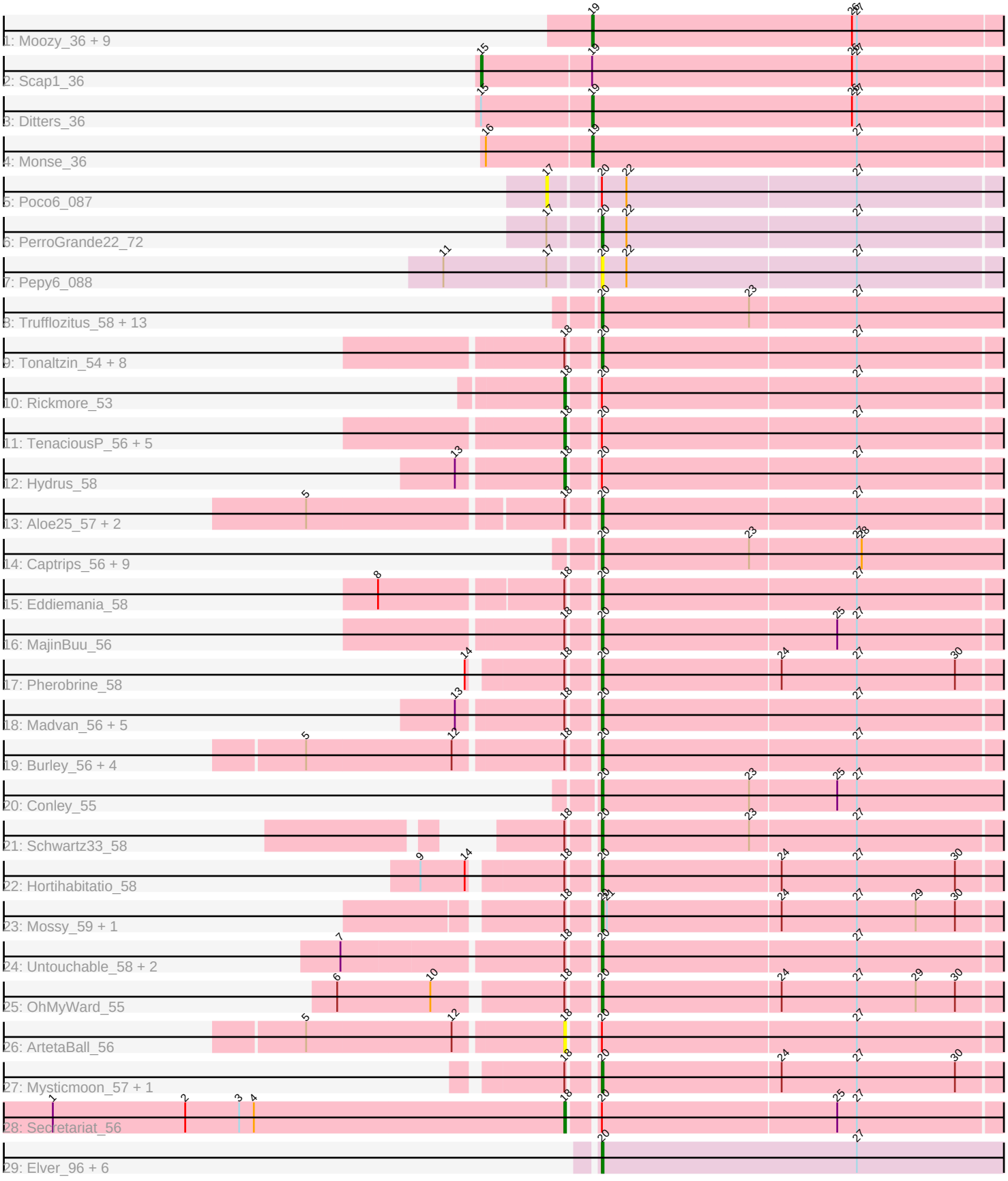
Pham 347476


1: Moozy_36 + 9
2: Scap1_36
3: Ditters_36
4: Monse_36
5: Poco6_087
6: PerroGrande22_72
7: Pepy6_088
8: Trufflozitus_58 + 13
9: Tonaltzin_54 + 8
10: Rickmore_53
11: TenaciousP_56 + 5
12: Hydrus_58
13: Aloe25_57 + 2
14: Captrips_56 + 9
15: Eddiemania_58
16: MajinBuu_56
17: Pherobrine_58
18: Madvan_56 + 5
19: Burley_56 + 4
20: Conley_55
21: Schwartz33_58
22: Hortihabitatio_58
23: Mossy_59 + 1
24: Untouchable_58 + 2
25: OhMyWard_55
26: ArtetaBall_56
27: Mysticmoon_57 + 1
28: Secretariat_56
29: Elver_96 + 6

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 347476 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347476 has 94 members, 16 are drafts.

