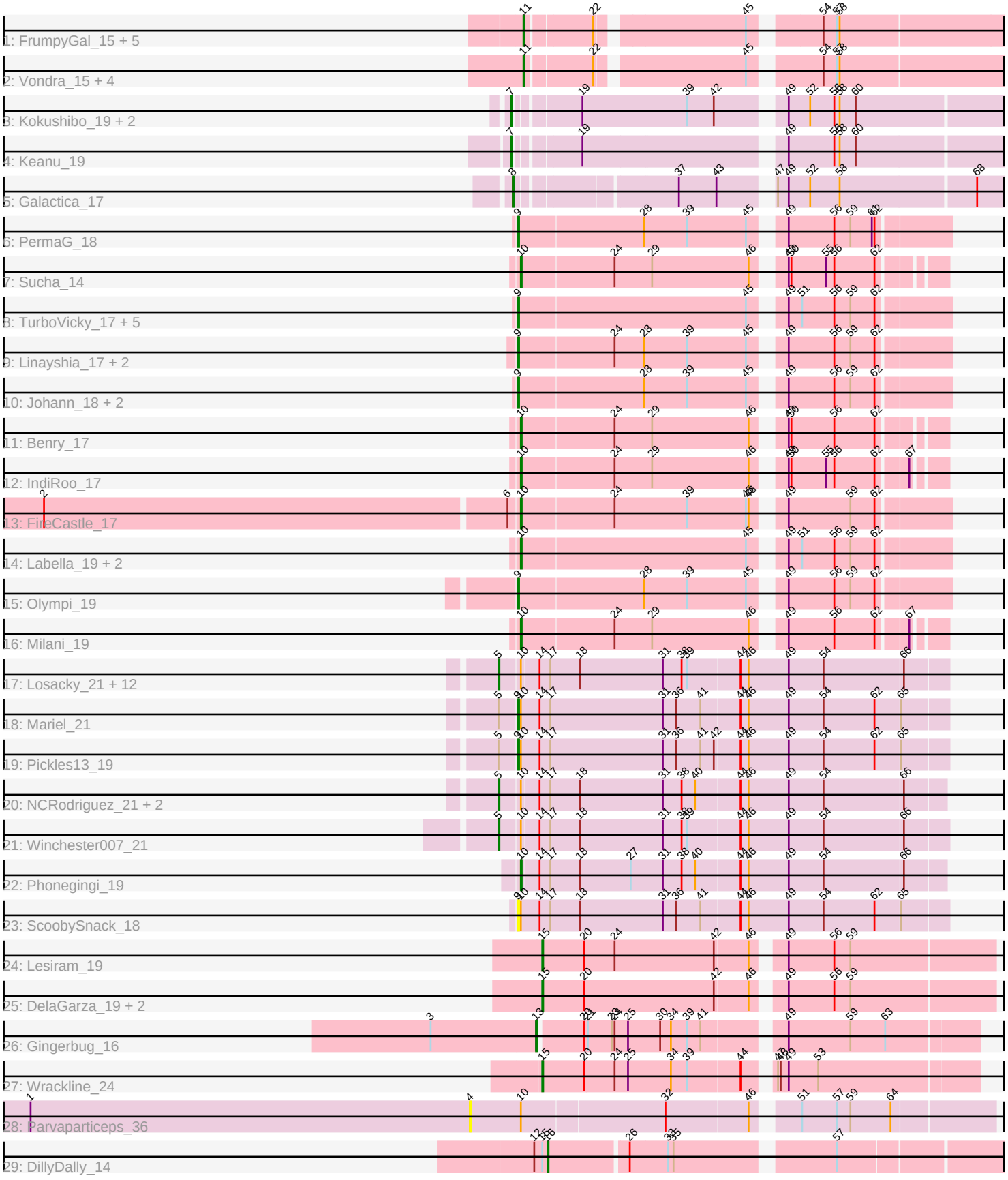
Pham 345716


1: FrumpyGal_15 + 5
2: Vondra_15 + 4
3: Kokushibo_19 + 2
4: Keanu_19
5: Galactica_17
6: PermaG_18
7: Sucha_14
8: TurboVicky_17 + 5
9: Linayshia_17 + 2
10: Johann_18 + 2
11: Benry_17
12: IndiRoo_17
13: FireCastle_17
14: Labella_19 + 2
15: Olympi_19
16: Milani_19
17: Losacky_21 + 12
18: Mariel_21
19: Pickles13_19
20: NCRodriguez_21 + 2
21: Winchester007_21
22: Phonegingi_19
23: ScoobySnack_18
24: Lesiram_19
25: DelaGarza_19 + 2
26: Gingerbug_16
27: Wrackline_24
28: Parvaparticeps_36
29: DillyDally_14

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 345716 Report

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

Pham number 345716 has 67 members, 6 are drafts.

