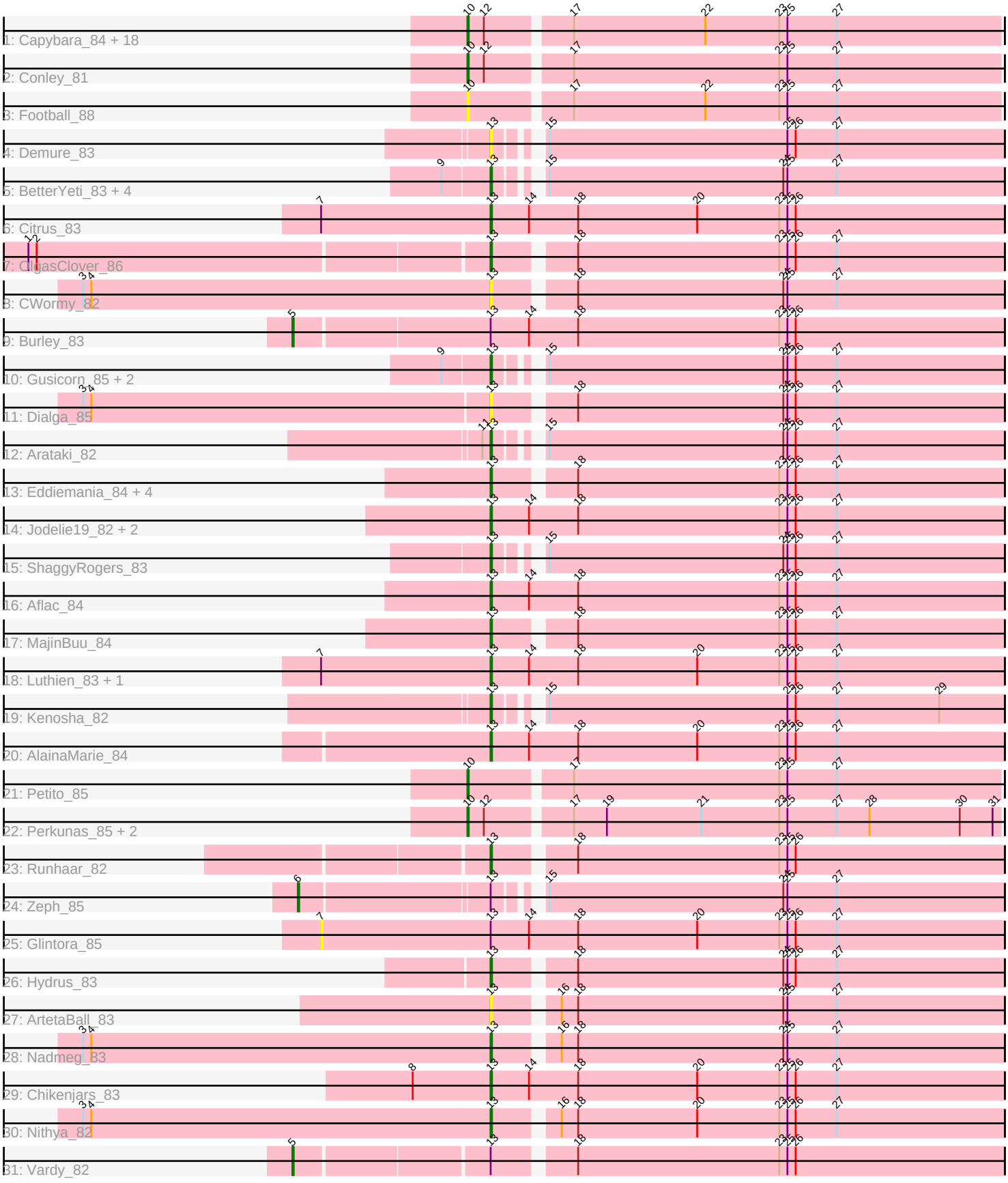
Pham 347615


1: Capybara_84 + 18
2: Conley_81
3: Football_88
4: Demure_83
5: BetterYeti_83 + 4
6: Citrus_83
7: CligasClover_86
8: CWormy_82
9: Burley_83
10: Gusicorn_85 + 2
11: Dialga_85
12: Arataki_82
13: Eddiemania_84 + 4
14: Jodelie19_82 + 2
15: ShaggyRogers_83
16: Aflac_84
17: MajinBuu_84
18: Luthien_83 + 1
19: Kenosha_82
20: AlainaMarie_84
21: Petito_85
22: Perkunas_85 + 2
23: Runhaar_82
24: Zeph_85
25: Glintora_85
26: Hydrus_83
27: ArtetaBall_83
28: Nadmeg_83
29: Chikenjars_83
30: Nithya_82
31: Vardy_82

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 347615 Report

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

Pham number 347615 has 64 members, 10 are drafts.

