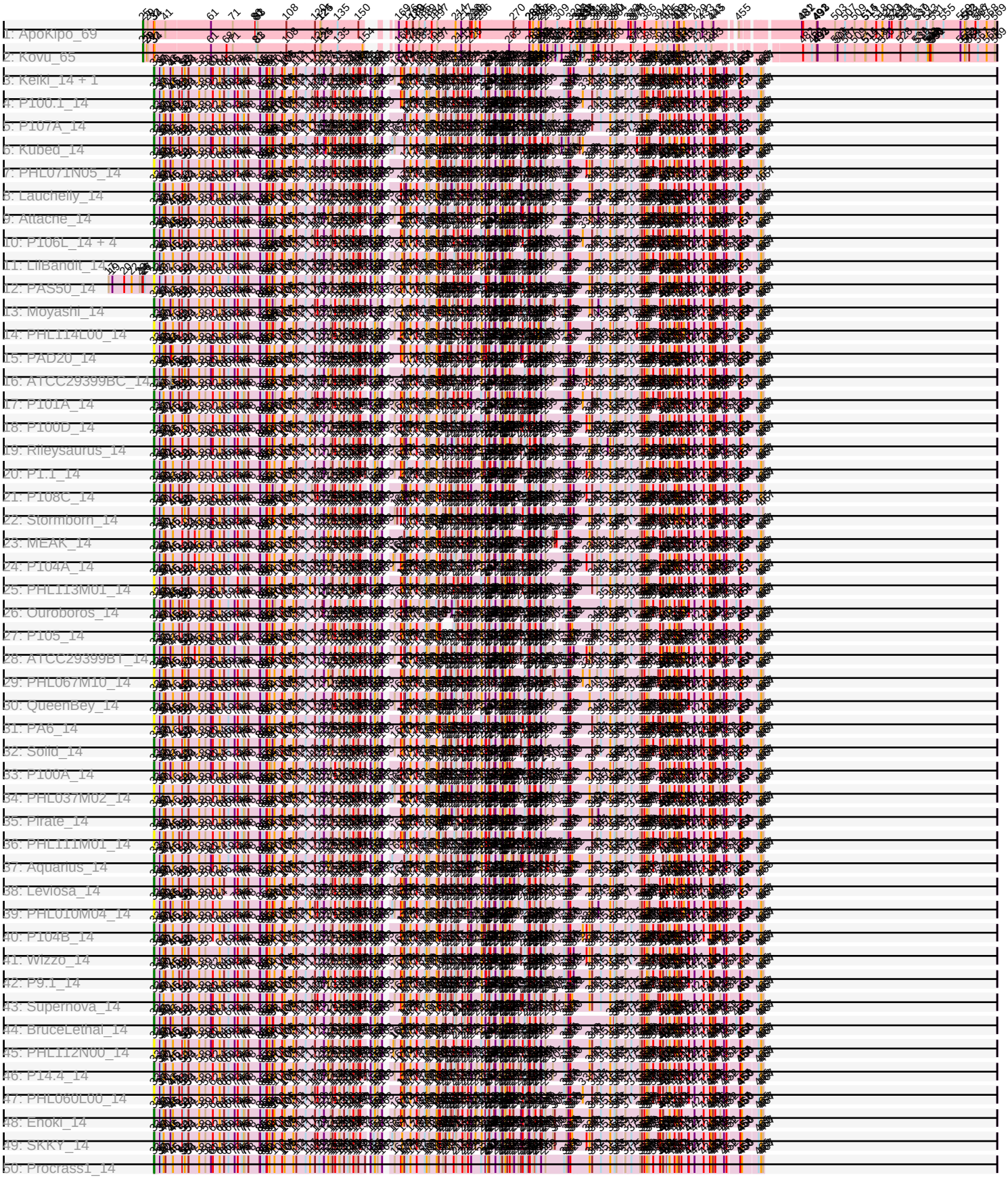
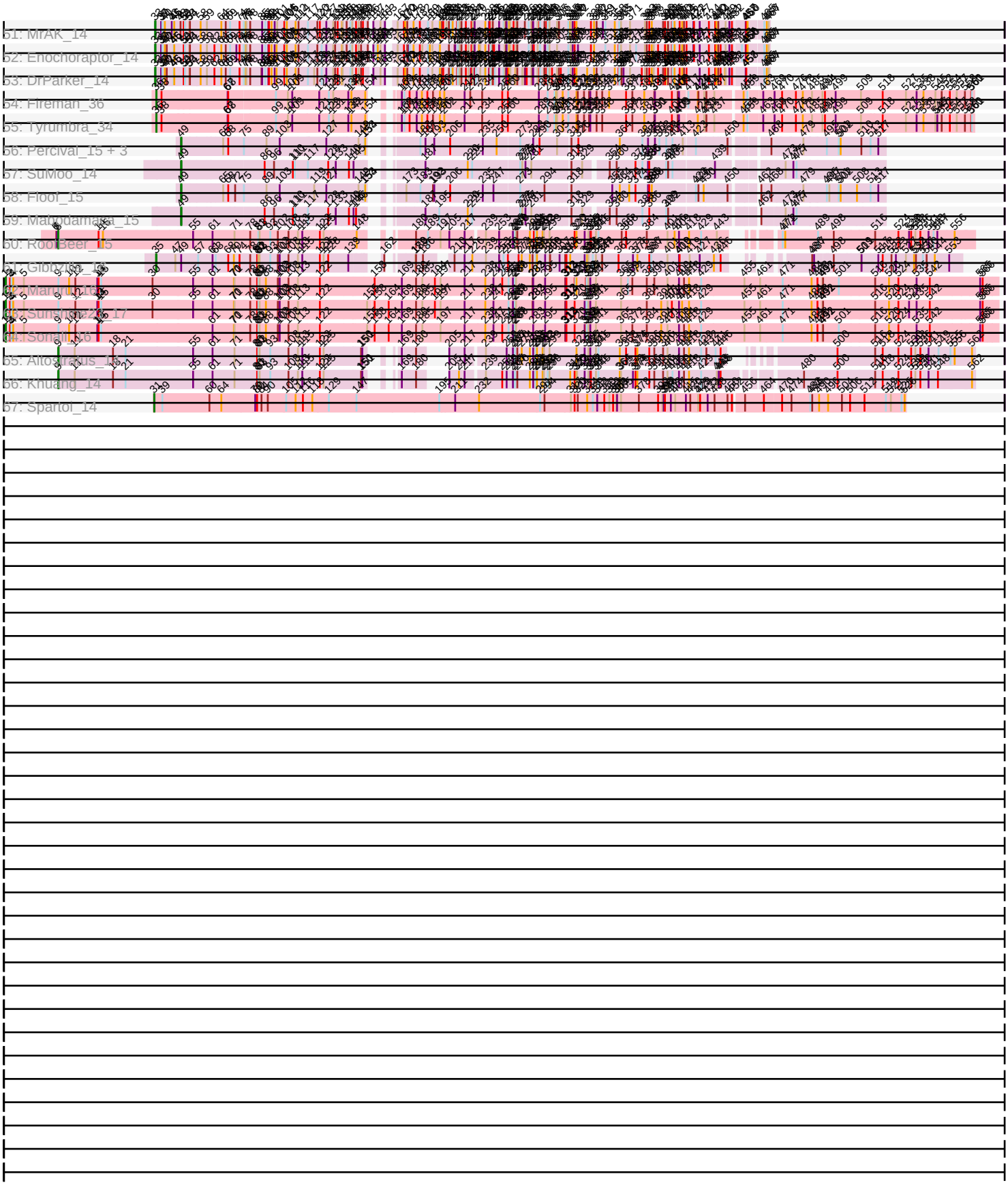
Pham 347550


1: ApoKipo_69
2: Kovu_65
3: Keiki_14 + 1
4: P100.1_14
5: P107A_14
6: Kubed_14
7: PHL071N05_14
8: Lauchelly_14
9: Attache_14
10: P106L_14 + 4
11: LilBandit_14
12: PAS50_14
13: Moyashi_14
14: PHL114L00_14
15: PAD20_14
16: ATCC29399BC_14
17: P101A_14
18: P100D_14
19: Rileysaurus_14
20: P1.1_14
21: P108C_14
22: Stormborn_14
23: MEAK_14
24: P104A_14
25: PHL113M01_14
26: Ouroboros_14
27: P105_14
28: ATCC29399BT_14
29: PHL067M10_14
30: QueenBey_14
31: PA6_14
32: Solid_14
33: P100A_14
34: PHL037M02_14
35: Pirate_14
36: PHL111M01_14
37: Aquarius_14
38: Leviosa_14
39: PHL010M04_14
40: P104B_14
41: Wizzo_14
42: P9.1_14
43: Supernova_14
44: BruceLethal_14
45: PHL112N00_14
46: P14.4_14
47: PHL060L00_14
48: Enoki_14
49: SKKY_14
50: Procrass1_14

Pham 347550


51: MrAK_14
52: Enochoraptor_14
53: DrParker_14
54: Fireman_36
55: Tyrumbra_34
56: Percival_15 + 3
57: SuMoo_14
58: Floof_15
59: Mattodamaja_15
60: RootBeer_15
61: Gibbz69_15
62: Mangu_16
63: Sunglasses_17
64: Sonali_16
65: Altostratus_16
66: Khuang_14
67: Spartol_14

Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 347550 Report

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

Pham number 347550 has 76 members, 12 are drafts.

