

Pham 294839

1: Euratis_12	6	10	14	2	3	5	11	14	18	51	66	71	76	88	97	101	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293
2: IG1_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
3: phiB11_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
4: Samora_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
5: Lilboob_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
6: Vash_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
7: Shawty_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
8: Remus_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
9: Sebastiaurus_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
10: Heather_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
11: DaReal_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
12: SoJo_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
13: S21_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
14: PapayaSalad_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
15: Lenka_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
16: Idsumtin_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
17: Antuna_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
18: Dropsot_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
19: NCRongu_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
20: Phing_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
21: Mariel_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
22: Blett_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
23: Carril_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
24: Phoney_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
25: ScoobySnak_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
26: Jakelyne_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
27: PhillyJawn_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
28: Bush_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
29: Warren_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
30: Winchester_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
31: CookieDog_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
32: Guzman_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
33: Pickles_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
34: Leng_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
35: Sweetms_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
36: DelaGarza_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
37: Lesiran_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
38: GingerJug_12	6	10		2	3	5	11	14	18	51	66	71	76	88	97	104	114	129	132	144	151	168	178	184	190	208	211	221	251	246	252	257	262	210	212	293	
39: Wrackline_12																																					

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 294839 Report

This analysis was run 04/18/26 on database version 643.

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 294839 has 47 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Euratis_12
- Track 2 : TG1_12
- Track 3 : phiBT1_43
- Track 4 : Samora_12
- Track 5 : Lilbooboo_12
- Track 6 : Vash_12
- Track 7 : Shawty_12
- Track 8 : RemusLoopin_12
- Track 9 : Sebastisaurus_12
- Track 10 : Heather_12
- Track 11 : DaRealMyers_16, Tubberson_16
- Track 12 : SoJo_16
- Track 13 : SV1_16
- Track 14 : PapayaSalad_16
- Track 15 : Lishka_16, Austintatious_16
- Track 16 : Ididsumtinwong_16, Bioscum_16
- Track 17 : Antuna_22, Losacky_23, MenE_22, Violeta_23
- Track 18 : Dropshot_21, Appa_21
- Track 19 : NCRodriguez_23
- Track 20 : Phingu_24
- Track 21 : Mariel_25
- Track 22 : Blett_22
- Track 23 : Carrillo_23
- Track 24 : Phonegingi_21
- Track 25 : ScoobySnack_20
- Track 26 : Jakelyne_24
- Track 27 : PhillyJawn_22
- Track 28 : Bush_22
- Track 29 : Warren_22
- Track 30 : Winchester007_37
- Track 31 : CookieDog_22
- Track 32 : Guzman_23
- Track 33 : Pickles13_21

- Track 34 : Teng_22
- Track 35 : Sweetums_20
- Track 36 : DelaGarza_20
- Track 37 : Lesiram_21
- Track 38 : Gingerbug_18
- Track 39 : Wrackline_26
- Track 40 : Parvaparticeps_35

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

The start number called the most often in the published annotations is 7, it was called in 15 of the 32 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antuna_22, Appa_21, Blett_22, Bush_22, Carrillo_23, CookieDog_22, DelaGarza_20, Dropshot_21, Gingerbug_18, Guzman_23, Jakelyne_24, Lesiram_21, Losacky_23, Mariel_25, MenE_22, NCRodriguez_23, Parvaparticeps_35, PhillyJawn_22, Phingu_24, Phonegingi_21, Pickles13_21, ScoobySnack_20, Sweetums_20, Teng_22, Violeta_23, Warren_22, Winchester007_37, Wrackline_26,

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

-

Genes that do not have the "Most Annotated" start:

- Austintatious_16, Bioscum_16, DaRealMyers_16, Euratis_12, Heather_12, Ididsumtinwong_16, Lilbooboo_12, Lishka_16, PapayaSalad_16, RemusLoopin_12, SV1_16, Samora_12, Sebastisaurus_12, Shawty_12, SoJo_16, TG1_12, Tubberson_16, Vash_12, phiBT1_43,

Summary by start number:

Start 1:

- Found in 9 of 47 (19.1%) of genes in pham
- Manual Annotations of this start: 8 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Austintatious_16 (BC3), Bioscum_16 (BC3), DaRealMyers_16 (BC1), Ididsumtinwong_16 (BC3), Lishka_16 (BC3), PapayaSalad_16 (BC3), SV1_16 (BC1), SoJo_16 (BC1), Tubberson_16 (BC1),

Start 6:

- Found in 10 of 47 (21.3%) of genes in pham
- Manual Annotations of this start: 9 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Euratis_12 (BB1), Heather_12 (BB2), Lilbooboo_12 (BB1), RemusLoopin_12 (BB2), Samora_12 (BB1), Sebastisaurus_12 (BB2), Shawty_12 (BB1), TG1_12 (BB1), Vash_12 (BB1), phiBT1_43 (BB1),

Start 7:

- Found in 28 of 47 (59.6%) of genes in pham
- Manual Annotations of this start: 15 of 32

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna_22 (GA), Appa_21 (GA), Blett_22 (GA), Bush_22 (GA), Carrillo_23 (GA), CookieDog_22 (GA), DelaGarza_20 (GF), Dropshot_21 (GA), Gingerbug_18 (GF), Guzman_23 (GA), Jakelyne_24 (GA), Lesiram_21 (GF), Losacky_23 (GA), Mariel_25 (GA), MenE_22 (GA), NCRodriguez_23 (GA), Parvuparticeps_35 (UNK), PhillyJawn_22 (GA), Phingu_24 (GA), Phonegingi_21 (GA), Pickles13_21 (GA), ScoobySnack_20 (GA), Sweetums_20 (GF), Teng_22 (GF), Violeta_23 (GA), Warren_22 (GA), Winchester007_37 (GA), Wrackline_26 (GF),

Summary by clusters:

There are 7 clusters represented in this pham: BC1, GF, GA, UNK, BB2, BB1, BC3,

Info for manual annotations of cluster BB1:

- Start number 6 was manually annotated 6 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 6 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster BC1:

- Start number 1 was manually annotated 3 times for cluster BC1.

Info for manual annotations of cluster BC3:

- Start number 1 was manually annotated 5 times for cluster BC3.

Info for manual annotations of cluster GA:

- Start number 7 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 7 was manually annotated 4 times for cluster GF.