Phages represented in each track:
• Track 1 : Capybara_84, Kerry_83, Tanis_84, Gravy_83, Tairn4Wing_88, FortCran_85, Captrips_83, ChickyNuggy_87, Artorias_85, JulesRay_84, NoPickles_85, Magel_85, Odesza_83, Gill_84, Roney_83, Bugg_89, Trufflozitus_86, Dancer_85, Avazak_85
• Track 2 : Conley_81
• Track 3 : Football_88
• Track 4 : Demure_83
• Track 5 : BetterYeti_83, PestoPenguin_85, Madvan_83, Untouchable_85, Phepper_84
• Track 6 : Citrus_83
• Track 7 : OlgasClover_86
• Track 8 : CWormy_82
• Track 9 : Burley_83
• Track 10 : Gusicorn_85, Crocheter_84, Aloe25_85
• Track 11 : Dialga_85
• Track 12 : Arataki_82
• Track 13 : Eddiemania_84, Duffington_84, TenaciousP_84, Tonaltzin_83, Rickmore_83
• Track 14 : Jodelie19_82, BluerMoon_83, Figliar_82
• Track 15 : ShaggyRogers_83
• Track 16 : Aflac_84
• Track 17 : MajinBuu_84
• Track 18 : Luthien_83, EndAve_85
• Track 19 : Kenosha_82
• Track 20 : AlainaMarie_84
• Track 21 : Petito_85
• Track 22 : Perkunas_85, Talon44_86, SweetCrkHerbs_86
• Track 23 : Runhaar_82
• Track 24 : Zeph_85
• Track 25 : Glintora_85
• Track 26 : Hydrus_83
• Track 27 : ArtetaBall_83
• Track 28 : Nadmeg_83
• Track 29 : Chikenjars_83
• Track 30 : Nithya_82
• Track 31 : Vardy_82

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

The start number called the most often in the published annotations is 13, it was called in 31 of the 54 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aflac_84, AlainaMarie_84, Aloe25_85, Arataki_82, ArtetaBall_83, BetterYeti_83, BluerMoon_83, CWormy_82, Chikenjars_83, Citrus_83, Crocheter_84, Demure_83, Dialga_85, Duffington_84, Eddiemania_84, EndAve_85, Figliar_82, Gusicorn_85, Hydrus_83, Jodelie19_82, Kenosha_82, Luthien_83, Madvan_83, MajinBuu_84, Nadmeg_83, Nithya_82, OlgasClover_86, PestoPenguin_85, Phepper_84, Rickmore_83, Runhaar_82, ShaggyRogers_83, TenaciousP_84, Tonaltzin_83, Untouchable_85,

Genes that have the "Most Annotated" start but do not call it:
• Burley_83, Glintora_85, Vardy_82, Zeph_85,

Genes that do not have the "Most Annotated" start:
• Artorias_85, Avazak_85, Bugg_89, Captrips_83, Capybara_84, ChickyNuggy_87, Conley_81, Dancer_85, Football_88, FortCran_85, Gill_84, Gravy_83, JulesRay_84, Kerry_83, Magel_85, NoPickles_85, Odesza_83, Perkunas_85, Petito_85, Roney_83, SweetCrkHerbs_86, Tairn4Wing_88, Talon44_86, Tanis_84, Trufflozitus_86,

Summary by start number:

Start 5:
• Found in 2 of 64 (3.1%) of genes in pham
• Manual Annotations of this start: 2 of 54
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Burley_83 (DJ), Vardy_82 (DJ),

Start 6:
• Found in 1 of 64 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 54
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Zeph_85 (DJ),

