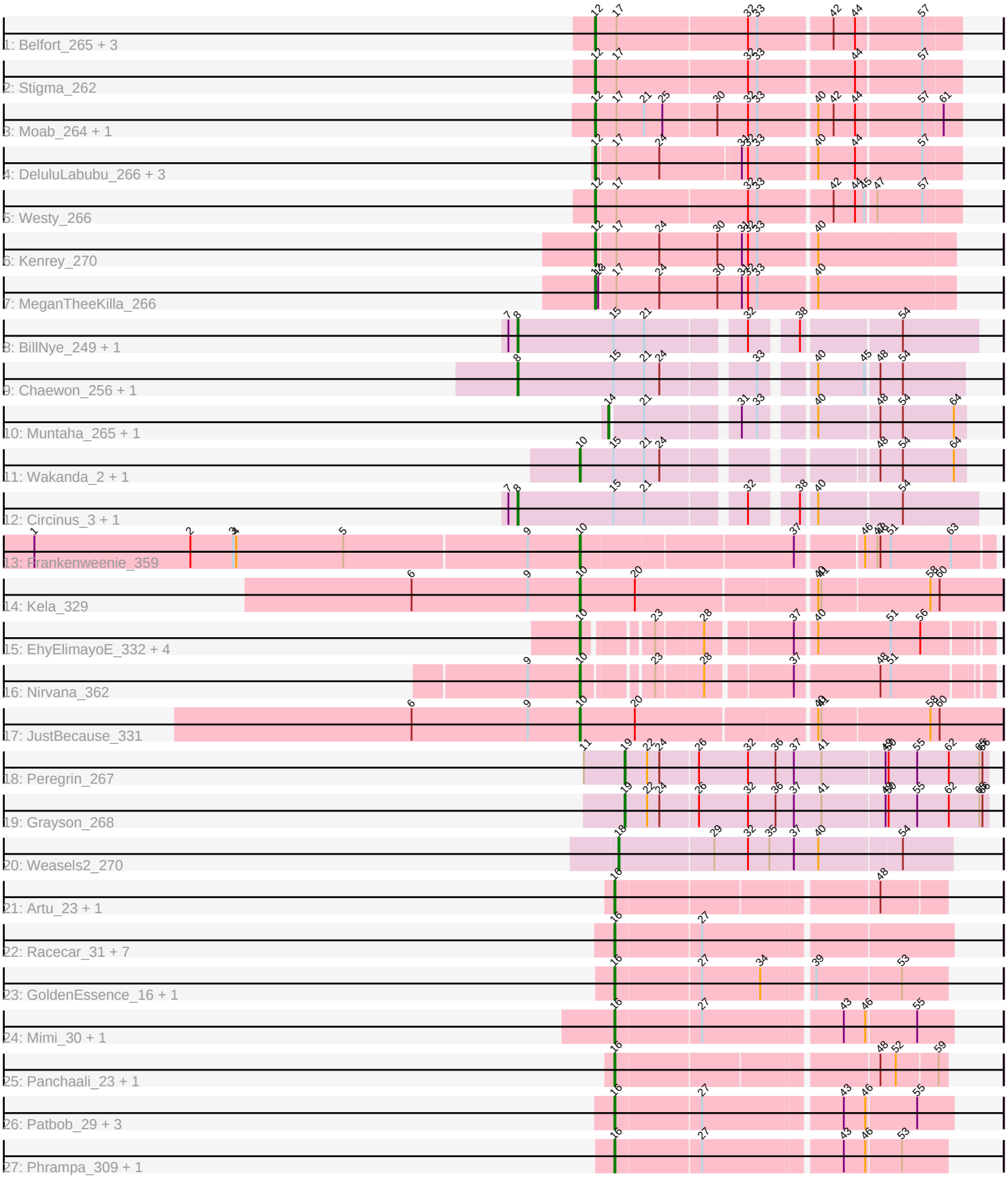
Pham 345683


1: Belfort_265 + 3
2: Stigma_262
3: Moab_264 + 1
4: DeluluLabubu_266 + 3
5: Westy_266
6: Kenrey_270
7: MeganTheeKilla_266
8: BillNye_249 + 1
9: Chaewon_256 + 1
10: Muntaha_265 + 1
11: Wakanda_2 + 1
12: Circinus_3 + 1
13: Frankenweenie_359
14: Kela_329
15: EhyElimayoE_332 + 4
16: Nirvana_362
17: JustBecause_331
18: Peregrin_267
19: Grayson_268
20: Weasels2_270
21: Artu_23 + 1
22: Racecar_31 + 7
23: GoldenEssence_16 + 1
24: Mimi_30 + 1
25: Panchaali_23 + 1
26: Patbob_29 + 3
27: Phrampa_309 + 1

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 345683 Report

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

Pham number 345683 has 58 members, 3 are drafts.

Phages represented in each track:
• Track 1 : Belfort_265, Karp_265, Comrade_260, SparkleGoddess_264
• Track 2 : Stigma_262
• Track 3 : Moab_264, Patelgo_267
• Track 4 : DeluluLabubu_266, Gilson_264, Maupel_270, Francob_267
• Track 5 : Westy_266
• Track 6 : Kenrey_270
• Track 7 : MeganTheeKilla_266
• Track 8 : BillNye_249, BillNye_3
• Track 9 : Chaewon_256, Chaewon_4
• Track 10 : Muntaha_265, Muntaha_2
• Track 11 : Wakanda_2, Wakanda_261
• Track 12 : Circinus_3, Circinus_248
• Track 13 : Frankenweenie_359
• Track 14 : Kela_329
• Track 15 : EhyElimayoE_332, Kradal_329, Quantum_327, Satis_329, Sarkar_327
• Track 16 : Nirvana_362
• Track 17 : JustBecause_331
• Track 18 : Peregrin_267
• Track 19 : Grayson_268
• Track 20 : Weasels2_270
