Pham 282199

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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 282199 Report

This analysis was run 02/27/26 on database version 636.

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 282199 has 66 members, 19 are drafts.

Phages represented in each track:
• Track 1 : phiBT1_43
• Track 2 : Samora_12
• Track 3 : Lilbooboo_12
• Track 4 : Vash_12
• Track 5 : Shawty_12
• Track 6 : RemusLoopin_12
• Track 7 : Sebastisaurus_12
• Track 8 : DaRealMyers_16, Tubberson_16
• Track 9 : SoJo_16
• Track 10 : SV1_16
• Track 11 : Raleigh_16
• Track 12 : PapayaSalad_16
• Track 13 : Lishka_16, Austintatious_16
• Track 14 : Ididsumtinwong_16, Bioscum_16
• Track 15 : Kokushibo_21
• Track 16 : Keanu_21
• Track 17 : Hiyaa_21
• Track 18 : Galactica_19
• Track 19 : Spocter_21
• Track 20 : Linayshia_19, Rasovi_19, Htur_19
• Track 21 : Typher_21, AyoTeo_21, Labella_21
• Track 22 : Johann_20, Goodman_20
• Track 23 : PermaG_20
• Track 24 : TurboVicky_19
• Track 25 : Rootkit7_19, SBlackberry_19, Alove_19
• Track 26 : Zanella_19
• Track 27 : Cicada_21
• Track 28 : Jera_20
• Track 29 : Olympi_21
• Track 30 : Antuna_22, Losacky_23, Violeta_23, MenE_22
• Track 31 : Dropshot_21, Appa_21
• Track 32 : NCRodriguez_23
• Track 33 : Phingu_24

- Track 34 : Winchester007_37
- Track 35 : Mariel_25
- Track 36 : Blett_22
- Track 37 : Carrillo_23
- Track 38 : Phonegingi_21
- Track 39 : Jakelyne_24
- Track 40 : PhillyJawn_22
- Track 41 : Bush_22
- Track 42 : Warren_22
- Track 43 : CookieDog_22
- Track 44 : Guzman_23
- Track 45 : Pickles13_21
- Track 46 : Teng_22
- Track 47 : Sweetums_20
- Track 48 : DelaGarza_20
- Track 49 : Lesiram_21
- Track 50 : Gingerbug_18
- Track 51 : Wrackline_26
- Track 52 : 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 12, it was called in 15 of the 47 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, 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:
- Alove_19, Austintatious_16, AyoTeo_21, Bioscum_16, Cicada_21, DaRealMyers_16, Galactica_19, Goodman_20, Hiyaa_21, Htur_19, Ididsumtinwong_16, Jera_20, Johann_20, Keanu_21, Kokushibo_21, Labella_21, Lilbooboo_12, Linayshia_19, Lishka_16, Olympi_21, PapayaSalad_16, PermaG_20, Raleigh_16, Rasovi_19, RemusLoopin_12, Rootkit7_19, SBlackberry_19, SV1_16, Samora_12, Sebastisaurus_12, Shawty_12, SoJo_16, Spocter_21, Tubberson_16, TurboVicky_19, Typher_21, Vash_12, Zanella_19, phiBT1_43,

Summary by start number:

Start 2:
- Found in 15 of 66 (22.7%) of genes in pham
- Manual Annotations of this start: 13 of 47
- Called 100.0% of time when present

• Phage (with cluster) where this start called: Austintatious_16 (BC3), Bioscum_16 (BC3), DaRealMyers_16 (BC1), Galactica_19 (BQ), Hiyaa_21 (BQ), Ididsumtinwong_16 (BC3), Keanu_21 (BQ), Kokushibo_21 (BQ), Lishka_16 (BC3), PapayaSalad_16 (BC3), Raleigh_16 (BC2), SV1_16 (BC1), SoJo_16 (BC1), Spocter_21 (BQ), Tubberson_16 (BC1),

Start 8:
• Found in 7 of 66 (10.6%) of genes in pham
• Manual Annotations of this start: 6 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Lilbooboo_12 (BB1), RemusLoopin_12 (BB2), Samora_12 (BB1), Sebastisaurus_12 (BB2), Shawty_12 (BB1), Vash_12 (BB1), phiBT1_43 (BB1),

Start 12:
• Found in 27 of 66 (40.9%) of genes in pham
• Manual Annotations of this start: 15 of 47
• 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), Sweetums_20 (GF), Teng_22 (GF), Violeta_23 (GA), Warren_22 (GA), Winchester007_37 (GA), Wrackline_26 (GF),

Start 40:
• Found in 38 of 66 (57.6%) of genes in pham
• Manual Annotations of this start: 13 of 47
• Called 44.7% of time when present
• Phage (with cluster) where this start called: Alove_19 (EJ), AyoTeo_21 (EJ), Cicada_21 (EJ), Goodman_20 (EJ), Htur_19 (EJ), Jera_20 (EJ), Johann_20 (EJ), Labella_21 (EJ), Linayshia_19 (EJ), Olympi_21 (EJ), PermaG_20 (EJ), Rasovi_19 (EJ), Rootkit7_19 (EJ), SBlackberry_19 (EJ), TurboVicky_19 (EJ), Typher_21 (EJ), Zanella_19 (EJ),

Summary by clusters:

There are 10 clusters represented in this pham: BB1, EJ, BC1, GF, BQ, GA, UNK, BB2, BC2, BC3,

Info for manual annotations of cluster BB1:
•Start number 8 was manually annotated 4 times for cluster BB1.

Info for manual annotations of cluster BB2:
•Start number 8 was manually annotated 2 times for cluster BB2.

Info for manual annotations of cluster BC1:
•Start number 2 was manually annotated 3 times for cluster BC1.

Info for manual annotations of cluster BC2:
•Start number 2 was manually annotated 1 time for cluster BC2.

Info for manual annotations of cluster BC3:
•Start number 2 was manually annotated 5 times for cluster BC3.

Info for manual annotations of cluster BQ:
•Start number 2 was manually annotated 4 times for cluster BQ.

Info for manual annotations of cluster EJ:
•Start number 40 was manually annotated 13 times for cluster EJ.

Info for manual annotations of cluster GA:
•Start number 12 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:
•Start number 12 was manually annotated 4 times for cluster GF.

Gene Information:

Gene: Alove_19 Start: 13340, Stop: 15328, Start Num: 40
Candidate Starts for Alove_19:
(Start: 40 @13340 has 13 MA's), (42, 13379), (56, 13490), (59, 13505), (62, 13517), (87, 13709), (90, 13733), (111, 13916), (117, 13982), (130, 14078), (137, 14102), (156, 14189), (179, 14291), (183, 14315), (197, 14384), (205, 14417), (234, 14582), (244, 14615), (250, 14642), (254, 14660), (273, 14762), (276, 14774), (277, 14780), (288, 14861), (319, 15035), (336, 15101), (351, 15161), (353, 15170), (367, 15302),

Gene: Antuna_22 Start: 11505, Stop: 13703, Start Num: 12
Candidate Starts for Antuna_22:
(Start: 12 @11505 has 15 MA's), (19, 11580), (25, 11631), (29, 11658), (Start: 40 @11751 has 13 MA's), (44, 11808), (49, 11850), (52, 11883), (54, 11895), (64, 11946), (65, 11949), (67, 11958), (68, 11961), (70, 11997), (71, 12003), (72, 12006), (74, 12018), (76, 12027), (78, 12051), (89, 12150), (96, 12210), (101, 12249), (102, 12264), (106, 12321), (119, 12459), (121, 12489), (123, 12501), (126, 12525), (129, 12534), (134, 12555), (135, 12558), (138, 12570), (140, 12588), (150, 12630), (157, 12660), (186, 12801), (197, 12858), (213, 12924), (228, 12984), (229, 12993), (244, 13056), (258, 13122), (344, 13473), (349, 13497), (356, 13536), (359, 13557),

Gene: Appa_21 Start: 11367, Stop: 13565, Start Num: 12
Candidate Starts for Appa_21:
(Start: 12 @11367 has 15 MA's), (19, 11442), (25, 11493), (29, 11520), (Start: 40 @11613 has 13 MA's), (44, 11670), (49, 11712), (52, 11745), (54, 11757), (64, 11808), (65, 11811), (67, 11820), (68, 11823), (70, 11859), (71, 11865), (72, 11868), (74, 11880), (76, 11889), (78, 11913), (89, 12012), (96, 12072), (101, 12111), (102, 12126), (106, 12183), (119, 12321), (121, 12351), (123, 12363), (126, 12387), (129, 12396), (134, 12417), (135, 12420), (138, 12432), (140, 12450), (150, 12492), (157, 12522), (186, 12663), (197, 12720), (213, 12786), (228, 12846), (229, 12855), (244, 12918), (258, 12984), (279, 13017), (344, 13335), (349, 13359), (356, 13398), (359, 13419),