Start 7:
• Found in 4 of 64 (6.2%) of genes in pham
• No Manual Annotations of this start.
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Glintora_85 (DJ),

Start 10:
• Found in 25 of 64 (39.1%) of genes in pham
• Manual Annotations of this start: 20 of 54
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Artorias_85 (DJ), Avazak_85 (DJ), Bugg_89 (DJ), Captrips_83 (DJ), Capybara_84 (DJ), ChickyNuggy_87 (DJ), Conley_81 (DJ), Dancer_85 (DJ), Football_88 (DJ), FortCran_85 (DJ), Gill_84 (DJ),

Gravy_83 (DJ), JulesRay_84 (DJ), Kerry_83 (DJ), Magel_85 (DJ), NoPickles_85 (DJ), Odesza_83 (DJ), Perkunas_85 (DJ), Petito_85 (DJ), Roney_83 (DJ), SweetCrkHerbs_86 (DJ), Tairn4Wing_88 (DJ), Talon44_86 (DJ), Tanis_84 (DJ), Trufflozitus_86 (DJ),

Start 13:
• Found in 39 of 64 (60.9%) of genes in pham
• Manual Annotations of this start: 31 of 54
• Called 89.7% of time when present
• Phage (with cluster) where this start called: Aflac_84 (DJ), AlainaMarie_84 (DJ), Aloe25_85 (DJ), Arataki_82 (DJ), ArtetaBall_83 (DJ), BetterYeti_83 (DJ), BluerMoon_83 (DJ), CWormy_82 (DJ), Chikenjars_83 (DJ), Citrus_83 (DJ), Crocheter_84 (DJ), Demure_83 (DJ), Dialga_85 (DJ), Duffington_84 (DJ), Eddiemania_84 (DJ), EndAve_85 (DJ), Figliar_82 (DJ), Gusicorn_85 (DJ), Hydrus_83 (DJ), Jodelie19_82 (DJ), Kenosha_82 (DJ), Luthien_83 (DJ), Madvan_83 (DJ), MajinBuu_84 (DJ), Nadmeg_83 (DJ), Nithya_82 (DJ), OlgasClover_86 (DJ), PestoPenguin_85 (DJ), Phepper_84 (DJ), Rickmore_83 (DJ), Runhaar_82 (DJ), ShaggyRogers_83 (DJ), TenaciousP_84 (DJ), Tonaltzin_83 (DJ), Untouchable_85 (DJ),

Summary by clusters:

There is one cluster represented in this pham: DJ

Info for manual annotations of cluster DJ:
•Start number 5 was manually annotated 2 times for cluster DJ.
•Start number 6 was manually annotated 1 time for cluster DJ.
•Start number 10 was manually annotated 20 times for cluster DJ.
•Start number 13 was manually annotated 31 times for cluster DJ.

Gene Information:

Gene: Aflac_84 Start: 54155, Stop: 54529, Start Num: 13
Candidate Starts for Aflac_84:
(Start: 13 @54155 has 31 MA's), (14, 54182), (18, 54218), (23, 54365), (25, 54371), (26, 54377), (27, 54407),

Gene: AlainaMarie_84 Start: 54217, Stop: 54591, Start Num: 13
Candidate Starts for AlainaMarie_84:
(Start: 13 @54217 has 31 MA's), (14, 54244), (18, 54280), (20, 54367), (23, 54427), (25, 54433), (26, 54439), (27, 54469),

Gene: Aloe25_85 Start: 53614, Stop: 53967, Start Num: 13
Candidate Starts for Aloe25_85:
(9, 53581), (Start: 13 @53614 has 31 MA's), (15, 53635), (24, 53806), (25, 53809), (26, 53815), (27, 53845),

Gene: Arataki_82 Start: 53228, Stop: 53581, Start Num: 13
Candidate Starts for Arataki_82:
(11, 53222), (Start: 13 @53228 has 31 MA's), (15, 53249), (24, 53420), (25, 53423), (26, 53429), (27, 53459),

Gene: ArtetaBall_83 Start: 53758, Stop: 54120, Start Num: 13
Candidate Starts for ArtetaBall_83:
(Start: 13 @53758 has 31 MA's), (16, 53797), (18, 53809), (24, 53959), (25, 53962), (27, 53998),