Gene Information:

Gene: Antuna_22 Start: 11505, Stop: 13703, Start Num: 7

Candidate Starts for Antuna_22:

(Start: 7 @11505 has 15 MA's), (15, 11580), (21, 11631), (24, 11658), (34, 11751), (37, 11808), (42, 11850), (45, 11883), (47, 11895), (52, 11946), (53, 11949), (55, 11958), (56, 11961), (58, 11997), (59, 12003), (60, 12006), (62, 12018), (63, 12027), (65, 12051), (75, 12150), (80, 12210), (84, 12249), (85, 12264), (89, 12321), (100, 12459), (102, 12489), (104, 12501), (107, 12525), (108, 12534), (112, 12555), (113, 12558), (116, 12570), (120, 12588), (128, 12630), (134, 12660), (157, 12801), (166, 12858), (180, 12924), (193, 12984), (195, 12993), (210, 13056), (220, 13122), (277, 13473), (282, 13497), (289, 13536), (292, 13557),

Gene: Appa_21 Start: 11367, Stop: 13565, Start Num: 7

Candidate Starts for Appa_21:

(Start: 7 @11367 has 15 MA's), (15, 11442), (21, 11493), (24, 11520), (34, 11613), (37, 11670), (42, 11712), (45, 11745), (47, 11757), (52, 11808), (53, 11811), (55, 11820), (56, 11823), (58, 11859), (59, 11865), (60, 11868), (62, 11880), (63, 11889), (65, 11913), (75, 12012), (80, 12072), (84, 12111), (85, 12126), (89, 12183), (100, 12321), (102, 12351), (104, 12363), (107, 12387), (108, 12396), (112,

12417), (113, 12420), (116, 12432), (120, 12450), (128, 12492), (134, 12522), (157, 12663), (166, 12720), (180, 12786), (193, 12846), (195, 12855), (210, 12918), (220, 12984), (231, 13017), (277, 13335), (282, 13359), (289, 13398), (292, 13419),

Gene: Austintatious_16 Start: 9780, Stop: 12197, Start Num: 1

Candidate Starts for Austintatious_16:

(Start: 1 @9780 has 8 MA's), (3, 9792), (4, 9846), (5, 9867), (25, 10041), (27, 10062), (33, 10119), (35, 10152), (44, 10254), (50, 10296), (55, 10338), (56, 10341), (57, 10353), (66, 10431), (71, 10494), (77, 10557), (78, 10575), (80, 10587), (85, 10641), (86, 10650), (88, 10695), (89, 10698), (97, 10779), (103, 10866), (104, 10869), (110, 10917), (115, 10935), (119, 10953), (121, 10965), (142, 11076), (148, 11133), (155, 11169), (160, 11190), (164, 11223), (165, 11229), (173, 11262), (178, 11283), (184, 11316), (190, 11340), (218, 11538), (251, 11796), (253, 11817), (255, 11841), (259, 11862), (266, 11916), (276, 11982), (278, 11994), (287, 12039),

Gene: Bioscum_16 Start: 9816, Stop: 12233, Start Num: 1

Candidate Starts for Bioscum_16:

(Start: 1 @9816 has 8 MA's), (3, 9828), (4, 9882), (5, 9903), (25, 10077), (27, 10098), (33, 10155), (35, 10188), (44, 10290), (50, 10332), (55, 10374), (56, 10377), (57, 10389), (66, 10467), (71, 10530), (77, 10593), (78, 10611), (80, 10623), (85, 10677), (86, 10686), (88, 10731), (89, 10734), (97, 10815), (103, 10902), (104, 10905), (110, 10953), (115, 10971), (119, 10989), (121, 11001), (142, 11112), (148, 11169), (155, 11205), (160, 11226), (164, 11259), (165, 11265), (178, 11319), (184, 11352), (190, 11376), (218, 11574), (251, 11832), (253, 11853), (255, 11877), (259, 11898), (266, 11952), (276, 12018), (278, 12030), (287, 12075),

Gene: Blett_22 Start: 11520, Stop: 13718, Start Num: 7

Candidate Starts for Blett_22:

(Start: 7 @11520 has 15 MA's), (15, 11595), (21, 11646), (24, 11673), (34, 11766), (37, 11823), (42, 11865), (45, 11898), (47, 11910), (52, 11961), (53, 11964), (55, 11973), (56, 11976), (58, 12012), (59, 12018), (60, 12021), (62, 12033), (63, 12042), (65, 12066), (75, 12165), (80, 12225), (84, 12264), (85, 12279), (89, 12336), (100, 12474), (102, 12504), (104, 12516), (107, 12540), (108, 12549), (112, 12570), (113, 12573), (116, 12585), (120, 12603), (128, 12645), (134, 12675), (154, 12804), (166, 12873), (180, 12939), (193, 12999), (195, 13008), (210, 13071), (220, 13137), (231, 13170), (277, 13488), (282, 13512), (289, 13551), (292, 13572),

Gene: Bush_22 Start: 11501, Stop: 13699, Start Num: 7

Candidate Starts for Bush_22:

(Start: 7 @11501 has 15 MA's), (15, 11576), (21, 11627), (24, 11654), (34, 11747), (37, 11804), (42, 11846), (45, 11879), (47, 11891), (52, 11942), (53, 11945), (55, 11954), (56, 11957), (58, 11993), (59, 11999), (60, 12002), (62, 12014), (63, 12023), (65, 12047), (75, 12146), (80, 12206), (84, 12245), (85, 12260), (96, 12398), (97, 12404), (100, 12455), (102, 12485), (104, 12497), (107, 12521), (108, 12530), (112, 12551), (113, 12554), (116, 12566), (120, 12584), (128, 12626), (134, 12656), (157, 12797), (166, 12854), (180, 12920), (193, 12980), (195, 12989), (210, 13052), (220, 13118), (231, 13151), (277, 13469), (282, 13493), (289, 13532), (292, 13553),

Gene: Carrillo_23 Start: 11474, Stop: 13672, Start Num: 7

Candidate Starts for Carrillo_23:

(Start: 7 @11474 has 15 MA's), (15, 11549), (21, 11600), (24, 11627), (34, 11720), (37, 11777), (42, 11819), (45, 11852), (47, 11864), (52, 11915), (53, 11918), (55, 11927), (56, 11930), (58, 11966), (59, 11972), (60, 11975), (62, 11987), (63, 11996), (65, 12020), (75, 12119), (80, 12179), (84, 12218), (85, 12233), (89, 12290), (100, 12428), (102, 12458), (104, 12470), (107, 12494), (108, 12503), (112, 12524), (113, 12527), (116, 12539), (120, 12557), (128, 12599), (134, 12629), (157, 12770), (166, 12827), (180, 12893), (193, 12953), (195, 12962), (210, 13025), (220, 13091), (240, 13172), (277, 13442), (282, 13466), (289, 13505), (292, 13526),