Gene: Austintatious_16 Start: 9780, Stop: 12197, Start Num: 2
Candidate Starts for Austintatious_16:
(Start: 2 @9780 has 13 MA's), (4, 9792), (5, 9846), (6, 9867), (30, 10041), (33, 10062), (39, 10119), (41, 10152), (51, 10254), (58, 10296), (67, 10338), (68, 10341), (69, 10353), (79, 10431), (84, 10494), (92, 10557), (94, 10575), (96, 10587), (102, 10641), (103, 10650), (105, 10695), (106, 10698), (113,

10779), (122, 10866), (123, 10869), (132, 10917), (137, 10935), (141, 10953), (144, 10965), (169, 11076), (177, 11133), (184, 11169), (189, 11190), (195, 11223), (196, 11229), (204, 11262), (209, 11283), (215, 11316), (219, 11340), (257, 11538), (303, 11796), (306, 11817), (311, 11841), (313, 11862), (326, 11916), (339, 11982), (344, 11994), (354, 12039),

Gene: AyoTeo_21 Start: 13467, Stop: 15455, Start Num: 40
Candidate Starts for AyoTeo_21:
(Start: 40 @13467 has 13 MA's), (42, 13506), (56, 13617), (59, 13632), (62, 13644), (87, 13836), (90, 13860), (97, 13902), (111, 14043), (117, 14109), (130, 14205), (156, 14316), (179, 14418), (183, 14442), (197, 14511), (205, 14544), (234, 14709), (244, 14742), (246, 14757), (250, 14769), (254, 14787), (276, 14901), (277, 14907), (319, 15162), (336, 15228), (351, 15288), (367, 15429),

Gene: Bioscum_16 Start: 9816, Stop: 12233, Start Num: 2
Candidate Starts for Bioscum_16:
(Start: 2 @9816 has 13 MA's), (4, 9828), (5, 9882), (6, 9903), (30, 10077), (33, 10098), (39, 10155), (41, 10188), (51, 10290), (58, 10332), (67, 10374), (68, 10377), (69, 10389), (79, 10467), (84, 10530), (92, 10593), (94, 10611), (96, 10623), (102, 10677), (103, 10686), (105, 10731), (106, 10734), (113, 10815), (122, 10902), (123, 10905), (132, 10953), (137, 10971), (141, 10989), (144, 11001), (169, 11112), (177, 11169), (184, 11205), (189, 11226), (195, 11259), (196, 11265), (209, 11319), (215, 11352), (219, 11376), (257, 11574), (303, 11832), (306, 11853), (311, 11877), (313, 11898), (326, 11952), (339, 12018), (344, 12030), (354, 12075),

Gene: Blett_22 Start: 11520, Stop: 13718, Start Num: 12
Candidate Starts for Blett_22:
(Start: 12 @11520 has 15 MA's), (19, 11595), (25, 11646), (29, 11673), (Start: 40 @11766 has 13 MA's), (44, 11823), (49, 11865), (52, 11898), (54, 11910), (64, 11961), (65, 11964), (67, 11973), (68, 11976), (70, 12012), (71, 12018), (72, 12021), (74, 12033), (76, 12042), (78, 12066), (89, 12165), (96, 12225), (101, 12264), (102, 12279), (106, 12336), (119, 12474), (121, 12504), (123, 12516), (126, 12540), (129, 12549), (134, 12570), (135, 12573), (138, 12585), (140, 12603), (150, 12645), (157, 12675), (183, 12804), (197, 12873), (213, 12939), (228, 12999), (229, 13008), (244, 13071), (258, 13137), (279, 13170), (344, 13488), (349, 13512), (356, 13551), (359, 13572),

Gene: Bush_22 Start: 11501, Stop: 13699, Start Num: 12
Candidate Starts for Bush_22:
(Start: 12 @11501 has 15 MA's), (19, 11576), (25, 11627), (29, 11654), (Start: 40 @11747 has 13 MA's), (44, 11804), (49, 11846), (52, 11879), (54, 11891), (64, 11942), (65, 11945), (67, 11954), (68, 11957), (70, 11993), (71, 11999), (72, 12002), (74, 12014), (76, 12023), (78, 12047), (89, 12146), (96, 12206), (101, 12245), (102, 12260), (113, 12398), (114, 12404), (119, 12455), (121, 12485), (123, 12497), (126, 12521), (129, 12530), (134, 12551), (135, 12554), (138, 12566), (140, 12584), (150, 12626), (157, 12656), (186, 12797), (197, 12854), (213, 12920), (228, 12980), (229, 12989), (244, 13052), (258, 13118), (279, 13151), (344, 13469), (349, 13493), (356, 13532), (359, 13553),

Gene: Carrillo_23 Start: 11474, Stop: 13672, Start Num: 12
Candidate Starts for Carrillo_23:
(Start: 12 @11474 has 15 MA's), (19, 11549), (25, 11600), (29, 11627), (Start: 40 @11720 has 13 MA's), (44, 11777), (49, 11819), (52, 11852), (54, 11864), (64, 11915), (65, 11918), (67, 11927), (68, 11930), (70, 11966), (71, 11972), (72, 11975), (74, 11987), (76, 11996), (78, 12020), (89, 12119), (96, 12179), (101, 12218), (102, 12233), (106, 12290), (119, 12428), (121, 12458), (123, 12470), (126, 12494), (129, 12503), (134, 12524), (135, 12527), (138, 12539), (140, 12557), (150, 12599), (157, 12629), (186, 12770), (197, 12827), (213, 12893), (228, 12953), (229, 12962), (244, 13025), (258, 13091), (288, 13172), (344, 13442), (349, 13466), (356, 13505), (359, 13526),

Gene: Cicada_21 Start: 13577, Stop: 15565, Start Num: 40

Candidate Starts for Cicada_21:
(Start: 40 @13577 has 13 MA's), (42, 13616), (56, 13727), (59, 13742), (62, 13754), (87, 13946), (90, 13970), (97, 14012), (106, 14102), (111, 14153), (117, 14219), (127, 14300), (130, 14315), (137, 14339), (151, 14402), (156, 14426), (179, 14528), (183, 14552), (197, 14621), (205, 14654), (244, 14852), (250, 14879), (254, 14897), (260, 14951), (273, 14999), (276, 15011), (277, 15017), (286, 15083), (287, 15095), (319, 15272), (332, 15308), (336, 15338), (351, 15398), (367, 15539),

Gene: CookieDog_22 Start: 11501, Stop: 13699, Start Num: 12
Candidate Starts for CookieDog_22:
(Start: 12 @11501 has 15 MA's), (19, 11576), (25, 11627), (29, 11654), (Start: 40 @11747 has 13 MA's), (49, 11846), (52, 11879), (54, 11891), (64, 11942), (65, 11945), (67, 11954), (68, 11957), (70, 11993), (71, 11999), (72, 12002), (74, 12014), (76, 12023), (78, 12047), (89, 12146), (96, 12206), (101, 12245), (102, 12260), (113, 12398), (114, 12404), (119, 12455), (121, 12485), (123, 12497), (126, 12521), (129, 12530), (134, 12551), (135, 12554), (138, 12566), (140, 12584), (150, 12626), (157, 12656), (186, 12797), (197, 12854), (213, 12920), (228, 12980), (229, 12989), (244, 13052), (258, 13118), (288, 13199), (344, 13469), (349, 13493), (356, 13532), (359, 13553),

Gene: DaRealMyers_16 Start: 10050, Stop: 12278, Start Num: 2
Candidate Starts for DaRealMyers_16:
(Start: 2 @10050 has 13 MA's), (3, 10056), (4, 10062), (13, 10239), (15, 10260), (30, 10377), (41, 10488), (47, 10548), (67, 10674), (76, 10743), (82, 10806), (85, 10839), (95, 10914), (102, 10977), (107, 11043), (113, 11115), (121, 11193), (132, 11253), (150, 11319), (164, 11373), (167, 11382), (175, 11427), (177, 11445), (179, 11451), (218, 11586), (240, 11685), (253, 11742), (264, 11808), (267, 11820), (287, 11928), (291, 11952), (303, 12027), (317, 12108), (328, 12159), (334, 12189),

