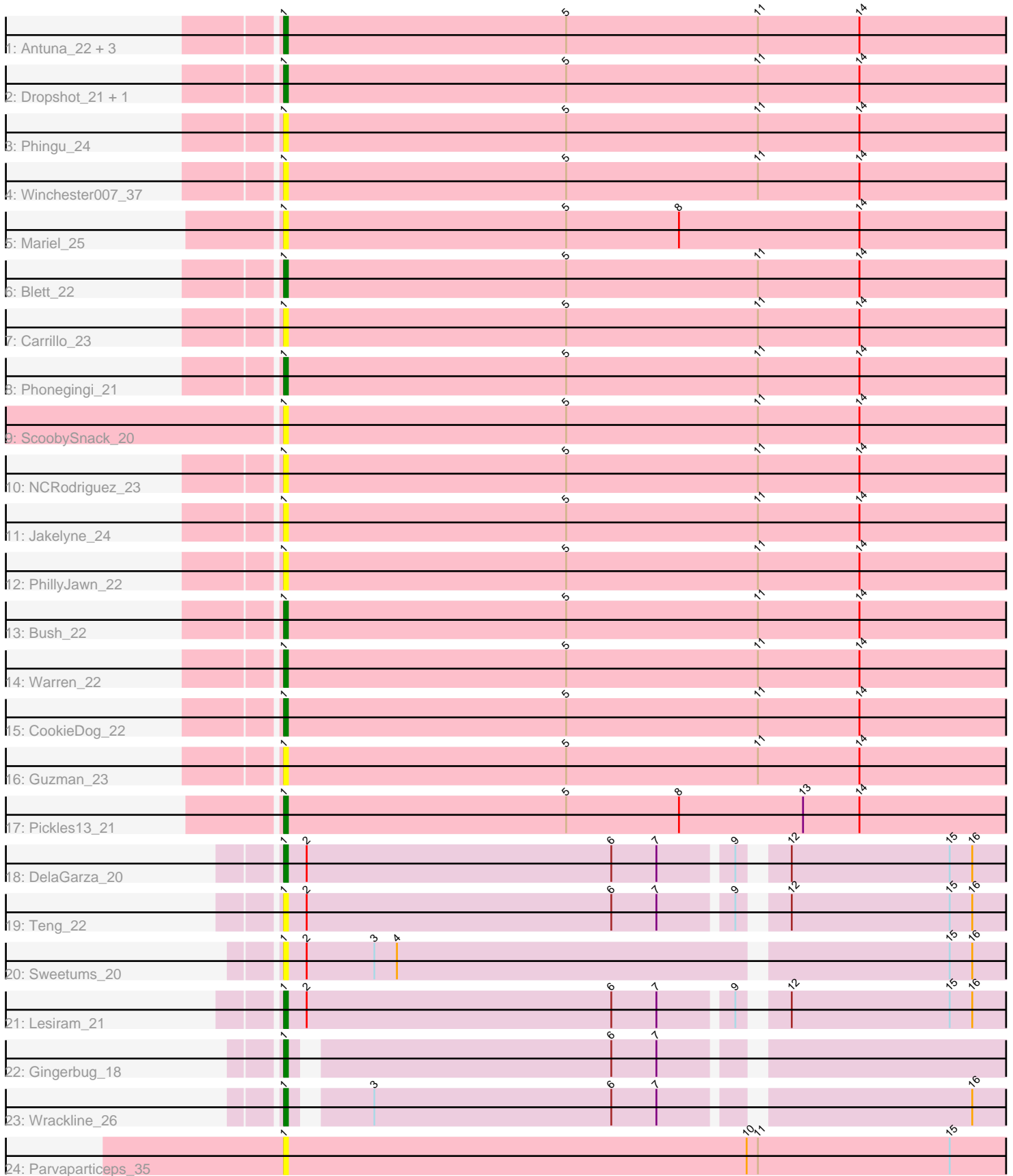


Zoomed Pham 296835



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 296835 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296835 has 28 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Antuna_22, Losacky_23, MenE_22, Violeta_23
- Track 2 : Dropshot_21, Appa_21
- Track 3 : Phingu_24
- Track 4 : Winchester007_37
- Track 5 : Mariel_25
- Track 6 : Blett_22
- Track 7 : Carrillo_23
- Track 8 : Phonegingi_21
- Track 9 : ScoobySnack_20
- Track 10 : NCRodriguez_23
- Track 11 : Jakelyne_24
- Track 12 : PhillyJawn_22
- Track 13 : Bush_22
- Track 14 : Warren_22
- Track 15 : CookieDog_22
- Track 16 : Guzman_23
- Track 17 : Pickles13_21
- Track 18 : DelaGarza_20
- Track 19 : Teng_22
- Track 20 : Sweetums_20
- Track 21 : Lesiram_21
- Track 22 : Gingerbug_18
- Track 23 : Wrackline_26
- Track 24 : 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 1, it was called in 15 of the 15 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:

-

Summary by start number:

Start 1:

- Found in 28 of 28 (100.0%) of genes in pham
- Manual Annotations of this start: 15 of 15
- 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), Parvaparticeps_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 3 clusters represented in this pham: GF, UNK, GA,

Info for manual annotations of cluster GA:

- Start number 1 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 1 was manually annotated 4 times for cluster GF.

Gene Information:

Gene: Antuna_22 Start: 11505, Stop: 13703, Start Num: 1

Candidate Starts for Antuna_22:

(Start: 1 @11505 has 15 MA's), (5, 11580), (11, 11631), (14, 11658), (19, 11751), (22, 11808), (25, 11850), (27, 11883), (29, 11895), (31, 11946), (32, 11949), (33, 11958), (34, 11961), (36, 11997), (37, 12003), (38, 12006), (39, 12018), (40, 12027), (42, 12051), (49, 12150), (51, 12210), (53, 