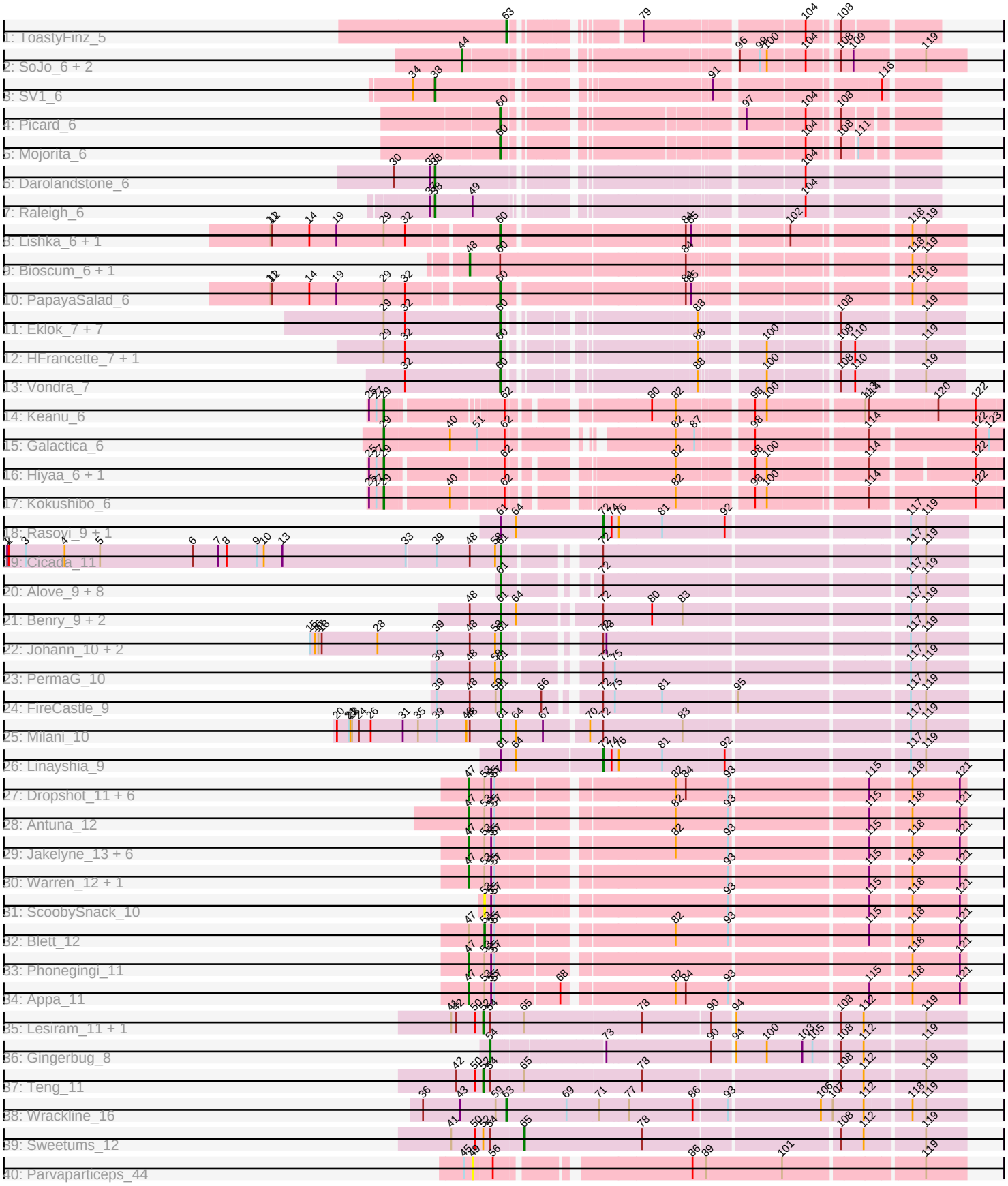
Pham 343916


1: ToastyFinz_5
2: SoJo_6 + 2
3: SV1_6
4: Picard_6
5: Mojorita_6
6: Darolandstone_6
7: Raleigh_6
8: Lishka_6 + 1
9: Bioscum_6 + 1
10: PapayaSalad_6
11: Eklok_7 + 7
12: HFrancette_7 + 1
13: Vondra_7
14: Keanu_6
15: Galactica_6
16: Hiyaa_6 + 1
17: Kokushibo_6
18: Rasovi_9 + 1
19: Cicada_11
20: Alove_9 + 8
21: Benry_9 + 2
22: Johann_10 + 2
23: PermaG_10
24: FireCastle_9
25: Milani_10
26: Linayshia_9
27: Dropshot_11 + 6
28: Antuna_12
29: Jakelyne_13 + 6
30: Warren_12 + 1
31: ScoobySnack_10
32: Blett_12
33: Phonegingi_11
34: Appa_11
35: Lesiram_11 + 1
36: Gingerbug_8
37: Teng_11
38: Wrackline_16
39: Sweetums_12
40: Parvaparticeps_44

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 343916 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 343916 has 80 members, 6 are drafts.