Phages represented in each track:
• Track 1 : Moozy_36, Sangak_35, Bilo_35, PherryCruz_36, GoblinVoyage_37, Doxi13_37, RavenPuff_36, SheRa_37, Annihilus_37, HotFries_36
• Track 2 : Scap1_36
• Track 3 : Ditters_36
• Track 4 : Monse_36
• Track 5 : Poco6_087
• Track 6 : PerroGrande22_72
• Track 7 : Pepy6_088
• Track 8 : Trufflozitus_58, SweetCrkHerbs_58, Football_59, Tairn4Wing_59, Perkunas_58, Dancer_57, FortCran_57, Petito_58, JulesRay_57, Talon44_58, ChickyNuggy_59, Bugg_59, Avazak_58, Artorias_57
• Track 9 : Tonaltzin_54, Duffington_54, Chikenjars_54, AlainaMarie_55, OlgasClover_57, Nithya_56, Aflac_55, Jodelie19_55, BluerMoon_54
• Track 10 : Rickmore_53
• Track 11 : TenaciousP_56, EndAve_57, Citrus_55, Luthien_57, Figliar_54, Glintora_57
• Track 12 : Hydrus_58
• Track 13 : Aloe25_57, Gusicorn_57, PestoPenguin_58
• Track 14 : Captrips_56, Gravy_56, Odesza_56, Roney_57, Tanis_57, Capybara_57, Gill_57, NoPickles_56, Magel_58, Kerry_56
• Track 15 : Eddiemania_58
• Track 16 : MajinBuu_56
• Track 17 : Pherobrine_58
• Track 18 : Madvan_56, CWormy_55, Phepper_57, Dialga_56, Kenosha_55, Zeph_58
• Track 19 : Burley_56, Nadmeg_57, Runhaar_56, Vardy_55, Crocheter_56
• Track 20 : Conley_55
• Track 21 : Schwartz33_58
• Track 22 : Hortihabitatio_58
• Track 23 : Mossy_59, Blanky_54
• Track 24 : Untouchable_58, Arataki_55, Demure_55
• Track 25 : OhMyWard_55
• Track 26 : ArtetaBall_56
• Track 27 : Mysticmoon_57, Fazel_57
• Track 28 : Secretariat_56
• Track 29 : Elver_96, JeNeSaisPas_93, Gandionco_93, Kureo_95, Paella_97, Qui_97, Marianna39_94

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

The start number called the most often in the published annotations is 20, it was called in 58 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aflac_55, AlainaMarie_55, Aloe25_57, Arataki_55, Artorias_57, Avazak_58, Blanky_54, BluerMoon_54, Bugg_59, Burley_56, CWormy_55, Captrips_56, Capybara_57, ChickyNuggy_59, Chikenjars_54, Conley_55, Crocheter_56, Dancer_57, Demure_55, Dialga_56, Duffington_54, Eddiemania_58, Elver_96, Fazel_57, Football_59, FortCran_57, Gandionco_93, Gill_57, Gravy_56, Gusicorn_57, Hortihabitatio_58, JeNeSaisPas_93, Jodelie19_55, JulesRay_57, Kenosha_55, Kerry_56, Kureo_95, Madvan_56, Magel_58, MajinBuu_56, Marianna39_94, Mossy_59, Mysticmoon_57, Nadmeg_57, Nithya_56, NoPickles_56, Odesza_56, OhMyWard_55, OlgasClover_57, Paella_97, Pepy6_088, Perkunas_58, PerroGrande22_72, PestoPenguin_58, Petito_58, Phepper_57, Pherobrine_58, Qui_97, Roney_57, Runhaar_56, Schwartz33_58, SweetCrkHerbs_58, Tairn4Wing_59, Talon44_58, Tanis_57, Tonaltzin_54, Trufflozitus_58, Untouchable_58, Vardy_55, Zeph_58,

Genes that have the "Most Annotated" start but do not call it:
• ArtetaBall_56, Citrus_55, EndAve_57, Figliar_54, Glintora_57, Hydrus_58, Luthien_57, Poco6_087, Rickmore_53, Secretariat_56, TenaciousP_56,

Genes that do not have the "Most Annotated" start:
• Annihilus_37, Bilo_35, Ditters_36, Doxi13_37, GoblinVoyage_37, HotFries_36, Monse_36, Moozy_36, PherryCruz_36, RavenPuff_36, Sangak_35, Scap1_36, SheRa_37,