12249), (54, 12264), (57, 12321), (65, 12459), (67, 12489), (68, 12501), (71, 12525), (72, 12534), (75, 12555), (76, 12558), (78, 12570), (80, 12588), (85, 12630), (91, 12660), (104, 12801), (109, 12858), (115, 12924), (124, 12984), (125, 12993), (134, 13056), (141, 13122), (174, 13473), (178, 13497), (181, 13536), (183, 13557),

Gene: Appa_21 Start: 11367, Stop: 13565, Start Num: 1

Candidate Starts for Appa_21:

(Start: 1 @11367 has 15 MA's), (5, 11442), (11, 11493), (14, 11520), (19, 11613), (22, 11670), (25, 11712), (27, 11745), (29, 11757), (31, 11808), (32, 11811), (33, 11820), (34, 11823), (36, 11859), (37,

11865), (38, 11868), (39, 11880), (40, 11889), (42, 11913), (49, 12012), (51, 12072), (53, 12111), (54, 12126), (57, 12183), (65, 12321), (67, 12351), (68, 12363), (71, 12387), (72, 12396), (75, 12417), (76, 12420), (78, 12432), (80, 12450), (85, 12492), (91, 12522), (104, 12663), (109, 12720), (115, 12786), (124, 12846), (125, 12855), (134, 12918), (141, 12984), (148, 13017), (174, 13335), (178, 13359), (181, 13398), (183, 13419),

Gene: Blett_22 Start: 11520, Stop: 13718, Start Num: 1

Candidate Starts for Blett_22:

(Start: 1 @11520 has 15 MA's), (5, 11595), (11, 11646), (14, 11673), (19, 11766), (22, 11823), (25, 11865), (27, 11898), (29, 11910), (31, 11961), (32, 11964), (33, 11973), (34, 11976), (36, 12012), (37, 12018), (38, 12021), (39, 12033), (40, 12042), (42, 12066), (49, 12165), (51, 12225), (53, 12264), (54, 12279), (57, 12336), (65, 12474), (67, 12504), (68, 12516), (71, 12540), (72, 12549), (75, 12570), (76, 12573), (78, 12585), (80, 12603), (85, 12645), (91, 12675), (103, 12804), (109, 12873), (115, 12939), (124, 12999), (125, 13008), (134, 13071), (141, 13137), (148, 13170), (174, 13488), (178, 13512), (181, 13551), (183, 13572),

Gene: Bush_22 Start: 11501, Stop: 13699, Start Num: 1

Candidate Starts for Bush_22:

(Start: 1 @11501 has 15 MA's), (5, 11576), (11, 11627), (14, 11654), (19, 11747), (22, 11804), (25, 11846), (27, 11879), (29, 11891), (31, 11942), (32, 11945), (33, 11954), (34, 11957), (36, 11993), (37, 11999), (38, 12002), (39, 12014), (40, 12023), (42, 12047), (49, 12146), (51, 12206), (53, 12245), (54, 12260), (61, 12398), (62, 12404), (65, 12455), (67, 12485), (68, 12497), (71, 12521), (72, 12530), (75, 12551), (76, 12554), (78, 12566), (80, 12584), (85, 12626), (91, 12656), (104, 12797), (109, 12854), (115, 12920), (124, 12980), (125, 12989), (134, 13052), (141, 13118), (148, 13151), (174, 13469), (178, 13493), (181, 13532), (183, 13553),

Gene: Carrillo_23 Start: 11474, Stop: 13672, Start Num: 1

Candidate Starts for Carrillo_23:

(Start: 1 @11474 has 15 MA's), (5, 11549), (11, 11600), (14, 11627), (19, 11720), (22, 11777), (25, 11819), (27, 11852), (29, 11864), (31, 11915), (32, 11918), (33, 11927), (34, 11930), (36, 11966), (37, 11972), (38, 11975), (39, 11987), (40, 11996), (42, 12020), (49, 12119), (51, 12179), (53, 12218), (54, 12233), (57, 12290), (65, 12428), (67, 12458), (68, 12470), (71, 12494), (72, 12503), (75, 12524), (76, 12527), (78, 12539), (80, 12557), (85, 12599), (91, 12629), (104, 12770), (109, 12827), (115, 12893), (124, 12953), (125, 12962), (134, 13025), (141, 13091), (155, 13172), (174, 13442), (178, 13466), (181, 13505), (183, 13526),

Gene: CookieDog_22 Start: 11501, Stop: 13699, Start Num: 1

Candidate Starts for CookieDog_22:

(Start: 1 @11501 has 15 MA's), (5, 11576), (11, 11627), (14, 11654), (19, 11747), (25, 11846), (27, 11879), (29, 11891), (31, 11942), (32, 11945), (33, 11954), (34, 11957), (36, 11993), (37, 11999), (38, 12002), (39, 12014), (40, 12023), (42, 12047), (49, 12146), (51, 12206), (53, 12245), (54, 12260), (61, 12398), (62, 12404), (65, 12455), (67, 12485), (68, 12497), (71, 12521), (72, 12530), (75, 12551), (76, 12554), (78, 12566), (80, 12584), (85, 12626), (91, 12656), (104, 12797), (109, 12854), (115, 12920), (124, 12980), (125, 12989), (134, 13052), (141, 13118), (155, 13199), (174, 13469), (178, 13493), (181, 13532), (183, 13553),

Gene: DelaGarza_20 Start: 12031, Stop: 14265, Start Num: 1

Candidate Starts for DelaGarza_20:

(Start: 1 @12031 has 15 MA's), (2, 12037), (6, 12118), (7, 12130), (9, 12148), (12, 12157), (15, 12199), (16, 12205), (25, 12367), (26, 12382), (28, 12403), (29, 12412), (33, 12475), (41, 12556), (42, 12568), (46, 12616), (47, 12634), (49, 12667), (51, 12727), (54, 12781), (57, 12838), (65, 12976), (67, 13006), (68, 13018), (73, 13063), (83, 13132), (90, 13171), (93, 13195), (97, 13216), (100, 13282), (110, 13372), (111, 13381), (112, 13384), (117, 13435), (138, 13579), (144, 13675), (147, 13711), (149,

13732), (154, 13783), (155, 13798), (167, 13963), (168, 13972), (171, 14008), (174, 14065), (177, 14083), (179, 14098), (180, 14107),

Gene: Dropshot_21 Start: 11367, Stop: 13565, Start Num: 1

Candidate Starts for Dropshot_21:

(Start: 1 @11367 has 15 MA's), (5, 11442), (11, 11493), (14, 11520), (19, 11613), (22, 11670), (25, 11712), (27, 11745), (29, 11757), (31, 11808), (32, 11811), (33, 11820), (34, 11823), (36, 11859), (37, 11865), (38, 11868), (39, 11880), (40, 11889), (42, 11913), (49, 12012), (51, 12072), (53, 12111), (54, 12126), (57, 12183), (65, 12321), (67, 12351), (68, 12363), (71, 12387), (72, 12396), (75, 12417), (76, 12420), (78, 12432), (80, 12450), (85, 12492), (91, 12522), (104, 12663), (109, 12720), (115, 12786), (124, 12846), (125, 12855), (134, 12918), (141, 12984), (148, 13017), (174, 13335), (178, 13359), (181, 13398), (183, 13419),