Gene: DelaGarza_20 Start: 12031, Stop: 14265, Start Num: 12
Candidate Starts for DelaGarza_20:
(Start: 12 @12031 has 15 MA's), (14, 12037), (20, 12118), (21, 12130), (23, 12148), (26, 12157), (33, 12199), (34, 12205), (49, 12367), (50, 12382), (53, 12403), (54, 12412), (67, 12475), (77, 12556), (78, 12568), (83, 12616), (84, 12634), (89, 12667), (96, 12727), (102, 12781), (106, 12838), (119, 12976), (121, 13006), (123, 13018), (131, 13063), (146, 13132), (155, 13171), (160, 13195), (166, 13216), (179, 13282), (198, 13372), (201, 13381), (202, 13384), (214, 13435), (255, 13579), (266, 13675), (276, 13711), (280, 13732), (286, 13783), (288, 13798), (315, 13963), (319, 13972), (332, 14008), (344, 14065), (347, 14083), (351, 14098), (353, 14107),

Gene: Dropshot_21 Start: 11367, Stop: 13565, Start Num: 12
Candidate Starts for Dropshot_21:
(Start: 12 @11367 has 15 MA's), (19, 11442), (25, 11493), (29, 11520), (Start: 40 @11613 has 13 MA's), (44, 11670), (49, 11712), (52, 11745), (54, 11757), (64, 11808), (65, 11811), (67, 11820), (68, 11823), (70, 11859), (71, 11865), (72, 11868), (74, 11880), (76, 11889), (78, 11913), (89, 12012), (96, 12072), (101, 12111), (102, 12126), (106, 12183), (119, 12321), (121, 12351), (123, 12363), (126, 12387), (129, 12396), (134, 12417), (135, 12420), (138, 12432), (140, 12450), (150, 12492), (157, 12522), (186, 12663), (197, 12720), (213, 12786), (228, 12846), (229, 12855), (244, 12918), (258, 12984), (279, 13017), (344, 13335), (349, 13359), (356, 13398), (359, 13419),

Gene: Galactica_19 Start: 14849, Stop: 17671, Start Num: 2
Candidate Starts for Galactica_19:
(Start: 2 @14849 has 13 MA's), (6, 14936), (7, 14957), (24, 15179), (30, 15212), (32, 15221), (47, 15383), (54, 15446), (68, 15512), (70, 15548), (75, 15575), (76, 15578), (82, 15641), (85, 15674), (102, 15812), (107, 15878), (113, 15950), (119, 15998), (121, 16028), (128, 16070), (136, 16100), (138, 16109), (140, 16121), (144, 16136), (150, 16163), (167, 16235), (170, 16250), (184, 16340), (189, 16361), (192, 16376), (204, 16433), (209, 16454), (212, 16469), (215, 16487), (219, 16511), (232, 16598), (244, 16637), (272, 16787), (284, 16862), (287, 16883), (293, 16916), (300, 16961), (303,

16982), (307, 17015), (313, 17048), (318, 17063), (330, 17117), (333, 17138), (337, 17159), (343, 17183), (348, 17207), (357, 17258), (359, 17270), (361, 17291), (369, 17453), (370, 17498), (371, 17555), (372, 17579),

Gene: Gingerbug_18 Start: 11192, Stop: 13474, Start Num: 12
Candidate Starts for Gingerbug_18:
(Start: 12 @11192 has 15 MA's), (20, 11273), (21, 11285), (38, 11393), (43, 11471), (44, 11480), (46, 11501), (49, 11522), (50, 11537), (53, 11558), (67, 11630), (69, 11645), (77, 11711), (79, 11726), (80, 11735), (83, 11771), (84, 11789), (89, 11822), (96, 11882), (102, 11936), (105, 11990), (110, 12023), (114, 12080), (120, 12140), (121, 12161), (123, 12173), (124, 12185), (133, 12224), (135, 12230), (139, 12251), (140, 12260), (150, 12302), (152, 12314), (157, 12332), (176, 12428), (181, 12449), (186, 12473), (187, 12476), (191, 12497), (198, 12533), (211, 12596), (216, 12620), (241, 12752), (244, 12761), (266, 12884), (276, 12920), (284, 12983), (292, 13034), (295, 13046), (301, 13091), (323, 13190), (332, 13217), (351, 13307), (362, 13376),

Gene: Goodman_20 Start: 13490, Stop: 15478, Start Num: 40
Candidate Starts for Goodman_20:
(28, 13391), (Start: 40 @13490 has 13 MA's), (56, 13640), (59, 13655), (62, 13667), (87, 13859), (90, 13883), (97, 13925), (106, 14015), (111, 14066), (117, 14132), (127, 14213), (130, 14228), (137, 14252), (156, 14339), (179, 14441), (183, 14465), (197, 14534), (205, 14567), (244, 14765), (250, 14792), (254, 14810), (260, 14864), (273, 14912), (276, 14924), (277, 14930), (286, 14996), (287, 15008), (288, 15011), (319, 15185), (332, 15221), (336, 15251), (351, 15311), (367, 15452),

Gene: Guzman_23 Start: 11782, Stop: 13980, Start Num: 12
Candidate Starts for Guzman_23:
(Start: 12 @11782 has 15 MA's), (19, 11857), (25, 11908), (29, 11935), (Start: 40 @12028 has 13 MA's), (44, 12085), (49, 12127), (52, 12160), (54, 12172), (64, 12223), (65, 12226), (67, 12235), (68, 12238), (70, 12274), (71, 12280), (72, 12283), (74, 12295), (76, 12304), (78, 12328), (89, 12427), (96, 12487), (101, 12526), (102, 12541), (106, 12598), (119, 12736), (121, 12766), (123, 12778), (126, 12802), (129, 12811), (134, 12832), (135, 12835), (138, 12847), (140, 12865), (150, 12907), (157, 12937), (186, 13078), (197, 13135), (213, 13201), (228, 13261), (229, 13270), (244, 13333), (258, 13399), (288, 13480), (332, 13693), (344, 13750), (349, 13774), (356, 13813), (359, 13834),

Gene: Hiyaa_21 Start: 15882, Stop: 18707, Start Num: 2
Candidate Starts for Hiyaa_21:
(1, 15810), (Start: 2 @15882 has 13 MA's), (6, 15969), (7, 15990), (24, 16212), (30, 16245), (41, 16356), (47, 16416), (68, 16545), (70, 16581), (71, 16587), (74, 16602), (76, 16611), (82, 16674), (85, 16707), (93, 16773), (102, 16845), (113, 16983), (121, 17061), (128, 17103), (132, 17121), (137, 17139), (138, 17142), (144, 17169), (145, 17175), (150, 17196), (161, 17247), (167, 17268), (173, 17304), (184, 17373), (190, 17400), (204, 17466), (209, 17487), (212, 17502), (215, 17520), (217, 17535), (219, 17544), (221, 17574), (236, 17649), (250, 17697), (254, 17718), (260, 17775), (261, 17778), (272, 17820), (274, 17823), (283, 17883), (284, 17895), (287, 17916), (297, 17973), (300, 17994), (304, 18027), (314, 18084), (327, 18138), (333, 18171), (347, 18237), (357, 18291), (360, 18315), (372, 18615), (373, 18696),

Gene: Htur_19 Start: 13514, Stop: 15508, Start Num: 40
Candidate Starts for Htur_19:
(Start: 40 @13514 has 13 MA's), (42, 13553), (56, 13664), (59, 13679), (62, 13691), (79, 13805), (87, 13883), (90, 13907), (106, 14039), (111, 14090), (117, 14156), (130, 14252), (156, 14363), (183, 14489), (195, 14549), (200, 14573), (205, 14591), (211, 14624), (239, 14771), (244, 14789), (251, 14822), (255, 14837), (263, 14903), (292, 15062), (294, 15068), (295, 15074), (306, 15152), (308, 15167), (319, 15209), (336, 15275), (353, 15344), (367, 15482),