Summary by start number:

Start 15:
• Found in 2 of 94 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 78
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Scap1_36 (BI2),

Start 17:
• Found in 3 of 94 (3.2%) of genes in pham
• No Manual Annotations of this start.
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Poco6_087 (CC),

Start 18:
• Found in 46 of 94 (48.9%) of genes in pham
• Manual Annotations of this start: 8 of 78
• Called 21.7% of time when present
• Phage (with cluster) where this start called: ArtetaBall_56 (DJ), Citrus_55 (DJ), EndAve_57 (DJ), Figliar_54 (DJ), Glintora_57 (DJ), Hydrus_58 (DJ), Luthien_57 (DJ),

Rickmore_53 (DJ), Secretariat_56 (DJ), TenaciousP_56 (DJ),

Start 19:
• Found in 13 of 94 (13.8%) of genes in pham
• Manual Annotations of this start: 11 of 78
• Called 92.3% of time when present
• Phage (with cluster) where this start called: Annihilus_37 (BI2), Bilo_35 (BI2), Ditters_36 (BI2), Doxi13_37 (BI2), GoblinVoyage_37 (BI2), HotFries_36 (BI2), Monse_36 (BI2), Moozy_36 (BI2), PherryCruz_36 (BI2), RavenPuff_36 (BI2), Sangak_35 (BI2), SheRa_37 (BI2),

Start 20:
• Found in 81 of 94 (86.2%) of genes in pham
• Manual Annotations of this start: 58 of 78
• Called 86.4% of time when present
• Phage (with cluster) where this start called: Aflac_55 (DJ), AlainaMarie_55 (DJ), Aloe25_57 (DJ), Arataki_55 (DJ), Artorias_57 (DJ), Avazak_58 (DJ), Blanky_54 (DJ), BluerMoon_54 (DJ), Bugg_59 (DJ), Burley_56 (DJ), CWormy_55 (DJ), Captrips_56 (DJ), Capybara_57 (DJ), ChickyNuggy_59 (DJ), Chikenjars_54 (DJ), Conley_55 (DJ), Crocheter_56 (DJ), Dancer_57 (DJ), Demure_55 (DJ), Dialga_56 (DJ), Duffington_54 (DJ), Eddiemania_58 (DJ), Elver_96 (FK), Fazel_57 (DJ), Football_59 (DJ), FortCran_57 (DJ), Gandionco_93 (FK), Gill_57 (DJ), Gravy_56 (DJ), Gusicorn_57 (DJ), Hortihabitatio_58 (DJ), JeNeSaisPas_93 (FK), Jodelie19_55 (DJ), JulesRay_57 (DJ), Kenosha_55 (DJ), Kerry_56 (DJ), Kureo_95 (FK), Madvan_56 (DJ), Magel_58 (DJ), MajinBuu_56 (DJ), Marianna39_94 (FK), Mossy_59 (DJ), Mysticmoon_57 (DJ), Nadmeg_57 (DJ), Nithya_56 (DJ), NoPickles_56 (DJ), Odesza_56 (DJ), OhMyWard_55 (DJ), OlgasClover_57 (DJ), Paella_97 (FK), Pepy6_088 (CC), Perkunas_58 (DJ), PerroGrande22_72 (CC), PestoPenguin_58 (DJ), Petito_58 (DJ), Phepper_57 (DJ), Pherobrine_58 (DJ), Qui_97 (FK), Roney_57 (DJ), Runhaar_56 (DJ), Schwartz33_58 (DJ), SweetCrkHerbs_58 (DJ), Tairn4Wing_59 (DJ), Talon44_58 (DJ), Tanis_57 (DJ), Tonaltzin_54 (DJ), Trufflozitus_58 (DJ), Untouchable_58 (DJ), Vardy_55 (DJ), Zeph_58 (DJ),

Summary by clusters:

There are 4 clusters represented in this pham: CC, BI2, FK, DJ,

Info for manual annotations of cluster BI2:
•Start number 15 was manually annotated 1 time for cluster BI2.
•Start number 19 was manually annotated 11 times for cluster BI2.

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

Info for manual annotations of cluster DJ:
•Start number 18 was manually annotated 8 times for cluster DJ.
•Start number 20 was manually annotated 53 times for cluster DJ.

Info for manual annotations of cluster FK:
•Start number 20 was manually annotated 4 times for cluster FK.