Gene: CookieDog_22 Start: 11501, Stop: 13699, Start Num: 7

Candidate Starts for CookieDog_22:

(Start: 7 @11501 has 15 MA's), (15, 11576), (21, 11627), (24, 11654), (34, 11747), (42, 11846), (45, 11879), (47, 11891), (52, 11942), (53, 11945), (55, 11954), (56, 11957), (58, 11993), (59, 11999), (60, 12002), (62, 12014), (63, 12023), (65, 12047), (75, 12146), (80, 12206), (84, 12245), (85, 12260), (96, 12398), (97, 12404), (100, 12455), (102, 12485), (104, 12497), (107, 12521), (108, 12530), (112, 12551), (113, 12554), (116, 12566), (120, 12584), (128, 12626), (134, 12656), (157, 12797), (166, 12854), (180, 12920), (193, 12980), (195, 12989), (210, 13052), (220, 13118), (240, 13199), (277, 13469), (282, 13493), (289, 13532), (292, 13553),

Gene: DaRealMyers_16 Start: 10050, Stop: 12278, Start Num: 1

Candidate Starts for DaRealMyers_16:

(Start: 1 @10050 has 8 MA's), (2, 10056), (3, 10062), (12, 10239), (13, 10260), (25, 10377), (35, 10488), (40, 10548), (55, 10674), (63, 10743), (69, 10806), (73, 10839), (79, 10914), (85, 10977), (90, 11043), (97, 11115), (102, 11193), (110, 11253), (145, 11319), (162, 11373), (165, 11382), (184, 11427), (189, 11445), (190, 11451), (210, 11586), (222, 11685), (230, 11742), (239, 11808), (241, 11820), (253, 11928), (255, 11952), (266, 12027), (278, 12108), (291, 12159), (295, 12189),

Gene: DelaGarza_20 Start: 12031, Stop: 14265, Start Num: 7

Candidate Starts for DelaGarza_20:

(Start: 7 @12031 has 15 MA's), (8, 12037), (16, 12118), (17, 12130), (19, 12148), (22, 12157), (27, 12199), (28, 12205), (42, 12367), (43, 12382), (46, 12403), (47, 12412), (55, 12475), (64, 12556), (65, 12568), (70, 12616), (71, 12634), (75, 12667), (80, 12727), (85, 12781), (89, 12838), (100, 12976), (102, 13006), (104, 13018), (109, 13063), (126, 13132), (133, 13171), (136, 13195), (141, 13216), (150, 13282), (167, 13372), (170, 13381), (171, 13384), (183, 13435), (216, 13579), (223, 13675), (228, 13711), (232, 13732), (238, 13783), (240, 13798), (260, 13963), (261, 13972), (268, 14008), (277, 14065), (281, 14083), (283, 14098), (286, 14107),

Gene: Dropshot_21 Start: 11367, Stop: 13565, Start Num: 7

Candidate Starts for Dropshot_21:

(Start: 7 @11367 has 15 MA's), (15, 11442), (21, 11493), (24, 11520), (34, 11613), (37, 11670), (42, 11712), (45, 11745), (47, 11757), (52, 11808), (53, 11811), (55, 11820), (56, 11823), (58, 11859), (59, 11865), (60, 11868), (62, 11880), (63, 11889), (65, 11913), (75, 12012), (80, 12072), (84, 12111), (85, 12126), (89, 12183), (100, 12321), (102, 12351), (104, 12363), (107, 12387), (108, 12396), (112, 12417), (113, 12420), (116, 12432), (120, 12450), (128, 12492), (134, 12522), (157, 12663), (166, 12720), (180, 12786), (193, 12846), (195, 12855), (210, 12918), (220, 12984), (231, 13017), (277, 13335), (282, 13359), (289, 13398), (292, 13419),

Gene: Euratis_12 Start: 8185, Stop: 10374, Start Num: 6

Candidate Starts for Euratis_12:

(Start: 6 @8185 has 9 MA's), (10, 8212), (14, 8242), (32, 8392), (35, 8443), (36, 8470), (41, 8518), (44, 8545), (48, 8569), (54, 8626), (55, 8629), (57, 8644), (66, 8722), (71, 8785), (76, 8836), (83, 8911), (85, 8932), (97, 9070), (101, 9127), (104, 9160), (114, 9220), (129, 9295), (139, 9355), (142, 9367), (148, 9424), (150, 9430), (151, 9439), (155, 9460), (160, 9481), (169, 9538), (176, 9568), (178, 9574), (181, 9589), (184, 9607), (190, 9631), (194, 9664), (196, 9673), (198, 9679), (199, 9685), (208, 9748), (211, 9778), (221, 9862), (225, 9895), (227, 9907), (246, 10048), (251, 10081), (252, 10093), (257, 10132), (262, 10177), (270, 10231), (272, 10255), (293, 10342),

Gene: Gingerbug_18 Start: 11192, Stop: 13474, Start Num: 7

Candidate Starts for Gingerbug_18:

(Start: 7 @11192 has 15 MA's), (16, 11273), (17, 11285), (32, 11393), (36, 11471), (37, 11480), (39, 11501), (42, 11522), (43, 11537), (46, 11558), (55, 11630), (57, 11645), (64, 11711), (66, 11726), (67,

11735), (70, 11771), (71, 11789), (75, 11822), (80, 11882), (85, 11936), (88, 11990), (93, 12023), (97, 12080), (101, 12140), (102, 12161), (104, 12173), (105, 12185), (111, 12224), (113, 12230), (117, 12251), (120, 12260), (128, 12302), (130, 12314), (134, 12332), (147, 12428), (152, 12449), (157, 12473), (158, 12476), (161, 12497), (167, 12533), (180, 12596), (185, 12620), (206, 12752), (211, 12761), (223, 12884), (228, 12920), (236, 12983), (243, 13034), (245, 13046), (249, 13091), (263, 13190), (268, 13217), (283, 13307), (297, 13376),

Gene: Guzman_23 Start: 11782, Stop: 13980, Start Num: 7

Candidate Starts for Guzman_23:

(Start: 7 @11782 has 15 MA's), (15, 11857), (21, 11908), (24, 11935), (34, 12028), (37, 12085), (42, 12127), (45, 12160), (47, 12172), (52, 12223), (53, 12226), (55, 12235), (56, 12238), (58, 12274), (59, 12280), (60, 12283), (62, 12295), (63, 12304), (65, 12328), (75, 12427), (80, 12487), (84, 12526), (85, 12541), (89, 12598), (100, 12736), (102, 12766), (104, 12778), (107, 12802), (108, 12811), (112, 12832), (113, 12835), (116, 12847), (120, 12865), (128, 12907), (134, 12937), (157, 13078), (166, 13135), (180, 13201), (193, 13261), (195, 13270), (210, 13333), (220, 13399), (240, 13480), (268, 13693), (277, 13750), (282, 13774), (289, 13813), (292, 13834),

Gene: Heather_12 Start: 8215, Stop: 10404, Start Num: 6

Candidate Starts for Heather_12:

(Start: 6 @8215 has 9 MA's), (26, 8365), (27, 8383), (32, 8422), (35, 8473), (36, 8500), (44, 8575), (48, 8599), (55, 8659), (66, 8752), (71, 8815), (76, 8866), (77, 8878), (85, 8962), (92, 9037), (94, 9070), (97, 9100), (101, 9157), (104, 9190), (172, 9580), (178, 9604), (184, 9637), (190, 9661), (194, 9694), (197, 9706), (227, 9937), (243, 10045), (246, 10078), (251, 10111), (262, 10207), (266, 10228), (284, 10324),

Gene: Ididsumtinwong_16 Start: 9816, Stop: 12233, Start Num: 1

Candidate Starts for Ididsumtinwong_16:

(Start: 1 @9816 has 8 MA's), (3, 9828), (4, 9882), (5, 9903), (25, 10077), (27, 10098), (33, 10155), (35, 10188), (44, 10290), (50, 10332), (55, 10374), (56, 10377), (57, 10389), (66, 10467), (71, 10530), (77, 10593), (78, 10611), (80, 10623), (85, 10677), (86, 10686), (88, 10731), (89, 10734), (97, 10815), (103, 10902), (104, 10905), (110, 10953), (115, 10971), (119, 10989), (121, 11001), (142, 11112), (148, 11169), (155, 11205), (160, 11226), (164, 11259), (165, 11265), (178, 11319), (184, 11352), (190, 11376), (218, 11574), (251, 11832), (253, 11853), (255, 11877), (259, 11898), (266, 11952), (276, 12018), (278, 12030), (287, 12075),

Gene: Jakelyne_24 Start: 11520, Stop: 13781, Start Num: 7

Candidate Starts for Jakelyne_24:

(Start: 7 @11520 has 15 MA's), (15, 11595), (21, 11646), (24, 11673), (34, 11766), (37, 11823), (42, 11865), (45, 11898), (47, 11910), (52, 11961), (53, 11964), (55, 11973), (56, 11976), (58, 12012), (59, 12018), (60, 12021), (62, 12033), (63, 12042), (65, 12066), (75, 12165), (80, 12225), (84, 12264), (85, 12279), (89, 12336), (100, 12474), (102, 12504), (104, 12516), (107, 12540), (108, 12549), (112, 12570), (113, 12573), (116, 12585), (120, 12603), (128, 12645), (134, 12675), (154, 12804), (166, 12873), (174, 12906), (180, 12939), (193, 12999), (195, 13008), (203, 13038), (213, 13098), (231, 13170), (240, 13218), (244, 13251), (249, 13302), (253, 13335), (255, 13368), (256, 13371), (263, 13446), (275, 13545), (277, 13551), (282, 13575), (289, 13614), (292, 13635),

Gene: Lesiram_21 Start: 12001, Stop: 14235, Start Num: 7

Candidate Starts for Lesiram_21:

(Start: 7 @12001 has 15 MA's), (8, 12007), (16, 12088), (17, 12100), (19, 12118), (22, 12127), (27, 12169), (28, 12175), (42, 12337), (43, 12352), (46, 12373), (47, 12382), (55, 12445), (64, 12526), (65, 12538), (70, 12586), (71, 12604), (75, 12637), (80, 12697), (85, 12751), (89, 12808), (100, 12946), (102, 12976), (104, 12988), (109, 13033), (126, 13102), (133, 13141), (136, 13165), (141, 13186), (150, 13252), (167, 13342), (171, 13354), (183, 13405), (187, 13438), (223, 13645), (228, 13681),

(232, 13702), (238, 13753), (240, 13768), (260, 13933), (261, 13942), (268, 13978), (277, 14035),
(281, 14053), (283, 14068), (286, 14077),

Gene: Lilbooboo_12 Start: 8195, Stop: 10384, Start Num: 6

Candidate Starts for Lilbooboo_12:

(Start: 6 @8195 has 9 MA's), (10, 8222), (13, 8240), (27, 8363), (32, 8402), (35, 8453), (41, 8528), (44, 8555), (48, 8579), (49, 8585), (54, 8636), (55, 8639), (57, 8654), (66, 8732), (71, 8795), (76, 8846), (79, 8879), (81, 8900), (83, 8921), (85, 8942), (97, 9080), (104, 9170), (113, 9227), (118, 9251), (120, 9260), (129, 9305), (133, 9326), (148, 9434), (155, 9470), (160, 9491), (177, 9581), (178, 9584), (184, 9617), (190, 9641), (195, 9680), (197, 9686), (215, 9815), (221, 9872), (225, 9905), (226, 9908), (229, 9926), (234, 9959), (251, 10091), (262, 10187), (270, 10241), (293, 10352),

Gene: Lishka_16 Start: 9780, Stop: 12197, Start Num: 1

Candidate Starts for Lishka_16:

(Start: 1 @9780 has 8 MA's), (3, 9792), (4, 9846), (5, 9867), (25, 10041), (27, 10062), (33, 10119), (35, 10152), (44, 10254), (50, 10296), (55, 10338), (56, 10341), (57, 10353), (66, 10431), (71, 10494), (77, 10557), (78, 10575), (80, 10587), (85, 10641), (86, 10650), (88, 10695), (89, 10698), (97, 10779), (103, 10866), (104, 10869), (110, 10917), (115, 10935), (119, 10953), (121, 10965), (142, 11076), (148, 11133), (155, 11169), (160, 11190), (164, 11223), (165, 11229), (173, 11262), (178, 11283), (184, 11316), (190, 11340), (218, 11538), (251, 11796), (253, 11817), (255, 11841), (259, 11862), (266, 11916), (276, 11982), (278, 11994), (287, 12039),

Gene: Losacky_23 Start: 11647, Stop: 13845, Start Num: 7

Candidate Starts for Losacky_23:

(Start: 7 @11647 has 15 MA's), (15, 11722), (21, 11773), (24, 11800), (34, 11893), (37, 11950), (42, 11992), (45, 12025), (47, 12037), (52, 12088), (53, 12091), (55, 12100), (56, 12103), (58, 12139), (59, 12145), (60, 12148), (62, 12160), (63, 12169), (65, 12193), (75, 12292), (80, 12352), (84, 12391), (85, 12406), (89, 12463), (100, 12601), (102, 12631), (104, 12643), (107, 12667), (108, 12676), (112, 12697), (113, 12700), (116, 12712), (120, 12730), (128, 12772), (134, 12802), (157, 12943), (166, 13000), (180, 13066), (193, 13126), (195, 13135), (210, 13198), (220, 13264), (277, 13615), (282, 13639), (289, 13678), (292, 13699),

Gene: Mariel_25 Start: 11675, Stop: 14137, Start Num: 7

Candidate Starts for Mariel_25:

(Start: 7 @11675 has 15 MA's), (15, 11750), (18, 11780), (24, 11828), (32, 11891), (34, 11921), (35, 11942), (42, 12020), (45, 12053), (47, 12065), (52, 12116), (53, 12119), (56, 12131), (58, 12167), (59, 12173), (60, 12176), (62, 12188), (63, 12197), (65, 12221), (74, 12299), (75, 12320), (80, 12380), (84, 12419), (85, 12434), (89, 12491), (92, 12509), (96, 12572), (97, 12578), (100, 12629), (102, 12659), (104, 12671), (107, 12695), (108, 12704), (112, 12725), (113, 12728), (116, 12740), (128, 12800), (135, 12839), (136, 12848), (140, 12866), (152, 12947), (153, 12956), (158, 12974), (191, 13190), (196, 13223), (208, 13298), (214, 13400), (237, 13616), (250, 13724), (268, 13850), (277, 13907), (282, 13931), (289, 13970),

Gene: MenE_22 Start: 11635, Stop: 13833, Start Num: 7

Candidate Starts for MenE_22:

(Start: 7 @11635 has 15 MA's), (15, 11710), (21, 11761), (24, 11788), (34, 11881), (37, 11938), (42, 11980), (45, 12013), (47, 12025), (52, 12076), (53, 12079), (55, 12088), (56, 12091), (58, 12127), (59, 12133), (60, 12136), (62, 12148), (63, 12157), (65, 12181), (75, 12280), (80, 12340), (84, 12379), (85, 12394), (89, 12451), (100, 12589), (102, 12619), (104, 12631), (107, 12655), (108, 12664), (112, 12685), (113, 12688), (116, 12700), (120, 12718), (128, 12760), (134, 12790), (157, 12931), (166, 12988), (180, 13054), (193, 13114), (195, 13123), (210, 13186), (220, 13252), (277, 13603), (282, 13627), (289, 13666), (292, 13687),

Gene: NCRodriguez_23 Start: 11633, Stop: 13894, Start Num: 7

Candidate Starts for NCRodriguez_23:

(Start: 7 @11633 has 15 MA's), (15, 11708), (21, 11759), (24, 11786), (34, 11879), (37, 11936), (42, 11978), (45, 12011), (47, 12023), (52, 12074), (53, 12077), (55, 12086), (56, 12089), (58, 12125), (59, 12131), (60, 12134), (62, 12146), (63, 12155), (65, 12179), (75, 12278), (80, 12338), (84, 12377), (85, 12392), (97, 12536), (100, 12587), (102, 12617), (104, 12629), (107, 12653), (108, 12662), (112, 12683), (113, 12686), (116, 12698), (120, 12716), (128, 12758), (134, 12788), (154, 12917), (166, 12986), (174, 13019), (180, 13052), (193, 13112), (195, 13121), (203, 13151), (213, 13211), (231, 13283), (240, 13331), (244, 13364), (249, 13415), (253, 13448), (255, 13481), (256, 13484), (263, 13559), (275, 13658), (277, 13664), (282, 13688), (289, 13727), (292, 13748),

Gene: PapayaSalad_16 Start: 9786, Stop: 12203, Start Num: 1

Candidate Starts for PapayaSalad_16:

(Start: 1 @9786 has 8 MA's), (3, 9798), (4, 9852), (5, 9873), (25, 10047), (27, 10068), (33, 10125), (44, 10260), (50, 10302), (55, 10344), (56, 10347), (57, 10359), (66, 10437), (71, 10500), (77, 10563), (78, 10581), (80, 10593), (85, 10647), (86, 10656), (88, 10701), (89, 10704), (97, 10785), (103, 10872), (104, 10875), (110, 10923), (115, 10941), (119, 10959), (121, 10971), (142, 11082), (148, 11139), (155, 11175), (160, 11196), (164, 11229), (165, 11235), (173, 11268), (178, 11289), (184, 11322), (190, 11346), (201, 11421), (253, 11823), (255, 11847), (259, 11868), (266, 11922), (273, 11985), (278, 12000), (287, 12045),

Gene: Parvaparticeps_35 Start: 26694, Stop: 24370, Start Num: 7

Candidate Starts for Parvaparticeps_35:

(Start: 7 @26694 has 15 MA's), (20, 26571), (21, 26568), (27, 26517), (31, 26490), (32, 26478), (38, 26379), (39, 26370), (42, 26349), (47, 26304), (55, 26241), (56, 26238), (60, 26193), (67, 26136), (68, 26118), (71, 26082), (77, 26019), (80, 25989), (85, 25935), (106, 25680), (114, 25638), (116, 25629), (129, 25566), (130, 25557), (131, 25551), (132, 25548), (143, 25494), (153, 25401), (161, 25362), (163, 25350), (166, 25329), (179, 25269), (183, 25248), (188, 25185), (192, 25158), (212, 25074), (218, 25020), (225, 24954), (250, 24765), (258, 24702), (260, 24687), (263, 24669), (264, 24666), (268, 24642), (279, 24573), (283, 24552), (296, 24468), (299, 24435), (300, 24402),

Gene: PhillyJawn_22 Start: 11367, Stop: 13565, Start Num: 7

Candidate Starts for PhillyJawn_22:

(Start: 7 @11367 has 15 MA's), (15, 11442), (21, 11493), (24, 11520), (34, 11613), (37, 11670), (42, 11712), (45, 11745), (47, 11757), (52, 11808), (53, 11811), (55, 11820), (56, 11823), (58, 11859), (59, 11865), (60, 11868), (62, 11880), (63, 11889), (65, 11913), (75, 12012), (80, 12072), (84, 12111), (85, 12126), (89, 12183), (100, 12321), (102, 12351), (104, 12363), (107, 12387), (108, 12396), (112, 12417), (113, 12420), (116, 12432), (120, 12450), (157, 12663), (166, 12720), (180, 12786), (193, 12846), (195, 12855), (210, 12918), (220, 12984), (231, 13017), (277, 13335), (282, 13359), (289, 13398), (292, 13419),

Gene: Phingu_24 Start: 11523, Stop: 13784, Start Num: 7

Candidate Starts for Phingu_24:

(Start: 7 @11523 has 15 MA's), (15, 11598), (21, 11649), (24, 11676), (34, 11769), (37, 11826), (42, 11868), (45, 11901), (47, 11913), (52, 11964), (53, 11967), (55, 11976), (56, 11979), (58, 12015), (59, 12021), (60, 12024), (62, 12036), (63, 12045), (65, 12069), (75, 12168), (80, 12228), (84, 12267), (85, 12282), (89, 12339), (100, 12477), (102, 12507), (104, 12519), (107, 12543), (108, 12552), (112, 12573), (113, 12576), (116, 12588), (120, 12606), (128, 12648), (134, 12678), (158, 12822), (166, 12876), (180, 12942), (193, 13002), (195, 13011), (210, 13074), (213, 13101), (231, 13173), (240, 13221), (244, 13254), (249, 13305), (253, 13338), (255, 13371), (256, 13374), (263, 13449), (275, 13548), (277, 13554), (282, 13578), (289, 13617), (292, 13638),

Gene: Phonegingi_21 Start: 11365, Stop: 13626, Start Num: 7

Candidate Starts for Phonegingi_21:

(Start: 7 @11365 has 15 MA's), (15, 11440), (21, 11491), (24, 11518), (34, 11611), (38, 11680), (42, 11710), (45, 11743), (47, 11755), (52, 11806), (53, 11809), (55, 11818), (56, 11821), (58, 11857), (59, 11863), (60, 11866), (62, 11878), (63, 11887), (75, 12010), (80, 12070), (84, 12109), (85, 12124), (89, 12181), (97, 12268), (100, 12319), (102, 12349), (104, 12361), (107, 12385), (108, 12394), (109, 12406), (112, 12415), (113, 12418), (116, 12430), (127, 12487), (128, 12490), (134, 12520), (154, 12649), (166, 12718), (174, 12751), (180, 12784), (183, 12799), (193, 12844), (195, 12853), (213, 12943), (231, 13015), (240, 13063), (244, 13096), (249, 13147), (253, 13180), (255, 13213), (256, 13216), (263, 13291), (277, 13396), (282, 13420), (289, 13459),

Gene: Pickles13_21 Start: 11528, Stop: 13990, Start Num: 7

Candidate Starts for Pickles13_21:

(Start: 7 @11528 has 15 MA's), (15, 11603), (18, 11633), (23, 11666), (24, 11681), (32, 11744), (34, 11774), (35, 11795), (37, 11831), (42, 11873), (45, 11906), (47, 11918), (52, 11969), (53, 11972), (56, 11984), (58, 12020), (59, 12026), (60, 12029), (62, 12041), (63, 12050), (65, 12074), (74, 12152), (80, 12233), (84, 12272), (85, 12287), (87, 12299), (89, 12344), (92, 12362), (96, 12425), (97, 12431), (100, 12482), (102, 12512), (104, 12524), (107, 12548), (108, 12557), (112, 12578), (113, 12581), (116, 12593), (120, 12611), (122, 12623), (128, 12653), (136, 12701), (140, 12719), (152, 12800), (153, 12809), (158, 12827), (191, 13043), (196, 13076), (208, 13151), (214, 13253), (217, 13271), (218, 13322), (219, 13337), (224, 13385), (237, 13469), (250, 13577), (277, 13760), (282, 13784), (289, 13823), (290, 13838), (298, 13886), (301, 13964),

Gene: RemusLoopin_12 Start: 8193, Stop: 10382, Start Num: 6

Candidate Starts for RemusLoopin_12:

(Start: 6 @8193 has 9 MA's), (26, 8343), (27, 8361), (32, 8400), (35, 8451), (36, 8478), (44, 8553), (48, 8577), (55, 8637), (57, 8652), (65, 8727), (71, 8793), (76, 8844), (85, 8940), (94, 9048), (97, 9078), (104, 9168), (146, 9405), (148, 9432), (160, 9489), (169, 9546), (172, 9558), (178, 9582), (184, 9615), (190, 9639), (215, 9813), (227, 9915), (251, 10089), (262, 10185), (266, 10206), (288, 10311),

Gene: SV1_16 Start: 10022, Stop: 12439, Start Num: 1

Candidate Starts for SV1_16:

(Start: 1 @10022 has 8 MA's), (3, 10034), (4, 10088), (5, 10109), (25, 10283), (27, 10304), (32, 10343), (35, 10394), (44, 10496), (50, 10538), (54, 10577), (55, 10580), (56, 10583), (66, 10673), (71, 10736), (77, 10799), (78, 10817), (80, 10829), (85, 10883), (89, 10940), (97, 11021), (103, 11108), (104, 11111), (110, 11159), (115, 11177), (121, 11207), (160, 11432), (165, 11471), (168, 11486), (178, 11525), (184, 11558), (190, 11582), (209, 11708), (218, 11780), (247, 12002), (251, 12038), (253, 12059), (255, 12083), (259, 12104), (261, 12131), (265, 12155), (266, 12158), (273, 12221), (276, 12224), (278, 12236), (287, 12281),

Gene: Samora_12 Start: 8227, Stop: 10419, Start Num: 6

Candidate Starts for Samora_12:

(Start: 6 @8227 has 9 MA's), (10, 8254), (13, 8272), (35, 8485), (36, 8512), (41, 8560), (44, 8587), (48, 8611), (55, 8671), (56, 8674), (57, 8686), (66, 8764), (71, 8827), (76, 8878), (81, 8932), (83, 8953), (85, 8974), (94, 9082), (97, 9112), (104, 9202), (155, 9502), (178, 9616), (184, 9649), (190, 9673), (195, 9712), (197, 9718), (215, 9847), (221, 9904), (225, 9937), (251, 10123), (262, 10219), (270, 10273), (272, 10297),

Gene: ScoobySnack_20 Start: 11232, Stop: 13694, Start Num: 7

Candidate Starts for ScoobySnack_20:

(Start: 7 @11232 has 15 MA's), (15, 11307), (21, 11358), (24, 11385), (35, 11499), (42, 11577), (45, 11610), (47, 11622), (52, 11673), (53, 11676), (55, 11685), (56, 11688), (58, 11724), (59, 11730), (60, 11733), (62, 11745), (63, 11754), (65, 11778), (75, 11877), (80, 11937), (84, 11976), (85, 11991), (100, 12186), (102, 12216), (104, 12228), (107, 12252), (108, 12261), (111, 12279), (112, 12282), (113,

12285), (116, 12297), (120, 12315), (122, 12327), (136, 12405), (140, 12423), (153, 12513), (158, 12531), (182, 12663), (191, 12747), (196, 12780), (203, 12828), (214, 12957), (225, 13092), (237, 13173), (244, 13227), (248, 13266), (250, 13281), (268, 13407), (277, 13464), (282, 13488), (286, 13506),

Gene: Sebastisaurus_12 Start: 8219, Stop: 10408, Start Num: 6

Candidate Starts for Sebastisaurus_12:

(Start: 6 @8219 has 9 MA's), (26, 8369), (27, 8387), (32, 8426), (34, 8456), (35, 8477), (36, 8504), (44, 8579), (48, 8603), (55, 8663), (57, 8678), (65, 8753), (71, 8819), (85, 8966), (94, 9074), (97, 9104), (101, 9161), (104, 9194), (146, 9431), (148, 9458), (160, 9515), (169, 9572), (172, 9584), (178, 9608), (184, 9641), (190, 9665), (215, 9839), (225, 9929), (227, 9941), (243, 10049), (246, 10082), (251, 10115), (254, 10151), (262, 10211), (267, 10235), (284, 10328), (288, 10337),

Gene: Shawty_12 Start: 8222, Stop: 10411, Start Num: 6

Candidate Starts for Shawty_12:

(Start: 6 @8222 has 9 MA's), (10, 8249), (30, 8414), (32, 8429), (35, 8480), (36, 8507), (44, 8582), (48, 8606), (55, 8666), (57, 8681), (61, 8717), (65, 8756), (71, 8822), (76, 8873), (83, 8948), (85, 8969), (90, 9035), (95, 9083), (97, 9107), (101, 9164), (104, 9197), (129, 9332), (149, 9464), (151, 9476), (155, 9497), (176, 9605), (178, 9611), (181, 9626), (184, 9644), (190, 9668), (196, 9710), (199, 9722), (211, 9815), (215, 9842), (225, 9932), (246, 10085), (251, 10118), (262, 10214),

Gene: SoJo_16 Start: 10050, Stop: 12278, Start Num: 1

Candidate Starts for SoJo_16:

(Start: 1 @10050 has 8 MA's), (2, 10056), (3, 10062), (12, 10239), (13, 10260), (25, 10377), (35, 10488), (40, 10548), (55, 10674), (63, 10743), (73, 10839), (79, 10914), (85, 10977), (90, 11043), (97, 11115), (102, 11193), (110, 11253), (145, 11319), (162, 11373), (165, 11382), (184, 11427), (189, 11445), (190, 11451), (210, 11586), (222, 11685), (230, 11742), (239, 11808), (241, 11820), (253, 11928), (255, 11952), (266, 12027), (278, 12108), (291, 12159), (295, 12189),

Gene: Sweetums_20 Start: 12109, Stop: 14346, Start Num: 7

Candidate Starts for Sweetums_20:

(Start: 7 @12109 has 15 MA's), (8, 12115), (9, 12133), (11, 12139), (27, 12280), (28, 12286), (32, 12319), (37, 12406), (42, 12448), (43, 12463), (46, 12484), (47, 12493), (55, 12556), (64, 12637), (65, 12649), (70, 12697), (71, 12715), (75, 12748), (80, 12808), (85, 12862), (89, 12919), (100, 13057), (101, 13066), (102, 13087), (109, 13144), (133, 13252), (136, 13276), (141, 13297), (150, 13363), (167, 13453), (170, 13462), (171, 13465), (183, 13516), (216, 13660), (223, 13756), (228, 13792), (232, 13813), (238, 13864), (240, 13879), (260, 14044), (261, 14053), (268, 14089), (277, 14146), (281, 14164), (283, 14179), (286, 14188),

Gene: TG1_12 Start: 8190, Stop: 10379, Start Num: 6

Candidate Starts for TG1_12:

(Start: 6 @8190 has 9 MA's), (10, 8217), (26, 8340), (29, 8370), (31, 8385), (32, 8397), (35, 8448), (48, 8574), (55, 8634), (66, 8727), (71, 8790), (72, 8796), (81, 8895), (85, 8937), (92, 9012), (94, 9045), (97, 9075), (104, 9165), (124, 9276), (125, 9279), (129, 9300), (137, 9348), (151, 9444), (164, 9519), (168, 9540), (178, 9579), (181, 9594), (184, 9612), (188, 9627), (190, 9636), (200, 9693), (205, 9741), (227, 9912), (233, 9942), (234, 9954), (251, 10086), (252, 10098), (262, 10182), (274, 10263), (283, 10299), (294, 10362),

Gene: Teng_22 Start: 12028, Stop: 14262, Start Num: 7

Candidate Starts for Teng_22:

(Start: 7 @12028 has 15 MA's), (8, 12034), (16, 12115), (17, 12127), (19, 12145), (22, 12154), (27, 12196), (28, 12202), (42, 12364), (43, 12379), (46, 12400), (47, 12409), (55, 12472), (64, 12553), (65, 12565), (70, 12613), (71, 12631), (75, 12664), (80, 12724), (85, 12778), (89, 12835), (100, 12973),

(102, 13003), (104, 13015), (126, 13129), (133, 13168), (136, 13192), (141, 13213), (150, 13279), (167, 13369), (171, 13381), (183, 13432), (228, 13708), (232, 13729), (238, 13780), (240, 13795), (260, 13960), (261, 13969), (268, 14005), (277, 14062), (281, 14080), (283, 14095), (286, 14104),

Gene: Tubberson_16 Start: 10050, Stop: 12278, Start Num: 1

Candidate Starts for Tubberson_16:

(Start: 1 @10050 has 8 MA's), (2, 10056), (3, 10062), (12, 10239), (13, 10260), (25, 10377), (35, 10488), (40, 10548), (55, 10674), (63, 10743), (69, 10806), (73, 10839), (79, 10914), (85, 10977), (90, 11043), (97, 11115), (102, 11193), (110, 11253), (145, 11319), (162, 11373), (165, 11382), (184, 11427), (189, 11445), (190, 11451), (210, 11586), (222, 11685), (230, 11742), (239, 11808), (241, 11820), (253, 11928), (255, 11952), (266, 12027), (278, 12108), (291, 12159), (295, 12189),