Gene: Ididsumtinwong_16 Start: 9816, Stop: 12233, Start Num: 2
Candidate Starts for Ididsumtinwong_16:
(Start: 2 @9816 has 13 MA's), (4, 9828), (5, 9882), (6, 9903), (30, 10077), (33, 10098), (39, 10155), (41, 10188), (51, 10290), (58, 10332), (67, 10374), (68, 10377), (69, 10389), (79, 10467), (84, 10530), (92, 10593), (94, 10611), (96, 10623), (102, 10677), (103, 10686), (105, 10731), (106, 10734), (113, 10815), (122, 10902), (123, 10905), (132, 10953), (137, 10971), (141, 10989), (144, 11001), (169, 11112), (177, 11169), (184, 11205), (189, 11226), (195, 11259), (196, 11265), (209, 11319), (215, 11352), (219, 11376), (257, 11574), (303, 11832), (306, 11853), (311, 11877), (313, 11898), (326, 11952), (339, 12018), (344, 12030), (354, 12075),

Gene: Jakelyne_24 Start: 11520, Stop: 13781, Start Num: 12
Candidate Starts for Jakelyne_24:
(Start: 12 @11520 has 15 MA's), (19, 11595), (25, 11646), (29, 11673), (Start: 40 @11766 has 13 MA's), (44, 11823), (49, 11865), (52, 11898), (54, 11910), (64, 11961), (65, 11964), (67, 11973), (68, 11976), (70, 12012), (71, 12018), (72, 12021), (74, 12033), (76, 12042), (78, 12066), (89, 12165), (96, 12225), (101, 12264), (102, 12279), (106, 12336), (119, 12474), (121, 12504), (123, 12516), (126, 12540), (129, 12549), (134, 12570), (135, 12573), (138, 12585), (140, 12603), (150, 12645), (157, 12675), (183, 12804), (197, 12873), (205, 12906), (213, 12939), (228, 12999), (229, 13008), (237, 13038), (250, 13098), (279, 13170), (288, 13218), (294, 13251), (301, 13302), (306, 13335), (309, 13368), (310, 13371), (323, 13446), (342, 13545), (344, 13551), (349, 13575), (356, 13614), (359, 13635),

Gene: Jera_20 Start: 12587, Stop: 14575, Start Num: 40
Candidate Starts for Jera_20:
(Start: 40 @12587 has 13 MA's), (42, 12626), (56, 12737), (59, 12752), (62, 12764), (87, 12956), (90, 12980), (111, 13163), (117, 13229), (130, 13325), (137, 13349), (156, 13436), (179, 13538), (183, 13562), (197, 13631), (205, 13664), (211, 13697), (234, 13829), (250, 13889), (258, 13940), (273, 14009), (276, 14021), (277, 14027), (319, 14282), (336, 14348), (351, 14408), (367, 14549),

Gene: Johann_20 Start: 13490, Stop: 15478, Start Num: 40
Candidate Starts for Johann_20:
(28, 13391), (Start: 40 @13490 has 13 MA's), (56, 13640), (59, 13655), (62, 13667), (87, 13859), (90, 13883), (97, 13925), (106, 14015), (111, 14066), (117, 14132), (127, 14213), (130, 14228), (137, 14252), (156, 14339), (179, 14441), (183, 14465), (197, 14534), (205, 14567), (244, 14765), (250, 14792), (254, 14810), (260, 14864), (273, 14912), (276, 14924), (277, 14930), (286, 14996), (287, 15008), (288, 15011), (319, 15185), (332, 15221), (336, 15251), (351, 15311), (367, 15452),

Gene: Keanu_21 Start: 15925, Stop: 18747, Start Num: 2
Candidate Starts for Keanu_21:
(1, 15853), (Start: 2 @15925 has 13 MA's), (6, 16012), (7, 16033), (18, 16168), (24, 16255), (30, 16288), (32, 16297), (41, 16399), (47, 16459), (68, 16588), (70, 16624), (71, 16630), (72, 16633), (75, 16651), (76, 16654), (82, 16717), (85, 16750), (102, 16888), (105, 16942), (111, 16996), (113, 17026), (115, 17038), (121, 17104), (131, 17161), (132, 17164), (138, 17185), (144, 17212), (154, 17260), (171, 17338), (173, 17347), (190, 17443), (199, 17491), (204, 17509), (207, 17524), (208, 17527), (209, 17530), (212, 17545), (215, 17563), (219, 17587), (221, 17617), (236, 17692), (245, 17725), (250, 17740), (261, 17821), (265, 17839), (274, 17866), (278, 17893), (284, 17938), (289, 17971), (299, 18025), (300, 18037), (303, 18058), (304, 18070), (314, 18127), (330, 18193), (333, 18214), (347, 18280), (357, 18334), (359, 18346), (360, 18358),

Gene: Kokushibo_21 Start: 15897, Stop: 18722, Start Num: 2
Candidate Starts for Kokushibo_21:
(1, 15825), (Start: 2 @15897 has 13 MA's), (6, 15984), (7, 16005), (24, 16227), (30, 16260), (41, 16371), (47, 16431), (68, 16560), (70, 16596), (71, 16602), (74, 16617), (76, 16626), (82, 16689), (85,

16722), (93, 16788), (102, 16860), (113, 16998), (121, 17076), (128, 17118), (132, 17136), (137, 17154), (138, 17157), (144, 17184), (145, 17190), (150, 17211), (161, 17262), (167, 17283), (170, 17298), (171, 17310), (173, 17319), (184, 17388), (190, 17415), (204, 17481), (209, 17502), (212, 17517), (215, 17535), (217, 17550), (219, 17559), (221, 17589), (226, 17607), (236, 17664), (250, 17712), (254, 17733), (260, 17790), (261, 17793), (272, 17835), (274, 17838), (283, 17898), (284, 17910), (287, 17931), (297, 17988), (300, 18009), (304, 18042), (314, 18099), (327, 18153), (333, 18186), (337, 18207), (347, 18252), (357, 18306), (360, 18330), (364, 18363), (372, 18630), (373, 18711),

Gene: Labella_21 Start: 13470, Stop: 15458, Start Num: 40
Candidate Starts for Labella_21:
(Start: 40 @13470 has 13 MA's), (42, 13509), (56, 13620), (59, 13635), (62, 13647), (87, 13839), (90, 13863), (97, 13905), (111, 14046), (117, 14112), (130, 14208), (156, 14319), (179, 14421), (183, 14445), (197, 14514), (205, 14547), (234, 14712), (244, 14745), (246, 14760), (250, 14772), (254, 14790), (276, 14904), (277, 14910), (319, 15165), (336, 15231), (351, 15291), (367, 15432),

Gene: Lesiram_21 Start: 12001, Stop: 14235, Start Num: 12
Candidate Starts for Lesiram_21:
(Start: 12 @12001 has 15 MA's), (14, 12007), (20, 12088), (21, 12100), (23, 12118), (26, 12127), (33, 12169), (34, 12175), (49, 12337), (50, 12352), (53, 12373), (54, 12382), (67, 12445), (77, 12526), (78, 12538), (83, 12586), (84, 12604), (89, 12637), (96, 12697), (102, 12751), (106, 12808), (119, 12946), (121, 12976), (123, 12988), (131, 13033), (146, 13102), (155, 13141), (160, 13165), (166, 13186), (179, 13252), (198, 13342), (202, 13354), (214, 13405), (220, 13438), (266, 13645), (276, 13681), (280, 13702), (286, 13753), (288, 13768), (315, 13933), (319, 13942), (332, 13978), (344, 14035), (347, 14053), (351, 14068), (353, 14077),

Gene: Lilbooboo_12 Start: 8195, Stop: 10384, Start Num: 8
Candidate Starts for Lilbooboo_12:
(Start: 8 @8195 has 6 MA's), (10, 8222), (11, 8240), (33, 8363), (38, 8402), (41, 8453), (48, 8528), (51, 8555), (55, 8579), (56, 8585), (66, 8636), (67, 8639), (69, 8654), (79, 8732), (84, 8795), (91, 8846), (95, 8879), (98, 8900), (100, 8921), (102, 8942), (113, 9080), (123, 9170), (135, 9227), (140, 9251), (142, 9260), (152, 9305), (158, 9326), (177, 9434), (184, 9470), (189, 9491), (208, 9581), (209, 9584), (215, 9617), (219, 9641), (222, 9680), (224, 9686), (254, 9815), (260, 9872), (268, 9905), (269, 9908), (275, 9926), (281, 9959), (300, 10091), (316, 10187), (329, 10241), (352, 10352),