Gene Information:

Gene: Aflac_55 Start: 38455, Stop: 38703, Start Num: 20
Candidate Starts for Aflac_55:
(Start: 18 @38440 has 8 MA's), (Start: 20 @38455 has 58 MA's), (27, 38608),

Gene: AlainaMarie_55 Start: 38440, Stop: 38688, Start Num: 20
Candidate Starts for AlainaMarie_55:
(Start: 18 @38425 has 8 MA's), (Start: 20 @38440 has 58 MA's), (27, 38593),

Gene: Aloe25_57 Start: 38538, Stop: 38786, Start Num: 20
Candidate Starts for Aloe25_57:
(5, 38376), (Start: 18 @38523 has 8 MA's), (Start: 20 @38538 has 58 MA's), (27, 38691),

Gene: Annihilus_37 Start: 27049, Stop: 27300, Start Num: 19
Candidate Starts for Annihilus_37:
(Start: 19 @27049 has 11 MA's), (26, 27208), (27, 27211),

Gene: Arataki_55 Start: 38135, Stop: 38383, Start Num: 20
Candidate Starts for Arataki_55:
(7, 37991), (Start: 18 @38120 has 8 MA's), (Start: 20 @38135 has 58 MA's), (27, 38288),

Gene: ArtetaBall_56 Start: 38748, Stop: 39011, Start Num: 18
Candidate Starts for ArtetaBall_56:
(5, 38598), (12, 38685), (Start: 18 @38748 has 8 MA's), (Start: 20 @38763 has 58 MA's), (27, 38916),

Gene: Artorias_57 Start: 38633, Stop: 38884, Start Num: 20
Candidate Starts for Artorias_57:
(Start: 20 @38633 has 58 MA's), (23, 38723), (27, 38786),

Gene: Avazak_58 Start: 38960, Stop: 39211, Start Num: 20
Candidate Starts for Avazak_58:
(Start: 20 @38960 has 58 MA's), (23, 39050), (27, 39113),

Gene: Bilo_35 Start: 27161, Stop: 27412, Start Num: 19
Candidate Starts for Bilo_35:
(Start: 19 @27161 has 11 MA's), (26, 27320), (27, 27323),

Gene: Blanky_54 Start: 40061, Stop: 40309, Start Num: 20
Candidate Starts for Blanky_54:
(Start: 18 @40046 has 8 MA's), (Start: 20 @40061 has 58 MA's), (21, 40064), (24, 40169), (27, 40214), (29, 40250), (30, 40274),

Gene: BluerMoon_54 Start: 38484, Stop: 38732, Start Num: 20
Candidate Starts for BluerMoon_54:
(Start: 18 @38469 has 8 MA's), (Start: 20 @38484 has 58 MA's), (27, 38637),

Gene: Bugg_59 Start: 38678, Stop: 38929, Start Num: 20
Candidate Starts for Bugg_59:
(Start: 20 @38678 has 58 MA's), (23, 38768), (27, 38831),

Gene: Burley_56 Start: 38225, Stop: 38473, Start Num: 20
Candidate Starts for Burley_56:

(5, 38060), (12, 38147), (Start: 18 @38210 has 8 MA's), (Start: 20 @38225 has 58 MA's), (27, 38378),

Gene: CWormy_55 Start: 38177, Stop: 38425, Start Num: 20
Candidate Starts for CWormy_55:
(13, 38102), (Start: 18 @38162 has 8 MA's), (Start: 20 @38177 has 58 MA's), (27, 38330),

Gene: Captrips_56 Start: 38108, Stop: 38359, Start Num: 20
Candidate Starts for Captrips_56:
(Start: 20 @38108 has 58 MA's), (23, 38198), (27, 38261), (28, 38264),

Gene: Capybara_57 Start: 38439, Stop: 38690, Start Num: 20
Candidate Starts for Capybara_57:
(Start: 20 @38439 has 58 MA's), (23, 38529), (27, 38592), (28, 38595),

Gene: ChickyNuggy_59 Start: 38704, Stop: 38955, Start Num: 20
Candidate Starts for ChickyNuggy_59:
(Start: 20 @38704 has 58 MA's), (23, 38794), (27, 38857),

Gene: Chikenjars_54 Start: 38453, Stop: 38701, Start Num: 20
Candidate Starts for Chikenjars_54:
(Start: 18 @38438 has 8 MA's), (Start: 20 @38453 has 58 MA's), (27, 38606),

Gene: Citrus_55 Start: 38715, Stop: 38978, Start Num: 18
Candidate Starts for Citrus_55:
(Start: 18 @38715 has 8 MA's), (Start: 20 @38730 has 58 MA's), (27, 38883),