Phages represented in each track:
• Track 1 : FrumpyGal_15, Eastland_15, Piccadilly_15, Schlegelian_15, Cumberbatch_15, ArizonaGT_15
• Track 2 : Vondra_15, AxeJC_15, Eklok_15, Ignacio_15, HFrancette_15
• Track 3 : Kokushibo_19, Spocter_19, Hiyaa_19
• Track 4 : Keanu_19
• Track 5 : Galactica_17
• Track 6 : PermaG_18
• Track 7 : Sucha_14
• Track 8 : TurboVicky_17, SBlackberry_17, Rootkit7_17, Jera_18, Alove_17, Zanella_17
• Track 9 : Linayshia_17, Htur_17, Rasovi_17
• Track 10 : Johann_18, Cicada_19, Goodman_18
• Track 11 : Benry_17
• Track 12 : IndiRoo_17
• Track 13 : FireCastle_17
• Track 14 : Labella_19, AyoTeo_19, Typher_19
• Track 15 : Olympi_19
• Track 16 : Milani_19
• Track 17 : Losacky_21, Antuna_20, Blett_20, Violeta_21, Carrillo_21, PhillyJawn_20, Dropshot_19, Bush_20, Warren_20, CookieDog_20, Appa_19, MenE_20, Guzman_21
• Track 18 : Mariel_21
• Track 19 : Pickles13_19
• Track 20 : NCRodriguez_21, Phingu_22, Jakelyne_21
• Track 21 : Winchester007_21
• Track 22 : Phonegingi_19
• Track 23 : ScoobySnack_18
• Track 24 : Lesiram_19
• Track 25 : DelaGarza_19, Sweetums_20, Teng_19
• Track 26 : Gingerbug_16
• Track 27 : Wrackline_24
• Track 28 : Parvaparticeps_36
• Track 29 : DillyDally_14

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

The start number called the most often in the published annotations is 9, it was called in 16 of the 61 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Alove_17, Cicada_19, Goodman_18, Htur_17, Jera_18, Johann_18, Linayshia_17, Mariel_21, Olympi_19, PermaG_18, Pickles13_19, Rasovi_17, Rootkit7_17, SBlackberry_17, ScoobySnack_18, TurboVicky_17, Zanella_17,

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

Genes that do not have the "Most Annotated" start:
• Antuna_20, Appa_19, ArizonaGT_15, AxeJC_15, AyoTeo_19, Benry_17, Blett_20, Bush_20, Carrillo_21, CookieDog_20, Cumberbatch_15, DelaGarza_19, DillyDally_14, Dropshot_19, Eastland_15, Eklok_15, FireCastle_17, FrumpyGal_15, Galactica_17, Gingerbug_16, Guzman_21, HFrancette_15, Hiyaa_19, Ignacio_15, IndiRoo_17, Jakelyne_21, Keanu_19, Kokushibo_19, Labella_19, Lesiram_19, Losacky_21, MenE_20, Milani_19, NCRodriguez_21, Parvaparticeps_36, PhillyJawn_20, Phingu_22, Phonegingi_19, Piccadilly_15, Schlegelian_15, Spocter_19, Sucha_14, Sweetums_20, Teng_19, Typher_19, Violeta_21, Vondra_15, Warren_20, Winchester007_21, Wrackline_24,

Summary by start number:

Start 4:
• Found in 1 of 67 (1.5%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Parvaparticeps_36 (UNK),

Start 5:
• Found in 19 of 67 (28.4%) of genes in pham
• Manual Annotations of this start: 14 of 61
• Called 89.5% of time when present
• Phage (with cluster) where this start called: Antuna_20 (GA), Appa_19 (GA), Blett_20 (GA), Bush_20 (GA), Carrillo_21 (GA), CookieDog_20 (GA), Dropshot_19 (GA), Guzman_21 (GA), Jakelyne_21 (GA), Losacky_21 (GA), MenE_20 (GA), NCRodriguez_21 (GA), PhillyJawn_20 (GA), Phingu_22 (GA), Violeta_21 (GA), Warren_20 (GA), Winchester007_21 (GA),