Gene: Linayshia_19 Start: 13506, Stop: 15500, Start Num: 40
Candidate Starts for Linayshia_19:
(Start: 40 @13506 has 13 MA's), (42, 13545), (56, 13656), (59, 13671), (62, 13683), (79, 13797), (87, 13875), (90, 13899), (106, 14031), (111, 14082), (117, 14148), (130, 14244), (156, 14355), (183, 14481), (195, 14541), (200, 14565), (205, 14583), (211, 14616), (239, 14763), (244, 14781), (251, 14814), (255, 14829), (263, 14895), (292, 15054), (294, 15060), (295, 15066), (306, 15144), (308, 15159), (319, 15201), (336, 15267), (353, 15336), (367, 15474),

Gene: Lishka_16 Start: 9780, Stop: 12197, Start Num: 2
Candidate Starts for Lishka_16:
(Start: 2 @9780 has 13 MA's), (4, 9792), (5, 9846), (6, 9867), (30, 10041), (33, 10062), (39, 10119), (41, 10152), (51, 10254), (58, 10296), (67, 10338), (68, 10341), (69, 10353), (79, 10431), (84, 10494), (92, 10557), (94, 10575), (96, 10587), (102, 10641), (103, 10650), (105, 10695), (106, 10698), (113, 10779), (122, 10866), (123, 10869), (132, 10917), (137, 10935), (141, 10953), (144, 10965), (169, 11076), (177, 11133), (184, 11169), (189, 11190), (195, 11223), (196, 11229), (204, 11262), (209, 11283), (215, 11316), (219, 11340), (257, 11538), (303, 11796), (306, 11817), (311, 11841), (313, 11862), (326, 11916), (339, 11982), (344, 11994), (354, 12039),

Gene: Losacky_23 Start: 11647, Stop: 13845, Start Num: 12
Candidate Starts for Losacky_23:
(Start: 12 @11647 has 15 MA's), (19, 11722), (25, 11773), (29, 11800), (Start: 40 @11893 has 13 MA's), (44, 11950), (49, 11992), (52, 12025), (54, 12037), (64, 12088), (65, 12091), (67, 12100), (68, 12103), (70, 12139), (71, 12145), (72, 12148), (74, 12160), (76, 12169), (78, 12193), (89, 12292), (96, 12352), (101, 12391), (102, 12406), (106, 12463), (119, 12601), (121, 12631), (123, 12643), (126, 12667), (129, 12676), (134, 12697), (135, 12700), (138, 12712), (140, 12730), (150, 12772), (157, 12802), (186, 12943), (197, 13000), (213, 13066), (228, 13126), (229, 13135), (244, 13198), (258, 13264), (344, 13615), (349, 13639), (356, 13678), (359, 13699),

Gene: Mariel_25 Start: 11675, Stop: 14137, Start Num: 12
Candidate Starts for Mariel_25:
(Start: 12 @11675 has 15 MA's), (19, 11750), (22, 11780), (29, 11828), (38, 11891), (Start: 40 @11921 has 13 MA's), (41, 11942), (49, 12020), (52, 12053), (54, 12065), (64, 12116), (65, 12119), (68, 12131), (70, 12167), (71, 12173), (72, 12176), (74, 12188), (76, 12197), (78, 12221), (86, 12299), (89, 12320), (96, 12380), (101, 12419), (102, 12434), (106, 12491), (109, 12509), (113, 12572), (114, 12578), (119, 12629), (121, 12659), (123, 12671), (126, 12695), (129, 12704), (134, 12725), (135, 12728), (138, 12740), (150, 12800), (159, 12839), (160, 12848), (165, 12866), (181, 12947), (182, 12956), (187, 12974), (225, 13190), (231, 13223), (242, 13298), (252, 13400), (285, 13616), (302, 13724), (332, 13850), (344, 13907), (349, 13931), (356, 13970),

Gene: MenE_22 Start: 11635, Stop: 13833, Start Num: 12
Candidate Starts for MenE_22:
(Start: 12 @11635 has 15 MA's), (19, 11710), (25, 11761), (29, 11788), (Start: 40 @11881 has 13 MA's), (44, 11938), (49, 11980), (52, 12013), (54, 12025), (64, 12076), (65, 12079), (67, 12088), (68, 12091), (70, 12127), (71, 12133), (72, 12136), (74, 12148), (76, 12157), (78, 12181), (89, 12280), (96, 12340), (101, 12379), (102, 12394), (106, 12451), (119, 12589), (121, 12619), (123, 12631), (126, 12655), (129, 12664), (134, 12685), (135, 12688), (138, 12700), (140, 12718), (150, 12760), (157, 12790), (186, 12931), (197, 12988), (213, 13054), (228, 13114), (229, 13123), (244, 13186), (258, 13252), (344, 13603), (349, 13627), (356, 13666), (359, 13687),

Gene: NCRodriguez_23 Start: 11633, Stop: 13894, Start Num: 12
Candidate Starts for NCRodriguez_23:
(Start: 12 @11633 has 15 MA's), (19, 11708), (25, 11759), (29, 11786), (Start: 40 @11879 has 13 MA's), (44, 11936), (49, 11978), (52, 12011), (54, 12023), (64, 12074), (65, 12077), (67, 12086), (68, 12089), (70, 12125), (71, 12131), (72, 12134), (74, 12146), (76, 12155), (78, 12179), (89, 12278), (96, 12338), (101, 12377), (102, 12392), (114, 12536), (119, 12587), (121, 12617), (123, 12629), (126, 12653), (129, 12662), (134, 12683), (135, 12686), (138, 12698), (140, 12716), (150, 12758), (157, 12788), (183, 12917), (197, 12986), (205, 13019), (213, 13052), (228, 13112), (229, 13121), (237, 13151), (250, 13211), (279, 13283), (288, 13331), (294, 13364), (301, 13415), (306, 13448), (309, 13481), (310, 13484), (323, 13559), (342, 13658), (344, 13664), (349, 13688), (356, 13727), (359, 13748),

Gene: Olympi_21 Start: 13480, Stop: 15465, Start Num: 40
Candidate Starts for Olympi_21:
(28, 13381), (Start: 40 @13480 has 13 MA's), (56, 13630), (59, 13645), (62, 13657), (87, 13849), (90, 13873), (97, 13915), (106, 14005), (111, 14056), (117, 14122), (127, 14203), (148, 14293), (152, 14314), (156, 14329), (183, 14455), (197, 14524), (205, 14557), (244, 14755), (250, 14782), (254, 14800), (260, 14854), (273, 14902), (276, 14914), (277, 14920), (286, 14986), (287, 14998), (288, 15001), (319, 15175), (332, 15211), (336, 15241), (351, 15301), (367, 15439),

Gene: PapayaSalad_16 Start: 9786, Stop: 12203, Start Num: 2
Candidate Starts for PapayaSalad_16:

(Start: 2 @9786 has 13 MA's), (4, 9798), (5, 9852), (6, 9873), (30, 10047), (33, 10068), (39, 10125), (51, 10260), (58, 10302), (67, 10344), (68, 10347), (69, 10359), (79, 10437), (84, 10500), (92, 10563), (94, 10581), (96, 10593), (102, 10647), (103, 10656), (105, 10701), (106, 10704), (113, 10785), (122, 10872), (123, 10875), (132, 10923), (137, 10941), (141, 10959), (144, 10971), (169, 11082), (177, 11139), (184, 11175), (189, 11196), (195, 11229), (196, 11235), (204, 11268), (209, 11289), (215, 11322), (219, 11346), (230, 11421), (306, 11823), (311, 11847), (313, 11868), (326, 11922), (338, 11985), (344, 12000), (354, 12045),

Gene: Parvaparticeps_35 Start: 26694, Stop: 24370, Start Num: 12
Candidate Starts for Parvaparticeps_35:
(Start: 12 @26694 has 15 MA's), (24, 26571), (25, 26568), (33, 26517), (37, 26490), (38, 26478), (45, 26379), (46, 26370), (49, 26349), (54, 26304), (67, 26241), (68, 26238), (72, 26193), (80, 26136), (81, 26118), (84, 26082), (92, 26019), (96, 25989), (102, 25935), (125, 25680), (136, 25638), (138, 25629), (151, 25566), (152, 25557), (153, 25551), (154, 25548), (168, 25494), (182, 25401), (191, 25362), (194, 25350), (197, 25329), (210, 25269), (214, 25248), (227, 25185), (233, 25158), (249, 25074), (258, 25020), (271, 24954), (302, 24765), (312, 24702), (315, 24687), (323, 24669), (324, 24666), (332, 24642), (345, 24573), (351, 24552), (362, 24468), (365, 24435), (366, 24402),