Gene: Artorias_85 Start: 52871, Stop: 53251, Start Num: 10
Candidate Starts for Artorias_85:
(Start: 10 @52871 has 20 MA's), (12, 52883), (17, 52940), (22, 53036), (23, 53090), (25, 53096), (27, 53132),

Gene: Avazak_85 Start: 53300, Stop: 53680, Start Num: 10
Candidate Starts for Avazak_85:
(Start: 10 @53300 has 20 MA's), (12, 53312), (17, 53369), (22, 53465), (23, 53519), (25, 53525), (27, 53561),

Gene: BetterYeti_83 Start: 53613, Stop: 53966, Start Num: 13
Candidate Starts for BetterYeti_83:
(9, 53580), (Start: 13 @53613 has 31 MA's), (15, 53634), (24, 53805), (25, 53808), (27, 53844),

Gene: BluerMoon_83 Start: 54226, Stop: 54600, Start Num: 13
Candidate Starts for BluerMoon_83:
(Start: 13 @54226 has 31 MA's), (14, 54253), (18, 54289), (23, 54436), (25, 54442), (26, 54448), (27, 54478),

Gene: Bugg_89 Start: 52916, Stop: 53296, Start Num: 10
Candidate Starts for Bugg_89:
(Start: 10 @52916 has 20 MA's), (12, 52928), (17, 52985), (22, 53081), (23, 53135), (25, 53141), (27, 53177),

Gene: Burley_83 Start: 53108, Stop: 53620, Start Num: 5
Candidate Starts for Burley_83:
(Start: 5 @53108 has 2 MA's), (Start: 13 @53246 has 31 MA's), (14, 53273), (18, 53309), (23, 53456), (25, 53462), (26, 53468),

Gene: CWormy_82 Start: 53185, Stop: 53547, Start Num: 13
Candidate Starts for CWormy_82:
(3, 52888), (4, 52894), (Start: 13 @53185 has 31 MA's), (18, 53236), (24, 53386), (25, 53389), (27, 53425),

Gene: Captrips_83 Start: 52448, Stop: 52828, Start Num: 10
Candidate Starts for Captrips_83:
(Start: 10 @52448 has 20 MA's), (12, 52460), (17, 52517), (22, 52613), (23, 52667), (25, 52673), (27, 52709),

Gene: Capybara_84 Start: 52689, Stop: 53069, Start Num: 10
Candidate Starts for Capybara_84:
(Start: 10 @52689 has 20 MA's), (12, 52701), (17, 52758), (22, 52854), (23, 52908), (25, 52914), (27, 52950),

Gene: ChickyNuggy_87 Start: 53042, Stop: 53422, Start Num: 10
Candidate Starts for ChickyNuggy_87:
(Start: 10 @53042 has 20 MA's), (12, 53054), (17, 53111), (22, 53207), (23, 53261), (25, 53267), (27, 53303),

Gene: Chikenjars_83 Start: 54208, Stop: 54582, Start Num: 13
Candidate Starts for Chikenjars_83:
(8, 54151), (Start: 13 @54208 has 31 MA's), (14, 54235), (18, 54271), (20, 54358), (23, 54418), (25, 54424), (26, 54430), (27, 54460),

Gene: Citrus_83 Start: 54234, Stop: 54608, Start Num: 13
Candidate Starts for Citrus_83:
(7, 54111), (Start: 13 @54234 has 31 MA's), (14, 54261), (18, 54297), (20, 54384), (23, 54444), (25, 54450), (26, 54456),

Gene: Conley_81 Start: 52634, Stop: 53014, Start Num: 10
Candidate Starts for Conley_81:
(Start: 10 @52634 has 20 MA's), (12, 52646), (17, 52703), (23, 52853), (25, 52859), (27, 52895),

Gene: Crocheter_84 Start: 53707, Stop: 54060, Start Num: 13
Candidate Starts for Crocheter_84:
(9, 53674), (Start: 13 @53707 has 31 MA's), (15, 53728), (24, 53899), (25, 53902), (26, 53908), (27, 53938),

Gene: Dancer_85 Start: 52608, Stop: 52988, Start Num: 10
Candidate Starts for Dancer_85:
(Start: 10 @52608 has 20 MA's), (12, 52620), (17, 52677), (22, 52773), (23, 52827), (25, 52833), (27, 52869),