Gene: Gingerbug_18 Start: 11192, Stop: 13474, Start Num: 1

Candidate Starts for Gingerbug_18:

(Start: 1 @11192 has 15 MA's), (6, 11273), (7, 11285), (18, 11393), (21, 11471), (22, 11480), (24, 11501), (25, 11522), (26, 11537), (28, 11558), (33, 11630), (35, 11645), (41, 11711), (43, 11726), (44, 11735), (46, 11771), (47, 11789), (49, 11822), (51, 11882), (54, 11936), (56, 11990), (60, 12023), (62, 12080), (66, 12140), (67, 12161), (68, 12173), (69, 12185), (74, 12224), (76, 12230), (79, 12251), (80, 12260), (85, 12302), (87, 12314), (91, 12332), (99, 12428), (101, 12449), (104, 12473), (105, 12476), (107, 12497), (110, 12533), (115, 12596), (118, 12620), (131, 12752), (135, 12761), (144, 12884), (147, 12920), (152, 12983), (157, 13034), (159, 13046), (161, 13091), (169, 13190), (171, 13217), (179, 13307), (185, 13376),

Gene: Guzman_23 Start: 11782, Stop: 13980, Start Num: 1

Candidate Starts for Guzman_23:

(Start: 1 @11782 has 15 MA's), (5, 11857), (11, 11908), (14, 11935), (19, 12028), (22, 12085), (25, 12127), (27, 12160), (29, 12172), (31, 12223), (32, 12226), (33, 12235), (34, 12238), (36, 12274), (37, 12280), (38, 12283), (39, 12295), (40, 12304), (42, 12328), (49, 12427), (51, 12487), (53, 12526), (54, 12541), (57, 12598), (65, 12736), (67, 12766), (68, 12778), (71, 12802), (72, 12811), (75, 12832), (76, 12835), (78, 12847), (80, 12865), (85, 12907), (91, 12937), (104, 13078), (109, 13135), (115, 13201), (124, 13261), (125, 13270), (134, 13333), (141, 13399), (155, 13480), (171, 13693), (174, 13750), (178, 13774), (181, 13813), (183, 13834),

Gene: Jakelyne_24 Start: 11520, Stop: 13781, Start Num: 1

Candidate Starts for Jakelyne_24:

(Start: 1 @11520 has 15 MA's), (5, 11595), (11, 11646), (14, 11673), (19, 11766), (22, 11823), (25, 11865), (27, 11898), (29, 11910), (31, 11961), (32, 11964), (33, 11973), (34, 11976), (36, 12012), (37, 12018), (38, 12021), (39, 12033), (40, 12042), (42, 12066), (49, 12165), (51, 12225), (53, 12264), (54, 12279), (57, 12336), (65, 12474), (67, 12504), (68, 12516), (71, 12540), (72, 12549), (75, 12570), (76, 12573), (78, 12585), (80, 12603), (85, 12645), (91, 12675), (103, 12804), (109, 12873), (113, 12906), (115, 12939), (124, 12999), (125, 13008), (129, 13038), (136, 13098), (148, 13170), (155, 13218), (158, 13251), (161, 13302), (163, 13335), (164, 13368), (165, 13371), (169, 13446), (173, 13545), (174, 13551), (178, 13575), (181, 13614), (183, 13635),

Gene: Lesiram_21 Start: 12001, Stop: 14235, Start Num: 1

Candidate Starts for Lesiram_21:

(Start: 1 @12001 has 15 MA's), (2, 12007), (6, 12088), (7, 12100), (9, 12118), (12, 12127), (15, 12169), (16, 12175), (25, 12337), (26, 12352), (28, 12373), (29, 12382), (33, 12445), (41, 12526), (42, 12538), (46, 12586), (47, 12604), (49, 12637), (51, 12697), (54, 12751), (57, 12808), (65, 12946), (67, 12976), (68, 12988), (73, 13033), (83, 13102), (90, 13141), (93, 13165), (97, 13186), (100, 13252), (110, 13342), (112, 13354), (117, 13405), (120, 13438), (144, 13645), (147, 13681), (149, 13702), (154, 13753), (155, 13768), (167, 13933), (168, 13942), (171, 13978), (174, 14035), (177, 14053), (179,