Gene: PermaG_20 Start: 13551, Stop: 15539, Start Num: 40
Candidate Starts for PermaG_20:
(Start: 40 @13551 has 13 MA's), (42, 13590), (56, 13701), (59, 13716), (62, 13728), (87, 13920), (90, 13944), (97, 13986), (106, 14076), (107, 14085), (111, 14127), (117, 14193), (127, 14274), (130, 14289), (137, 14313), (152, 14385), (156, 14400), (179, 14502), (183, 14526), (197, 14595), (205, 14628), (218, 14694), (244, 14826), (250, 14853), (260, 14925), (268, 14958), (276, 14985), (277, 14991), (282, 15024), (319, 15246), (332, 15282), (336, 15312), (351, 15372), (367, 15513),

Gene: PhillyJawn_22 Start: 11367, Stop: 13565, Start Num: 12
Candidate Starts for PhillyJawn_22:
(Start: 12 @11367 has 15 MA's), (19, 11442), (25, 11493), (29, 11520), (Start: 40 @11613 has 13 MA's), (44, 11670), (49, 11712), (52, 11745), (54, 11757), (64, 11808), (65, 11811), (67, 11820), (68, 11823), (70, 11859), (71, 11865), (72, 11868), (74, 11880), (76, 11889), (78, 11913), (89, 12012), (96, 12072), (101, 12111), (102, 12126), (106, 12183), (119, 12321), (121, 12351), (123, 12363), (126, 12387), (129, 12396), (134, 12417), (135, 12420), (138, 12432), (140, 12450), (186, 12663), (197, 12720), (213, 12786), (228, 12846), (229, 12855), (244, 12918), (258, 12984), (279, 13017), (344, 13335), (349, 13359), (356, 13398), (359, 13419),

Gene: Phingu_24 Start: 11523, Stop: 13784, Start Num: 12
Candidate Starts for Phingu_24:
(Start: 12 @11523 has 15 MA's), (19, 11598), (25, 11649), (29, 11676), (Start: 40 @11769 has 13 MA's), (44, 11826), (49, 11868), (52, 11901), (54, 11913), (64, 11964), (65, 11967), (67, 11976), (68, 11979), (70, 12015), (71, 12021), (72, 12024), (74, 12036), (76, 12045), (78, 12069), (89, 12168), (96, 12228), (101, 12267), (102, 12282), (106, 12339), (119, 12477), (121, 12507), (123, 12519), (126, 12543), (129, 12552), (134, 12573), (135, 12576), (138, 12588), (140, 12606), (150, 12648), (157, 12678), (187, 12822), (197, 12876), (213, 12942), (228, 13002), (229, 13011), (244, 13074), (250, 13101), (279, 13173), (288, 13221), (294, 13254), (301, 13305), (306, 13338), (309, 13371), (310, 13374), (323, 13449), (342, 13548), (344, 13554), (349, 13578), (356, 13617), (359, 13638),

Gene: Phonegingi_21 Start: 11365, Stop: 13626, Start Num: 12
Candidate Starts for Phonegingi_21:
(Start: 12 @11365 has 15 MA's), (19, 11440), (25, 11491), (29, 11518), (Start: 40 @11611 has 13 MA's), (45, 11680), (49, 11710), (52, 11743), (54, 11755), (64, 11806), (65, 11809), (67, 11818), (68, 11821), (70, 11857), (71, 11863), (72, 11866), (74, 11878), (76, 11887), (89, 12010), (96, 12070), (101, 12109), (102, 12124), (106, 12181), (114, 12268), (119, 12319), (121, 12349), (123, 12361), (126,

12385), (129, 12394), (131, 12406), (134, 12415), (135, 12418), (138, 12430), (149, 12487), (150, 12490), (157, 12520), (183, 12649), (197, 12718), (205, 12751), (213, 12784), (220, 12799), (228, 12844), (229, 12853), (250, 12943), (279, 13015), (288, 13063), (294, 13096), (301, 13147), (306, 13180), (309, 13213), (310, 13216), (323, 13291), (344, 13396), (349, 13420), (356, 13459),

Gene: Pickles13_21 Start: 11528, Stop: 13990, Start Num: 12
Candidate Starts for Pickles13_21:
(Start: 12 @11528 has 15 MA's), (19, 11603), (22, 11633), (27, 11666), (29, 11681), (38, 11744), (Start: 40 @11774 has 13 MA's), (41, 11795), (44, 11831), (49, 11873), (52, 11906), (54, 11918), (64, 11969), (65, 11972), (68, 11984), (70, 12020), (71, 12026), (72, 12029), (74, 12041), (76, 12050), (78, 12074), (86, 12152), (96, 12233), (101, 12272), (102, 12287), (104, 12299), (106, 12344), (109, 12362), (113, 12425), (114, 12431), (119, 12482), (121, 12512), (123, 12524), (126, 12548), (129, 12557), (134, 12578), (135, 12581), (138, 12593), (140, 12611), (143, 12623), (150, 12653), (160, 12701), (165, 12719), (181, 12800), (182, 12809), (187, 12827), (225, 13043), (231, 13076), (242, 13151), (252, 13253), (256, 13271), (258, 13322), (259, 13337), (270, 13385), (285, 13469), (302, 13577), (344, 13760), (349, 13784), (356, 13823), (358, 13838), (363, 13886), (368, 13964),

Gene: Raleigh_16 Start: 10247, Stop: 12655, Start Num: 2
Candidate Starts for Raleigh_16:
(Start: 2 @10247 has 13 MA's), (5, 10313), (6, 10334), (7, 10355), (9, 10412), (30, 10508), (35, 10544), (39, 10586), (52, 10730), (57, 10760), (58, 10763), (61, 10775), (63, 10784), (67, 10805), (70, 10844), (78, 10895), (84, 10961), (85, 10970), (88, 10982), (96, 11054), (102, 11108), (123, 11336), (132, 11384), (138, 11405), (193, 11675), (204, 11729), (206, 11732), (209, 11750), (212, 11765), (215, 11783), (219, 11807), (220, 11816), (221, 11837), (230, 11882), (244, 11933), (262, 12041), (289, 12176), (299, 12230), (301, 12251), (306, 12284), (313, 12329), (326, 12383), (344, 12464), (350, 12491), (355, 12515),

Gene: Rasovi_19 Start: 13514, Stop: 15508, Start Num: 40
Candidate Starts for Rasovi_19:
(Start: 40 @13514 has 13 MA's), (42, 13553), (56, 13664), (59, 13679), (62, 13691), (79, 13805), (87, 13883), (90, 13907), (106, 14039), (111, 14090), (117, 14156), (130, 14252), (156, 14363), (183, 14489), (195, 14549), (200, 14573), (205, 14591), (211, 14624), (239, 14771), (244, 14789), (251, 14822), (255, 14837), (263, 14903), (292, 15062), (294, 15068), (295, 15074), (306, 15152), (308, 15167), (319, 15209), (336, 15275), (353, 15344), (367, 15482),

Gene: RemusLoopin_12 Start: 8193, Stop: 10382, Start Num: 8
Candidate Starts for RemusLoopin_12:
(Start: 8 @8193 has 6 MA's), (31, 8343), (33, 8361), (38, 8400), (41, 8451), (43, 8478), (51, 8553), (55, 8577), (67, 8637), (69, 8652), (78, 8727), (84, 8793), (91, 8844), (102, 8940), (111, 9048), (113, 9078), (123, 9168), (174, 9405), (177, 9432), (189, 9489), (200, 9546), (203, 9558), (209, 9582), (215, 9615), (219, 9639), (254, 9813), (272, 9915), (300, 10089), (316, 10185), (321, 10206), (344, 10311),

Gene: Rootkit7_19 Start: 13340, Stop: 15328, Start Num: 40
Candidate Starts for Rootkit7_19:
(Start: 40 @13340 has 13 MA's), (42, 13379), (56, 13490), (59, 13505), (62, 13517), (87, 13709), (90, 13733), (111, 13916), (117, 13982), (130, 14078), (137, 14102), (156, 14189), (179, 14291), (183, 14315), (197, 14384), (205, 14417), (234, 14582), (244, 14615), (250, 14642), (254, 14660), (273, 14762), (276, 14774), (277, 14780), (288, 14861), (319, 15035), (336, 15101), (351, 15161), (353, 15170), (367, 15302),