Gene: Demure_83 Start: 53639, Stop: 53992, Start Num: 13
Candidate Starts for Demure_83:
(Start: 13 @53639 has 31 MA's), (15, 53660), (25, 53834), (26, 53840), (27, 53870),

Gene: Dialga_85 Start: 53774, Stop: 54136, Start Num: 13
Candidate Starts for Dialga_85:
(3, 53480), (4, 53486), (Start: 13 @53774 has 31 MA's), (18, 53825), (24, 53975), (25, 53978), (26, 53984), (27, 54014),

Gene: Duffington_84 Start: 54157, Stop: 54519, Start Num: 13
Candidate Starts for Duffington_84:
(Start: 13 @54157 has 31 MA's), (18, 54208), (23, 54355), (25, 54361), (26, 54367), (27, 54397),

Gene: Eddiemania_84 Start: 54276, Stop: 54638, Start Num: 13
Candidate Starts for Eddiemania_84:
(Start: 13 @54276 has 31 MA's), (18, 54327), (23, 54474), (25, 54480), (26, 54486), (27, 54516),

Gene: EndAve_85 Start: 54155, Stop: 54529, Start Num: 13
Candidate Starts for EndAve_85:
(7, 54032), (Start: 13 @54155 has 31 MA's), (14, 54182), (18, 54218), (20, 54305), (23, 54365), (25, 54371), (26, 54377), (27, 54407),

Gene: Figliar_82 Start: 53963, Stop: 54337, Start Num: 13
Candidate Starts for Figliar_82:
(Start: 13 @53963 has 31 MA's), (14, 53990), (18, 54026), (23, 54173), (25, 54179), (26, 54185), (27, 54215),

Gene: Football_88 Start: 52464, Stop: 52844, Start Num: 10

Candidate Starts for Football_88:
(Start: 10 @52464 has 20 MA's), (17, 52533), (22, 52629), (23, 52683), (25, 52689), (27, 52725),

Gene: FortCran_85 Start: 52871, Stop: 53251, Start Num: 10
Candidate Starts for FortCran_85:
(Start: 10 @52871 has 20 MA's), (12, 52883), (17, 52940), (22, 53036), (23, 53090), (25, 53096), (27, 53132),

Gene: Gill_84 Start: 52716, Stop: 53096, Start Num: 10
Candidate Starts for Gill_84:
(Start: 10 @52716 has 20 MA's), (12, 52728), (17, 52785), (22, 52881), (23, 52935), (25, 52941), (27, 52977),

Gene: Glintora_85 Start: 54220, Stop: 54717, Start Num: 7
Candidate Starts for Glintora_85:
(7, 54220), (Start: 13 @54343 has 31 MA's), (14, 54370), (18, 54406), (20, 54493), (23, 54553), (25, 54559), (26, 54565), (27, 54595),

Gene: Gravy_83 Start: 52379, Stop: 52759, Start Num: 10
Candidate Starts for Gravy_83:
(Start: 10 @52379 has 20 MA's), (12, 52391), (17, 52448), (22, 52544), (23, 52598), (25, 52604), (27, 52640),

Gene: Gusicorn_85 Start: 53614, Stop: 53967, Start Num: 13
Candidate Starts for Gusicorn_85:
(9, 53581), (Start: 13 @53614 has 31 MA's), (15, 53635), (24, 53806), (25, 53809), (26, 53815), (27, 53845),

Gene: Hydrus_83 Start: 53976, Stop: 54338, Start Num: 13
Candidate Starts for Hydrus_83:
(Start: 13 @53976 has 31 MA's), (18, 54027), (24, 54177), (25, 54180), (26, 54186), (27, 54216),

Gene: Jodelie19_82 Start: 55130, Stop: 55504, Start Num: 13
Candidate Starts for Jodelie19_82:
(Start: 13 @55130 has 31 MA's), (14, 55157), (18, 55193), (23, 55340), (25, 55346), (26, 55352), (27, 55382),

Gene: JulesRay_84 Start: 52967, Stop: 53347, Start Num: 10
Candidate Starts for JulesRay_84:
(Start: 10 @52967 has 20 MA's), (12, 52979), (17, 53036), (22, 53132), (23, 53186), (25, 53192), (27, 53228),