Gene: Conley_55 Start: 39080, Stop: 39331, Start Num: 20
Candidate Starts for Conley_55:
(Start: 20 @39080 has 58 MA's), (23, 39170), (25, 39221), (27, 39233),

Gene: Crocheter_56 Start: 38621, Stop: 38869, Start Num: 20
Candidate Starts for Crocheter_56:
(5, 38456), (12, 38543), (Start: 18 @38606 has 8 MA's), (Start: 20 @38621 has 58 MA's), (27, 38774),

Gene: Dancer_57 Start: 38368, Stop: 38619, Start Num: 20
Candidate Starts for Dancer_57:
(Start: 20 @38368 has 58 MA's), (23, 38458), (27, 38521),

Gene: Demure_55 Start: 38135, Stop: 38383, Start Num: 20
Candidate Starts for Demure_55:
(7, 37991), (Start: 18 @38120 has 8 MA's), (Start: 20 @38135 has 58 MA's), (27, 38288),

Gene: Dialga_56 Start: 38791, Stop: 39039, Start Num: 20
Candidate Starts for Dialga_56:
(13, 38716), (Start: 18 @38776 has 8 MA's), (Start: 20 @38791 has 58 MA's), (27, 38944),

Gene: Ditters_36 Start: 27480, Stop: 27731, Start Num: 19
Candidate Starts for Ditters_36:
(Start: 15 @27414 has 1 MA's), (Start: 19 @27480 has 11 MA's), (26, 27639), (27, 27642),

Gene: Doxi13_37 Start: 27023, Stop: 27274, Start Num: 19
Candidate Starts for Doxi13_37:
(Start: 19 @27023 has 11 MA's), (26, 27182), (27, 27185),

Gene: Duffington_54 Start: 38148, Stop: 38396, Start Num: 20
Candidate Starts for Duffington_54:
(Start: 18 @38133 has 8 MA's), (Start: 20 @38148 has 58 MA's), (27, 38301),

Gene: Eddiemania_58 Start: 39366, Stop: 39614, Start Num: 20
Candidate Starts for Eddiemania_58:
(8, 39246), (Start: 18 @39351 has 8 MA's), (Start: 20 @39366 has 58 MA's), (27, 39519),

Gene: Elver_96 Start: 54012, Stop: 54290, Start Num: 20
Candidate Starts for Elver_96:
(Start: 20 @54012 has 58 MA's), (27, 54168),

Gene: EndAve_57 Start: 38606, Stop: 38869, Start Num: 18
Candidate Starts for EndAve_57:
(Start: 18 @38606 has 8 MA's), (Start: 20 @38621 has 58 MA's), (27, 38774),

Gene: Fazel_57 Start: 38400, Stop: 38648, Start Num: 20
Candidate Starts for Fazel_57:
(Start: 18 @38385 has 8 MA's), (Start: 20 @38400 has 58 MA's), (24, 38508), (27, 38553), (30, 38613),

Gene: Figliar_54 Start: 38508, Stop: 38771, Start Num: 18
Candidate Starts for Figliar_54:
(Start: 18 @38508 has 8 MA's), (Start: 20 @38523 has 58 MA's), (27, 38676),

Gene: Football_59 Start: 38259, Stop: 38510, Start Num: 20
Candidate Starts for Football_59:
(Start: 20 @38259 has 58 MA's), (23, 38349), (27, 38412),

Gene: FortCran_57 Start: 38633, Stop: 38884, Start Num: 20
Candidate Starts for FortCran_57:
(Start: 20 @38633 has 58 MA's), (23, 38723), (27, 38786),

Gene: Gandionco_93 Start: 52868, Stop: 53146, Start Num: 20
Candidate Starts for Gandionco_93:
(Start: 20 @52868 has 58 MA's), (27, 53024),

Gene: Gill_57 Start: 38456, Stop: 38707, Start Num: 20
Candidate Starts for Gill_57:
(Start: 20 @38456 has 58 MA's), (23, 38546), (27, 38609), (28, 38612),

Gene: Glintora_57 Start: 39056, Stop: 39319, Start Num: 18
Candidate Starts for Glintora_57:
(Start: 18 @39056 has 8 MA's), (Start: 20 @39071 has 58 MA's), (27, 39224),

Gene: GoblinVoyage_37 Start: 27023, Stop: 27274, Start Num: 19
Candidate Starts for GoblinVoyage_37:
(Start: 19 @27023 has 11 MA's), (26, 27182), (27, 27185),