• Track 21 : Artu_23, Artu_310
• Track 22 : Racecar_31, Racecar_320, Bloom_319, FrostedClock_29, Talia1610_30, FrostedClock_312, Talia1610_316, Bloom_32
• Track 23 : GoldenEssence_16, GoldenEssence_297
• Track 24 : Mimi_30, Mimi_315
• Track 25 : Panchaali_23, Panchaali_310
• Track 26 : Patbob_29, Patbob_315, FloraSnap32_310, FloraSnap32_27
• Track 27 : Phrampa_309, Phrampa_25

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

The start number called the most often in the published annotations is 16, it was called in 20 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Artu_23, Artu_310, Bloom_319, Bloom_32, FloraSnap32_27, FloraSnap32_310, FrostedClock_29, FrostedClock_312, GoldenEssence_16, GoldenEssence_297, Mimi_30, Mimi_315, Panchaali_23, Panchaali_310, Patbob_29, Patbob_315, Phrampa_25, Phrampa_309, Racecar_31, Racecar_320, Talia1610_30, Talia1610_316,

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

Genes that do not have the "Most Annotated" start:
• Belfort_265, BillNye_249, BillNye_3, Chaewon_256, Chaewon_4, Circinus_248, Circinus_3, Comrade_260, DeluluLabubu_266, EhyElimayoE_332, Francob_267, Frankenweenie_359, Gilson_264, Grayson_268, JustBecause_331, Karp_265, Kela_329, Kenrey_270, Kradal_329, Maupel_270, MeganTheeKilla_266, Moab_264, Muntaha_2, Muntaha_265, Nirvana_362, Patelgo_267, Peregrin_267, Quantum_327, Sarkar_327, Satis_329, SparkleGoddess_264, Stigma_262, Wakanda_2, Wakanda_261, Weasels2_270, Westy_266,

Summary by start number:

Start 8:
• Found in 6 of 58 (10.3%) of genes in pham
• Manual Annotations of this start: 6 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BillNye_249 (BK2), BillNye_3 (BK2), Chaewon_256 (BK2), Chaewon_4 (BK2), Circinus_248 (BK2), Circinus_3 (BK2),

Start 10:
• Found in 11 of 58 (19.0%) of genes in pham
• Manual Annotations of this start: 11 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: EhyElimayoE_332 (BM), Frankenweenie_359 (BM), JustBecause_331 (BM), Kela_329 (BM), Kradal_329 (BM), Nirvana_362 (BM), Quantum_327 (BM), Sarkar_327 (BM), Satis_329 (BM), Wakanda_2 (BK2), Wakanda_261 (BK2),

Start 12:
• Found in 14 of 58 (24.1%) of genes in pham
• Manual Annotations of this start: 13 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Belfort_265 (BK1), Comrade_260 (BK1), DeluluLabubu_266 (BK1), Francob_267 (BK1), Gilson_264 (BK1), Karp_265 (BK1), Kenrey_270 (BK1), Maupel_270 (BK1), MeganTheeKilla_266 (BK1), Moab_264 (BK1), Patelgo_267 (BK1), SparkleGoddess_264 (BK1), Stigma_262 (BK1), Westy_266 (BK1),

Start 14:
• Found in 2 of 58 (3.4%) of genes in pham
• Manual Annotations of this start: 2 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Muntaha_2 (BK2), Muntaha_265 (BK2),

Start 16:
• Found in 22 of 58 (37.9%) of genes in pham
• Manual Annotations of this start: 20 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Artu_23 (FC), Artu_310 (FC), Bloom_319 (FC), Bloom_32 (FC), FloraSnap32_27 (FC), FloraSnap32_310 (FC), FrostedClock_29 (FC), FrostedClock_312 (FC), GoldenEssence_16 (FC), GoldenEssence_297 (FC), Mimi_30 (FC), Mimi_315 (FC), Panchaali_23 (FC), Panchaali_310 (FC), Patbob_29 (FC), Patbob_315 (FC), Phrampa_25 (FC), Phrampa_309 (FC), Racecar_31 (FC), Racecar_320 (FC), Talia1610_30 (FC), Talia1610_316 (FC),

Start 18:
• Found in 1 of 58 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Weasels2_270 (CB),

Start 19:
• Found in 2 of 58 (3.4%) of genes in pham
• Manual Annotations of this start: 2 of 55
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Grayson_268 (CB), Peregrin_267 (CB),

Summary by clusters:

There are 5 clusters represented in this pham: BM, FC, BK1, BK2, CB,

Info for manual annotations of cluster BK1:
•Start number 12 was manually annotated 13 times for cluster BK1.

Info for manual annotations of cluster BK2:
•Start number 8 was manually annotated 6 times for cluster BK2.
•Start number 10 was manually annotated 2 times for cluster BK2.
•Start number 14 was manually annotated 2 times for cluster BK2.

Info for manual annotations of cluster BM:
•Start number 10 was manually annotated 9 times for cluster BM.

Info for manual annotations of cluster CB:
•Start number 18 was manually annotated 1 time for cluster CB.
•Start number 19 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster FC:
•Start number 16 was manually annotated 20 times for cluster FC.

Gene Information:

Gene: Artu_23 Start: 9828, Stop: 10130, Start Num: 16
Candidate Starts for Artu_23:
(Start: 16 @9828 has 20 MA's), (48, 10068),

Gene: Artu_310 Start: 188982, Stop: 189284, Start Num: 16
Candidate Starts for Artu_310:
(Start: 16 @188982 has 20 MA's), (48, 189222),

Gene: Belfort_265 Start: 126637, Stop: 126978, Start Num: 12
Candidate Starts for Belfort_265:
(Start: 12 @126637 has 13 MA's), (17, 126658), (32, 126784), (33, 126793), (42, 126862), (44, 126883), (57, 126943),