Gene: SBlackberry_19 Start: 13346, Stop: 15334, Start Num: 40
Candidate Starts for SBlackberry_19:

(Start: 40 @13346 has 13 MA's), (42, 13385), (56, 13496), (59, 13511), (62, 13523), (87, 13715), (90, 13739), (111, 13922), (117, 13988), (130, 14084), (137, 14108), (156, 14195), (179, 14297), (183, 14321), (197, 14390), (205, 14423), (234, 14588), (244, 14621), (250, 14648), (254, 14666), (273, 14768), (276, 14780), (277, 14786), (288, 14867), (319, 15041), (336, 15107), (351, 15167), (353, 15176), (367, 15308),

Gene: SV1_16 Start: 10022, Stop: 12439, Start Num: 2
Candidate Starts for SV1_16:
(Start: 2 @10022 has 13 MA's), (4, 10034), (5, 10088), (6, 10109), (30, 10283), (33, 10304), (38, 10343), (41, 10394), (51, 10496), (58, 10538), (66, 10577), (67, 10580), (68, 10583), (79, 10673), (84, 10736), (92, 10799), (94, 10817), (96, 10829), (102, 10883), (106, 10940), (113, 11021), (122, 11108), (123, 11111), (132, 11159), (137, 11177), (144, 11207), (189, 11432), (196, 11471), (199, 11486), (209, 11525), (215, 11558), (219, 11582), (244, 11708), (257, 11780), (298, 12002), (303, 12038), (306, 12059), (311, 12083), (313, 12104), (320, 12131), (325, 12155), (326, 12158), (338, 12221), (339, 12224), (344, 12236), (354, 12281),

Gene: Samora_12 Start: 8227, Stop: 10419, Start Num: 8
Candidate Starts for Samora_12:
(Start: 8 @8227 has 6 MA's), (10, 8254), (11, 8272), (41, 8485), (43, 8512), (48, 8560), (51, 8587), (55, 8611), (67, 8671), (68, 8674), (69, 8686), (79, 8764), (84, 8827), (91, 8878), (98, 8932), (100, 8953), (102, 8974), (111, 9082), (113, 9112), (123, 9202), (184, 9502), (209, 9616), (215, 9649), (219, 9673), (222, 9712), (224, 9718), (254, 9847), (260, 9904), (268, 9937), (300, 10123), (316, 10219), (329, 10273), (333, 10297),

Gene: Sebastisaurus_12 Start: 8219, Stop: 10408, Start Num: 8
Candidate Starts for Sebastisaurus_12:
(Start: 8 @8219 has 6 MA's), (31, 8369), (33, 8387), (38, 8426), (Start: 40 @8456 has 13 MA's), (41, 8477), (43, 8504), (51, 8579), (55, 8603), (67, 8663), (69, 8678), (78, 8753), (84, 8819), (102, 8966), (111, 9074), (113, 9104), (120, 9161), (123, 9194), (174, 9431), (177, 9458), (189, 9515), (200, 9572), (203, 9584), (209, 9608), (215, 9641), (219, 9665), (254, 9839), (268, 9929), (272, 9941), (289, 10049), (296, 10082), (300, 10115), (305, 10151), (316, 10211), (322, 10235), (341, 10328), (344, 10337),

Gene: Shawty_12 Start: 8222, Stop: 10411, Start Num: 8
Candidate Starts for Shawty_12:
(Start: 8 @8222 has 6 MA's), (10, 8249), (36, 8414), (38, 8429), (41, 8480), (43, 8507), (51, 8582), (55, 8606), (67, 8666), (69, 8681), (73, 8717), (78, 8756), (84, 8822), (91, 8873), (100, 8948), (102, 8969), (107, 9035), (112, 9083), (113, 9107), (120, 9164), (123, 9197), (152, 9332), (178, 9464), (180, 9476), (184, 9497), (207, 9605), (209, 9611), (212, 9626), (215, 9644), (219, 9668), (223, 9710), (228, 9722), (248, 9815), (254, 9842), (268, 9932), (296, 10085), (300, 10118), (316, 10214),

Gene: SoJo_16 Start: 10050, Stop: 12278, Start Num: 2
Candidate Starts for SoJo_16:
(Start: 2 @10050 has 13 MA's), (3, 10056), (4, 10062), (13, 10239), (15, 10260), (30, 10377), (41, 10488), (47, 10548), (67, 10674), (76, 10743), (85, 10839), (95, 10914), (102, 10977), (107, 11043), (113, 11115), (121, 11193), (132, 11253), (150, 11319), (164, 11373), (167, 11382), (175, 11427), (177, 11445), (179, 11451), (218, 11586), (240, 11685), (253, 11742), (264, 11808), (267, 11820), (287, 11928), (291, 11952), (303, 12027), (317, 12108), (328, 12159), (334, 12189),

Gene: Spocter_21 Start: 15870, Stop: 18695, Start Num: 2
Candidate Starts for Spocter_21:
(1, 15798), (Start: 2 @15870 has 13 MA's), (6, 15957), (7, 15978), (24, 16200), (30, 16233), (41, 16344), (47, 16404), (68, 16533), (70, 16569), (71, 16575), (74, 16590), (76, 16599), (82, 16662), (85, 16695), (93, 16761), (102, 16833), (113, 16971), (121, 17049), (128, 17091), (132, 17109), (137,

17127), (138, 17130), (144, 17157), (145, 17163), (150, 17184), (161, 17235), (167, 17256), (170, 17271), (171, 17283), (173, 17292), (184, 17361), (190, 17388), (204, 17454), (209, 17475), (212, 17490), (215, 17508), (217, 17523), (219, 17532), (221, 17562), (226, 17580), (236, 17637), (250, 17685), (254, 17706), (260, 17763), (261, 17766), (272, 17808), (274, 17811), (281, 17850), (283, 17871), (284, 17883), (287, 17904), (297, 17961), (300, 17982), (304, 18015), (314, 18072), (327, 18126), (333, 18159), (357, 18279), (360, 18303), (372, 18603), (373, 18684),

Gene: Sweetums_20 Start: 12109, Stop: 14346, Start Num: 12
Candidate Starts for Sweetums_20:
(Start: 12 @12109 has 15 MA's), (14, 12115), (16, 12133), (17, 12139), (33, 12280), (34, 12286), (38, 12319), (44, 12406), (49, 12448), (50, 12463), (53, 12484), (54, 12493), (67, 12556), (77, 12637), (78, 12649), (83, 12697), (84, 12715), (89, 12748), (96, 12808), (102, 12862), (106, 12919), (119, 13057), (120, 13066), (121, 13087), (131, 13144), (155, 13252), (160, 13276), (166, 13297), (179, 13363), (198, 13453), (201, 13462), (202, 13465), (214, 13516), (255, 13660), (266, 13756), (276, 13792), (280, 13813), (286, 13864), (288, 13879), (315, 14044), (319, 14053), (332, 14089), (344, 14146), (347, 14164), (351, 14179), (353, 14188),

Gene: Teng_22 Start: 12028, Stop: 14262, Start Num: 12
Candidate Starts for Teng_22:
(Start: 12 @12028 has 15 MA's), (14, 12034), (20, 12115), (21, 12127), (23, 12145), (26, 12154), (33, 12196), (34, 12202), (49, 12364), (50, 12379), (53, 12400), (54, 12409), (67, 12472), (77, 12553), (78, 12565), (83, 12613), (84, 12631), (89, 12664), (96, 12724), (102, 12778), (106, 12835), (119, 12973), (121, 13003), (123, 13015), (146, 13129), (155, 13168), (160, 13192), (166, 13213), (179, 13279), (198, 13369), (202, 13381), (214, 13432), (276, 13708), (280, 13729), (286, 13780), (288, 13795), (315, 13960), (319, 13969), (332, 14005), (344, 14062), (347, 14080), (351, 14095), (353, 14104),

Gene: Tubberson_16 Start: 10050, Stop: 12278, Start Num: 2
Candidate Starts for Tubberson_16:
(Start: 2 @10050 has 13 MA's), (3, 10056), (4, 10062), (13, 10239), (15, 10260), (30, 10377), (41, 10488), (47, 10548), (67, 10674), (76, 10743), (82, 10806), (85, 10839), (95, 10914), (102, 10977), (107, 11043), (113, 11115), (121, 11193), (132, 11253), (150, 11319), (164, 11373), (167, 11382), (175, 11427), (177, 11445), (179, 11451), (218, 11586), (240, 11685), (253, 11742), (264, 11808), (267, 11820), (287, 11928), (291, 11952), (303, 12027), (317, 12108), (328, 12159), (334, 12189),