Gene: Vash_12 Start: 8200, Stop: 10392, Start Num: 6

Candidate Starts for Vash_12:

(Start: 6 @8200 has 9 MA's), (10, 8227), (27, 8368), (32, 8407), (35, 8458), (41, 8533), (44, 8560), (48, 8584), (49, 8590), (54, 8641), (55, 8644), (57, 8659), (66, 8737), (71, 8800), (76, 8851), (79, 8884), (83, 8926), (85, 8947), (90, 9013), (97, 9085), (104, 9175), (113, 9232), (120, 9265), (125, 9289), (129, 9310), (133, 9331), (148, 9439), (155, 9475), (172, 9565), (175, 9571), (177, 9586), (178, 9589), (184, 9622), (190, 9646), (195, 9685), (215, 9820), (221, 9877), (225, 9910), (227, 9922), (251, 10096), (262, 10192), (270, 10246), (272, 10270), (283, 10309), (285, 10315), (293, 10360),

Gene: Violeta_23 Start: 11465, Stop: 13663, Start Num: 7

Candidate Starts for Violeta_23:

(Start: 7 @11465 has 15 MA's), (15, 11540), (21, 11591), (24, 11618), (34, 11711), (37, 11768), (42, 11810), (45, 11843), (47, 11855), (52, 11906), (53, 11909), (55, 11918), (56, 11921), (58, 11957), (59, 11963), (60, 11966), (62, 11978), (63, 11987), (65, 12011), (75, 12110), (80, 12170), (84, 12209), (85, 12224), (89, 12281), (100, 12419), (102, 12449), (104, 12461), (107, 12485), (108, 12494), (112, 12515), (113, 12518), (116, 12530), (120, 12548), (128, 12590), (134, 12620), (157, 12761), (166, 12818), (180, 12884), (193, 12944), (195, 12953), (210, 13016), (220, 13082), (277, 13433), (282, 13457), (289, 13496), (292, 13517),

Gene: Warren_22 Start: 11565, Stop: 13763, Start Num: 7

Candidate Starts for Warren_22:

(Start: 7 @11565 has 15 MA's), (15, 11640), (21, 11691), (24, 11718), (34, 11811), (42, 11910), (45, 11943), (47, 11955), (52, 12006), (53, 12009), (55, 12018), (56, 12021), (58, 12057), (59, 12063), (60, 12066), (62, 12078), (63, 12087), (65, 12111), (75, 12210), (80, 12270), (84, 12309), (85, 12324), (89, 12381), (100, 12519), (102, 12549), (104, 12561), (107, 12585), (108, 12594), (112, 12615), (113, 12618), (116, 12630), (120, 12648), (128, 12690), (134, 12720), (138, 12744), (154, 12849), (166, 12918), (174, 12951), (180, 12984), (193, 13044), (195, 13053), (210, 13116), (220, 13182), (231, 13215), (264, 13452), (277, 13533), (282, 13557), (289, 13596), (292, 13617),

Gene: Winchester007_37 Start: 17485, Stop: 19683, Start Num: 7

Candidate Starts for Winchester007_37:

(Start: 7 @17485 has 15 MA's), (15, 17560), (21, 17611), (24, 17638), (34, 17731), (42, 17830), (45, 17863), (47, 17875), (52, 17926), (53, 17929), (55, 17938), (56, 17941), (58, 17977), (59, 17983), (60, 17986), (62, 17998), (63, 18007), (65, 18031), (75, 18130), (80, 18190), (84, 18229), (85, 18244), (89, 18301), (100, 18439), (102, 18469), (104, 18481), (107, 18505), (108, 18514), (112, 18535), (113, 18538), (116, 18550), (120, 18568), (134, 18640), (157, 18781), (166, 18838), (180, 18904), (193, 18964), (195, 18973), (210, 19036), (220, 19102), (277, 19453), (282, 19477), (289, 19516), (292, 19537),

Gene: Wrackline_26 Start: 12677, Stop: 15094, Start Num: 7

Candidate Starts for Wrackline_26:

(Start: 7 @12677 has 15 MA's), (9, 12695), (16, 12758), (17, 12770), (28, 12845), (31, 12866), (32, 12878), (36, 12956), (42, 13007), (43, 13022), (46, 13043), (47, 13052), (51, 13079), (52, 13103), (53, 13106), (55, 13115), (63, 13184), (64, 13196), (70, 13256), (71, 13274), (74, 13286), (75, 13307), (77, 13337), (80, 13367), (82, 13382), (85, 13421), (91, 13490), (93, 13508), (98, 13598), (99, 13604), (101, 13625), (102, 13646), (104, 13658), (109, 13703), (111, 13709), (112, 13712), (117, 13736), (120, 13745), (123, 13760), (130, 13799), (134, 13817), (139, 13847), (150, 13922), (152, 13934), (157, 13958), (158, 13961), (159, 13964), (161, 13982), (174, 14048), (186, 14114), (189, 14159), (201, 14237), (202, 14246), (204, 14261), (207, 14279), (213, 14372), (234, 14576), (235, 14588), (242, 14642), (243, 14651), (244, 14657), (249, 14708), (263, 14807), (269, 14852), (277, 14891), (280, 14906), (283, 14924), (286, 14933),

Gene: phiBT1_43 Start: 8225, Stop: 10414, Start Num: 6

Candidate Starts for phiBT1_43:

(Start: 6 @8225 has 9 MA's), (10, 8252), (32, 8432), (35, 8483), (36, 8510), (41, 8558), (44, 8585), (48, 8609), (55, 8669), (57, 8684), (66, 8762), (71, 8825), (73, 8834), (76, 8876), (81, 8930), (83, 8951), (85, 8972), (94, 9080), (97, 9110), (104, 9200), (118, 9281), (124, 9311), (129, 9335), (133, 9356), (144, 9425), (146, 9437), (149, 9467), (151, 9479), (156, 9503), (173, 9593), (176, 9608), (178, 9614), (184, 9647), (188, 9662), (190, 9671), (195, 9710), (197, 9716), (199, 9725), (211, 9818), (221, 9902), (226, 9938), (227, 9947), (246, 10088), (251, 10121), (254, 10157), (262, 10217), (270, 10271), (271, 10277), (288, 10343),