Start 7:
• Found in 4 of 67 (6.0%) of genes in pham
• Manual Annotations of this start: 4 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Hiyaa_19 (BQ), Keanu_19 (BQ), Kokushibo_19 (BQ), Spocter_19 (BQ),

Start 8:
• Found in 1 of 67 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Galactica_17 (BQ),

Start 9:
• Found in 17 of 67 (25.4%) of genes in pham
• Manual Annotations of this start: 16 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Alove_17 (EJ), Cicada_19 (EJ), Goodman_18 (EJ), Htur_17 (EJ), Jera_18 (EJ), Johann_18 (EJ), Linayshia_17 (EJ), Mariel_21 (GA), Olympi_19 (EJ), PermaG_18 (EJ), Pickles13_19 (GA), Rasovi_17 (EJ), Rootkit7_17 (EJ), SBlackberry_17 (EJ), ScoobySnack_18 (GA), TurboVicky_17 (EJ), Zanella_17 (EJ),

Start 10:
• Found in 30 of 67 (44.8%) of genes in pham
• Manual Annotations of this start: 8 of 61
• Called 30.0% of time when present
• Phage (with cluster) where this start called: AyoTeo_19 (EJ), Benry_17 (EJ), FireCastle_17 (EJ), IndiRoo_17 (EJ), Labella_19 (EJ), Milani_19 (EJ), Phonegingi_19 (GA), Sucha_14 (EJ), Typher_19 (EJ),

Start 11:
• Found in 11 of 67 (16.4%) of genes in pham
• Manual Annotations of this start: 11 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArizonaGT_15 (BP), AxeJC_15 (BP), Cumberbatch_15 (BP), Eastland_15 (BP), Eklok_15 (BP), FrumpyGal_15 (BP), HFrancette_15 (BP), Ignacio_15 (BP), Piccadilly_15 (BP), Schlegelian_15 (BP), Vondra_15 (BP),

Start 13:
• Found in 1 of 67 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gingerbug_16 (GF),

Start 15:
• Found in 6 of 67 (9.0%) of genes in pham
• Manual Annotations of this start: 5 of 61
• Called 83.3% of time when present
• Phage (with cluster) where this start called: DelaGarza_19 (GF), Lesiram_19 (GF), Sweetums_20 (GF), Teng_19 (GF), Wrackline_24 (GF),

Start 16:
• Found in 1 of 67 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: DillyDally_14 (singleton),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, EJ, GF, BP, BQ, GA, UNK,

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

Info for manual annotations of cluster BQ:
•Start number 7 was manually annotated 4 times for cluster BQ.
•Start number 8 was manually annotated 1 time for cluster BQ.

Info for manual annotations of cluster EJ:
•Start number 9 was manually annotated 14 times for cluster EJ.
•Start number 10 was manually annotated 7 times for cluster EJ.

Info for manual annotations of cluster GA:
•Start number 5 was manually annotated 14 times for cluster GA.
•Start number 9 was manually annotated 2 times for cluster GA.
•Start number 10 was manually annotated 1 time for cluster GA.

Info for manual annotations of cluster GF:
•Start number 13 was manually annotated 1 time for cluster GF.
•Start number 15 was manually annotated 5 times for cluster GF.

Gene Information:

Gene: Alove_17 Start: 12613, Stop: 13065, Start Num: 9
Candidate Starts for Alove_17:
(Start: 9 @12613 has 16 MA's), (45, 12865), (49, 12892), (51, 12907), (56, 12943), (59, 12961), (62, 12988),

Gene: Antuna_20 Start: 10705, Stop: 11193, Start Num: 5
Candidate Starts for Antuna_20:
(Start: 5 @10705 has 14 MA's), (Start: 10 @10726 has 8 MA's), (14, 10744), (17, 10756), (18, 10789), (31, 10882), (38, 10903), (39, 10909), (44, 10966), (46, 10975), (49, 11020), (54, 11059), (66, 11146),