Phages represented in each track:
- Track 1 : ApoKipo_69
- Track 2 : Kovu_65
- Track 3 : Keiki_14, Cota_14
- Track 4 : P100.1_14
- Track 5 : P107A_14
- Track 6 : Kubed_14
- Track 7 : PHL071N05_14
- Track 8 : Lauchelly_14
- Track 9 : Attacne_14
- Track 10 : P106L_14, P106M_14, P106I_14, P106C_14, P106A_14
- Track 11 : LilBandit_14
- Track 12 : PAS50_14
- Track 13 : Moyashi_14
- Track 14 : PHL114L00_14
- Track 15 : PAD20_14
- Track 16 : ATCC29399BC_14, P107C_14
- Track 17 : P101A_14
- Track 18 : P100D_14
- Track 19 : Rileysaurus_14
- Track 20 : P1.1_14
- Track 21 : P108C_14
- Track 22 : Stormborn_14
- Track 23 : MEAK_14
- Track 24 : P104A_14
- Track 25 : PHL113M01_14
- Track 26 : Ouroboros_14
- Track 27 : P105_14
- Track 28 : ATCC29399BT_14
- Track 29 : PHL067M10_14
- Track 30 : QueenBey_14
- Track 31 : PA6_14
- Track 32 : Solid_14
- Track 33 : P100A_14
- Track 34 : PHL037M02_14
- Track 35 : Pirate_14
- Track 36 : PHL111M01_14
- Track 37 : Aquarius_14

• Track 38 : Leviosa_14
• Track 39 : PHL010M04_14
• Track 40 : P104B_14
• Track 41 : Wizzo_14
• Track 42 : P9.1_14
• Track 43 : Supernova_14
• Track 44 : BruceLethal_14
• Track 45 : PHL112N00_14
• Track 46 : P14.4_14
• Track 47 : PHL060L00_14
• Track 48 : Enoki_14
• Track 49 : SKKY_14
• Track 50 : Procrass1_14
• Track 51 : MrAK_14
• Track 52 : Enochoraptor_14
• Track 53 : DrParker_14
• Track 54 : Fireman_36
• Track 55 : Tyrumbra_34
• Track 56 : Percival_15, SuperHands_15, Gretchen_15, Forester_15
• Track 57 : SuMoo_14
• Track 58 : Floof_15
• Track 59 : Mabodamaca_15
• Track 60 : RootBeer_15
• Track 61 : Gibbzilla_16
• Track 62 : Maruru_16
• Track 63 : Sunshine23_17
• Track 64 : Sonali_16
• Track 65 : Altostratus_14
• Track 66 : Khuang_14
• Track 67 : Spartoi_14

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

The start number called the most often in the published annotations is 33, it was called in 45 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ATCC29399BC_14, ATCC29399BT_14, Aquarius_14, Attacne_14, BruceLethal_14, Cota_14, DrParker_14, Enochoraptor_14, Enoki_14, Keiki_14, Kubed_14, Lauchelly_14, Leviosa_14, LilBandit_14, MEAK_14, Moyashi_14, MrAK_14, Ouroboros_14, P1.1_14, P100.1_14, P100A_14, P100D_14, P101A_14, P104A_14, P104B_14, P105_14, P106A_14, P106C_14, P106I_14, P106L_14, P106M_14, P107A_14, P107C_14, P108C_14, P14.4_14, P9.1_14, PA6_14, PAD20_14, PAS50_14, PHL010M04_14, PHL037M02_14, PHL060L00_14, PHL067M10_14, PHL071N05_14, PHL111M01_14, PHL112N00_14, PHL113M01_14, PHL114L00_14, Pirate_14, Procrass1_14, QueenBey_14, Rileysaurus_14, SKKY_14, Solid_14, Stormborn_14, Supernova_14, Wizzo_14,

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

Genes that do not have the "Most Annotated" start:
• Altostratus_14, ApoKipo_69, Fireman_36, Floof_15, Forester_15, Gibbzilla_16, Gretchen_15, Khuang_14, Kovu_65, Mabodamaca_15, Maruru_16, Percival_15, RootBeer_15, Sonali_16, Spartoi_14, SuMoo_14, Sunshine23_17, SuperHands_15, Tyrumbra_34,

Summary by start number:

Start 1:
• Found in 3 of 76 (3.9%) of genes in pham
• Manual Annotations of this start: 3 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Maruru_16 (FG), Sonali_16 (FG), Sunshine23_17 (FG),

Start 8:
• Found in 1 of 76 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: RootBeer_15 (FA),

Start 9:
• Found in 5 of 76 (6.6%) of genes in pham
• Manual Annotations of this start: 2 of 64
• Called 40.0% of time when present
• Phage (with cluster) where this start called: Altostratus_14 (FS), Khuang_14 (FS),

Start 25:
• Found in 2 of 76 (2.6%) of genes in pham
• Manual Annotations of this start: 2 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ApoKipo_69 (AL), Kovu_65 (AL),

Start 31:
• Found in 1 of 76 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Spartoi_14 (singleton),

Start 33:
• Found in 57 of 76 (75.0%) of genes in pham
• Manual Annotations of this start: 45 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ATCC29399BC_14 (BU), ATCC29399BT_14 (BU), Aquarius_14 (BU), Attacne_14 (BU), BruceLethal_14 (BU), Cota_14 (BU), DrParker_14 (BU), Enochoraptor_14 (BU), Enoki_14 (BU), Keiki_14 (BU), Kubed_14 (BU), Lauchelly_14 (BU), Leviosa_14 (BU), LilBandit_14 (BU), MEAK_14 (BU), Moyashi_14 (BU), MrAK_14 (BU), Ouroboros_14 (BU), P1.1_14 (BU), P100.1_14 (BU), P100A_14 (BU), P100D_14 (BU), P101A_14 (BU), P104A_14 (BU), P104B_14 (BU), P105_14 (BU), P106A_14 (BU), P106C_14 (BU), P106I_14 (BU), P106L_14 (BU), P106M_14 (BU), P107A_14 (BU), P107C_14 (BU), P108C_14 (BU), P14.4_14 (BU), P9.1_14 (BU), PA6_14 (BU), PAD20_14 (BU), PAS50_14 (BU),

PHL010M04_14 (BU), PHL037M02_14 (BU), PHL060L00_14 (BU), PHL067M10_14 (BU), PHL071N05_14 (BU), PHL111M01_14 (BU), PHL112N00_14 (BU), PHL113M01_14 (BU), PHL114L00_14 (BU), Pirate_14 (BU), Procrass1_14 (BU), QueenBey_14 (BU), Rileysaurus_14 (BU), SKKY_14 (BU), Solid_14 (BU), Stormborn_14 (BU), Supernova_14 (BU), Wizzo_14 (BU),

Start 35:
• Found in 1 of 76 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Gibbzilla_16 (FB),

Start 36:
• Found in 2 of 76 (2.6%) of genes in pham
• Manual Annotations of this start: 2 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Fireman_36 (EC), Tyrumbra_34 (EC),

Start 49:
• Found in 8 of 76 (10.5%) of genes in pham
• Manual Annotations of this start: 7 of 64
• Called 87.5% of time when present
• Phage (with cluster) where this start called: Floof_15 (EH), Forester_15 (EH), Gretchen_15 (EH), Mabodamaca_15 (EH), Percival_15 (EH), SuMoo_14 (EH), SuperHands_15 (EH),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, FS, EH, FA, AL, EC, BU, FB, FG,

Info for manual annotations of cluster AL:
•Start number 25 was manually annotated 2 times for cluster AL.

Info for manual annotations of cluster BU:
•Start number 33 was manually annotated 45 times for cluster BU.

Info for manual annotations of cluster EC:
•Start number 36 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EH:
•Start number 49 was manually annotated 7 times for cluster EH.

Info for manual annotations of cluster FA:
•Start number 8 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FB:
•Start number 35 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FG:
•Start number 1 was manually annotated 3 times for cluster FG.

Info for manual annotations of cluster FS:

•Start number 9 was manually annotated 2 times for cluster FS.

Gene Information:

Gene: ATCC29399BC_14 Start: 8502, Stop: 11267, Start Num: 33
Candidate Starts for ATCC29399BC_14:
(Start: 33 @8502 has 45 MA's), (37, 8529), (39, 8535), (40, 8547), (42, 8556), (45, 8589), (46, 8592), (48, 8622), (50, 8637), (51, 8643), (52, 8649), (53, 8664), (54, 8667), (58, 8715), (59, 8745), (61, 8772), (62, 8781), (64, 8814), (66, 8835), (69, 8856), (73, 8886), (74, 8901), (75, 8919), (76, 8928), (77, 8931), (78, 8949), (85, 9006), (87, 9021), (91, 9036), (92, 9039), (94, 9051), (97, 9066), (98, 9069), (100, 9075), (104, 9111), (105, 9120), (106, 9123), (112, 9165), (114, 9177), (117, 9222), (120, 9267), (123, 9288), (127, 9309), (130, 9330), (131, 9342), (132, 9351), (134, 9363), (136, 9384), (137, 9387), (138, 9399), (141, 9417), (143, 9426), (146, 9438), (149, 9450), (150, 9462), (152, 9471), (156, 9492), (157, 9498), (159, 9513), (160, 9519), (161, 9528), (163, 9549), (174, 9615), (178, 9645), (182, 9675), (189, 9708), (191, 9729), (196, 9765), (198, 9774), (200, 9780), (203, 9795), (204, 9807), (210, 9834), (213, 9849), (215, 9858), (218, 9888), (224, 9915), (227, 9921), (229, 9930), (238, 9978), (241, 9996), (242, 9999), (243, 10002), (246, 10014), (252, 10035), (253, 10041), (257, 10068), (258, 10074), (259, 10077), (261, 10086), (262, 10089), (263, 10095), (266, 10110), (269, 10122), (279, 10176), (281, 10185), (282, 10191), (283, 10194), (284, 10197), (287, 10215), (290, 10224), (291, 10227), (294, 10248), (295, 10251), (297, 10260), (299, 10269), (305, 10305), (315, 10359), (317, 10371), (319, 10380), (320, 10389), (325, 10404), (338, 10464), (340, 10479), (342, 10491), (351, 10533), (358, 10578), (363, 10599), (365, 10608), (371, 10641), (375, 10668), (383, 10710), (384, 10719), (386, 10731), (388, 10743), (389, 10752), (392, 10773), (398, 10806), (400, 10815), (401, 10818), (402, 10821), (404, 10839), (405, 10842), (406, 10851), (410, 10875), (411, 10884), (412, 10887), (414, 10896), (416, 10905), (421, 10938), (422, 10941), (427, 10965), (434, 11004), (440, 11034), (442, 11040), (444, 11049), (446, 11058), (451, 11100), (452, 11112), (453, 11148), (457, 11166), (458, 11169), (460, 11175), (465, 11244), (466, 11253), (467, 11262),