14068), (180, 14077),

Gene: Losacky_23 Start: 11647, Stop: 13845, Start Num: 1

Candidate Starts for Losacky_23:

(Start: 1 @11647 has 15 MA's), (5, 11722), (11, 11773), (14, 11800), (19, 11893), (22, 11950), (25, 11992), (27, 12025), (29, 12037), (31, 12088), (32, 12091), (33, 12100), (34, 12103), (36, 12139), (37, 12145), (38, 12148), (39, 12160), (40, 12169), (42, 12193), (49, 12292), (51, 12352), (53, 12391), (54, 12406), (57, 12463), (65, 12601), (67, 12631), (68, 12643), (71, 12667), (72, 12676), (75, 12697), (76, 12700), (78, 12712), (80, 12730), (85, 12772), (91, 12802), (104, 12943), (109, 13000), (115, 13066), (124, 13126), (125, 13135), (134, 13198), (141, 13264), (174, 13615), (178, 13639), (181, 13678), (183, 13699),

Gene: Mariel_25 Start: 11675, Stop: 14137, Start Num: 1

Candidate Starts for Mariel_25:

(Start: 1 @11675 has 15 MA's), (5, 11750), (8, 11780), (14, 11828), (18, 11891), (19, 11921), (20, 11942), (25, 12020), (27, 12053), (29, 12065), (31, 12116), (32, 12119), (34, 12131), (36, 12167), (37, 12173), (38, 12176), (39, 12188), (40, 12197), (42, 12221), (48, 12299), (49, 12320), (51, 12380), (53, 12419), (54, 12434), (57, 12491), (59, 12509), (61, 12572), (62, 12578), (65, 12629), (67, 12659), (68, 12671), (71, 12695), (72, 12704), (75, 12725), (76, 12728), (78, 12740), (85, 12800), (92, 12839), (93, 12848), (96, 12866), (101, 12947), (102, 12956), (105, 12974), (123, 13190), (126, 13223), (132, 13298), (137, 13400), (153, 13616), (162, 13724), (171, 13850), (174, 13907), (178, 13931), (181, 13970),

Gene: MenE_22 Start: 11635, Stop: 13833, Start Num: 1

Candidate Starts for MenE_22:

(Start: 1 @11635 has 15 MA's), (5, 11710), (11, 11761), (14, 11788), (19, 11881), (22, 11938), (25, 11980), (27, 12013), (29, 12025), (31, 12076), (32, 12079), (33, 12088), (34, 12091), (36, 12127), (37, 12133), (38, 12136), (39, 12148), (40, 12157), (42, 12181), (49, 12280), (51, 12340), (53, 12379), (54, 12394), (57, 12451), (65, 12589), (67, 12619), (68, 12631), (71, 12655), (72, 12664), (75, 12685), (76, 12688), (78, 12700), (80, 12718), (85, 12760), (91, 12790), (104, 12931), (109, 12988), (115, 13054), (124, 13114), (125, 13123), (134, 13186), (141, 13252), (174, 13603), (178, 13627), (181, 13666), (183, 13687),

Gene: NCRodriguez_23 Start: 11633, Stop: 13894, Start Num: 1

Candidate Starts for NCRodriguez_23:

(Start: 1 @11633 has 15 MA's), (5, 11708), (11, 11759), (14, 11786), (19, 11879), (22, 11936), (25, 11978), (27, 12011), (29, 12023), (31, 12074), (32, 12077), (33, 12086), (34, 12089), (36, 12125), (37, 12131), (38, 12134), (39, 12146), (40, 12155), (42, 12179), (49, 12278), (51, 12338), (53, 12377), (54, 12392), (62, 12536), (65, 12587), (67, 12617), (68, 12629), (71, 12653), (72, 12662), (75, 12683), (76, 12686), (78, 12698), (80, 12716), (85, 12758), (91, 12788), (103, 12917), (109, 12986), (113, 13019), (115, 13052), (124, 13112), (125, 13121), (129, 13151), (136, 13211), (148, 13283), (155, 13331), (158, 13364), (161, 13415), (163, 13448), (164, 13481), (165, 13484), (169, 13559), (173, 13658), (174, 13664), (178, 13688), (181, 13727), (183, 13748),