Gene: BillNye_249 Start: 125861, Stop: 126271, Start Num: 8
Candidate Starts for BillNye_249:
(7, 125852), (Start: 8 @125861 has 6 MA's), (15, 125954), (21, 125984), (32, 126071), (38, 126110), (54, 126200),

Gene: BillNye_3 Start: 1039, Stop: 1449, Start Num: 8
Candidate Starts for BillNye_3:
(7, 1030), (Start: 8 @1039 has 6 MA's), (15, 1132), (21, 1162), (32, 1249), (38, 1288), (54, 1378),

Gene: Bloom_319 Start: 187552, Stop: 187866, Start Num: 16
Candidate Starts for Bloom_319:
(Start: 16 @187552 has 20 MA's), (27, 187633),

Gene: Bloom_32 Start: 14077, Stop: 14391, Start Num: 16
Candidate Starts for Bloom_32:
(Start: 16 @14077 has 20 MA's), (27, 14158),

Gene: Chaewon_256 Start: 126768, Stop: 127163, Start Num: 8
Candidate Starts for Chaewon_256:
(Start: 8 @126768 has 6 MA's), (15, 126861), (21, 126891), (24, 126906), (33, 126987), (40, 127029), (45, 127074), (48, 127086), (54, 127107),

Gene: Chaewon_4 Start: 1041, Stop: 1436, Start Num: 8
Candidate Starts for Chaewon_4:
(Start: 8 @1041 has 6 MA's), (15, 1134), (21, 1164), (24, 1179), (33, 1260), (40, 1302), (45, 1347), (48, 1359), (54, 1380),

Gene: Circinus_3 Start: 1078, Stop: 1488, Start Num: 8
Candidate Starts for Circinus_3:
(7, 1069), (Start: 8 @1078 has 6 MA's), (15, 1171), (21, 1201), (32, 1288), (38, 1327), (40, 1339), (54, 1417),

Gene: Circinus_248 Start: 125405, Stop: 125815, Start Num: 8
Candidate Starts for Circinus_248:
(7, 125396), (Start: 8 @125405 has 6 MA's), (15, 125498), (21, 125528), (32, 125615), (38, 125654), (40, 125666), (54, 125744),

Gene: Comrade_260 Start: 126776, Stop: 127117, Start Num: 12
Candidate Starts for Comrade_260:
(Start: 12 @126776 has 13 MA's), (17, 126797), (32, 126923), (33, 126932), (42, 127001), (44, 127022), (57, 127082),

Gene: DeluluLababu_266 Start: 126437, Stop: 126772, Start Num: 12

Candidate Starts for DeluluLababu_266:
(Start: 12 @126437 has 13 MA's), (17, 126455), (24, 126497), (31, 126572), (32, 126578), (33, 126587), (40, 126641), (44, 126677), (57, 126737),

Gene: EhyElimayoE_332 Start: 178762, Stop: 178415, Start Num: 10
Candidate Starts for EhyElimayoE_332:
(Start: 10 @178762 has 11 MA's), (23, 178708), (28, 178666), (37, 178588), (40, 178570), (51, 178501), (56, 178474),

Gene: FloraSnap32_310 Start: 186646, Stop: 186960, Start Num: 16
Candidate Starts for FloraSnap32_310:
(Start: 16 @186646 has 20 MA's), (27, 186727), (43, 186856), (46, 186877), (55, 186925),

Gene: FloraSnap32_27 Start: 12508, Stop: 12822, Start Num: 16
Candidate Starts for FloraSnap32_27:
(Start: 16 @12508 has 20 MA's), (27, 12589), (43, 12718), (46, 12739), (55, 12787),

Gene: Francob_267 Start: 126631, Stop: 126966, Start Num: 12
Candidate Starts for Francob_267:
(Start: 12 @126631 has 13 MA's), (17, 126649), (24, 126691), (31, 126766), (32, 126772), (33, 126781), (40, 126835), (44, 126871), (57, 126931),