Phages represented in each track:
• Track 1 : ToastyFinz_5
• Track 2 : SoJo_6, Tubberson_6, DaRealMyers_6
• Track 3 : SV1_6
• Track 4 : Picard_6
• Track 5 : Mojorita_6
• Track 6 : Darolandstone_6
• Track 7 : Raleigh_6
• Track 8 : Lishka_6, Austintatious_6
• Track 9 : Bioscum_6, Ididsumtinwong_6
• Track 10 : PapayaSalad_6
• Track 11 : Eklok_7, Piccadilly_7, AxeJC_7, FrumpyGal_7, Cumberbatch_7, Eastland_7, Schlegelian_7, ArizonaGT_7
• Track 12 : HFrancette_7, Ignacio_7
• Track 13 : Vondra_7
• Track 14 : Keanu_6
• Track 15 : Galactica_6
• Track 16 : Hiyaa_6, Spocter_6
• Track 17 : Kokushibo_6
• Track 18 : Rasovi_9, Htur_9
• Track 19 : Cicada_11
• Track 20 : Alove_9, AyoTeo_11, Jera_10, Zanella_9, SBlackberry_9, Labella_11, TurboVicky_9, Rootkit7_9, Typher_11
• Track 21 : Benry_9, IndiRoo_9, Sucha_9
• Track 22 : Johann_10, Olympi_11, Goodman_10
• Track 23 : PermaG_10
• Track 24 : FireCastle_9
• Track 25 : Milani_10
• Track 26 : Linayshia_9
• Track 27 : Dropshot_11, Bush_12, PhillyJawn_12, Winchester007_13, CookieDog_12, NCRodriguez_13, Losacky_13
• Track 28 : Antuna_12
• Track 29 : Jakelyne_13, MenE_12, Guzman_13, Violeta_13, Mariel_13, Phingu_14, Carrillo_13

• Track 30 : Warren_12, Pickles13_11
• Track 31 : ScoobySnack_10
• Track 32 : Blett_12
• Track 33 : Phonegingi_11
• Track 34 : Appa_11
• Track 35 : Lesiram_11, DelaGarza_11
• Track 36 : Gingerbug_8
• Track 37 : Teng_11
• Track 38 : Wrackline_16
• Track 39 : Sweetums_12
• Track 40 : Parvaparticeps_44

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

The start number called the most often in the published annotations is 61, it was called in 18 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Alove_9, AyoTeo_11, Benry_9, Cicada_11, FireCastle_9, Goodman_10, IndiRoo_9, Jera_10, Johann_10, Labella_11, Milani_10, Olympi_11, PermaG_10, Rootkit7_9, SBlackberry_9, Sucha_9, TurboVicky_9, Typher_11, Zanella_9,

Genes that have the "Most Annotated" start but do not call it:
• Htur_9, Linayshia_9, Rasovi_9,

Genes that do not have the "Most Annotated" start:
• Antuna_12, Appa_11, ArizonaGT_7, Austintatious_6, AxeJC_7, Bioscum_6, Blett_12, Bush_12, Carrillo_13, CookieDog_12, Cumberbatch_7, DaRealMyers_6, Darolandstone_6, DelaGarza_11, Dropshot_11, Eastland_7, Eklok_7, FrumpyGal_7, Galactica_6, Gingerbug_8, Guzman_13, HFrancette_7, Hiyaa_6, Ididsumtinwong_6, Ignacio_7, Jakelyne_13, Keanu_6, Kokushibo_6, Lesiram_11, Lishka_6, Losacky_13, Mariel_13, MenE_12, Mojorita_6, NCRodriguez_13, PapayaSalad_6, Parvaparticeps_44, PhillyJawn_12, Phingu_14, Phonegingi_11, Picard_6, Piccadilly_7, Pickles13_11, Raleigh_6, SV1_6, Schlegelian_7, ScoobySnack_10, SoJo_6, Spocter_6, Sweetums_12, Teng_11, ToastyFinz_5, Tubberson_6, Violeta_13, Vondra_7, Warren_12, Winchester007_13, Wrackline_16,

Summary by start number:

Start 29:
• Found in 18 of 80 (22.5%) of genes in pham
• Manual Annotations of this start: 5 of 74
• Called 27.8% of time when present
• Phage (with cluster) where this start called: Galactica_6 (BQ), Hiyaa_6 (BQ), Keanu_6 (BQ), Kokushibo_6 (BQ), Spocter_6 (BQ),

Start 38:
• Found in 3 of 80 (3.8%) of genes in pham
• Manual Annotations of this start: 3 of 74
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Darolandstone_6 (BC2), Raleigh_6 (BC2), SV1_6 (BC1),

Start 44:
• Found in 3 of 80 (3.8%) of genes in pham
• Manual Annotations of this start: 3 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: DaRealMyers_6 (BC1), SoJo_6 (BC1), Tubberson_6 (BC1),

Start 47:
• Found in 20 of 80 (25.0%) of genes in pham
• Manual Annotations of this start: 16 of 74
• Called 95.0% of time when present
• Phage (with cluster) where this start called: Antuna_12 (GA), Appa_11 (GA), Bush_12 (GA), Carrillo_13 (GA), CookieDog_12 (GA), Dropshot_11 (GA), Guzman_13 (GA), Jakelyne_13 (GA), Losacky_13 (GA), Mariel_13 (GA), MenE_12 (GA), NCRodriguez_13 (GA), PhillyJawn_12 (GA), Phingu_14 (GA), Phonegingi_11 (GA), Pickles13_11 (GA), Violeta_13 (GA), Warren_12 (GA), Winchester007_13 (GA),