Gene: Gravy_56 Start: 38129, Stop: 38380, Start Num: 20
Candidate Starts for Gravy_56:
(Start: 20 @38129 has 58 MA's), (23, 38219), (27, 38282), (28, 38285),

Gene: Gusicorn_57 Start: 38538, Stop: 38786, Start Num: 20
Candidate Starts for Gusicorn_57:
(5, 38376), (Start: 18 @38523 has 8 MA's), (Start: 20 @38538 has 58 MA's), (27, 38691),

Gene: Hortihabitatio_58 Start: 39228, Stop: 39476, Start Num: 20
Candidate Starts for Hortihabitatio_58:
(9, 39135), (14, 39162), (Start: 18 @39213 has 8 MA's), (Start: 20 @39228 has 58 MA's), (24, 39336), (27, 39381), (30, 39441),

Gene: HotFries_36 Start: 27067, Stop: 27318, Start Num: 19
Candidate Starts for HotFries_36:
(Start: 19 @27067 has 11 MA's), (26, 27226), (27, 27229),

Gene: Hydrus_58 Start: 39377, Stop: 39640, Start Num: 18
Candidate Starts for Hydrus_58:
(13, 39317), (Start: 18 @39377 has 8 MA's), (Start: 20 @39392 has 58 MA's), (27, 39545),

Gene: JeNeSaisPas_93 Start: 53442, Stop: 53720, Start Num: 20
Candidate Starts for JeNeSaisPas_93:
(Start: 20 @53442 has 58 MA's), (27, 53598),

Gene: Jodelie19_55 Start: 39927, Stop: 40175, Start Num: 20
Candidate Starts for Jodelie19_55:
(Start: 18 @39912 has 8 MA's), (Start: 20 @39927 has 58 MA's), (27, 40080),

Gene: JulesRay_57 Start: 38629, Stop: 38880, Start Num: 20
Candidate Starts for JulesRay_57:
(Start: 20 @38629 has 58 MA's), (23, 38719), (27, 38782),

Gene: Kenosha_55 Start: 38852, Stop: 39100, Start Num: 20
Candidate Starts for Kenosha_55:
(13, 38777), (Start: 18 @38837 has 8 MA's), (Start: 20 @38852 has 58 MA's), (27, 39005),

Gene: Kerry_56 Start: 38129, Stop: 38380, Start Num: 20
Candidate Starts for Kerry_56:
(Start: 20 @38129 has 58 MA's), (23, 38219), (27, 38282), (28, 38285),

Gene: Kureo_95 Start: 53022, Stop: 53300, Start Num: 20
Candidate Starts for Kureo_95:
(Start: 20 @53022 has 58 MA's), (27, 53178),

Gene: Luthien_57 Start: 38603, Stop: 38866, Start Num: 18
Candidate Starts for Luthien_57:
(Start: 18 @38603 has 8 MA's), (Start: 20 @38618 has 58 MA's), (27, 38771),

Gene: Madvan_56 Start: 38261, Stop: 38509, Start Num: 20
Candidate Starts for Madvan_56:
(13, 38186), (Start: 18 @38246 has 8 MA's), (Start: 20 @38261 has 58 MA's), (27, 38414),

Gene: Magel_58 Start: 38372, Stop: 38623, Start Num: 20
Candidate Starts for Magel_58:
(Start: 20 @38372 has 58 MA's), (23, 38462), (27, 38525), (28, 38528),

Gene: MajinBuu_56 Start: 38905, Stop: 39153, Start Num: 20
Candidate Starts for MajinBuu_56:
(Start: 18 @38890 has 8 MA's), (Start: 20 @38905 has 58 MA's), (25, 39046), (27, 39058),

Gene: Marianna39_94 Start: 53437, Stop: 53715, Start Num: 20
Candidate Starts for Marianna39_94:
(Start: 20 @53437 has 58 MA's), (27, 53593),

Gene: Monse_36 Start: 26928, Stop: 27179, Start Num: 19
Candidate Starts for Monse_36:
(16, 26865), (Start: 19 @26928 has 11 MA's), (27, 27090),

Gene: Moozy_36 Start: 27024, Stop: 27275, Start Num: 19
Candidate Starts for Moozy_36:
(Start: 19 @27024 has 11 MA's), (26, 27183), (27, 27186),

Gene: Mossy_59 Start: 40273, Stop: 40521, Start Num: 20
Candidate Starts for Mossy_59:
(Start: 18 @40258 has 8 MA's), (Start: 20 @40273 has 58 MA's), (21, 40276), (24, 40381), (27, 40426), (29, 40462), (30, 40486),