Gene: Frankenweenie_359 Start: 192379, Stop: 192002, Start Num: 10
Candidate Starts for Frankenweenie_359:
(1, 192910), (2, 192757), (3, 192715), (4, 192712), (5, 192607), (9, 192430), (Start: 10 @192379 has 11 MA's), (37, 192181), (46, 192121), (47, 192109), (48, 192106), (51, 192097), (63, 192040),

Gene: FrostedClock_29 Start: 13635, Stop: 13949, Start Num: 16
Candidate Starts for FrostedClock_29:
(Start: 16 @13635 has 20 MA's), (27, 13716),

Gene: FrostedClock_312 Start: 187435, Stop: 187749, Start Num: 16
Candidate Starts for FrostedClock_312:
(Start: 16 @187435 has 20 MA's), (27, 187516),

Gene: Gilson_264 Start: 126168, Stop: 126503, Start Num: 12
Candidate Starts for Gilson_264:
(Start: 12 @126168 has 13 MA's), (17, 126186), (24, 126228), (31, 126303), (32, 126309), (33, 126318), (40, 126372), (44, 126408), (57, 126468),

Gene: GoldenEssence_16 Start: 7886, Stop: 8194, Start Num: 16
Candidate Starts for GoldenEssence_16:
(Start: 16 @7886 has 20 MA's), (27, 7967), (34, 8024), (39, 8069), (53, 8150),

Gene: GoldenEssence_297 Start: 178439, Stop: 178747, Start Num: 16
Candidate Starts for GoldenEssence_297:
(Start: 16 @178439 has 20 MA's), (27, 178520), (34, 178577), (39, 178622), (53, 178703),

Gene: Grayson_268 Start: 123424, Stop: 123077, Start Num: 19
Candidate Starts for Grayson_268:
(Start: 19 @123424 has 2 MA's), (22, 123403), (24, 123391), (26, 123355), (32, 123307), (36, 123280), (37, 123262), (41, 123235), (49, 123175), (50, 123172), (55, 123145), (62, 123115), (65, 123085), (66, 123082),

Gene: JustBecause_331 Start: 175882, Stop: 175484, Start Num: 10
Candidate Starts for JustBecause_331:
(6, 176047), (9, 175933), (Start: 10 @175882 has 11 MA's), (20, 175828), (40, 175660), (41, 175657), (58, 175555), (60, 175546),

Gene: Karp_265 Start: 128234, Stop: 128575, Start Num: 12
Candidate Starts for Karp_265:
(Start: 12 @128234 has 13 MA's), (17, 128255), (32, 128381), (33, 128390), (42, 128459), (44, 128480), (57, 128540),

Gene: Kela_329 Start: 176783, Stop: 176385, Start Num: 10
Candidate Starts for Kela_329:
(6, 176948), (9, 176834), (Start: 10 @176783 has 11 MA's), (20, 176729), (40, 176561), (41, 176558), (58, 176456), (60, 176447),

Gene: Kenrey_270 Start: 127380, Stop: 127718, Start Num: 12
Candidate Starts for Kenrey_270:
(Start: 12 @127380 has 13 MA's), (17, 127398), (24, 127440), (30, 127497), (31, 127521), (32, 127527), (33, 127536), (40, 127590),

Gene: Kradal_329 Start: 178759, Stop: 178412, Start Num: 10
Candidate Starts for Kradal_329:
(Start: 10 @178759 has 11 MA's), (23, 178705), (28, 178663), (37, 178585), (40, 178567), (51, 178498), (56, 178471),

Gene: Maupel_270 Start: 125361, Stop: 125696, Start Num: 12
Candidate Starts for Maupel_270:
(Start: 12 @125361 has 13 MA's), (17, 125379), (24, 125421), (31, 125496), (32, 125502), (33, 125511), (40, 125565), (44, 125601), (57, 125661),