Start 48:
• Found in 12 of 80 (15.0%) of genes in pham
• Manual Annotations of this start: 2 of 74
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Bioscum_6 (BC3), Ididsumtinwong_6 (BC3),

Start 49:
• Found in 2 of 80 (2.5%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Parvaparticeps_44 (UNK),

Start 52:
• Found in 4 of 80 (5.0%) of genes in pham
• Manual Annotations of this start: 3 of 74
• Called 75.0% of time when present
• Phage (with cluster) where this start called: DelaGarza_11 (GF), Lesiram_11 (GF), Teng_11 (GF),

Start 53:
• Found in 21 of 80 (26.2%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 9.5% of time when present
• Phage (with cluster) where this start called: Blett_12 (GA), ScoobySnack_10 (GA),

Start 54:
• Found in 5 of 80 (6.2%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Gingerbug_8 (GF),

Start 60:
• Found in 18 of 80 (22.5%) of genes in pham
• Manual Annotations of this start: 16 of 74
• Called 88.9% of time when present
• Phage (with cluster) where this start called: ArizonaGT_7 (BP), Austintatious_6 (BC3), AxeJC_7 (BP), Cumberbatch_7 (BP), Eastland_7 (BP), Eklok_7 (BP), FrumpyGal_7 (BP), HFrancette_7 (BP), Ignacio_7 (BP), Lishka_6 (BC3), Mojorita_6 (BC1), PapayaSalad_6 (BC3), Picard_6 (BC1), Piccadilly_7 (BP), Schlegelian_7 (BP), Vondra_7 (BP),

Start 61:
• Found in 22 of 80 (27.5%) of genes in pham
• Manual Annotations of this start: 18 of 74
• Called 86.4% of time when present
• Phage (with cluster) where this start called: Alove_9 (EJ), AyoTeo_11 (EJ), Benry_9 (EJ), Cicada_11 (EJ), FireCastle_9 (EJ), Goodman_10 (EJ), IndiRoo_9 (EJ), Jera_10 (EJ), Johann_10 (EJ), Labella_11 (EJ), Milani_10 (EJ), Olympi_11 (EJ), PermaG_10 (EJ), Rootkit7_9 (EJ), SBlackberry_9 (EJ), Sucha_9 (EJ), TurboVicky_9 (EJ), Typher_11 (EJ), Zanella_9 (EJ),

Start 63:
• Found in 2 of 80 (2.5%) of genes in pham
• Manual Annotations of this start: 2 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ToastyFinz_5 (BC1), Wrackline_16 (GF),

Start 65:
• Found in 4 of 80 (5.0%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Sweetums_12 (GF),

Start 72:
• Found in 22 of 80 (27.5%) of genes in pham
• Manual Annotations of this start: 3 of 74
• Called 13.6% of time when present
• Phage (with cluster) where this start called: Htur_9 (EJ), Linayshia_9 (EJ), Rasovi_9 (EJ),

Summary by clusters:

There are 9 clusters represented in this pham: EJ, GF, BP, BQ, GA, UNK, BC1, BC2, BC3,

Info for manual annotations of cluster BC1:
•Start number 38 was manually annotated 1 time for cluster BC1.
•Start number 44 was manually annotated 3 times for cluster BC1.
•Start number 60 was manually annotated 2 times for cluster BC1.
•Start number 63 was manually annotated 1 time for cluster BC1.

Info for manual annotations of cluster BC2:
•Start number 38 was manually annotated 2 times for cluster BC2.

Info for manual annotations of cluster BC3:
•Start number 48 was manually annotated 2 times for cluster BC3.
•Start number 60 was manually annotated 3 times for cluster BC3.

Info for manual annotations of cluster BP:
•Start number 60 was manually annotated 11 times for cluster BP.

Info for manual annotations of cluster BQ:
•Start number 29 was manually annotated 5 times for cluster BQ.

Info for manual annotations of cluster EJ:
•Start number 61 was manually annotated 18 times for cluster EJ.
•Start number 72 was manually annotated 3 times for cluster EJ.

Info for manual annotations of cluster GA:
•Start number 47 was manually annotated 16 times for cluster GA.
•Start number 53 was manually annotated 1 time for cluster GA.

Info for manual annotations of cluster GF:
•Start number 52 was manually annotated 3 times for cluster GF.
•Start number 54 was manually annotated 1 time for cluster GF.
•Start number 63 was manually annotated 1 time for cluster GF.
•Start number 65 was manually annotated 1 time for cluster GF.