Gene: Parvaparticeps_35 Start: 26694, Stop: 24370, Start Num: 1

Candidate Starts for Parvaparticeps_35:

(Start: 1 @26694 has 15 MA's), (10, 26571), (11, 26568), (15, 26517), (17, 26490), (18, 26478), (23, 26379), (24, 26370), (25, 26349), (29, 26304), (33, 26241), (34, 26238), (38, 26193), (44, 26136), (45, 26118), (47, 26082), (50, 26019), (51, 25989), (54, 25935), (70, 25680), (77, 25638), (78, 25629), (86, 25566), (87, 25557), (88, 25551), (89, 25548), (98, 25494), (102, 25401), (107, 25362), (108, 25350), (109, 25329), (114, 25269), (117, 25248), (121, 25185), (124, 25158), (131, 25074), (136, 25020), (143, 24954), (162, 24765), (166, 24702), (167, 24687), (169, 24669), (170, 24666), (171, 24642), (175, 24573), (179, 24552), (184, 24468), (187, 24435), (188, 24402),

Gene: PhillyJawn_22 Start: 11367, Stop: 13565, Start Num: 1

Candidate Starts for PhillyJawn_22:

(Start: 1 @11367 has 15 MA's), (5, 11442), (11, 11493), (14, 11520), (19, 11613), (22, 11670), (25, 11712), (27, 11745), (29, 11757), (31, 11808), (32, 11811), (33, 11820), (34, 11823), (36, 11859), (37, 11865), (38, 11868), (39, 11880), (40, 11889), (42, 11913), (49, 12012), (51, 12072), (53, 12111), (54, 12126), (57, 12183), (65, 12321), (67, 12351), (68, 12363), (71, 12387), (72, 12396), (75, 12417), (76, 12420), (78, 12432), (80, 12450), (104, 12663), (109, 12720), (115, 12786), (124, 12846), (125, 12855), (134, 12918), (141, 12984), (148, 13017), (174, 13335), (178, 13359), (181, 13398), (183, 13419),

Gene: Phingu_24 Start: 11523, Stop: 13784, Start Num: 1

Candidate Starts for Phingu_24:

(Start: 1 @11523 has 15 MA's), (5, 11598), (11, 11649), (14, 11676), (19, 11769), (22, 11826), (25, 11868), (27, 11901), (29, 11913), (31, 11964), (32, 11967), (33, 11976), (34, 11979), (36, 12015), (37, 12021), (38, 12024), (39, 12036), (40, 12045), (42, 12069), (49, 12168), (51, 12228), (53, 12267), (54, 12282), (57, 12339), (65, 12477), (67, 12507), (68, 12519), (71, 12543), (72, 12552), (75, 12573), (76, 12576), (78, 12588), (80, 12606), (85, 12648), (91, 12678), (105, 12822), (109, 12876), (115, 12942), (124, 13002), (125, 13011), (134, 13074), (136, 13101), (148, 13173), (155, 13221), (158, 13254), (161, 13305), (163, 13338), (164, 13371), (165, 13374), (169, 13449), (173, 13548), (174, 13554), (178, 13578), (181, 13617), (183, 13638),

Gene: Phonegingi_21 Start: 11365, Stop: 13626, Start Num: 1

Candidate Starts for Phonegingi_21:

(Start: 1 @11365 has 15 MA's), (5, 11440), (11, 11491), (14, 11518), (19, 11611), (23, 11680), (25, 11710), (27, 11743), (29, 11755), (31, 11806), (32, 11809), (33, 11818), (34, 11821), (36, 11857), (37, 11863), (38, 11866), (39, 11878), (40, 11887), (49, 12010), (51, 12070), (53, 12109), (54, 12124), (57, 12181), (62, 12268), (65, 12319), (67, 12349), (68, 12361), (71, 12385), (72, 12394), (73, 12406), (75, 12415), (76, 12418), (78, 12430), (84, 12487), (85, 12490), (91, 12520), (103, 12649), (109, 12718), (113, 12751), (115, 12784), (117, 12799), (124, 12844), (125, 12853), (136, 12943), (148, 13015), (155, 13063), (158, 13096), (161, 13147), (163, 13180), (164, 13213), (165, 13216), (169, 13291), (174, 13396), (178, 13420), (181, 13459),