Gene: Appa_19 Start: 10567, Stop: 11055, Start Num: 5
Candidate Starts for Appa_19:
(Start: 5 @10567 has 14 MA's), (Start: 10 @10588 has 8 MA's), (14, 10606), (17, 10618), (18, 10651), (31, 10744), (38, 10765), (39, 10771), (44, 10828), (46, 10837), (49, 10882), (54, 10921), (66, 11008),

Gene: ArizonaGT_15 Start: 9256, Stop: 9762, Start Num: 11
Candidate Starts for ArizonaGT_15:
(Start: 11 @9256 has 11 MA's), (22, 9325), (45, 9475), (54, 9538), (57, 9553), (58, 9556),

Gene: AxeJC_15 Start: 9272, Stop: 9778, Start Num: 11
Candidate Starts for AxeJC_15:
(Start: 11 @9272 has 11 MA's), (22, 9341), (45, 9491), (54, 9554), (57, 9569), (58, 9572),

Gene: AyoTeo_19 Start: 12743, Stop: 13192, Start Num: 10
Candidate Starts for AyoTeo_19:
(Start: 10 @12743 has 8 MA's), (45, 12992), (49, 13019), (51, 13034), (56, 13070), (59, 13088), (62, 13115),

Gene: Benry_17 Start: 10815, Stop: 11249, Start Num: 10
Candidate Starts for Benry_17:

(Start: 10 @10815 has 8 MA's), (24, 10917), (29, 10959), (46, 11067), (49, 11091), (50, 11094), (56, 11142), (62, 11187),

Gene: Blett_20 Start: 10720, Stop: 11208, Start Num: 5
Candidate Starts for Blett_20:
(Start: 5 @10720 has 14 MA's), (Start: 10 @10741 has 8 MA's), (14, 10759), (17, 10771), (18, 10804), (31, 10897), (38, 10918), (39, 10924), (44, 10981), (46, 10990), (49, 11035), (54, 11074), (66, 11161),

Gene: Bush_20 Start: 10701, Stop: 11189, Start Num: 5
Candidate Starts for Bush_20:
(Start: 5 @10701 has 14 MA's), (Start: 10 @10722 has 8 MA's), (14, 10740), (17, 10752), (18, 10785), (31, 10878), (38, 10899), (39, 10905), (44, 10962), (46, 10971), (49, 11016), (54, 11055), (66, 11142),

Gene: Carrillo_21 Start: 10674, Stop: 11162, Start Num: 5
Candidate Starts for Carrillo_21:
(Start: 5 @10674 has 14 MA's), (Start: 10 @10695 has 8 MA's), (14, 10713), (17, 10725), (18, 10758), (31, 10851), (38, 10872), (39, 10878), (44, 10935), (46, 10944), (49, 10989), (54, 11028), (66, 11115),

Gene: Cicada_19 Start: 12850, Stop: 13302, Start Num: 9
Candidate Starts for Cicada_19:
(Start: 9 @12850 has 16 MA's), (28, 12988), (39, 13036), (45, 13102), (49, 13129), (56, 13180), (59, 13198), (62, 13225),

Gene: CookieDog_20 Start: 10701, Stop: 11189, Start Num: 5
Candidate Starts for CookieDog_20:
(Start: 5 @10701 has 14 MA's), (Start: 10 @10722 has 8 MA's), (14, 10740), (17, 10752), (18, 10785), (31, 10878), (38, 10899), (39, 10905), (44, 10962), (46, 10971), (49, 11016), (54, 11055), (66, 11142),

Gene: Cumberbatch_15 Start: 9256, Stop: 9762, Start Num: 11
Candidate Starts for Cumberbatch_15:
(Start: 11 @9256 has 11 MA's), (22, 9325), (45, 9475), (54, 9538), (57, 9553), (58, 9556),

Gene: DelaGarza_19 Start: 11318, Stop: 11797, Start Num: 15
Candidate Starts for DelaGarza_19:
(Start: 15 @11318 has 5 MA's), (20, 11363), (42, 11507), (46, 11543), (49, 11570), (56, 11621), (59, 11639),

Gene: DillyDally_14 Start: 9259, Stop: 9768, Start Num: 16
Candidate Starts for DillyDally_14:
(12, 9244), (Start: 15 @9253 has 5 MA's), (Start: 16 @9259 has 1 MA's), (26, 9343), (33, 9385), (35, 9391), (57, 9553),