Gene Information:

Gene: Alove_9 Start: 8202, Stop: 8933, Start Num: 61
Candidate Starts for Alove_9:
(Start: 61 @8202 has 18 MA's), (Start: 72 @8322 has 3 MA's), (117, 8832), (119, 8859),

Gene: Antuna_12 Start: 6246, Stop: 7052, Start Num: 47
Candidate Starts for Antuna_12:
(Start: 47 @6246 has 16 MA's), (Start: 53 @6273 has 1 MA's), (55, 6285), (57, 6291), (82, 6573), (93, 6663), (115, 6894), (118, 6957), (121, 7041),

Gene: Appa_11 Start: 6111, Stop: 6914, Start Num: 47
Candidate Starts for Appa_11:
(Start: 47 @6111 has 16 MA's), (Start: 53 @6138 has 1 MA's), (55, 6150), (57, 6156), (68, 6258), (82, 6435), (84, 6453), (93, 6525), (115, 6756), (118, 6819), (121, 6903),

Gene: ArizonaGT_7 Start: 5592, Stop: 6266, Start Num: 60
Candidate Starts for ArizonaGT_7:
(Start: 29 @5394 has 5 MA's), (32, 5430), (Start: 60 @5592 has 16 MA's), (88, 5868), (108, 6066), (119, 6198),

Gene: Austintatious_6 Start: 5252, Stop: 5971, Start Num: 60
Candidate Starts for Austintatious_6:
(11, 4865), (12, 4868), (14, 4934), (19, 4982), (Start: 29 @5066 has 5 MA's), (32, 5102), (Start: 60 @5252 has 16 MA's), (84, 5555), (85, 5561), (102, 5702), (118, 5876), (119, 5900),

Gene: AxeJC_7 Start: 5605, Stop: 6279, Start Num: 60
Candidate Starts for AxeJC_7:
(Start: 29 @5407 has 5 MA's), (32, 5443), (Start: 60 @5605 has 16 MA's), (88, 5881), (108, 6079), (119, 6211),

Gene: AyoTeo_11 Start: 8329, Stop: 9060, Start Num: 61
Candidate Starts for AyoTeo_11:
(Start: 61 @8329 has 18 MA's), (Start: 72 @8449 has 3 MA's), (117, 8959), (119, 8986),

Gene: Benry_9 Start: 6358, Stop: 7122, Start Num: 61
Candidate Starts for Benry_9:
(Start: 48 @6304 has 2 MA's), (Start: 61 @6358 has 18 MA's), (64, 6382), (Start: 72 @6511 has 3 MA's), (80, 6595), (83, 6649), (117, 7021), (119, 7048),

Gene: Bioscum_6 Start: 5214, Stop: 6005, Start Num: 48
Candidate Starts for Bioscum_6:
(Start: 48 @5214 has 2 MA's), (Start: 60 @5268 has 16 MA's), (84, 5583), (118, 5910), (119, 5934),

Gene: Blett_12 Start: 6287, Stop: 7066, Start Num: 53
Candidate Starts for Blett_12:
(Start: 47 @6260 has 16 MA's), (Start: 53 @6287 has 1 MA's), (55, 6299), (57, 6305), (82, 6587), (93, 6677), (115, 6908), (118, 6971), (121, 7055),

Gene: Bush_12 Start: 6255, Stop: 7058, Start Num: 47
Candidate Starts for Bush_12:
(Start: 47 @6255 has 16 MA's), (Start: 53 @6282 has 1 MA's), (55, 6294), (57, 6300), (82, 6579), (84, 6597), (93, 6669), (115, 6900), (118, 6963), (121, 7047),

Gene: Carrillo_13 Start: 6215, Stop: 7021, Start Num: 47
Candidate Starts for Carrillo_13:
(Start: 47 @6215 has 16 MA's), (Start: 53 @6242 has 1 MA's), (55, 6254), (57, 6260), (82, 6542), (93, 6632), (115, 6863), (118, 6926), (121, 7010),

Gene: Cicada_11 Start: 8447, Stop: 9187, Start Num: 61
Candidate Starts for Cicada_11:
(1, 7577), (2, 7580), (3, 7610), (4, 7679), (5, 7742), (6, 7907), (7, 7952), (8, 7967), (9, 8021), (10, 8033), (13, 8066), (33, 8285), (39, 8336), (Start: 48 @8393 has 2 MA's), (58, 8438), (Start: 61 @8447 has 18 MA's), (Start: 72 @8576 has 3 MA's), (117, 9086), (119, 9113),

Gene: CookieDog_12 Start: 6255, Stop: 7058, Start Num: 47
Candidate Starts for CookieDog_12:
(Start: 47 @6255 has 16 MA's), (Start: 53 @6282 has 1 MA's), (55, 6294), (57, 6300), (82, 6579), (84, 6597), (93, 6669), (115, 6900), (118, 6963), (121, 7047),

Gene: Cumberbatch_7 Start: 5592, Stop: 6266, Start Num: 60
Candidate Starts for Cumberbatch_7:
(Start: 29 @5394 has 5 MA's), (32, 5430), (Start: 60 @5592 has 16 MA's), (88, 5868), (108, 6066), (119, 6198),

Gene: DaRealMyers_6 Start: 5536, Stop: 6282, Start Num: 44
Candidate Starts for DaRealMyers_6:
(Start: 44 @5536 has 3 MA's), (96, 5926), (99, 5962), (100, 5974), (104, 6037), (108, 6079), (109, 6100), (119, 6211),

Gene: Darolandstone_6 Start: 5453, Stop: 6211, Start Num: 38
Candidate Starts for Darolandstone_6:
(30, 5384), (37, 5444), (Start: 38 @5453 has 3 MA's), (104, 5999),