Gene: ATCC29399BT_14 Start: 8499, Stop: 11264, Start Num: 33
Candidate Starts for ATCC29399BT_14:
(Start: 33 @8499 has 45 MA's), (37, 8526), (39, 8532), (40, 8544), (42, 8553), (43, 8577), (46, 8589), (50, 8634), (51, 8640), (52, 8646), (53, 8661), (54, 8664), (56, 8694), (58, 8712), (59, 8742), (61, 8769), (62, 8778), (64, 8811), (66, 8832), (69, 8853), (73, 8883), (75, 8916), (76, 8925), (77, 8928), (78, 8946), (85, 9003), (87, 9018), (91, 9033), (92, 9036), (94, 9048), (97, 9063), (98, 9066), (101, 9075), (104, 9108), (105, 9117), (106, 9120), (112, 9162), (114, 9174), (117, 9219), (120, 9264), (123, 9285), (127, 9306), (131, 9339), (134, 9360), (136, 9381), (137, 9384), (138, 9396), (141, 9414), (143, 9423), (146, 9435), (149, 9447), (152, 9468), (156, 9489), (157, 9495), (159, 9510), (160, 9516), (161, 9525), (163, 9546), (167, 9570), (170, 9600), (174, 9612), (175, 9621), (177, 9624), (178, 9642), (182, 9672), (189, 9705), (190, 9714), (191, 9726), (196, 9762), (198, 9771), (203, 9792), (204, 9804), (210, 9831), (213, 9846), (215, 9855), (218, 9885), (221, 9897), (223, 9909), (224, 9912), (227, 9918), (229, 9927), (233, 9951), (238, 9975), (241, 9993), (242, 9996), (243, 9999), (245, 10008), (246, 10011), (252, 10032), (253, 10038), (256, 10062), (257, 10065), (259, 10074), (261, 10083), (262, 10086), (263, 10092), (266, 10107), (269, 10119), (270, 10125), (276, 10158), (279, 10173), (281, 10182), (282, 10188), (283, 10191), (284, 10194), (287, 10212), (290, 10221), (291, 10224), (294, 10245), (295, 10248), (297, 10257), (299, 10266), (305, 10302), (315, 10356), (317, 10368), (319, 10377), (320, 10386), (325, 10401), (338, 10461), (340, 10476), (342, 10488), (351, 10530), (358, 10575), (363, 10596), (365, 10605), (371, 10638), (375, 10665), (383, 10707), (384, 10716), (386, 10728), (389, 10749), (398, 10803), (400, 10812), (402, 10818), (404, 10836), (406, 10848), (410, 10872), (411, 10881), (412, 10884), (414, 10893), (416, 10902), (418, 10914), (422, 10938), (427, 10962), (434, 11001), (440, 11031), (442, 11037), (444, 11046), (446, 11055), (449, 11079), (451, 11097), (452, 11109), (453, 11145), (457, 11163), (458, 11166), (465, 11241), (466, 11250), (467, 11259),

Gene: Altostratus_14 Start: 9122, Stop: 12901, Start Num: 9
Candidate Starts for Altostratus_14:
(Start: 9 @9122 has 2 MA's), (11, 9200), (18, 9383), (21, 9443), (55, 9755), (61, 9845), (71, 9950), (80, 10055), (81, 10061), (83, 10067), (93, 10118), (108, 10205), (113, 10250), (115, 10271), (122, 10352), (125, 10370), (150, 10535), (151, 10541), (169, 10595), (180, 10655), (205, 10697), (217, 10766), (239, 10844), (259, 10937), (265, 10967), (267, 10976), (270, 10988), (274, 11009), (280, 11045), (283, 11057), (285, 11069), (286, 11075), (292, 11102), (293, 11108), (299, 11132), (322, 11261), (331, 11300), (335, 11318), (337, 11327), (341, 11354), (345, 11363), (364, 11465), (368, 11495), (374, 11540), (376, 11549), (386, 11606), (390, 11630), (396, 11672), (401, 11693), (409, 11747), (414, 11771), (418, 11792), (429, 11846), (432, 11864), (441, 11906), (446, 11930), (500, 12281), (516, 12455), (518, 12491), (524, 12566), (530, 12626), (533, 12641), (536, 12662), (541, 12695), (549, 12734), (555, 12788), (556, 12806), (562, 12887),

Gene: ApoKipo_69 Start: 36687, Stop: 40424, Start Num: 25
Candidate Starts for ApoKipo_69:
(Start: 25 @36687 has 2 MA's), (29, 36705), (32, 36735), (34, 36738), (41, 36789), (61, 36996), (71, 37101), (80, 37206), (81, 37212), (83, 37218), (108, 37356), (120, 37491), (124, 37518), (125, 37521), (135, 37599), (150, 37686), (169, 37749), (176, 37782), (179, 37806), (180, 37809), (185, 37839), (189, 37860), (194, 37893), (197, 37920), (214, 38004), (217, 38031), (228, 38073), (230, 38082), (232, 38097), (236, 38118), (270, 38274), (283, 38343), (284, 38346), (286, 38361), (292, 38388), (295, 38400), (299, 38418), (309, 38475), (320, 38538), (327, 38565), (328, 38571), (331, 38586), (333, 38595), (334, 38598), (335, 38604), (341, 38640), (346, 38652), (348, 38667), (354, 38703), (357, 38724), (360, 38736), (364, 38751), (373, 38814), (374, 38826), (377, 38838), (379, 38847), (386, 38892), (394, 38949), (401, 38979), (405, 39003), (409, 39033), (412, 39048), (414, 39057), (418, 39078), (429, 39132), (433, 39156), (443, 39198), (445, 39207), (455, 39282), (481, 39519), (482, 39525), (491, 39588), (492, 39591), (493, 39594), (503, 39678), (507, 39723), (509, 39768), (514, 39819), (515, 39822), (518, 39870), (520, 39900), (523, 39933), (524, 39945), (527, 39981), (528, 39987), (531, 40005), (537, 40053), (539, 40062), (543, 40101), (551, 40116), (555, 40167), (559, 40248), (562, 40269), (563, 40275), (566, 40320), (567, 40332), (568, 40374), (569, 40413),

Gene: Aquarius_14 Start: 8519, Stop: 11284, Start Num: 33
Candidate Starts for Aquarius_14:
(Start: 33 @8519 has 45 MA's), (37, 8546), (39, 8552), (40, 8564), (42, 8573), (45, 8606), (46, 8609), (50, 8654), (51, 8660), (53, 8681), (54, 8684), (58, 8732), (59, 8762), (61, 8789), (62, 8798), (64, 8831), (69, 8873), (73, 8903), (74, 8918), (75, 8936), (76, 8945), (77, 8948), (78, 8966), (84, 9020), (85, 9023), (87, 9038), (91, 9053), (92, 9056), (94, 9068), (97, 9083), (100, 9092), (104, 9128), (105, 9137), (106, 9140), (112, 9182), (114, 9194), (117, 9239), (120, 9284), (123, 9305), (127, 9326), (130, 9347), (131, 9359), (132, 9368), (136, 9401), (137, 9404), (138, 9416), (141, 9434), (143, 9443), (146, 9455), (149, 9467), (150, 9479), (152, 9488), (156, 9509), (157, 9515), (159, 9530), (160, 9536), (161, 9545), (163, 9566), (165, 9578), (174, 9632), (177, 9644), (178, 9662), (182, 9692), (185, 9704), (189, 9725), (190, 9734), (191, 9746), (196, 9782), (198, 9791), (203, 9812), (204, 9824), (210, 9851), (213, 9866), (215, 9875), (216, 9884), (218, 9905), (219, 9908), (221, 9917), (223, 9929), (224, 9932), (227, 9938), (229, 9947), (231, 9953), (233, 9971), (237, 9992), (238, 9995), (241, 10013), (242, 10016), (245, 10028), (246, 10031), (248, 10037), (249, 10040), (253, 10058), (255, 10079), (257, 10085), (258, 10091), (259, 10094), (260, 10100), (261, 10103), (262, 10106), (263, 10112), (268, 10136), (269, 10139), (270, 10145), (275, 10166), (276, 10178), (277, 10181), (278, 10187), (281, 10202), (282, 10208), (283, 10211), (287, 10232), (290, 10241), (291, 10244), (293, 10262), (294, 10265), (296, 10274), (297, 10277), (300, 10289), (302, 10298), (305, 10322), (306, 10331), (315, 10376), (317, 10388), (319, 10397), (320, 10406), (322, 10415), (340, 10496), (342, 10508), (351, 10550), (358, 10595), (363, 10616), (365, 10625), (371, 10658), (375, 10685), (383, 10727), (384, 10736), (386, 10748), (388, 10760), (389, 10769), (392, 10790), (401, 10835), (402, 10838), (404, 10856), (405, 10859), (406, 10868), (410, 10892), (412, 10904), (414, 10913), (416, 10922), (421, 10955), (422, 10958),