Gene: Dropshot_19 Start: 10567, Stop: 11055, Start Num: 5
Candidate Starts for Dropshot_19:
(Start: 5 @10567 has 14 MA's), (Start: 10 @10588 has 8 MA's), (14, 10606), (17, 10618), (18, 10651), (31, 10744), (38, 10765), (39, 10771), (44, 10828), (46, 10837), (49, 10882), (54, 10921), (66, 11008),

Gene: Eastland_15 Start: 9257, Stop: 9763, Start Num: 11
Candidate Starts for Eastland_15:
(Start: 11 @9257 has 11 MA's), (22, 9326), (45, 9476), (54, 9539), (57, 9554), (58, 9557),

Gene: Eklok_15 Start: 9272, Stop: 9778, Start Num: 11
Candidate Starts for Eklok_15:

(Start: 11 @9272 has 11 MA's), (22, 9341), (45, 9491), (54, 9554), (57, 9569), (58, 9572),

Gene: FireCastle_17 Start: 12516, Stop: 12965, Start Num: 10
Candidate Starts for FireCastle_17:
(2, 11994), (6, 12504), (Start: 10 @12516 has 8 MA's), (24, 12618), (39, 12699), (45, 12765), (46, 12768), (49, 12792), (59, 12861), (62, 12888),

Gene: FrumpyGal_15 Start: 9257, Stop: 9763, Start Num: 11
Candidate Starts for FrumpyGal_15:
(Start: 11 @9257 has 11 MA's), (22, 9326), (45, 9476), (54, 9539), (57, 9554), (58, 9557),

Gene: Galactica_17 Start: 14113, Stop: 14673, Start Num: 8
Candidate Starts for Galactica_17:
(Start: 8 @14113 has 1 MA's), (37, 14272), (43, 14314), (47, 14362), (49, 14374), (52, 14398), (58, 14431), (68, 14578),

Gene: Gingerbug_16 Start: 10503, Stop: 10961, Start Num: 13
Candidate Starts for Gingerbug_16:
(3, 10386), (Start: 13 @10503 has 1 MA's), (20, 10548), (21, 10551), (23, 10578), (24, 10581), (25, 10596), (30, 10632), (34, 10644), (39, 10662), (41, 10677), (49, 10755), (59, 10824), (63, 10863),

Gene: Goodman_18 Start: 12763, Stop: 13215, Start Num: 9
Candidate Starts for Goodman_18:
(Start: 9 @12763 has 16 MA's), (28, 12901), (39, 12949), (45, 13015), (49, 13042), (56, 13093), (59, 13111), (62, 13138),

Gene: Guzman_21 Start: 10982, Stop: 11470, Start Num: 5
Candidate Starts for Guzman_21:
(Start: 5 @10982 has 14 MA's), (Start: 10 @11003 has 8 MA's), (14, 11021), (17, 11033), (18, 11066), (31, 11159), (38, 11180), (39, 11186), (44, 11243), (46, 11252), (49, 11297), (54, 11336), (66, 11423),

Gene: HFrancette_15 Start: 9271, Stop: 9777, Start Num: 11
Candidate Starts for HFrancette_15:
(Start: 11 @9271 has 11 MA's), (22, 9340), (45, 9490), (54, 9553), (57, 9568), (58, 9571),

Gene: Hiyaa_19 Start: 15134, Stop: 15703, Start Num: 7
Candidate Starts for Hiyaa_19:
(Start: 7 @15134 has 4 MA's), (19, 15197), (39, 15311), (42, 15341), (49, 15404), (52, 15428), (56, 15455), (58, 15461), (60, 15479),

Gene: Htur_17 Start: 12781, Stop: 13233, Start Num: 9
Candidate Starts for Htur_17:
(Start: 9 @12781 has 16 MA's), (24, 12886), (28, 12919), (39, 12967), (45, 13033), (49, 13060), (56, 13111), (59, 13129), (62, 13156),

Gene: Ignacio_15 Start: 9271, Stop: 9777, Start Num: 11
Candidate Starts for Ignacio_15:
(Start: 11 @9271 has 11 MA's), (22, 9340), (45, 9490), (54, 9553), (57, 9568), (58, 9571),

Gene: IndiRoo_17 Start: 10824, Stop: 11258, Start Num: 10
Candidate Starts for IndiRoo_17:
(Start: 10 @10824 has 8 MA's), (24, 10926), (29, 10968), (46, 11076), (49, 11100), (50, 11103), (55, 11142), (56, 11151), (62, 11196), (67, 11226),