Gene: DelaGarza_11 Start: 6593, Stop: 7396, Start Num: 52
Candidate Starts for DelaGarza_11:
(41, 6536), (42, 6545), (50, 6578), (Start: 52 @6593 has 3 MA's), (Start: 54 @6605 has 1 MA's), (Start: 65 @6653 has 1 MA's), (78, 6857), (90, 6974), (94, 7010), (108, 7184), (112, 7223), (119, 7325),

Gene: Dropshot_11 Start: 6111, Stop: 6914, Start Num: 47
Candidate Starts for Dropshot_11:
(Start: 47 @6111 has 16 MA's), (Start: 53 @6138 has 1 MA's), (55, 6150), (57, 6156), (82, 6435), (84, 6453), (93, 6525), (115, 6756), (118, 6819), (121, 6903),

Gene: Eastland_7 Start: 5593, Stop: 6267, Start Num: 60
Candidate Starts for Eastland_7:
(Start: 29 @5395 has 5 MA's), (32, 5431), (Start: 60 @5593 has 16 MA's), (88, 5869), (108, 6067), (119, 6199),

Gene: Eklok_7 Start: 5605, Stop: 6279, Start Num: 60
Candidate Starts for Eklok_7:
(Start: 29 @5407 has 5 MA's), (32, 5443), (Start: 60 @5605 has 16 MA's), (88, 5881), (108, 6079), (119, 6211),

Gene: FireCastle_9 Start: 8109, Stop: 8858, Start Num: 61
Candidate Starts for FireCastle_9:
(39, 7998), (Start: 48 @8055 has 2 MA's), (59, 8100), (Start: 61 @8109 has 18 MA's), (66, 8175), (Start: 72 @8247 has 3 MA's), (75, 8268), (81, 8349), (95, 8472), (117, 8757), (119, 8784),

Gene: FrumpyGal_7 Start: 5593, Stop: 6267, Start Num: 60
Candidate Starts for FrumpyGal_7:
(Start: 29 @5395 has 5 MA's), (32, 5431), (Start: 60 @5593 has 16 MA's), (88, 5869), (108, 6067), (119, 6199),

Gene: Galactica_6 Start: 4832, Stop: 5782, Start Num: 29
Candidate Starts for Galactica_6:
(Start: 29 @4832 has 5 MA's), (40, 4946), (51, 4991), (62, 5036), (82, 5258), (87, 5291), (98, 5375), (114, 5555), (122, 5732), (123, 5756),

Gene: Gingerbug_8 Start: 5806, Stop: 6582, Start Num: 54
Candidate Starts for Gingerbug_8:
(Start: 54 @5806 has 1 MA's), (73, 5980), (90, 6160), (94, 6196), (100, 6250), (103, 6313), (105, 6331), (108, 6370), (112, 6409), (119, 6511),

Gene: Goodman_10 Start: 8356, Stop: 9096, Start Num: 61
Candidate Starts for Goodman_10:
(15, 8020), (16, 8029), (17, 8035), (18, 8041), (28, 8140), (39, 8245), (Start: 48 @8302 has 2 MA's), (58, 8347), (Start: 61 @8356 has 18 MA's), (Start: 72 @8485 has 3 MA's), (73, 8491), (117, 8995), (119, 9022),

Gene: Guzman_13 Start: 6526, Stop: 7329, Start Num: 47
Candidate Starts for Guzman_13:

(Start: 47 @6526 has 16 MA's), (Start: 53 @6553 has 1 MA's), (55, 6565), (57, 6571), (82, 6850), (93, 6940), (115, 7171), (118, 7234), (121, 7318),

Gene: HFrancette_7 Start: 5597, Stop: 6271, Start Num: 60
Candidate Starts for HFrancette_7:
(Start: 29 @5399 has 5 MA's), (32, 5435), (Start: 60 @5597 has 16 MA's), (88, 5873), (100, 5966), (108, 6071), (110, 6095), (119, 6203),

Gene: Hiyaa_6 Start: 4848, Stop: 5771, Start Num: 29
Candidate Starts for Hiyaa_6:
(25, 4824), (27, 4836), (Start: 29 @4848 has 5 MA's), (62, 5031), (82, 5268), (98, 5385), (100, 5406), (114, 5562), (122, 5724),

Gene: Htur_9 Start: 8424, Stop: 9035, Start Num: 72
Candidate Starts for Htur_9:
(Start: 61 @8250 has 18 MA's), (64, 8274), (Start: 72 @8424 has 3 MA's), (74, 8439), (76, 8451), (81, 8526), (92, 8634), (117, 8934), (119, 8961),

Gene: Ididsumtinwong_6 Start: 5214, Stop: 6005, Start Num: 48
Candidate Starts for Ididsumtinwong_6:
(Start: 48 @5214 has 2 MA's), (Start: 60 @5268 has 16 MA's), (84, 5583), (118, 5910), (119, 5934),

Gene: Ignacio_7 Start: 5597, Stop: 6271, Start Num: 60
Candidate Starts for Ignacio_7:
(Start: 29 @5399 has 5 MA's), (32, 5435), (Start: 60 @5597 has 16 MA's), (88, 5873), (100, 5966), (108, 6071), (110, 6095), (119, 6203),