Gene: Mysticmoon_57 Start: 39697, Stop: 39945, Start Num: 20
Candidate Starts for Mysticmoon_57:
(Start: 18 @39682 has 8 MA's), (Start: 20 @39697 has 58 MA's), (24, 39805), (27, 39850), (30, 39910),

Gene: Nadmeg_57 Start: 39508, Stop: 39756, Start Num: 20
Candidate Starts for Nadmeg_57:
(5, 39343), (12, 39430), (Start: 18 @39493 has 8 MA's), (Start: 20 @39508 has 58 MA's), (27, 39661),

Gene: Nithya_56 Start: 38364, Stop: 38612, Start Num: 20
Candidate Starts for Nithya_56:
(Start: 18 @38349 has 8 MA's), (Start: 20 @38364 has 58 MA's), (27, 38517),

Gene: NoPickles_56 Start: 37794, Stop: 38045, Start Num: 20
Candidate Starts for NoPickles_56:
(Start: 20 @37794 has 58 MA's), (23, 37884), (27, 37947), (28, 37950),

Gene: Odesza_56 Start: 38316, Stop: 38567, Start Num: 20
Candidate Starts for Odesza_56:
(Start: 20 @38316 has 58 MA's), (23, 38406), (27, 38469), (28, 38472),

Gene: OhMyWard_55 Start: 40027, Stop: 40275, Start Num: 20
Candidate Starts for OhMyWard_55:
(6, 39883), (10, 39940), (Start: 18 @40012 has 8 MA's), (Start: 20 @40027 has 58 MA's), (24, 40135), (27, 40180), (29, 40216), (30, 40240),

Gene: OlgasClover_57 Start: 39508, Stop: 39756, Start Num: 20
Candidate Starts for OlgasClover_57:
(Start: 18 @39493 has 8 MA's), (Start: 20 @39508 has 58 MA's), (27, 39661),

Gene: Paella_97 Start: 54602, Stop: 54880, Start Num: 20
Candidate Starts for Paella_97:
(Start: 20 @54602 has 58 MA's), (27, 54758),

Gene: Pepy6_088 Start: 48806, Stop: 49051, Start Num: 20
Candidate Starts for Pepy6_088:
(11, 48716), (17, 48779), (Start: 20 @48806 has 58 MA's), (22, 48821), (27, 48959),

Gene: Perkunas_58 Start: 38597, Stop: 38848, Start Num: 20
Candidate Starts for Perkunas_58:
(Start: 20 @38597 has 58 MA's), (23, 38687), (27, 38750),

Gene: PerroGrande22_72 Start: 50526, Stop: 50771, Start Num: 20
Candidate Starts for PerroGrande22_72:
(17, 50499), (Start: 20 @50526 has 58 MA's), (22, 50541), (27, 50679),

Gene: PestoPenguin_58 Start: 38538, Stop: 38786, Start Num: 20
Candidate Starts for PestoPenguin_58:
(5, 38376), (Start: 18 @38523 has 8 MA's), (Start: 20 @38538 has 58 MA's), (27, 38691),

Gene: Petito_58 Start: 39754, Stop: 40005, Start Num: 20
Candidate Starts for Petito_58:
(Start: 20 @39754 has 58 MA's), (23, 39844), (27, 39907),

Gene: Phepper_57 Start: 38523, Stop: 38771, Start Num: 20
Candidate Starts for Phepper_57:
(13, 38448), (Start: 18 @38508 has 8 MA's), (Start: 20 @38523 has 58 MA's), (27, 38676),

Gene: Pherobrine_58 Start: 40107, Stop: 40355, Start Num: 20
Candidate Starts for Pherobrine_58:
(14, 40041), (Start: 18 @40092 has 8 MA's), (Start: 20 @40107 has 58 MA's), (24, 40215), (27, 40260), (30, 40320),

Gene: PherryCruz_36 Start: 27019, Stop: 27270, Start Num: 19
Candidate Starts for PherryCruz_36:
(Start: 19 @27019 has 11 MA's), (26, 27178), (27, 27181),

Gene: Poco6_087 Start: 50294, Stop: 50566, Start Num: 17
Candidate Starts for Poco6_087:
(17, 50294), (Start: 20 @50321 has 58 MA's), (22, 50336), (27, 50474),

Gene: Qui_97 Start: 54602, Stop: 54880, Start Num: 20
Candidate Starts for Qui_97:
(Start: 20 @54602 has 58 MA's), (27, 54758),

Gene: RavenPuff_36 Start: 27019, Stop: 27270, Start Num: 19
Candidate Starts for RavenPuff_36:
(Start: 19 @27019 has 11 MA's), (26, 27178), (27, 27181),