Gene: MeganTheeKilla_266 Start: 125979, Stop: 126317, Start Num: 12
Candidate Starts for MeganTheeKilla_266:
(Start: 12 @125979 has 13 MA's), (13, 125982), (17, 125997), (24, 126039), (30, 126096), (31, 126120), (32, 126126), (33, 126135), (40, 126189),

Gene: Mimi_30 Start: 13529, Stop: 13843, Start Num: 16
Candidate Starts for Mimi_30:
(Start: 16 @13529 has 20 MA's), (27, 13610), (43, 13739), (46, 13760), (55, 13808),

Gene: Mimi_315 Start: 186189, Stop: 186503, Start Num: 16
Candidate Starts for Mimi_315:
(Start: 16 @186189 has 20 MA's), (27, 186270), (43, 186399), (46, 186420), (55, 186468),

Gene: Moab_264 Start: 127015, Stop: 127356, Start Num: 12
Candidate Starts for Moab_264:
(Start: 12 @127015 has 13 MA's), (17, 127036), (21, 127063), (25, 127081), (30, 127132), (32, 127162), (33, 127171), (40, 127225), (42, 127240), (44, 127261), (57, 127321), (61, 127339),

Gene: Muntaha_265 Start: 126426, Stop: 126731, Start Num: 14
Candidate Starts for Muntaha_265:
(Start: 14 @126426 has 2 MA's), (21, 126456), (31, 126537), (33, 126552), (40, 126594), (48, 126651), (54, 126672), (64, 126720),

Gene: Muntaha_2 Start: 749, Stop: 1054, Start Num: 14
Candidate Starts for Muntaha_2:
(Start: 14 @749 has 2 MA's), (21, 779), (31, 860), (33, 875), (40, 917), (48, 974), (54, 995), (64, 1043),

Gene: Nirvana_362 Start: 195822, Stop: 195472, Start Num: 10
Candidate Starts for Nirvana_362:
(9, 195873), (Start: 10 @195822 has 11 MA's), (23, 195765), (28, 195723), (37, 195645), (48, 195567), (51, 195558),

Gene: Panchaali_23 Start: 9758, Stop: 10060, Start Num: 16
Candidate Starts for Panchaali_23:
(Start: 16 @9758 has 20 MA's), (48, 9998), (52, 10013), (59, 10052),

Gene: Panchaali_310 Start: 188816, Stop: 189118, Start Num: 16
Candidate Starts for Panchaali_310:
(Start: 16 @188816 has 20 MA's), (48, 189056), (52, 189071), (59, 189110),

Gene: Patbob_29 Start: 13693, Stop: 14007, Start Num: 16
Candidate Starts for Patbob_29:
(Start: 16 @13693 has 20 MA's), (27, 13774), (43, 13903), (46, 13924), (55, 13972),

Gene: Patbob_315 Start: 189152, Stop: 189466, Start Num: 16
Candidate Starts for Patbob_315:
(Start: 16 @189152 has 20 MA's), (27, 189233), (43, 189362), (46, 189383), (55, 189431),

Gene: Patelgo_267 Start: 127948, Stop: 128289, Start Num: 12
Candidate Starts for Patelgo_267:
(Start: 12 @127948 has 13 MA's), (17, 127969), (21, 127996), (25, 128014), (30, 128065), (32, 128095), (33, 128104), (40, 128158), (42, 128173), (44, 128194), (57, 128254), (61, 128272),

Gene: Peregrin_267 Start: 125091, Stop: 124744, Start Num: 19
Candidate Starts for Peregrin_267:
(11, 125130), (Start: 19 @125091 has 2 MA's), (22, 125070), (24, 125058), (26, 125022), (32, 124974), (36, 124947), (37, 124929), (41, 124902), (49, 124842), (50, 124839), (55, 124812), (62, 124782), (65, 124752), (66, 124749),