Gene: IndiRoo_9 Start: 6360, Stop: 7124, Start Num: 61
Candidate Starts for IndiRoo_9:
(Start: 48 @6306 has 2 MA's), (Start: 61 @6360 has 18 MA's), (64, 6384), (Start: 72 @6513 has 3 MA's), (80, 6597), (83, 6651), (117, 7023), (119, 7050),

Gene: Jakelyne_13 Start: 6259, Stop: 7065, Start Num: 47
Candidate Starts for Jakelyne_13:
(Start: 47 @6259 has 16 MA's), (Start: 53 @6286 has 1 MA's), (55, 6298), (57, 6304), (82, 6586), (93, 6676), (115, 6907), (118, 6970), (121, 7054),

Gene: Jera_10 Start: 7446, Stop: 8177, Start Num: 61
Candidate Starts for Jera_10:
(Start: 61 @7446 has 18 MA's), (Start: 72 @7566 has 3 MA's), (117, 8076), (119, 8103),

Gene: Johann_10 Start: 8356, Stop: 9096, Start Num: 61
Candidate Starts for Johann_10:
(15, 8020), (16, 8029), (17, 8035), (18, 8041), (28, 8140), (39, 8245), (Start: 48 @8302 has 2 MA's), (58, 8347), (Start: 61 @8356 has 18 MA's), (Start: 72 @8485 has 3 MA's), (73, 8491), (117, 8995), (119, 9022),

Gene: Keanu_6 Start: 4887, Stop: 5831, Start Num: 29
Candidate Starts for Keanu_6:
(25, 4863), (27, 4875), (Start: 29 @4887 has 5 MA's), (62, 5064), (80, 5268), (82, 5310), (98, 5427), (100, 5448), (113, 5598), (114, 5604), (120, 5718), (122, 5784),

Gene: Kokushibo_6 Start: 4848, Stop: 5780, Start Num: 29

Candidate Starts for Kokushibo_6:
(25, 4824), (27, 4836), (Start: 29 @4848 has 5 MA's), (40, 4950), (62, 5031), (82, 5268), (98, 5385), (100, 5406), (114, 5562), (122, 5733),

Gene: Labella_11 Start: 8333, Stop: 9064, Start Num: 61
Candidate Starts for Labella_11:
(Start: 61 @8333 has 18 MA's), (Start: 72 @8453 has 3 MA's), (117, 8963), (119, 8990),

Gene: Lesiram_11 Start: 6569, Stop: 7369, Start Num: 52
Candidate Starts for Lesiram_11:
(41, 6512), (42, 6521), (50, 6554), (Start: 52 @6569 has 3 MA's), (Start: 54 @6581 has 1 MA's), (Start: 65 @6629 has 1 MA's), (78, 6830), (90, 6947), (94, 6983), (108, 7157), (112, 7196), (119, 7298),

Gene: Linayshia_9 Start: 8418, Stop: 9029, Start Num: 72
Candidate Starts for Linayshia_9:
(Start: 61 @8250 has 18 MA's), (64, 8274), (Start: 72 @8418 has 3 MA's), (74, 8433), (76, 8445), (81, 8520), (92, 8628), (117, 8928), (119, 8955),

Gene: Lishka_6 Start: 5252, Stop: 5971, Start Num: 60
Candidate Starts for Lishka_6:
(11, 4865), (12, 4868), (14, 4934), (19, 4982), (Start: 29 @5066 has 5 MA's), (32, 5102), (Start: 60 @5252 has 16 MA's), (84, 5555), (85, 5561), (102, 5702), (118, 5876), (119, 5900),

Gene: Losacky_13 Start: 6401, Stop: 7204, Start Num: 47
Candidate Starts for Losacky_13:
(Start: 47 @6401 has 16 MA's), (Start: 53 @6428 has 1 MA's), (55, 6440), (57, 6446), (82, 6725), (84, 6743), (93, 6815), (115, 7046), (118, 7109), (121, 7193),

Gene: Mariel_13 Start: 6419, Stop: 7225, Start Num: 47
Candidate Starts for Mariel_13:
(Start: 47 @6419 has 16 MA's), (Start: 53 @6446 has 1 MA's), (55, 6458), (57, 6464), (82, 6746), (93, 6836), (115, 7067), (118, 7130), (121, 7214),

Gene: MenE_12 Start: 6376, Stop: 7182, Start Num: 47
Candidate Starts for MenE_12:
(Start: 47 @6376 has 16 MA's), (Start: 53 @6403 has 1 MA's), (55, 6415), (57, 6421), (82, 6703), (93, 6793), (115, 7024), (118, 7087), (121, 7171),

Gene: Milani_10 Start: 7008, Stop: 7781, Start Num: 61
Candidate Starts for Milani_10:
(20, 6720), (21, 6741), (22, 6744), (23, 6747), (24, 6759), (26, 6780), (31, 6837), (35, 6864), (39, 6897), (46, 6948), (Start: 48 @6954 has 2 MA's), (Start: 61 @7008 has 18 MA's), (64, 7032), (67, 7077), (70, 7149), (Start: 72 @7170 has 3 MA's), (83, 7308), (117, 7680), (119, 7707),

Gene: Mojorita_6 Start: 5599, Stop: 6231, Start Num: 60
Candidate Starts for Mojorita_6:
(Start: 60 @5599 has 16 MA's), (104, 6040), (108, 6082), (111, 6106),