(427, 10982), (434, 11021), (440, 11051), (442, 11057), (444, 11066), (446, 11075), (451, 11117), (452, 11129), (453, 11165), (457, 11183), (458, 11186), (460, 11192), (465, 11261), (466, 11270), (467, 11279),

Gene: Attacne_14 Start: 8505, Stop: 11270, Start Num: 33
Candidate Starts for Attacne_14:
(Start: 33 @8505 has 45 MA's), (37, 8532), (39, 8538), (40, 8550), (42, 8559), (45, 8592), (46, 8595), (48, 8625), (50, 8640), (51, 8646), (53, 8667), (54, 8670), (58, 8718), (59, 8748), (62, 8784), (64, 8817), (66, 8838), (69, 8859), (73, 8889), (74, 8904), (75, 8922), (76, 8931), (77, 8934), (78, 8952), (84, 9006), (85, 9009), (87, 9024), (91, 9039), (92, 9042), (94, 9054), (100, 9078), (104, 9114), (105, 9123), (106, 9126), (112, 9168), (114, 9180), (117, 9225), (120, 9270), (123, 9291), (127, 9312), (130, 9333), (131, 9345), (132, 9354), (136, 9387), (137, 9390), (138, 9402), (141, 9420), (143, 9429), (146, 9441), (149, 9453), (150, 9465), (152, 9474), (156, 9495), (157, 9501), (159, 9516), (160, 9522), (161, 9531), (163, 9552), (167, 9576), (170, 9606), (172, 9612), (174, 9618), (177, 9630), (178, 9648), (182, 9678), (189, 9711), (191, 9732), (196, 9768), (198, 9777), (199, 9780), (203, 9798), (204, 9810), (207, 9819), (213, 9852), (215, 9861), (216, 9870), (218, 9891), (224, 9918), (227, 9924), (229, 9933), (233, 9957), (238, 9981), (241, 9999), (242, 10002), (243, 10005), (245, 10014), (246, 10017), (253, 10044), (256, 10068), (259, 10080), (261, 10089), (262, 10092), (263, 10098), (266, 10113), (269, 10125), (270, 10131), (276, 10164), (277, 10167), (278, 10173), (281, 10188), (282, 10194), (283, 10197), (287, 10218), (290, 10227), (294, 10251), (296, 10260), (297, 10263), (299, 10272), (305, 10308), (315, 10362), (317, 10374), (319, 10383), (320, 10392), (340, 10482), (342, 10494), (347, 10518), (349, 10524), (358, 10581), (362, 10599), (363, 10602), (365, 10611), (371, 10644), (375, 10671), (383, 10713), (384, 10722), (386, 10734), (388, 10746), (389, 10755), (392, 10776), (396, 10800), (398, 10809), (400, 10818), (401, 10821), (402, 10824), (404, 10842), (405, 10845), (406, 10854), (410, 10878), (411, 10887), (412, 10890), (414, 10899), (416, 10908), (421, 10941), (422, 10944), (427, 10968), (434, 11007), (440, 11037), (442, 11043), (444, 11052), (446, 11061), (449, 11085), (451, 11103), (452, 11115), (457, 11169), (458, 11172), (460, 11178), (465, 11247), (466, 11256), (467, 11265),

Gene: BruceLethal_14 Start: 8509, Stop: 11274, Start Num: 33
Candidate Starts for BruceLethal_14:
(Start: 33 @8509 has 45 MA's), (37, 8536), (39, 8542), (40, 8554), (42, 8563), (43, 8587), (46, 8599), (50, 8644), (51, 8650), (53, 8671), (54, 8674), (58, 8722), (59, 8752), (61, 8779), (62, 8788), (64, 8821), (69, 8863), (73, 8893), (74, 8908), (75, 8926), (76, 8935), (77, 8938), (78, 8956), (85, 9013), (87, 9028), (91, 9043), (92, 9046), (94, 9058), (97, 9073), (98, 9076), (104, 9118), (105, 9127), (106, 9130), (112, 9172), (114, 9184), (117, 9229), (118, 9250), (120, 9274), (127, 9316), (131, 9349), (132, 9358), (136, 9391), (137, 9394), (138, 9406), (141, 9424), (143, 9433), (146, 9445), (149, 9457), (150, 9469), (152, 9478), (157, 9505), (159, 9520), (160, 9526), (161, 9535), (163, 9556), (172, 9616), (174, 9622), (175, 9631), (177, 9634), (178, 9652), (182, 9682), (190, 9724), (191, 9736), (196, 9772), (203, 9802), (204, 9814), (212, 9853), (213, 9856), (215, 9865), (218, 9895), (219, 9898), (221, 9907), (224, 9922), (227, 9928), (229, 9937), (233, 9961), (238, 9985), (241, 10003), (246, 10021), (248, 10027), (249, 10030), (251, 10039), (252, 10042), (253, 10048), (256, 10072), (257, 10075), (259, 10084), (261, 10093), (262, 10096), (263, 10102), (266, 10117), (268, 10126), (269, 10129), (271, 10138), (275, 10156), (279, 10183), (281, 10192), (284, 10204), (287, 10222), (290, 10231), (294, 10255), (299, 10276), (305, 10312), (315, 10366), (317, 10378), (319, 10387), (320, 10396), (358, 10585), (362, 10603), (363, 10606), (365, 10615), (371, 10648), (375, 10675), (383, 10717), (384, 10726), (386, 10738), (388, 10750), (389, 10759), (398, 10813), (401, 10825), (402, 10828), (404, 10846), (405, 10849), (406, 10858), (410, 10882), (411, 10891), (412, 10894), (414, 10903), (416, 10912), (421, 10945), (422, 10948), (427, 10972), (434, 11011), (440, 11041), (442, 11047), (444, 11056), (446, 11065), (451, 11107), (452, 11119), (453, 11155), (457, 11173), (458, 11176), (460, 11182), (465, 11251), (466, 11260), (467, 11269),

Gene: Cota_14 Start: 8514, Stop: 11279, Start Num: 33

Candidate Starts for Cota_14:
(Start: 33 @8514 has 45 MA's), (37, 8541), (39, 8547), (40, 8559), (43, 8592), (45, 8601), (46, 8604), (50, 8649), (51, 8655), (52, 8661), (53, 8676), (54, 8679), (58, 8727), (59, 8757), (61, 8784), (62, 8793), (64, 8826), (66, 8847), (69, 8868), (73, 8898), (74, 8913), (75, 8931), (76, 8940), (77, 8943), (78, 8961), (84, 9015), (85, 9018), (87, 9033), (91, 9048), (92, 9051), (94, 9063), (97, 9078), (101, 9090), (104, 9123), (105, 9132), (106, 9135), (112, 9177), (114, 9189), (117, 9234), (120, 9279), (123, 9300), (127, 9321), (131, 9354), (132, 9363), (137, 9399), (138, 9411), (141, 9429), (143, 9438), (146, 9450), (149, 9462), (150, 9474), (152, 9483), (156, 9504), (157, 9510), (159, 9525), (160, 9531), (161, 9540), (163, 9561), (167, 9585), (170, 9615), (172, 9621), (174, 9627), (178, 9657), (182, 9687), (185, 9699), (189, 9720), (191, 9741), (195, 9774), (196, 9777), (198, 9786), (203, 9807), (204, 9819), (212, 9858), (215, 9870), (216, 9879), (218, 9900), (221, 9912), (224, 9927), (229, 9942), (237, 9987), (241, 10008), (242, 10011), (243, 10014), (244, 10020), (246, 10026), (253, 10053), (255, 10074), (257, 10080), (258, 10086), (259, 10089), (261, 10098), (262, 10101), (264, 10110), (266, 10122), (269, 10134), (275, 10161), (278, 10182), (279, 10188), (281, 10197), (282, 10203), (283, 10206), (284, 10209), (287, 10227), (288, 10230), (290, 10236), (291, 10239), (295, 10263), (299, 10281), (315, 10371), (317, 10383), (319, 10392), (320, 10401), (325, 10416), (340, 10491), (342, 10503), (351, 10545), (358, 10590), (363, 10611), (365, 10620), (371, 10653), (375, 10680), (383, 10722), (384, 10731), (386, 10743), (388, 10755), (389, 10764), (392, 10785), (398, 10818), (401, 10830), (402, 10833), (404, 10851), (405, 10854), (406, 10863), (410, 10887), (412, 10899), (414, 10908), (416, 10917), (421, 10950), (422, 10953), (427, 10977), (434, 11016), (440, 11046), (442, 11052), (444, 11061), (446, 11070), (451, 11112), (452, 11124), (453, 11160), (457, 11178), (458, 11181), (460, 11187), (465, 11256), (466, 11265), (467, 11274),