Gene: Jakelyne_21 Start: 10723, Stop: 11208, Start Num: 5
Candidate Starts for Jakelyne_21:
(Start: 5 @10723 has 14 MA's), (Start: 10 @10744 has 8 MA's), (14, 10762), (17, 10774), (18, 10807), (31, 10900), (38, 10921), (40, 10936), (44, 10984), (46, 10993), (49, 11038), (54, 11077), (66, 11164),

Gene: Jera_18 Start: 11860, Stop: 12312, Start Num: 9
Candidate Starts for Jera_18:
(Start: 9 @11860 has 16 MA's), (45, 12112), (49, 12139), (51, 12154), (56, 12190), (59, 12208), (62, 12235),

Gene: Johann_18 Start: 12763, Stop: 13215, Start Num: 9
Candidate Starts for Johann_18:
(Start: 9 @12763 has 16 MA's), (28, 12901), (39, 12949), (45, 13015), (49, 13042), (56, 13093), (59, 13111), (62, 13138),

Gene: Keanu_19 Start: 15177, Stop: 15746, Start Num: 7
Candidate Starts for Keanu_19:
(Start: 7 @15177 has 4 MA's), (19, 15240), (49, 15447), (56, 15498), (58, 15504), (60, 15522),

Gene: Kokushibo_19 Start: 15149, Stop: 15718, Start Num: 7
Candidate Starts for Kokushibo_19:
(Start: 7 @15149 has 4 MA's), (19, 15212), (39, 15326), (42, 15356), (49, 15419), (52, 15443), (56, 15470), (58, 15476), (60, 15494),

Gene: Labella_19 Start: 12746, Stop: 13195, Start Num: 10
Candidate Starts for Labella_19:
(Start: 10 @12746 has 8 MA's), (45, 12995), (49, 13022), (51, 13037), (56, 13073), (59, 13091), (62, 13118),

Gene: Lesiram_19 Start: 11288, Stop: 11767, Start Num: 15
Candidate Starts for Lesiram_19:
(Start: 15 @11288 has 5 MA's), (20, 11333), (24, 11366), (42, 11477), (46, 11513), (49, 11540), (56, 11591), (59, 11609),

Gene: Linayshia_17 Start: 12773, Stop: 13225, Start Num: 9
Candidate Starts for Linayshia_17:
(Start: 9 @12773 has 16 MA's), (24, 12878), (28, 12911), (39, 12959), (45, 13025), (49, 13052), (56, 13103), (59, 13121), (62, 13148),

Gene: Losacky_21 Start: 10847, Stop: 11335, Start Num: 5
Candidate Starts for Losacky_21:
(Start: 5 @10847 has 14 MA's), (Start: 10 @10868 has 8 MA's), (14, 10886), (17, 10898), (18, 10931), (31, 11024), (38, 11045), (39, 11051), (44, 11108), (46, 11117), (49, 11162), (54, 11201), (66, 11288),

Gene: Mariel_21 Start: 10896, Stop: 11369, Start Num: 9
Candidate Starts for Mariel_21:
(Start: 5 @10878 has 14 MA's), (Start: 9 @10896 has 16 MA's), (Start: 10 @10899 has 8 MA's), (14, 10920), (17, 10932), (31, 11058), (36, 11073), (41, 11100), (44, 11142), (46, 11151), (49, 11196), (54, 11235), (62, 11292), (65, 11319),

Gene: MenE_20 Start: 10835, Stop: 11323, Start Num: 5
Candidate Starts for MenE_20:

(Start: 5 @10835 has 14 MA's), (Start: 10 @10856 has 8 MA's), (14, 10874), (17, 10886), (18, 10919), (31, 11012), (38, 11033), (39, 11039), (44, 11096), (46, 11105), (49, 11150), (54, 11189), (66, 11276),

Gene: Milani_19 Start: 11474, Stop: 11908, Start Num: 10
Candidate Starts for Milani_19:
(Start: 10 @11474 has 8 MA's), (24, 11576), (29, 11618), (46, 11726), (49, 11750), (56, 11801), (62, 11846), (67, 11876),

Gene: NCRodriguez_21 Start: 10836, Stop: 11321, Start Num: 5
Candidate Starts for NCRodriguez_21:
(Start: 5 @10836 has 14 MA's), (Start: 10 @10857 has 8 MA's), (14, 10875), (17, 10887), (18, 10920), (31, 11013), (38, 11034), (40, 11049), (44, 11097), (46, 11106), (49, 11151), (54, 11190), (66, 11277),