Gene: NCRodriguez_13 Start: 6379, Stop: 7182, Start Num: 47
Candidate Starts for NCRodriguez_13:
(Start: 47 @6379 has 16 MA's), (Start: 53 @6406 has 1 MA's), (55, 6418), (57, 6424), (82, 6703), (84, 6721), (93, 6793), (115, 7024), (118, 7087), (121, 7171),

Gene: Olympi_11 Start: 8347, Stop: 9087, Start Num: 61
Candidate Starts for Olympi_11:
(15, 8011), (16, 8020), (17, 8026), (18, 8032), (28, 8131), (39, 8236), (Start: 48 @8293 has 2 MA's), (58, 8338), (Start: 61 @8347 has 18 MA's), (Start: 72 @8476 has 3 MA's), (73, 8482), (117, 8986), (119, 9013),

Gene: PapayaSalad_6 Start: 5252, Stop: 5977, Start Num: 60
Candidate Starts for PapayaSalad_6:
(11, 4865), (12, 4868), (14, 4934), (19, 4982), (Start: 29 @5066 has 5 MA's), (32, 5102), (Start: 60 @5252 has 16 MA's), (84, 5555), (85, 5561), (118, 5882), (119, 5906),

Gene: Parvaparticeps_44 Start: 31885, Stop: 31091, Start Num: 49
Candidate Starts for Parvaparticeps_44:
(45, 31900), (49, 31885), (56, 31852), (86, 31549), (89, 31528), (101, 31396), (119, 31162),

Gene: PermaG_10 Start: 8378, Stop: 9118, Start Num: 61
Candidate Starts for PermaG_10:
(39, 8267), (Start: 48 @8324 has 2 MA's), (58, 8369), (Start: 61 @8378 has 18 MA's), (Start: 72 @8507 has 3 MA's), (75, 8528), (117, 9017), (119, 9044),

Gene: PhillyJawn_12 Start: 6111, Stop: 6914, Start Num: 47
Candidate Starts for PhillyJawn_12:
(Start: 47 @6111 has 16 MA's), (Start: 53 @6138 has 1 MA's), (55, 6150), (57, 6156), (82, 6435), (84, 6453), (93, 6525), (115, 6756), (118, 6819), (121, 6903),

Gene: Phingu_14 Start: 6266, Stop: 7072, Start Num: 47
Candidate Starts for Phingu_14:
(Start: 47 @6266 has 16 MA's), (Start: 53 @6293 has 1 MA's), (55, 6305), (57, 6311), (82, 6593), (93, 6683), (115, 6914), (118, 6977), (121, 7061),

Gene: Phonegingi_11 Start: 6105, Stop: 6908, Start Num: 47
Candidate Starts for Phonegingi_11:
(Start: 47 @6105 has 16 MA's), (Start: 53 @6132 has 1 MA's), (55, 6144), (57, 6150), (118, 6813), (121, 6897),

Gene: Picard_6 Start: 5599, Stop: 6231, Start Num: 60
Candidate Starts for Picard_6:
(Start: 60 @5599 has 16 MA's), (97, 5941), (104, 6040), (108, 6082),

Gene: Piccadilly_7 Start: 5592, Stop: 6266, Start Num: 60
Candidate Starts for Piccadilly_7:
(Start: 29 @5394 has 5 MA's), (32, 5430), (Start: 60 @5592 has 16 MA's), (88, 5868), (108, 6066), (119, 6198),

Gene: Pickles13_11 Start: 6248, Stop: 7060, Start Num: 47
Candidate Starts for Pickles13_11:
(Start: 47 @6248 has 16 MA's), (Start: 53 @6275 has 1 MA's), (55, 6287), (57, 6293), (93, 6671), (115, 6902), (118, 6965), (121, 7049),

Gene: Raleigh_6 Start: 5425, Stop: 6174, Start Num: 38
Candidate Starts for Raleigh_6:
(37, 5416), (Start: 38 @5425 has 3 MA's), (49, 5488), (104, 5962),

Gene: Rasovi_9 Start: 8424, Stop: 9035, Start Num: 72
Candidate Starts for Rasovi_9:
(Start: 61 @8250 has 18 MA's), (64, 8274), (Start: 72 @8424 has 3 MA's), (74, 8439), (76, 8451), (81, 8526), (92, 8634), (117, 8934), (119, 8961),

Gene: Rootkit7_9 Start: 8202, Stop: 8933, Start Num: 61
Candidate Starts for Rootkit7_9:
(Start: 61 @8202 has 18 MA's), (Start: 72 @8322 has 3 MA's), (117, 8832), (119, 8859),

Gene: SBlackberry_9 Start: 8205, Stop: 8936, Start Num: 61
Candidate Starts for SBlackberry_9:
(Start: 61 @8205 has 18 MA's), (Start: 72 @8325 has 3 MA's), (117, 8835), (119, 8862),

Gene: SV1_6 Start: 5267, Stop: 6019, Start Num: 38
Candidate Starts for SV1_6:
(34, 5228), (Start: 38 @5267 has 3 MA's), (91, 5675), (116, 5927),

