, 33935), (9, 33905), (12, 33860), (17, 33821), (18, 33776), (22, 33704),

Gene: Switzerland_61 Start: 37327, Stop: 36893, Start Num: 4
Candidate Starts for Switzerland_61:
(Start: 4 @37327 has 20 MA's), (7, 37306), (15, 37210), (19, 37138), (26, 37045), (28, 37042), (40, 36952), (45, 36904),

Gene: TWAMP_45 Start: 33961, Stop: 33590, Start Num: 3
Candidate Starts for TWAMP_45:
(Start: 3 @33961 has 63 MA's), (6, 33937), (9, 33907), (12, 33862), (17, 33823), (18, 33778), (22, 33706),

Gene: Timothy_56 Start: 37030, Stop: 36632, Start Num: 3
Candidate Starts for Timothy_56:
(Start: 3 @37030 has 63 MA's), (Start: 4 @37018 has 20 MA's), (23, 36781), (25, 36769), (27, 36766),

Gene: TinyTimmy_56 Start: 37079, Stop: 36681, Start Num: 3
Candidate Starts for TinyTimmy_56:
(Start: 3 @37079 has 63 MA's), (Start: 4 @37067 has 20 MA's), (23, 36830), (25, 36818), (27, 36815),

Gene: UhSalsa_45 Start: 33894, Stop: 33523, Start Num: 3
Candidate Starts for UhSalsa_45:
(Start: 3 @33894 has 63 MA's), (6, 33870), (9, 33840), (12, 33795), (17, 33756), (18, 33711), (22, 33639),

Gene: Waits_62 Start: 37224, Stop: 36775, Start Num: 4
Candidate Starts for Waits_62:
(Start: 4 @37224 has 20 MA's), (7, 37203), (19, 37035), (35, 36885), (47, 36780),

Gene: Yogi_44 Start: 33935, Stop: 33564, Start Num: 3
Candidate Starts for Yogi_44:
(Start: 3 @33935 has 63 MA's), (6, 33911), (9, 33881), (12, 33836), (17, 33797), (18, 33752),

Gene: Yoncess_44 Start: 33715, Stop: 33344, Start Num: 3

Candidate Starts for Yoncess_44:

(Start: 3 @33715 has 63 MA's), (6, 33691), (9, 33661), (12, 33616), (17, 33577), (18, 33532),