Gene: Olympi_19 Start: 12753, Stop: 13205, Start Num: 9
Candidate Starts for Olympi_19:
(Start: 9 @12753 has 16 MA's), (28, 12891), (39, 12939), (45, 13005), (49, 13032), (56, 13083), (59, 13101), (62, 13128),

Gene: Parvaparticeps_36 Start: 27462, Stop: 26911, Start Num: 4
Candidate Starts for Parvaparticeps_36:
(1, 27954), (4, 27462), (Start: 10 @27405 has 8 MA's), (32, 27249), (46, 27159), (51, 27120), (57, 27081), (59, 27066), (64, 27021),

Gene: PermaG_18 Start: 12827, Stop: 13279, Start Num: 9
Candidate Starts for PermaG_18:
(Start: 9 @12827 has 16 MA's), (28, 12965), (39, 13013), (45, 13079), (49, 13106), (56, 13157), (59, 13175), (61, 13199), (62, 13202),

Gene: PhillyJawn_20 Start: 10567, Stop: 11055, Start Num: 5
Candidate Starts for PhillyJawn_20:
(Start: 5 @10567 has 14 MA's), (Start: 10 @10588 has 8 MA's), (14, 10606), (17, 10618), (18, 10651), (31, 10744), (38, 10765), (39, 10771), (44, 10828), (46, 10837), (49, 10882), (54, 10921), (66, 11008),

Gene: Phingu_22 Start: 10726, Stop: 11211, Start Num: 5
Candidate Starts for Phingu_22:
(Start: 5 @10726 has 14 MA's), (Start: 10 @10747 has 8 MA's), (14, 10765), (17, 10777), (18, 10810), (31, 10903), (38, 10924), (40, 10939), (44, 10987), (46, 10996), (49, 11041), (54, 11080), (66, 11167),

Gene: Phonegingi_19 Start: 10589, Stop: 11053, Start Num: 10
Candidate Starts for Phonegingi_19:
(Start: 10 @10589 has 8 MA's), (14, 10607), (17, 10619), (18, 10652), (27, 10709), (31, 10745), (38, 10766), (40, 10781), (44, 10829), (46, 10838), (49, 10883), (54, 10922), (66, 11009),

Gene: Piccadilly_15 Start: 9256, Stop: 9762, Start Num: 11
Candidate Starts for Piccadilly_15:
(Start: 11 @9256 has 11 MA's), (22, 9325), (45, 9475), (54, 9538), (57, 9553), (58, 9556),

Gene: Pickles13_19 Start: 10749, Stop: 11222, Start Num: 9
Candidate Starts for Pickles13_19:
(Start: 5 @10731 has 14 MA's), (Start: 9 @10749 has 16 MA's), (Start: 10 @10752 has 8 MA's), (14, 10773), (17, 10785), (31, 10911), (36, 10926), (41, 10953), (42, 10968), (44, 10995), (46, 11004), (49, 11049), (54, 11088), (62, 11145), (65, 11172),

Gene: Rasovi_17 Start: 12781, Stop: 13233, Start Num: 9
Candidate Starts for Rasovi_17:
(Start: 9 @12781 has 16 MA's), (24, 12886), (28, 12919), (39, 12967), (45, 13033), (49, 13060), (56, 13111), (59, 13129), (62, 13156),

Gene: Rootkit7_17 Start: 12613, Stop: 13065, Start Num: 9
Candidate Starts for Rootkit7_17:
(Start: 9 @12613 has 16 MA's), (45, 12865), (49, 12892), (51, 12907), (56, 12943), (59, 12961), (62, 12988),

Gene: SBlackberry_17 Start: 12619, Stop: 13071, Start Num: 9
Candidate Starts for SBlackberry_17:
(Start: 9 @12619 has 16 MA's), (45, 12871), (49, 12898), (51, 12913), (56, 12949), (59, 12967), (62, 12994),

Gene: Schlegelian_15 Start: 9256, Stop: 9762, Start Num: 11
Candidate Starts for Schlegelian_15:
(Start: 11 @9256 has 11 MA's), (22, 9325), (45, 9475), (54, 9538), (57, 9553), (58, 9556),