Gene: DrParker_14 Start: 8544, Stop: 11309, Start Num: 33
Candidate Starts for DrParker_14:
(Start: 33 @8544 has 45 MA's), (37, 8571), (39, 8577), (40, 8589), (42, 8598), (45, 8631), (46, 8634), (50, 8679), (51, 8685), (53, 8706), (54, 8709), (58, 8757), (59, 8787), (62, 8823), (64, 8856), (66, 8877), (69, 8898), (74, 8943), (75, 8961), (76, 8970), (77, 8973), (78, 8991), (84, 9045), (85, 9048), (87, 9063), (91, 9078), (92, 9081), (94, 9093), (97, 9108), (100, 9117), (104, 9153), (105, 9162), (106, 9165), (112, 9207), (114, 9219), (117, 9264), (119, 9294), (120, 9309), (123, 9330), (127, 9351), (131, 9384), (132, 9393), (134, 9405), (136, 9426), (137, 9429), (141, 9459), (143, 9468), (146, 9480), (149, 9492), (150, 9504), (152, 9513), (157, 9540), (161, 9570), (163, 9591), (167, 9615), (170, 9645), (172, 9651), (174, 9657), (178, 9687), (182, 9717), (189, 9750), (191, 9771), (195, 9804), (196, 9807), (198, 9816), (200, 9822), (204, 9849), (207, 9858), (208, 9867), (212, 9888), (213, 9891), (215, 9900), (216, 9909), (218, 9930), (221, 9942), (223, 9954), (224, 9957), (227, 9963), (229, 9972), (230, 9975), (231, 9978), (233, 9996), (237, 10017), (238, 10020), (241, 10038), (242, 10041), (243, 10044), (245, 10053), (246, 10056), (248, 10062), (249, 10065), (253, 10083), (255, 10104), (257, 10110), (258, 10116), (259, 10119), (260, 10125), (262, 10131), (263, 10137), (268, 10161), (269, 10164), (270, 10170), (275, 10191), (276, 10203), (277, 10206), (278, 10212), (281, 10227), (282, 10233), (283, 10236), (287, 10257), (290, 10266), (291, 10269), (293, 10287), (294, 10290), (296, 10299), (297, 10302), (299, 10311), (302, 10323), (305, 10347), (306, 10356), (308, 10365), (315, 10401), (317, 10413), (319, 10422), (320, 10431), (322, 10440), (334, 10488), (340, 10521), (342, 10533), (347, 10557), (358, 10620), (362, 10638), (363, 10641), (365, 10650), (366, 10653), (367, 10662), (371, 10683), (380, 10737), (383, 10752), (384, 10761), (386, 10773), (388, 10785), (389, 10794), (392, 10815), (396, 10839), (398, 10848), (400, 10857), (401, 10860), (402, 10863), (404, 10881), (405, 10884), (406, 10893), (410, 10917), (412, 10929), (414, 10938), (416, 10947), (427, 11007), (434, 11046), (440, 11076), (442, 11082), (444, 11091), (446, 11100), (448, 11121), (449, 11124), (451, 11142), (452, 11154), (457, 11208), (458, 11211), (465, 11286), (466, 11295), (467, 11304),

Gene: Enochoraptor_14 Start: 8517, Stop: 11282, Start Num: 33
Candidate Starts for Enochoraptor_14:
(Start: 33 @8517 has 45 MA's), (37, 8544), (39, 8550), (40, 8562), (42, 8571), (45, 8604), (46, 8607), (50, 8652), (51, 8658), (53, 8679), (54, 8682), (58, 8730), (59, 8760), (62, 8796), (64, 8829), (66, 8850),

(69, 8871), (73, 8901), (74, 8916), (75, 8934), (76, 8943), (77, 8946), (78, 8964), (85, 9021), (87, 9036), (91, 9051), (92, 9054), (94, 9066), (97, 9081), (100, 9090), (104, 9126), (105, 9135), (106, 9138), (112, 9180), (114, 9192), (117, 9237), (120, 9282), (123, 9303), (127, 9324), (131, 9357), (132, 9366), (136, 9399), (137, 9402), (138, 9414), (141, 9432), (143, 9441), (146, 9453), (149, 9465), (150, 9477), (156, 9507), (157, 9513), (159, 9528), (160, 9534), (161, 9543), (163, 9564), (167, 9588), (170, 9618), (174, 9630), (175, 9639), (177, 9642), (178, 9660), (182, 9690), (185, 9702), (189, 9723), (190, 9732), (191, 9744), (195, 9777), (196, 9780), (204, 9822), (210, 9849), (211, 9852), (213, 9864), (215, 9873), (216, 9882), (218, 9903), (221, 9915), (224, 9930), (227, 9936), (229, 9945), (232, 9963), (233, 9969), (238, 9993), (241, 10011), (242, 10014), (243, 10017), (245, 10026), (246, 10029), (248, 10035), (253, 10056), (257, 10083), (258, 10089), (259, 10092), (261, 10101), (262, 10104), (263, 10110), (266, 10125), (269, 10137), (270, 10143), (279, 10191), (281, 10200), (282, 10206), (283, 10209), (284, 10212), (287, 10230), (291, 10242), (294, 10263), (295, 10266), (297, 10275), (299, 10284), (305, 10320), (315, 10374), (317, 10386), (319, 10395), (320, 10404), (325, 10419), (338, 10479), (340, 10494), (351, 10548), (358, 10593), (362, 10611), (363, 10614), (365, 10623), (371, 10656), (375, 10683), (383, 10725), (384, 10734), (386, 10746), (388, 10758), (389, 10767), (392, 10788), (398, 10821), (400, 10830), (401, 10833), (402, 10836), (404, 10854), (405, 10857), (406, 10866), (410, 10890), (411, 10899), (412, 10902), (414, 10911), (416, 10920), (421, 10953), (422, 10956), (427, 10980), (434, 11019), (440, 11049), (442, 11055), (444, 11064), (446, 11073), (449, 11097), (451, 11115), (452, 11127), (453, 11163), (457, 11181), (458, 11184), (460, 11190), (465, 11259), (466, 11268), (467, 11277),

Gene: Enoki_14 Start: 8500, Stop: 11265, Start Num: 33
Candidate Starts for Enoki_14:
(Start: 33 @8500 has 45 MA's), (37, 8527), (39, 8533), (40, 8545), (42, 8554), (43, 8578), (45, 8587), (46, 8590), (50, 8635), (51, 8641), (53, 8662), (54, 8665), (58, 8713), (59, 8743), (62, 8779), (64, 8812), (66, 8833), (69, 8854), (73, 8884), (74, 8899), (75, 8917), (76, 8926), (77, 8929), (78, 8947), (85, 9004), (87, 9019), (91, 9034), (92, 9037), (94, 9049), (97, 9064), (98, 9067), (100, 9073), (104, 9109), (105, 9118), (106, 9121), (112, 9163), (114, 9175), (117, 9220), (120, 9265), (123, 9286), (127, 9307), (131, 9340), (132, 9349), (136, 9382), (137, 9385), (138, 9397), (141, 9415), (143, 9424), (146, 9436), (149, 9448), (150, 9460), (152, 9469), (157, 9496), (159, 9511), (160, 9517), (161, 9526), (163, 9547), (167, 9571), (170, 9601), (172, 9607), (174, 9613), (178, 9643), (182, 9673), (185, 9685), (189, 9706), (190, 9715), (191, 9727), (195, 9760), (196, 9763), (198, 9772), (200, 9778), (203, 9793), (204, 9805), (207, 9814), (209, 9826), (210, 9832), (212, 9844), (213, 9847), (215, 9856), (216, 9865), (218, 9886), (224, 9913), (227, 9919), (229, 9928), (232, 9946), (233, 9952), (238, 9976), (241, 9994), (242, 9997), (243, 10000), (246, 10012), (248, 10018), (249, 10021), (252, 10033), (253, 10039), (255, 10060), (257, 10066), (258, 10072), (259, 10075), (260, 10081), (261, 10084), (262, 10087), (263, 10093), (266, 10108), (269, 10120), (270, 10126), (276, 10159), (277, 10162), (278, 10168), (281, 10183), (282, 10189), (283, 10192), (287, 10213), (290, 10222), (294, 10246), (296, 10255), (297, 10258), (299, 10267), (305, 10303), (306, 10312), (317, 10369), (319, 10378), (320, 10387), (322, 10396), (340, 10477), (342, 10489), (351, 10531), (358, 10576), (363, 10597), (365, 10606), (371, 10639), (383, 10708), (384, 10717), (386, 10729), (388, 10741), (389, 10750), (398, 10804), (400, 10813), (401, 10816), (402, 10819), (406, 10849), (410, 10873), (412, 10885), (414, 10894), (416, 10903), (427, 10963), (434, 11002), (440, 11032), (442, 11038), (444, 11047), (446, 11056), (449, 11080), (451, 11098), (452, 11110), (457, 11164), (458, 11167), (460, 11173), (465, 11242), (466, 11251), (467, 11260),

Gene: Fireman_36 Start: 20417, Stop: 24025, Start Num: 36
Candidate Starts for Fireman_36:
(Start: 36 @20417 has 2 MA's), (38, 20441), (67, 20747), (68, 20750), (99, 20966), (107, 21020), (109, 21041), (121, 21161), (129, 21203), (131, 21224), (139, 21290), (142, 21305), (154, 21368), (169, 21419), (171, 21431), (176, 21452), (181, 21482), (184, 21506), (188, 21524), (192, 21551), (196, 21584), (202, 21605), (217, 21698), (222, 21725), (234, 21773), (254, 21863), (260, 21890), (289, 22034), (297, 22076), (303, 22109), (304, 22118), (305, 22121), (310, 22148), (315, 22175), (322,

22214), (324, 22220), (330, 22250), (336, 22274), (337, 22280), (342, 22310), (348, 22337), (352, 22370), (368, 22451), (372, 22478), (382, 22535), (390, 22583), (391, 22586), (404, 22667), (408, 22694), (409, 22700), (417, 22733), (424, 22778), (426, 22781), (431, 22802), (432, 22811), (437, 22847), (454, 22964), (459, 22982), (463, 23039), (469, 23084), (470, 23120), (476, 23186), (478, 23219), (485, 23261), (491, 23306), (494, 23318), (499, 23369), (509, 23489), (518, 23591), (527, 23702), (535, 23750), (538, 23783), (545, 23840), (552, 23870), (554, 23909), (557, 23942), (558, 23981), (560, 24011), (561, 24014),