Gene: Pickles13_21 Start: 11528, Stop: 13990, Start Num: 1

Candidate Starts for Pickles13_21:

(Start: 1 @11528 has 15 MA's), (5, 11603), (8, 11633), (13, 11666), (14, 11681), (18, 11744), (19, 11774), (20, 11795), (22, 11831), (25, 11873), (27, 11906), (29, 11918), (31, 11969), (32, 11972), (34, 11984), (36, 12020), (37, 12026), (38, 12029), (39, 12041), (40, 12050), (42, 12074), (48, 12152), (51, 12233), (53, 12272), (54, 12287), (55, 12299), (57, 12344), (59, 12362), (61, 12425), (62, 12431), (65, 12482), (67, 12512), (68, 12524), (71, 12548), (72, 12557), (75, 12578), (76, 12581), (78, 12593), (80, 12611), (81, 12623), (85, 12653), (93, 12701), (96, 12719), (101, 12800), (102, 12809), (105, 12827), (123, 13043), (126, 13076), (132, 13151), (137, 13253), (139, 13271), (140, 13322), (142, 13337), (145, 13385), (153, 13469), (162, 13577), (174, 13760), (178, 13784), (181, 13823), (182, 13838), (186, 13886), (189, 13964),

Gene: ScoobySnack_20 Start: 11232, Stop: 13694, Start Num: 1

Candidate Starts for ScoobySnack_20:

(Start: 1 @11232 has 15 MA's), (5, 11307), (11, 11358), (14, 11385), (20, 11499), (25, 11577), (27, 11610), (29, 11622), (31, 11673), (32, 11676), (33, 11685), (34, 11688), (36, 11724), (37, 11730), (38, 11733), (39, 11745), (40, 11754), (42, 11778), (49, 11877), (51, 11937), (53, 11976), (54, 11991), (65, 12186), (67, 12216), (68, 12228), (71, 12252), (72, 12261), (74, 12279), (75, 12282), (76, 12285), (78, 12297), (80, 12315), (81, 12327), (93, 12405), (96, 12423), (102, 12513), (105, 12531), (116, 12663), (123, 12747), (126, 12780), (129, 12828), (137, 12957), (146, 13092), (153, 13173), (158, 13227),

(160, 13266), (162, 13281), (171, 13407), (174, 13464), (178, 13488), (180, 13506),

Gene: Sweetums_20 Start: 12109, Stop: 14346, Start Num: 1

Candidate Starts for Sweetums_20:

(Start: 1 @12109 has 15 MA's), (2, 12115), (3, 12133), (4, 12139), (15, 12280), (16, 12286), (18, 12319), (22, 12406), (25, 12448), (26, 12463), (28, 12484), (29, 12493), (33, 12556), (41, 12637), (42, 12649), (46, 12697), (47, 12715), (49, 12748), (51, 12808), (54, 12862), (57, 12919), (65, 13057), (66, 13066), (67, 13087), (73, 13144), (90, 13252), (93, 13276), (97, 13297), (100, 13363), (110, 13453), (111, 13462), (112, 13465), (117, 13516), (138, 13660), (144, 13756), (147, 13792), (149, 13813), (154, 13864), (155, 13879), (167, 14044), (168, 14053), (171, 14089), (174, 14146), (177, 14164), (179, 14179), (180, 14188),

Gene: Teng_22 Start: 12028, Stop: 14262, Start Num: 1

Candidate Starts for Teng_22:

(Start: 1 @12028 has 15 MA's), (2, 12034), (6, 12115), (7, 12127), (9, 12145), (12, 12154), (15, 12196), (16, 12202), (25, 12364), (26, 12379), (28, 12400), (29, 12409), (33, 12472), (41, 12553), (42, 12565), (46, 12613), (47, 12631), (49, 12664), (51, 12724), (54, 12778), (57, 12835), (65, 12973), (67, 13003), (68, 13015), (83, 13129), (90, 13168), (93, 13192), (97, 13213), (100, 13279), (110, 13369), (112, 13381), (117, 13432), (147, 13708), (149, 13729), (154, 13780), (155, 13795), (167, 13960), (168, 13969), (171, 14005), (174, 14062), (177, 14080), (179, 14095), (180, 14104),