Gene: ScoobySnack_18 Start: 10452, Stop: 10925, Start Num: 9
Candidate Starts for ScoobySnack_18:
(Start: 9 @10452 has 16 MA's), (Start: 10 @10455 has 8 MA's), (14, 10476), (17, 10488), (18, 10521), (31, 10614), (36, 10629), (41, 10656), (44, 10698), (46, 10707), (49, 10752), (54, 10791), (62, 10848), (65, 10875),

Gene: Spocter_19 Start: 15122, Stop: 15691, Start Num: 7
Candidate Starts for Spocter_19:
(Start: 7 @15122 has 4 MA's), (19, 15185), (39, 15299), (42, 15329), (49, 15392), (52, 15416), (56, 15443), (58, 15449), (60, 15467),

Gene: Sucha_14 Start: 9812, Stop: 10246, Start Num: 10
Candidate Starts for Sucha_14:
(Start: 10 @9812 has 8 MA's), (24, 9914), (29, 9956), (46, 10064), (49, 10088), (50, 10091), (55, 10130), (56, 10139), (62, 10184),

Gene: Sweetums_20 Start: 11392, Stop: 11871, Start Num: 15
Candidate Starts for Sweetums_20:
(Start: 15 @11392 has 5 MA's), (20, 11437), (42, 11581), (46, 11617), (49, 11644), (56, 11695), (59, 11713),

Gene: Teng_19 Start: 11315, Stop: 11794, Start Num: 15
Candidate Starts for Teng_19:
(Start: 15 @11315 has 5 MA's), (20, 11360), (42, 11504), (46, 11540), (49, 11567), (56, 11618), (59, 11636),

Gene: TurboVicky_17 Start: 12613, Stop: 13065, Start Num: 9
Candidate Starts for TurboVicky_17:
(Start: 9 @12613 has 16 MA's), (45, 12865), (49, 12892), (51, 12907), (56, 12943), (59, 12961), (62, 12988),

Gene: Typher_19 Start: 12746, Stop: 13195, Start Num: 10
Candidate Starts for Typher_19:

(Start: 10 @12746 has 8 MA's), (45, 12995), (49, 13022), (51, 13037), (56, 13073), (59, 13091), (62, 13118),

Gene: Violeta_21 Start: 10665, Stop: 11153, Start Num: 5
Candidate Starts for Violeta_21:
(Start: 5 @10665 has 14 MA's), (Start: 10 @10686 has 8 MA's), (14, 10704), (17, 10716), (18, 10749), (31, 10842), (38, 10863), (39, 10869), (44, 10926), (46, 10935), (49, 10980), (54, 11019), (66, 11106),

Gene: Vondra_15 Start: 9268, Stop: 9774, Start Num: 11
Candidate Starts for Vondra_15:
(Start: 11 @9268 has 11 MA's), (22, 9337), (45, 9487), (54, 9550), (57, 9565), (58, 9568),

Gene: Warren_20 Start: 10765, Stop: 11253, Start Num: 5
Candidate Starts for Warren_20:
(Start: 5 @10765 has 14 MA's), (Start: 10 @10786 has 8 MA's), (14, 10804), (17, 10816), (18, 10849), (31, 10942), (38, 10963), (39, 10969), (44, 11026), (46, 11035), (49, 11080), (54, 11119), (66, 11206),

Gene: Winchester007_21 Start: 10708, Stop: 11196, Start Num: 5
Candidate Starts for Winchester007_21:
(Start: 5 @10708 has 14 MA's), (Start: 10 @10729 has 8 MA's), (14, 10747), (17, 10759), (18, 10792), (31, 10885), (38, 10906), (39, 10912), (44, 10969), (46, 10978), (49, 11023), (54, 11062), (66, 11149),

Gene: Wrackline_24 Start: 11988, Stop: 12446, Start Num: 15
Candidate Starts for Wrackline_24:
(Start: 15 @11988 has 5 MA's), (20, 12033), (24, 12066), (25, 12081), (34, 12129), (39, 12147), (44, 12204), (47, 12228), (48, 12231), (49, 12240), (53, 12273),

Gene: Zanella_17 Start: 12616, Stop: 13068, Start Num: 9
Candidate Starts for Zanella_17:
(Start: 9 @12616 has 16 MA's), (45, 12868), (49, 12895), (51, 12910), (56, 12946), (59, 12964), (62, 12991),