Gene: Floof_15 Start: 9530, Stop: 12451, Start Num: 49
Candidate Starts for Floof_15:
(Start: 49 @9530 has 7 MA's), (65, 9713), (68, 9737), (72, 9767), (75, 9809), (89, 9917), (103, 9977), (119, 10118), (127, 10172), (149, 10307), (153, 10331), (154, 10334), (173, 10403), (183, 10460), (192, 10505), (193, 10511), (206, 10577), (235, 10724), (247, 10772), (273, 10883), (294, 10988), (318, 11099), (355, 11294), (364, 11330), (370, 11372), (374, 11396), (385, 11450), (386, 11456), (388, 11468), (423, 11666), (426, 11678), (430, 11696), (450, 11798), (462, 11900), (468, 11945), (479, 12077), (495, 12179), (497, 12191), (501, 12236), (502, 12245), (508, 12317), (513, 12380), (517, 12416),

Gene: Forester_15 Start: 11062, Stop: 13983, Start Num: 49
Candidate Starts for Forester_15:
(Start: 49 @11062 has 7 MA's), (65, 11245), (68, 11269), (75, 11341), (89, 11449), (103, 11509), (127, 11704), (149, 11839), (153, 11863), (154, 11866), (183, 11992), (187, 12001), (193, 12043), (206, 12109), (235, 12256), (250, 12316), (273, 12415), (283, 12466), (290, 12496), (305, 12580), (318, 12631), (326, 12664), (364, 12862), (381, 12955), (385, 12982), (391, 13015), (393, 13036), (399, 13069), (405, 13099), (413, 13147), (423, 13198), (450, 13330), (468, 13477), (479, 13609), (495, 13711), (501, 13768), (502, 13777), (510, 13870), (513, 13912), (517, 13948),

Gene: Gibbzilla_16 Start: 9575, Stop: 12856, Start Num: 35
Candidate Starts for Gibbzilla_16:
(Start: 35 @9575 has 1 MA's), (47, 9665), (Start: 49 @9692 has 7 MA's), (57, 9773), (61, 9839), (63, 9854), (68, 9914), (70, 9941), (74, 9968), (78, 10016), (80, 10049), (81, 10055), (82, 10058), (83, 10061), (93, 10112), (102, 10148), (103, 10157), (108, 10199), (113, 10244), (115, 10265), (122, 10346), (125, 10364), (128, 10385), (139, 10475), (162, 10547), (179, 10625), (180, 10628), (186, 10661), (210, 10739), (217, 10781), (226, 10814), (239, 10871), (253, 10928), (255, 10949), (260, 10970), (272, 11021), (274, 11036), (280, 11072), (282, 11081), (285, 11096), (286, 11102), (295, 11141), (299, 11159), (300, 11162), (307, 11207), (312, 11234), (314, 11240), (316, 11258), (331, 11327), (333, 11336), (334, 11339), (335, 11345), (339, 11366), (341, 11381), (347, 11405), (348, 11408), (362, 11486), (373, 11555), (376, 11576), (386, 11633), (387, 11642), (401, 11720), (409, 11774), (410, 11777), (419, 11825), (427, 11870), (436, 11930), (446, 11960), (486, 12176), (487, 12185), (498, 12263), (509, 12386), (511, 12389), (517, 12467), (518, 12488), (522, 12530), (523, 12551), (527, 12599), (532, 12638), (534, 12647), (537, 12680), (540, 12698), (544, 12737), (553, 12794),

Gene: Gretchen_15 Start: 11056, Stop: 13977, Start Num: 49
Candidate Starts for Gretchen_15:
(Start: 49 @11056 has 7 MA's), (65, 11239), (68, 11263), (75, 11335), (89, 11443), (103, 11503), (127, 11698), (149, 11833), (153, 11857), (154, 11860), (183, 11986), (187, 11995), (193, 12037), (206, 12103), (235, 12250), (250, 12310), (273, 12409), (283, 12460), (290, 12490), (305, 12574), (318, 12625), (326, 12658), (364, 12856), (381, 12949), (385, 12976), (391, 13009), (393, 13030), (399, 13063), (405, 13093), (413, 13141), (423, 13192), (450, 13324), (468, 13471), (479, 13603), (495, 13705), (501, 13762), (502, 13771), (510, 13864), (513, 13906), (517, 13942),

Gene: Keiki_14 Start: 8514, Stop: 11279, Start Num: 33

Candidate Starts for Keiki_14:
(Start: 33 @8514 has 45 MA's), (37, 8541), (39, 8547), (40, 8559), (43, 8592), (45, 8601), (46, 8604), (50, 8649), (51, 8655), (52, 8661), (53, 8676), (54, 8679), (58, 8727), (59, 8757), (61, 8784), (62, 8793), (64, 8826), (66, 8847), (69, 8868), (73, 8898), (74, 8913), (75, 8931), (76, 8940), (77, 8943), (78, 8961), (84, 9015), (85, 9018), (87, 9033), (91, 9048), (92, 9051), (94, 9063), (97, 9078), (101, 9090), (104, 9123), (105, 9132), (106, 9135), (112, 9177), (114, 9189), (117, 9234), (120, 9279), (123, 9300), (127, 9321), (131, 9354), (132, 9363), (137, 9399), (138, 9411), (141, 9429), (143, 9438), (146, 9450), (149, 9462), (150, 9474), (152, 9483), (156, 9504), (157, 9510), (159, 9525), (160, 9531), (161, 9540), (163, 9561), (167, 9585), (170, 9615), (172, 9621), (174, 9627), (178, 9657), (182, 9687), (185, 9699), (189, 9720), (191, 9741), (195, 9774), (196, 9777), (198, 9786), (203, 9807), (204, 9819), (212, 9858), (215, 9870), (216, 9879), (218, 9900), (221, 9912), (224, 9927), (229, 9942), (237, 9987), (241, 10008), (242, 10011), (243, 10014), (244, 10020), (246, 10026), (253, 10053), (255, 10074), (257, 10080), (258, 10086), (259, 10089), (261, 10098), (262, 10101), (264, 10110), (266, 10122), (269, 10134), (275, 10161), (278, 10182), (279, 10188), (281, 10197), (282, 10203), (283, 10206), (284, 10209), (287, 10227), (288, 10230), (290, 10236), (291, 10239), (295, 10263), (299, 10281), (315, 10371), (317, 10383), (319, 10392), (320, 10401), (325, 10416), (340, 10491), (342, 10503), (351, 10545), (358, 10590), (363, 10611), (365, 10620), (371, 10653), (375, 10680), (383, 10722), (384, 10731), (386, 10743), (388, 10755), (389, 10764), (392, 10785), (398, 10818), (401, 10830), (402, 10833), (404, 10851), (405, 10854), (406, 10863), (410, 10887), (412, 10899), (414, 10908), (416, 10917), (421, 10950), (422, 10953), (427, 10977), (434, 11016), (440, 11046), (442, 11052), (444, 11061), (446, 11070), (451, 11112), (452, 11124), (453, 11160), (457, 11178), (458, 11181), (460, 11187), (465, 11256), (466, 11265), (467, 11274),

Gene: Khuang_14 Start: 9117, Stop: 13016, Start Num: 9
Candidate Starts for Khuang_14:
(Start: 9 @9117 has 2 MA's), (11, 9195), (18, 9378), (21, 9438), (55, 9750), (61, 9840), (71, 9945), (80, 10050), (81, 10056), (83, 10062), (93, 10113), (108, 10200), (113, 10245), (115, 10266), (122, 10347), (125, 10365), (150, 10530), (151, 10536), (169, 10590), (180, 10650), (205, 10692), (214, 10734), (217, 10761), (239, 10839), (254, 10911), (259, 10932), (265, 10962), (267, 10971), (270, 10983), (280, 11040), (283, 11052), (285, 11064), (286, 11070), (292, 11097), (293, 11103), (297, 11118), (299, 11127), (316, 11226), (320, 11247), (322, 11256), (323, 11259), (331, 11295), (335, 11313), (337, 11322), (338, 11325), (341, 11349), (345, 11358), (364, 11460), (365, 11466), (373, 11523), (374, 11535), (376, 11544), (386, 11601), (390, 11625), (396, 11667), (401, 11688), (405, 11712), (409, 11742), (414, 11766), (418, 11787), (429, 11841), (443, 11907), (445, 11916), (446, 11925), (480, 12234), (500, 12393), (516, 12567), (518, 12603), (524, 12678), (530, 12738), (533, 12753), (536, 12774), (541, 12807), (548, 12843), (562, 13002),

Gene: Kovu_65 Start: 36350, Stop: 40081, Start Num: 25
Candidate Starts for Kovu_65:
(Start: 25 @36350 has 2 MA's), (28, 36365), (29, 36368), (32, 36398), (34, 36401), (61, 36659), (68, 36734), (71, 36764), (81, 36875), (83, 36881), (108, 37019), (120, 37154), (124, 37181), (125, 37184), (135, 37262), (154, 37367), (169, 37412), (176, 37445), (180, 37472), (185, 37502), (194, 37556), (197, 37583), (214, 37667), (217, 37694), (228, 37736), (265, 37916), (283, 38006), (286, 38024), (292, 38051), (293, 38057), (295, 38063), (298, 38075), (301, 38090), (305, 38117), (307, 38129), (309, 38138), (313, 38159), (320, 38201), (321, 38204), (327, 38228), (328, 38234), (331, 38249), (333, 38258), (335, 38267), (341, 38303), (344, 38309), (346, 38315), (349, 38333), (354, 38366), (360, 38399), (374, 38489), (377, 38501), (386, 38555), (394, 38612), (401, 38642), (405, 38666), (409, 38696), (412, 38711), (414, 38720), (418, 38741), (419, 38744), (429, 38795), (435, 38837), (443, 38861), (482, 39167), (489, 39209), (491, 39230), (492, 39233), (493, 39236), (503, 39320), (505, 39332), (507, 39365), (509, 39410), (514, 39461), (515, 39464), (518, 39512), (520, 39542), (528, 39629), (537, 39695), (539, 39704), (543, 39743), (544, 39749), (546, 39758), (548, 39764), (550, 39770), (551, 39773), (559, 39905), (562, 39926), (563, 39932), (564, 39947), (567, 39989), (568, 40031), (569, 40070),