Gene: Phrampa_309 Start: 187978, Stop: 188286, Start Num: 16
Candidate Starts for Phrampa_309:
(Start: 16 @187978 has 20 MA's), (27, 188059), (43, 188188), (46, 188209), (53, 188242),

Gene: Phrampa_25 Start: 11607, Stop: 11915, Start Num: 16
Candidate Starts for Phrampa_25:
(Start: 16 @11607 has 20 MA's), (27, 11688), (43, 11817), (46, 11838), (53, 11871),

Gene: Quantum_327 Start: 178753, Stop: 178406, Start Num: 10
Candidate Starts for Quantum_327:
(Start: 10 @178753 has 11 MA's), (23, 178699), (28, 178657), (37, 178579), (40, 178561), (51, 178492), (56, 178465),

Gene: Racecar_31 Start: 14121, Stop: 14435, Start Num: 16
Candidate Starts for Racecar_31:
(Start: 16 @14121 has 20 MA's), (27, 14202),

Gene: Racecar_320 Start: 187830, Stop: 188144, Start Num: 16
Candidate Starts for Racecar_320:
(Start: 16 @187830 has 20 MA's), (27, 187911),

Gene: Sarkar_327 Start: 178803, Stop: 178456, Start Num: 10
Candidate Starts for Sarkar_327:
(Start: 10 @178803 has 11 MA's), (23, 178749), (28, 178707), (37, 178629), (40, 178611), (51, 178542), (56, 178515),

Gene: Satis_329 Start: 179094, Stop: 178747, Start Num: 10
Candidate Starts for Satis_329:
(Start: 10 @179094 has 11 MA's), (23, 179040), (28, 178998), (37, 178920), (40, 178902), (51, 178833), (56, 178806),

Gene: SparkleGoddess_264 Start: 127503, Stop: 127844, Start Num: 12
Candidate Starts for SparkleGoddess_264:
(Start: 12 @127503 has 13 MA's), (17, 127524), (32, 127650), (33, 127659), (42, 127728), (44, 127749), (57, 127809),

Gene: Stigma_262 Start: 127216, Stop: 127557, Start Num: 12
Candidate Starts for Stigma_262:
(Start: 12 @127216 has 13 MA's), (17, 127237), (32, 127363), (33, 127372), (44, 127462), (57, 127522),

Gene: Talia1610_30 Start: 13543, Stop: 13857, Start Num: 16
Candidate Starts for Talia1610_30:
(Start: 16 @13543 has 20 MA's), (27, 13624),

Gene: Talia1610_316 Start: 188015, Stop: 188329, Start Num: 16
Candidate Starts for Talia1610_316:
(Start: 16 @188015 has 20 MA's), (27, 188096),

Gene: Wakanda_2 Start: 866, Stop: 1201, Start Num: 10
Candidate Starts for Wakanda_2:
(Start: 10 @866 has 11 MA's), (15, 899), (21, 929), (24, 944), (48, 1121), (54, 1142), (64, 1190),

Gene: Wakanda_261 Start: 125707, Stop: 126042, Start Num: 10
Candidate Starts for Wakanda_261:
(Start: 10 @125707 has 11 MA's), (15, 125740), (21, 125770), (24, 125785), (48, 125962), (54, 125983), (64, 126031),

Gene: Weasels2_270 Start: 126108, Stop: 125791, Start Num: 18
Candidate Starts for Weasels2_270:
(Start: 18 @126108 has 1 MA's), (29, 126018), (32, 125985), (35, 125964), (37, 125940), (40, 125916), (54, 125838),

Gene: Westy_266 Start: 128040, Stop: 128381, Start Num: 12
Candidate Starts for Westy_266:
(Start: 12 @128040 has 13 MA's), (17, 128061), (32, 128187), (33, 128196), (42, 128265), (44, 128286), (45, 128295), (47, 128304), (57, 128346),