Gene: Rickmore_53 Start: 36852, Stop: 37115, Start Num: 18
Candidate Starts for Rickmore_53:
(Start: 18 @36852 has 8 MA's), (Start: 20 @36867 has 58 MA's), (27, 37020),

Gene: Roney_57 Start: 38482, Stop: 38733, Start Num: 20
Candidate Starts for Roney_57:
(Start: 20 @38482 has 58 MA's), (23, 38572), (27, 38635), (28, 38638),

Gene: Runhaar_56 Start: 38324, Stop: 38572, Start Num: 20
Candidate Starts for Runhaar_56:
(5, 38159), (12, 38246), (Start: 18 @38309 has 8 MA's), (Start: 20 @38324 has 58 MA's), (27, 38477),

Gene: Sangak_35 Start: 26577, Stop: 26828, Start Num: 19
Candidate Starts for Sangak_35:
(Start: 19 @26577 has 11 MA's), (26, 26736), (27, 26739),

Gene: Scap1_36 Start: 26822, Stop: 27139, Start Num: 15
Candidate Starts for Scap1_36:
(Start: 15 @26822 has 1 MA's), (Start: 19 @26888 has 11 MA's), (26, 27047), (27, 27050),

Gene: Schwartz33_58 Start: 38741, Stop: 38989, Start Num: 20
Candidate Starts for Schwartz33_58:
(Start: 18 @38726 has 8 MA's), (Start: 20 @38741 has 58 MA's), (23, 38831), (27, 38894),

Gene: Secretariat_56 Start: 37693, Stop: 37956, Start Num: 18
Candidate Starts for Secretariat_56:
(1, 37381), (2, 37462), (3, 37495), (4, 37504), (Start: 18 @37693 has 8 MA's), (Start: 20 @37708 has 58 MA's), (25, 37849), (27, 37861),

Gene: SheRa_37 Start: 27065, Stop: 27316, Start Num: 19
Candidate Starts for SheRa_37:
(Start: 19 @27065 has 11 MA's), (26, 27224), (27, 27227),

Gene: SweetCrkHerbs_58 Start: 38289, Stop: 38540, Start Num: 20
Candidate Starts for SweetCrkHerbs_58:
(Start: 20 @38289 has 58 MA's), (23, 38379), (27, 38442),

Gene: Tairn4Wing_59 Start: 38473, Stop: 38724, Start Num: 20
Candidate Starts for Tairn4Wing_59:
(Start: 20 @38473 has 58 MA's), (23, 38563), (27, 38626),

Gene: Talon44_58 Start: 38631, Stop: 38882, Start Num: 20
Candidate Starts for Talon44_58:
(Start: 20 @38631 has 58 MA's), (23, 38721), (27, 38784),

Gene: Tanis_57 Start: 38302, Stop: 38553, Start Num: 20
Candidate Starts for Tanis_57:
(Start: 20 @38302 has 58 MA's), (23, 38392), (27, 38455), (28, 38458),

Gene: TenaciousP_56 Start: 39874, Stop: 40137, Start Num: 18
Candidate Starts for TenaciousP_56:
(Start: 18 @39874 has 8 MA's), (Start: 20 @39889 has 58 MA's), (27, 40042),

Gene: Tonaltzin_54 Start: 38459, Stop: 38707, Start Num: 20
Candidate Starts for Tonaltzin_54:
(Start: 18 @38444 has 8 MA's), (Start: 20 @38459 has 58 MA's), (27, 38612),

Gene: Trufflozitus_58 Start: 38984, Stop: 39235, Start Num: 20
Candidate Starts for Trufflozitus_58:
(Start: 20 @38984 has 58 MA's), (23, 39074), (27, 39137),

Gene: Untouchable_58 Start: 39434, Stop: 39682, Start Num: 20
Candidate Starts for Untouchable_58:
(7, 39290), (Start: 18 @39419 has 8 MA's), (Start: 20 @39434 has 58 MA's), (27, 39587),

Gene: Vardy_55 Start: 38214, Stop: 38462, Start Num: 20
Candidate Starts for Vardy_55:
(5, 38049), (12, 38136), (Start: 18 @38199 has 8 MA's), (Start: 20 @38214 has 58 MA's), (27, 38367),

Gene: Zeph_58 Start: 39362, Stop: 39610, Start Num: 20
Candidate Starts for Zeph_58:
(13, 39287), (Start: 18 @39347 has 8 MA's), (Start: 20 @39362 has 58 MA's), (27, 39515),