Gene: TurboVicky_19 Start: 13340, Stop: 15328, Start Num: 40
Candidate Starts for TurboVicky_19:
(Start: 40 @13340 has 13 MA's), (42, 13379), (56, 13490), (59, 13505), (62, 13517), (87, 13709), (90, 13733), (97, 13775), (111, 13916), (117, 13982), (130, 14078), (156, 14189), (179, 14291), (183, 14315), (197, 14384), (205, 14417), (234, 14582), (246, 14630), (250, 14642), (254, 14660), (273, 14762), (276, 14774), (277, 14780), (319, 15035), (336, 15101), (351, 15161), (367, 15302),

Gene: Typher_21 Start: 13470, Stop: 15458, Start Num: 40
Candidate Starts for Typher_21:
(Start: 40 @13470 has 13 MA's), (42, 13509), (56, 13620), (59, 13635), (62, 13647), (87, 13839), (90, 13863), (97, 13905), (111, 14046), (117, 14112), (130, 14208), (156, 14319), (179, 14421), (183, 14445), (197, 14514), (205, 14547), (234, 14712), (244, 14745), (246, 14760), (250, 14772), (254, 14790), (276, 14904), (277, 14910), (319, 15165), (336, 15231), (351, 15291), (367, 15432),

Gene: Vash_12 Start: 8200, Stop: 10392, Start Num: 8
Candidate Starts for Vash_12:
(Start: 8 @8200 has 6 MA's), (10, 8227), (33, 8368), (38, 8407), (41, 8458), (48, 8533), (51, 8560), (55, 8584), (56, 8590), (66, 8641), (67, 8644), (69, 8659), (79, 8737), (84, 8800), (91, 8851), (95, 8884), (100, 8926), (102, 8947), (107, 9013), (113, 9085), (123, 9175), (135, 9232), (142, 9265), (148, 9289),

(152, 9310), (158, 9331), (177, 9439), (184, 9475), (203, 9565), (206, 9571), (208, 9586), (209, 9589), (215, 9622), (219, 9646), (222, 9685), (254, 9820), (260, 9877), (268, 9910), (272, 9922), (300, 10096), (316, 10192), (329, 10246), (333, 10270), (340, 10309), (342, 10315), (352, 10360),

Gene: Violeta_23 Start: 11465, Stop: 13663, Start Num: 12
Candidate Starts for Violeta_23:
(Start: 12 @11465 has 15 MA's), (19, 11540), (25, 11591), (29, 11618), (Start: 40 @11711 has 13 MA's), (44, 11768), (49, 11810), (52, 11843), (54, 11855), (64, 11906), (65, 11909), (67, 11918), (68, 11921), (70, 11957), (71, 11963), (72, 11966), (74, 11978), (76, 11987), (78, 12011), (89, 12110), (96, 12170), (101, 12209), (102, 12224), (106, 12281), (119, 12419), (121, 12449), (123, 12461), (126, 12485), (129, 12494), (134, 12515), (135, 12518), (138, 12530), (140, 12548), (150, 12590), (157, 12620), (186, 12761), (197, 12818), (213, 12884), (228, 12944), (229, 12953), (244, 13016), (258, 13082), (344, 13433), (349, 13457), (356, 13496), (359, 13517),

Gene: Warren_22 Start: 11565, Stop: 13763, Start Num: 12
Candidate Starts for Warren_22:
(Start: 12 @11565 has 15 MA's), (19, 11640), (25, 11691), (29, 11718), (Start: 40 @11811 has 13 MA's), (49, 11910), (52, 11943), (54, 11955), (64, 12006), (65, 12009), (67, 12018), (68, 12021), (70, 12057), (71, 12063), (72, 12066), (74, 12078), (76, 12087), (78, 12111), (89, 12210), (96, 12270), (101, 12309), (102, 12324), (106, 12381), (119, 12519), (121, 12549), (123, 12561), (126, 12585), (129, 12594), (134, 12615), (135, 12618), (138, 12630), (140, 12648), (150, 12690), (157, 12720), (162, 12744), (183, 12849), (197, 12918), (205, 12951), (213, 12984), (228, 13044), (229, 13053), (244, 13116), (258, 13182), (279, 13215), (324, 13452), (344, 13533), (349, 13557), (356, 13596), (359, 13617),

Gene: Winchester007_37 Start: 17485, Stop: 19683, Start Num: 12
Candidate Starts for Winchester007_37:
(Start: 12 @17485 has 15 MA's), (19, 17560), (25, 17611), (29, 17638), (Start: 40 @17731 has 13 MA's), (49, 17830), (52, 17863), (54, 17875), (64, 17926), (65, 17929), (67, 17938), (68, 17941), (70, 17977), (71, 17983), (72, 17986), (74, 17998), (76, 18007), (78, 18031), (89, 18130), (96, 18190), (101, 18229), (102, 18244), (106, 18301), (119, 18439), (121, 18469), (123, 18481), (126, 18505), (129, 18514), (134, 18535), (135, 18538), (138, 18550), (140, 18568), (157, 18640), (186, 18781), (197, 18838), (213, 18904), (228, 18964), (229, 18973), (244, 19036), (258, 19102), (344, 19453), (349, 19477), (356, 19516), (359, 19537),

Gene: Wrackline_26 Start: 12677, Stop: 15094, Start Num: 12
Candidate Starts for Wrackline_26:
(Start: 12 @12677 has 15 MA's), (16, 12695), (20, 12758), (21, 12770), (34, 12845), (37, 12866), (38, 12878), (43, 12956), (49, 13007), (50, 13022), (53, 13043), (54, 13052), (60, 13079), (64, 13103), (65, 13106), (67, 13115), (76, 13184), (77, 13196), (83, 13256), (84, 13274), (86, 13286), (89, 13307), (92, 13337), (96, 13367), (99, 13382), (102, 13421), (108, 13490), (110, 13508), (116, 13598), (118, 13604), (120, 13625), (121, 13646), (123, 13658), (131, 13703), (133, 13709), (134, 13712), (139, 13736), (140, 13745), (144, 13760), (152, 13799), (157, 13817), (163, 13847), (179, 13922), (181, 13934), (186, 13958), (187, 13961), (188, 13964), (191, 13982), (205, 14048), (218, 14114), (222, 14159), (235, 14237), (237, 14246), (238, 14261), (243, 14279), (247, 14372), (282, 14576), (283, 14588), (290, 14642), (292, 14651), (294, 14657), (301, 14708), (323, 14807), (335, 14852), (344, 14891), (346, 14906), (351, 14924), (353, 14933),

Gene: Zanella_19 Start: 13343, Stop: 15331, Start Num: 40
Candidate Starts for Zanella_19:
(Start: 40 @13343 has 13 MA's), (42, 13382), (56, 13493), (59, 13508), (62, 13520), (87, 13712), (90, 13736), (111, 13919), (117, 13985), (130, 14081), (137, 14105), (156, 14192), (179, 14294), (183, 14318), (197, 14387), (205, 14420), (234, 14585), (246, 14633), (250, 14645), (254, 14663), (273,

14765), (276, 14777), (277, 14783), (319, 15038), (336, 15104), (351, 15164), (367, 15305),

Gene: phiBT1_43 Start: 8225, Stop: 10414, Start Num: 8
Candidate Starts for phiBT1_43:
(Start: 8 @8225 has 6 MA's), (10, 8252), (38, 8432), (41, 8483), (43, 8510), (48, 8558), (51, 8585), (55, 8609), (67, 8669), (69, 8684), (79, 8762), (84, 8825), (85, 8834), (91, 8876), (98, 8930), (100, 8951), (102, 8972), (111, 9080), (113, 9110), (123, 9200), (140, 9281), (147, 9311), (152, 9335), (158, 9356), (172, 9425), (174, 9437), (178, 9467), (180, 9479), (185, 9503), (204, 9593), (207, 9608), (209, 9614), (215, 9647), (217, 9662), (219, 9671), (222, 9710), (224, 9716), (228, 9725), (248, 9818), (260, 9902), (269, 9938), (272, 9947), (296, 10088), (300, 10121), (305, 10157), (316, 10217), (329, 10271), (331, 10277), (344, 10343),