Gene: Kubed_14 Start: 8509, Stop: 11274, Start Num: 33
Candidate Starts for Kubed_14:
(Start: 33 @8509 has 45 MA's), (37, 8536), (39, 8542), (40, 8554), (42, 8563), (43, 8587), (46, 8599), (48, 8629), (50, 8644), (51, 8650), (53, 8671), (54, 8674), (58, 8722), (59, 8752), (61, 8779), (62, 8788), (64, 8821), (66, 8842), (69, 8863), (73, 8893), (74, 8908), (75, 8926), (76, 8935), (77, 8938), (78, 8956), (85, 9013), (87, 9028), (91, 9043), (92, 9046), (94, 9058), (95, 9067), (97, 9073), (98, 9076), (101, 9085), (104, 9118), (105, 9127), (106, 9130), (112, 9172), (114, 9184), (117, 9229), (120, 9274), (122, 9286), (123, 9295), (127, 9316), (128, 9325), (130, 9337), (131, 9349), (132, 9358), (134, 9370), (136, 9391), (137, 9394), (138, 9406), (141, 9424), (143, 9433), (144, 9436), (146, 9445), (149, 9457), (150, 9469), (152, 9478), (156, 9499), (159, 9520), (160, 9526), (161, 9535), (163, 9556), (165, 9568), (167, 9580), (174, 9622), (177, 9634), (178, 9652), (182, 9682), (189, 9715), (190, 9724), (191, 9736), (195, 9769), (196, 9772), (200, 9787), (203, 9802), (204, 9814), (208, 9832), (210, 9841), (213, 9856), (215, 9865), (216, 9874), (218, 9895), (221, 9907), (224, 9922), (227, 9928), (229, 9937), (233, 9961), (238, 9985), (241, 10003), (242, 10006), (243, 10009), (245, 10018), (246, 10021), (248, 10027), (249, 10030), (251, 10039), (252, 10042), (253, 10048), (255, 10069), (257, 10075), (258, 10081), (259, 10084), (261, 10093), (262, 10096), (263, 10102), (264, 10105), (269, 10129), (270, 10135), (271, 10138), (275, 10156), (278, 10177), (279, 10183), (281, 10192), (283, 10201), (284, 10204), (287, 10222), (288, 10225), (290, 10231), (296, 10264), (299, 10276), (302, 10288), (305, 10312), (311, 10342), (313, 10354), (315, 10366), (316, 10375), (317, 10378), (319, 10387), (323, 10408), (329, 10429), (330, 10438), (334, 10453), (358, 10585), (363, 10606), (365, 10615), (371, 10648), (380, 10702), (383, 10717), (384, 10726), (386, 10738), (388, 10750), (389, 10759), (390, 10762), (398, 10813), (401, 10825), (402, 10828), (405, 10849), (406, 10858), (410, 10882), (412, 10894), (416, 10912), (418, 10924), (421, 10945), (422, 10948), (427, 10972), (434, 11011), (440, 11041), (442, 11047), (444, 11056), (446, 11065), (451, 11107), (452, 11119), (453, 11155), (457, 11173), (458, 11176), (465, 11251), (466, 11260), (467, 11269),

Gene: Lauchelly_14 Start: 8512, Stop: 11277, Start Num: 33
Candidate Starts for Lauchelly_14:
(Start: 33 @8512 has 45 MA's), (37, 8539), (39, 8545), (40, 8557), (42, 8566), (45, 8599), (46, 8602), (50, 8647), (52, 8659), (53, 8674), (54, 8677), (58, 8725), (59, 8755), (61, 8782), (62, 8791), (64, 8824), (66, 8845), (69, 8866), (73, 8896), (75, 8929), (76, 8938), (77, 8941), (78, 8959), (85, 9016), (91, 9046), (92, 9049), (94, 9061), (97, 9076), (98, 9079), (101, 9088), (104, 9121), (105, 9130), (106, 9133), (112, 9175), (114, 9187), (117, 9232), (118, 9253), (120, 9277), (123, 9298), (127, 9319), (131, 9352), (132, 9361), (136, 9394), (137, 9397), (138, 9409), (141, 9427), (143, 9436), (146, 9448), (149, 9460), (150, 9472), (152, 9481), (156, 9502), (157, 9508), (159, 9523), (160, 9529), (161, 9538), (163, 9559), (170, 9613), (174, 9625), (175, 9634), (178, 9655), (182, 9685), (189, 9718), (190, 9727), (191, 9739), (195, 9772), (196, 9775), (198, 9784), (203, 9805), (204, 9817), (207, 9826), (210, 9844), (211, 9847), (213, 9859), (215, 9868), (216, 9877), (218, 9898), (221, 9910), (224, 9925), (227, 9931), (229, 9940), (233, 9964), (238, 9988), (241, 10006), (246, 10024), (248, 10030), (249, 10033), (253, 10051), (255, 10072), (257, 10078), (258, 10084), (261, 10096), (262, 10099), (263, 10105), (266, 10120), (269, 10132), (276, 10171), (277, 10174), (279, 10186), (281, 10195), (282, 10201), (287, 10225), (290, 10234), (291, 10237), (294, 10258), (295, 10261), (299, 10279), (303, 10303), (305, 10315), (315, 10369), (317, 10381), (319, 10390), (320, 10399), (340, 10489), (342, 10501), (351, 10543), (358, 10588), (363, 10609), (365, 10618), (371, 10651), (375, 10678), (383, 10720), (384, 10729), (386, 10741), (388, 10753), (389, 10762), (398, 10816), (400, 10825), (402, 10831), (404, 10849), (405, 10852), (410, 10885), (414, 10906), (416, 10915), (421, 10948), (422, 10951), (427, 10975), (434, 11014), (440, 11044), (442, 11050), (444, 11059), (446, 11068), (451, 11110), (452, 11122), (453, 11158), (457, 11176), (458, 11179), (465, 11254), (467, 11272),

Gene: Leviosa_14 Start: 8531, Stop: 11296, Start Num: 33
Candidate Starts for Leviosa_14:

(Start: 33 @8531 has 45 MA's), (37, 8558), (39, 8564), (40, 8576), (42, 8585), (46, 8621), (48, 8651), (50, 8666), (51, 8672), (53, 8693), (54, 8696), (58, 8744), (59, 8774), (62, 8810), (64, 8843), (66, 8864), (73, 8915), (74, 8930), (75, 8948), (76, 8957), (77, 8960), (78, 8978), (85, 9035), (87, 9050), (91, 9065), (92, 9068), (94, 9080), (100, 9104), (104, 9140), (105, 9149), (106, 9152), (112, 9194), (114, 9206), (117, 9251), (120, 9296), (123, 9317), (127, 9338), (131, 9371), (132, 9380), (134, 9392), (136, 9413), (137, 9416), (138, 9428), (141, 9446), (143, 9455), (146, 9467), (149, 9479), (150, 9491), (152, 9500), (157, 9527), (159, 9542), (160, 9548), (161, 9557), (163, 9578), (167, 9602), (170, 9632), (172, 9638), (174, 9644), (175, 9653), (178, 9674), (182, 9704), (189, 9737), (190, 9746), (191, 9758), (196, 9794), (198, 9803), (204, 9836), (210, 9863), (213, 9878), (215, 9887), (216, 9896), (218, 9917), (219, 9920), (221, 9929), (224, 9944), (227, 9950), (229, 9959), (238, 10007), (241, 10025), (246, 10043), (248, 10049), (249, 10052), (251, 10061), (252, 10064), (253, 10070), (255, 10091), (257, 10097), (259, 10106), (261, 10115), (262, 10118), (263, 10124), (266, 10139), (268, 10148), (269, 10151), (271, 10160), (275, 10178), (279, 10205), (281, 10214), (282, 10220), (284, 10226), (287, 10244), (290, 10253), (294, 10277), (299, 10298), (305, 10334), (315, 10388), (316, 10397), (317, 10400), (319, 10409), (320, 10418), (340, 10508), (342, 10520), (351, 10562), (358, 10607), (362, 10625), (363, 10628), (365, 10637), (371, 10670), (383, 10739), (384, 10748), (386, 10760), (389, 10781), (398, 10835), (401, 10847), (402, 10850), (404, 10868), (406, 10880), (410, 10904), (411, 10913), (412, 10916), (414, 10925), (416, 10934), (418, 10946), (421, 10967), (422, 10970), (427, 10994), (432, 11021), (440, 11063), (442, 11069), (444, 11078), (449, 11111), (451, 11129), (453, 11177), (457, 11195), (458, 11198), (460, 11204), (465, 11273), (466, 11282),