Gene: Kenosha_82 Start: 53843, Stop: 54196, Start Num: 13
Candidate Starts for Kenosha_82:
(Start: 13 @53843 has 31 MA's), (15, 53864), (25, 54038), (26, 54044), (27, 54074), (29, 54149),

Gene: Kerry_83 Start: 52442, Stop: 52822, Start Num: 10
Candidate Starts for Kerry_83:
(Start: 10 @52442 has 20 MA's), (12, 52454), (17, 52511), (22, 52607), (23, 52661), (25, 52667), (27, 52703),

Gene: Luthien_83 Start: 54160, Stop: 54534, Start Num: 13
Candidate Starts for Luthien_83:

(7, 54037), (Start: 13 @54160 has 31 MA's), (14, 54187), (18, 54223), (20, 54310), (23, 54370), (25, 54376), (26, 54382), (27, 54412),

Gene: Madvan_83 Start: 53302, Stop: 53655, Start Num: 13
Candidate Starts for Madvan_83:
(9, 53269), (Start: 13 @53302 has 31 MA's), (15, 53323), (24, 53494), (25, 53497), (27, 53533),

Gene: Magel_85 Start: 52631, Stop: 53011, Start Num: 10
Candidate Starts for Magel_85:
(Start: 10 @52631 has 20 MA's), (12, 52643), (17, 52700), (22, 52796), (23, 52850), (25, 52856), (27, 52892),

Gene: MajinBuu_84 Start: 54339, Stop: 54701, Start Num: 13
Candidate Starts for MajinBuu_84:
(Start: 13 @54339 has 31 MA's), (18, 54390), (23, 54537), (25, 54543), (26, 54549), (27, 54579),

Gene: Nadmeg_83 Start: 54273, Stop: 54635, Start Num: 13
Candidate Starts for Nadmeg_83:
(3, 53976), (4, 53982), (Start: 13 @54273 has 31 MA's), (16, 54312), (18, 54324), (24, 54474), (25, 54477), (27, 54513),

Gene: Nithya_82 Start: 53666, Stop: 54028, Start Num: 13
Candidate Starts for Nithya_82:
(3, 53369), (4, 53375), (Start: 13 @53666 has 31 MA's), (16, 53705), (18, 53717), (20, 53804), (23, 53864), (25, 53870), (26, 53876), (27, 53906),

Gene: NoPickles_85 Start: 52538, Stop: 52918, Start Num: 10
Candidate Starts for NoPickles_85:
(Start: 10 @52538 has 20 MA's), (12, 52550), (17, 52607), (22, 52703), (23, 52757), (25, 52763), (27, 52799),

Gene: Odesza_83 Start: 52578, Stop: 52958, Start Num: 10
Candidate Starts for Odesza_83:
(Start: 10 @52578 has 20 MA's), (12, 52590), (17, 52647), (22, 52743), (23, 52797), (25, 52803), (27, 52839),

Gene: OlgasClover_86 Start: 55039, Stop: 55401, Start Num: 13
Candidate Starts for OlgasClover_86:
(1, 54712), (2, 54718), (Start: 13 @55039 has 31 MA's), (18, 55090), (23, 55237), (25, 55243), (26, 55249), (27, 55279),

Gene: Perkunas_85 Start: 52476, Stop: 52856, Start Num: 10
Candidate Starts for Perkunas_85:
(Start: 10 @52476 has 20 MA's), (12, 52488), (17, 52545), (19, 52569), (21, 52638), (23, 52695), (25, 52701), (27, 52737), (28, 52761), (30, 52827), (31, 52851),

Gene: PestoPenguin_85 Start: 53614, Stop: 53967, Start Num: 13
Candidate Starts for PestoPenguin_85:
(9, 53581), (Start: 13 @53614 has 31 MA's), (15, 53635), (24, 53806), (25, 53809), (27, 53845),

Gene: Petito_85 Start: 53583, Stop: 53963, Start Num: 10
Candidate Starts for Petito_85:
(Start: 10 @53583 has 20 MA's), (17, 53652), (23, 53802), (25, 53808), (27, 53844),