Gene: Violeta_23 Start: 11465, Stop: 13663, Start Num: 1

Candidate Starts for Violeta_23:

(Start: 1 @11465 has 15 MA's), (5, 11540), (11, 11591), (14, 11618), (19, 11711), (22, 11768), (25, 11810), (27, 11843), (29, 11855), (31, 11906), (32, 11909), (33, 11918), (34, 11921), (36, 11957), (37, 11963), (38, 11966), (39, 11978), (40, 11987), (42, 12011), (49, 12110), (51, 12170), (53, 12209), (54, 12224), (57, 12281), (65, 12419), (67, 12449), (68, 12461), (71, 12485), (72, 12494), (75, 12515), (76, 12518), (78, 12530), (80, 12548), (85, 12590), (91, 12620), (104, 12761), (109, 12818), (115, 12884), (124, 12944), (125, 12953), (134, 13016), (141, 13082), (174, 13433), (178, 13457), (181, 13496), (183, 13517),

Gene: Warren_22 Start: 11565, Stop: 13763, Start Num: 1

Candidate Starts for Warren_22:

(Start: 1 @11565 has 15 MA's), (5, 11640), (11, 11691), (14, 11718), (19, 11811), (25, 11910), (27, 11943), (29, 11955), (31, 12006), (32, 12009), (33, 12018), (34, 12021), (36, 12057), (37, 12063), (38, 12066), (39, 12078), (40, 12087), (42, 12111), (49, 12210), (51, 12270), (53, 12309), (54, 12324), (57, 12381), (65, 12519), (67, 12549), (68, 12561), (71, 12585), (72, 12594), (75, 12615), (76, 12618), (78, 12630), (80, 12648), (85, 12690), (91, 12720), (94, 12744), (103, 12849), (109, 12918), (113, 12951), (115, 12984), (124, 13044), (125, 13053), (134, 13116), (141, 13182), (148, 13215), (170, 13452), (174, 13533), (178, 13557), (181, 13596), (183, 13617),

Gene: Winchester007_37 Start: 17485, Stop: 19683, Start Num: 1

Candidate Starts for Winchester007_37:

(Start: 1 @17485 has 15 MA's), (5, 17560), (11, 17611), (14, 17638), (19, 17731), (25, 17830), (27, 17863), (29, 17875), (31, 17926), (32, 17929), (33, 17938), (34, 17941), (36, 17977), (37, 17983), (38, 17986), (39, 17998), (40, 18007), (42, 18031), (49, 18130), (51, 18190), (53, 18229), (54, 18244), (57, 18301), (65, 18439), (67, 18469), (68, 18481), (71, 18505), (72, 18514), (75, 18535), (76, 18538), (78, 18550), (80, 18568), (91, 18640), (104, 18781), (109, 18838), (115, 18904), (124, 18964), (125, 18973), (134, 19036), (141, 19102), (174, 19453), (178, 19477), (181, 19516), (183, 19537),

Gene: Wrackline_26 Start: 12677, Stop: 15094, Start Num: 1

Candidate Starts for Wrackline_26:

(Start: 1 @12677 has 15 MA's), (3, 12695), (6, 12758), (7, 12770), (16, 12845), (17, 12866), (18, 12878), (21, 12956), (25, 13007), (26, 13022), (28, 13043), (29, 13052), (30, 13079), (31, 13103), (32, 13106), (33, 13115), (40, 13184), (41, 13196), (46, 13256), (47, 13274), (48, 13286), (49, 13307), (50, 13337), (51, 13367), (52, 13382), (54, 13421), (58, 13490), (60, 13508), (63, 13598), (64, 13604), (66, 13625), (67, 13646), (68, 13658), (73, 13703), (74, 13709), (75, 13712), (79, 13736), (80, 13745), (82, 13760), (87, 13799), (91, 13817), (95, 13847), (100, 13922), (101, 13934), (104, 13958), (105, 13961), (106, 13964), (107, 13982), (113, 14048), (119, 14114), (122, 14159), (127, 14237), (128, 14246), (130, 14261), (133, 14279), (136, 14372), (150, 14576), (151, 14588), (156, 14642), (157, 14651), (158, 14657), (161, 14708), (169, 14807), (172, 14852), (174, 14891), (176, 14906), (179, 14924), (180, 14933),