Gene: Schlegelian_7 Start: 5592, Stop: 6266, Start Num: 60
Candidate Starts for Schlegelian_7:
(Start: 29 @5394 has 5 MA's), (32, 5430), (Start: 60 @5592 has 16 MA's), (88, 5868), (108, 6066), (119, 6198),

Gene: ScoobySnack_10 Start: 5993, Stop: 6766, Start Num: 53
Candidate Starts for ScoobySnack_10:
(Start: 53 @5993 has 1 MA's), (55, 6005), (57, 6011), (93, 6377), (115, 6608), (118, 6671), (121, 6755),

Gene: SoJo_6 Start: 5536, Stop: 6282, Start Num: 44
Candidate Starts for SoJo_6:
(Start: 44 @5536 has 3 MA's), (96, 5926), (99, 5962), (100, 5974), (104, 6037), (108, 6079), (109, 6100), (119, 6211),

Gene: Spocter_6 Start: 4848, Stop: 5780, Start Num: 29
Candidate Starts for Spocter_6:
(25, 4824), (27, 4836), (Start: 29 @4848 has 5 MA's), (62, 5031), (82, 5268), (98, 5385), (100, 5406), (114, 5562), (122, 5733),

Gene: Sucha_9 Start: 6355, Stop: 7119, Start Num: 61
Candidate Starts for Sucha_9:
(Start: 48 @6301 has 2 MA's), (Start: 61 @6355 has 18 MA's), (64, 6379), (Start: 72 @6508 has 3 MA's), (80, 6592), (83, 6646), (117, 7018), (119, 7045),

Gene: Sweetums_12 Start: 6724, Stop: 7467, Start Num: 65
Candidate Starts for Sweetums_12:
(41, 6607), (50, 6649), (Start: 52 @6664 has 3 MA's), (Start: 54 @6676 has 1 MA's), (Start: 65 @6724 has 1 MA's), (78, 6928), (108, 7255), (112, 7294), (119, 7396),

Gene: Teng_11 Start: 6593, Stop: 7393, Start Num: 52
Candidate Starts for Teng_11:
(42, 6545), (50, 6578), (Start: 52 @6593 has 3 MA's), (Start: 54 @6605 has 1 MA's), (Start: 65 @6653 has 1 MA's), (78, 6854), (108, 7181), (112, 7220), (119, 7322),

Gene: ToastyFinz_5 Start: 5393, Stop: 6004, Start Num: 63
Candidate Starts for ToastyFinz_5:

(Start: 63 @5393 has 2 MA's), (79, 5549), (104, 5807), (108, 5849),

Gene: Tubberson_6 Start: 5536, Stop: 6282, Start Num: 44
Candidate Starts for Tubberson_6:
(Start: 44 @5536 has 3 MA's), (96, 5926), (99, 5962), (100, 5974), (104, 6037), (108, 6079), (109, 6100), (119, 6211),

Gene: TurboVicky_9 Start: 8202, Stop: 8933, Start Num: 61
Candidate Starts for TurboVicky_9:
(Start: 61 @8202 has 18 MA's), (Start: 72 @8322 has 3 MA's), (117, 8832), (119, 8859),

Gene: Typher_11 Start: 8332, Stop: 9063, Start Num: 61
Candidate Starts for Typher_11:
(Start: 61 @8332 has 18 MA's), (Start: 72 @8452 has 3 MA's), (117, 8962), (119, 8989),

Gene: Violeta_13 Start: 6206, Stop: 7012, Start Num: 47
Candidate Starts for Violeta_13:
(Start: 47 @6206 has 16 MA's), (Start: 53 @6233 has 1 MA's), (55, 6245), (57, 6251), (82, 6533), (93, 6623), (115, 6854), (118, 6917), (121, 7001),

Gene: Vondra_7 Start: 5594, Stop: 6271, Start Num: 60
Candidate Starts for Vondra_7:
(32, 5432), (Start: 60 @5594 has 16 MA's), (88, 5873), (100, 5966), (108, 6071), (110, 6095), (119, 6203),

Gene: Warren_12 Start: 6290, Stop: 7093, Start Num: 47
Candidate Starts for Warren_12:
(Start: 47 @6290 has 16 MA's), (Start: 53 @6317 has 1 MA's), (55, 6329), (57, 6335), (93, 6704), (115, 6935), (118, 6998), (121, 7082),

Gene: Winchester007_13 Start: 6251, Stop: 7054, Start Num: 47
Candidate Starts for Winchester007_13:
(Start: 47 @6251 has 16 MA's), (Start: 53 @6278 has 1 MA's), (55, 6290), (57, 6296), (82, 6575), (84, 6593), (93, 6665), (115, 6896), (118, 6959), (121, 7043),

Gene: Wrackline_16 Start: 7378, Stop: 8154, Start Num: 63
Candidate Starts for Wrackline_16:
(36, 7231), (43, 7297), (59, 7360), (Start: 63 @7378 has 2 MA's), (69, 7477), (71, 7534), (77, 7585), (86, 7696), (93, 7753), (106, 7909), (107, 7930), (112, 7984), (118, 8059), (119, 8083),

Gene: Zanella_9 Start: 8202, Stop: 8933, Start Num: 61
Candidate Starts for Zanella_9:
(Start: 61 @8202 has 18 MA's), (Start: 72 @8322 has 3 MA's), (117, 8832), (119, 8859),