Gene: Phepper_84 Start: 53544, Stop: 53897, Start Num: 13
Candidate Starts for Phepper_84:
(9, 53511), (Start: 13 @53544 has 31 MA's), (15, 53565), (24, 53736), (25, 53739), (27, 53775),

Gene: Rickmore_83 Start: 53066, Stop: 53428, Start Num: 13
Candidate Starts for Rickmore_83:
(Start: 13 @53066 has 31 MA's), (18, 53117), (23, 53264), (25, 53270), (26, 53276), (27, 53306),

Gene: Roney_83 Start: 52741, Stop: 53121, Start Num: 10
Candidate Starts for Roney_83:
(Start: 10 @52741 has 20 MA's), (12, 52753), (17, 52810), (22, 52906), (23, 52960), (25, 52966), (27, 53002),

Gene: Runhaar_82 Start: 53351, Stop: 53713, Start Num: 13
Candidate Starts for Runhaar_82:
(Start: 13 @53351 has 31 MA's), (18, 53402), (23, 53549), (25, 53555), (26, 53561),

Gene: ShaggyRogers_83 Start: 53356, Stop: 53709, Start Num: 13
Candidate Starts for ShaggyRogers_83:
(Start: 13 @53356 has 31 MA's), (15, 53377), (24, 53548), (25, 53551), (26, 53557), (27, 53587),

Gene: SweetCrkHerbs_86 Start: 52489, Stop: 52869, Start Num: 10
Candidate Starts for SweetCrkHerbs_86:
(Start: 10 @52489 has 20 MA's), (12, 52501), (17, 52558), (19, 52582), (21, 52651), (23, 52708), (25, 52714), (27, 52750), (28, 52774), (30, 52840), (31, 52864),

Gene: Tairn4Wing_88 Start: 52709, Stop: 53089, Start Num: 10
Candidate Starts for Tairn4Wing_88:
(Start: 10 @52709 has 20 MA's), (12, 52721), (17, 52778), (22, 52874), (23, 52928), (25, 52934), (27, 52970),

Gene: Talon44_86 Start: 53086, Stop: 53466, Start Num: 10
Candidate Starts for Talon44_86:
(Start: 10 @53086 has 20 MA's), (12, 53098), (17, 53155), (19, 53179), (21, 53248), (23, 53305), (25, 53311), (27, 53347), (28, 53371), (30, 53437), (31, 53461),

Gene: Tanis_84 Start: 52561, Stop: 52941, Start Num: 10
Candidate Starts for Tanis_84:
(Start: 10 @52561 has 20 MA's), (12, 52573), (17, 52630), (22, 52726), (23, 52780), (25, 52786), (27, 52822),

Gene: TenaciousP_84 Start: 55091, Stop: 55453, Start Num: 13
Candidate Starts for TenaciousP_84:
(Start: 13 @55091 has 31 MA's), (18, 55142), (23, 55289), (25, 55295), (26, 55301), (27, 55331),

Gene: Tonaltzin_83 Start: 53923, Stop: 54285, Start Num: 13
Candidate Starts for Tonaltzin_83:
(Start: 13 @53923 has 31 MA's), (18, 53974), (23, 54121), (25, 54127), (26, 54133), (27, 54163),

Gene: Trufflozitus_86 Start: 53224, Stop: 53604, Start Num: 10
Candidate Starts for Trufflozitus_86:

(Start: 10 @53224 has 20 MA's), (12, 53236), (17, 53293), (22, 53389), (23, 53443), (25, 53449), (27, 53485),

Gene: Untouchable_85 Start: 54541, Stop: 54894, Start Num: 13
Candidate Starts for Untouchable_85:
(9, 54508), (Start: 13 @54541 has 31 MA's), (15, 54562), (24, 54733), (25, 54736), (27, 54772),

Gene: Vardy_82 Start: 52927, Stop: 53424, Start Num: 5
Candidate Starts for Vardy_82:
(Start: 5 @52927 has 2 MA's), (Start: 13 @53062 has 31 MA's), (18, 53113), (23, 53260), (25, 53266), (26, 53272),

Gene: Zeph_85 Start: 54213, Stop: 54698, Start Num: 6
Candidate Starts for Zeph_85:
(Start: 6 @54213 has 1 MA's), (Start: 13 @54345 has 31 MA's), (15, 54366), (24, 54537), (25, 54540), (27, 54576),