Gene: LilBandit_14 Start: 8515, Stop: 11280, Start Num: 33
Candidate Starts for LilBandit_14:
(Start: 33 @8515 has 45 MA's), (37, 8542), (39, 8548), (40, 8560), (45, 8602), (46, 8605), (50, 8650), (51, 8656), (53, 8677), (54, 8680), (58, 8728), (59, 8758), (62, 8794), (64, 8827), (66, 8848), (69, 8869), (73, 8899), (74, 8914), (75, 8932), (76, 8941), (77, 8944), (78, 8962), (85, 9019), (87, 9034), (91, 9049), (92, 9052), (94, 9064), (97, 9079), (98, 9082), (100, 9088), (101, 9091), (104, 9124), (105, 9133), (106, 9136), (112, 9178), (114, 9190), (117, 9235), (120, 9280), (123, 9301), (127, 9322), (131, 9355), (132, 9364), (136, 9397), (137, 9400), (138, 9412), (141, 9430), (143, 9439), (146, 9451), (149, 9463), (150, 9475), (152, 9484), (156, 9505), (157, 9511), (159, 9526), (160, 9532), (161, 9541), (163, 9562), (167, 9586), (172, 9622), (174, 9628), (178, 9658), (182, 9688), (189, 9721), (190, 9730), (191, 9742), (196, 9778), (198, 9787), (200, 9793), (203, 9808), (204, 9820), (213, 9862), (215, 9871), (216, 9880), (218, 9901), (221, 9913), (224, 9928), (227, 9934), (229, 9943), (232, 9961), (233, 9967), (238, 9991), (241, 10009), (242, 10012), (243, 10015), (245, 10024), (246, 10027), (248, 10033), (249, 10036), (252, 10048), (253, 10054), (255, 10075), (257, 10081), (258, 10087), (259, 10090), (261, 10099), (262, 10102), (263, 10108), (266, 10123), (269, 10135), (279, 10189), (281, 10198), (282, 10204), (283, 10207), (284, 10210), (287, 10228), (288, 10231), (290, 10237), (291, 10240), (294, 10261), (295, 10264), (297, 10273), (299, 10282), (305, 10318), (315, 10372), (317, 10384), (319, 10393), (320, 10402), (340, 10492), (342, 10504), (351, 10546), (358, 10591), (363, 10612), (365, 10621), (371, 10654), (375, 10681), (383, 10723), (384, 10732), (386, 10744), (388, 10756), (389, 10765), (392, 10786), (398, 10819), (400, 10828), (401, 10831), (402, 10834), (404, 10852), (405, 10855), (406, 10864), (410, 10888), (412, 10900), (414, 10909), (416, 10918), (421, 10951), (422, 10954), (427, 10978), (434, 11017), (440, 11047), (442, 11053), (444, 11062), (446, 11071), (451, 11113), (452, 11125), (453, 11161), (457, 11179), (458, 11182), (460, 11188), (465, 11257), (466, 11266), (467, 11275),

Gene: MEAK_14 Start: 8501, Stop: 11266, Start Num: 33
Candidate Starts for MEAK_14:
(Start: 33 @8501 has 45 MA's), (37, 8528), (39, 8534), (40, 8546), (42, 8555), (45, 8588), (46, 8591), (50, 8636), (53, 8663), (54, 8666), (56, 8696), (58, 8714), (59, 8744), (61, 8771), (62, 8780), (64, 8813), (66, 8834), (69, 8855), (73, 8885), (74, 8900), (75, 8918), (76, 8927), (77, 8930), (78, 8948), (84, 9002), (85, 9005), (87, 9020), (91, 9035), (92, 9038), (94, 9050), (100, 9074), (104, 9110), (105, 9119), (106, 9122), (112, 9164), (114, 9176), (117, 9221), (120, 9266), (123, 9287), (127, 9308), (130, 9329), (131,

9341), (134, 9362), (136, 9383), (137, 9386), (138, 9398), (141, 9416), (143, 9425), (146, 9437), (149, 9449), (150, 9461), (152, 9470), (156, 9491), (157, 9497), (159, 9512), (160, 9518), (161, 9527), (163, 9548), (174, 9614), (177, 9626), (178, 9644), (182, 9674), (189, 9707), (190, 9716), (191, 9728), (195, 9761), (196, 9764), (198, 9773), (200, 9779), (203, 9794), (204, 9806), (210, 9833), (213, 9848), (215, 9857), (216, 9866), (218, 9887), (221, 9899), (224, 9914), (227, 9920), (229, 9929), (232, 9947), (233, 9953), (238, 9977), (241, 9995), (242, 9998), (243, 10001), (245, 10010), (246, 10013), (248, 10019), (249, 10022), (253, 10040), (255, 10061), (257, 10067), (259, 10076), (261, 10085), (262, 10088), (263, 10094), (266, 10109), (269, 10121), (278, 10169), (279, 10175), (281, 10184), (282, 10190), (283, 10193), (284, 10196), (287, 10214), (288, 10217), (290, 10223), (291, 10226), (294, 10247), (295, 10250), (297, 10259), (299, 10268), (305, 10304), (306, 10313), (308, 10322), (315, 10358), (317, 10370), (319, 10379), (320, 10388), (340, 10478), (342, 10490), (347, 10514), (358, 10577), (362, 10595), (363, 10598), (365, 10607), (371, 10640), (383, 10709), (384, 10718), (386, 10730), (388, 10742), (389, 10751), (392, 10772), (398, 10805), (401, 10817), (402, 10820), (404, 10838), (405, 10841), (410, 10874), (414, 10895), (416, 10904), (421, 10937), (422, 10940), (427, 10964), (434, 11003), (440, 11033), (442, 11039), (444, 11048), (446, 11057), (451, 11099), (452, 11111), (453, 11147), (457, 11165), (458, 11168), (460, 11174), (465, 11243), (466, 11252), (467, 11261),

Gene: Mabodamaca_15 Start: 10264, Stop: 13101, Start Num: 49
Candidate Starts for Mabodamaca_15:
(Start: 49 @10264 has 7 MA's), (86, 10627), (96, 10660), (110, 10732), (111, 10741), (117, 10795), (128, 10879), (133, 10909), (140, 10957), (145, 10978), (146, 10984), (187, 11158), (195, 11224), (220, 11347), (225, 11368), (273, 11572), (275, 11578), (277, 11593), (281, 11614), (318, 11788), (329, 11839), (354, 11938), (360, 11971), (381, 12079), (386, 12112), (399, 12193), (402, 12202), (462, 12556), (473, 12655), (475, 12685), (477, 12700),

Gene: Maruru_16 Start: 12620, Stop: 17245, Start Num: 1
Candidate Starts for Maruru_16:
(Start: 1 @12620 has 3 MA's), (2, 12641), (3, 12647), (4, 12656), (5, 12707), (Start: 9 @12872 has 2 MA's), (10, 12923), (12, 12953), (13, 13058), (14, 13064), (15, 13076), (30, 13322), (55, 13511), (61, 13601), (70, 13703), (71, 13706), (78, 13778), (80, 13811), (81, 13817), (83, 13823), (88, 13853), (102, 13910), (103, 13919), (108, 13961), (113, 14006), (122, 14108), (158, 14354), (169, 14480), (180, 14540), (185, 14570), (194, 14624), (197, 14651), (217, 14762), (238, 14858), (247, 14894), (254, 14933), (261, 14963), (265, 14984), (267, 14993), (269, 14999), (282, 15071), (283, 15074), (295, 15131), (312, 15224), (313, 15227), (314, 15230), (320, 15269), (321, 15272), (322, 15278), (332, 15323), (333, 15326), (335, 15335), (337, 15344), (341, 15371), (365, 15488), (369, 15521), (372, 15542), (384, 15611), (390, 15647), (401, 15710), (409, 15764), (414, 15788), (418, 15809), (429, 15863), (455, 16061), (461, 16136), (471, 16241), (484, 16379), (488, 16406), (491, 16430), (492, 16433), (501, 16508), (516, 16676), (520, 16742), (524, 16787), (535, 16868), (542, 16931), (565, 17165), (566, 17177),

Gene: Moyashi_14 Start: 8543, Stop: 11308, Start Num: 33
Candidate Starts for Moyashi_14:
(Start: 33 @8543 has 45 MA's), (37, 8570), (39, 8576), (40, 8588), (43, 8621), (46, 8633), (48, 8663), (50, 8678), (51, 8684), (53, 8705), (54, 8708), (58, 8756), (59, 8786), (62, 8822), (64, 8855), (66, 8876), (69, 8897), (73, 8927), (74, 8942), (75, 8960), (76, 8969), (77, 8972), (78, 8990), (84, 9044), (85, 9047), (87, 9062), (91, 9077), (92, 9080), (94, 9092), (97, 9107), (101, 9119), (104, 9152), (105, 9161), (106, 9164), (112, 9206), (114, 9218), (117, 9263), (120, 9308), (122, 9320), (127, 9350), (131, 9383), (134, 9404), (136, 9425), (137, 9428), (138, 9440), (141, 9458), (143, 9467), (146, 9479), (149, 9491), (150, 9503), (156, 9533), (157, 9539), (161, 9569), (163, 9590), (167, 9614), (172, 9650), (178, 9686), (182, 9716), (189, 9749), (191, 9770), (195, 9803), (196, 9806), (198, 9815), (200, 9821), (203, 9836), (204, 9848), (207, 9857), (208, 9866), (212, 9887), (213, 9890), (215, 9899), (216, 9908), (218, 9929), (221, 9941), (224, 9956), (227, 9962), (229, 9971), (238, 10019), (241, 10037), (242, 10040), (243, 10043), (245, 10052), (246, 10055), (252, 10076), (253, 10082), (255, 10103), (257, 10109), (258, 10115),

(259, 10118), (261, 10127), (262, 10130), (263, 10136), (266, 10151), (269, 10163), (270, 10169), (276, 10202), (279, 10217), (281, 10226), (282, 10232), (283, 10235), (287, 10256), (290, 10265), (291, 10268), (294, 10289), (296, 10298), (297, 10301), (299, 10310), (305, 10346), (306, 10355), (315, 10400), (316, 10409), (317, 10412), (319, 10421), (320, 10430), (340, 10520), (342, 10532), (349, 10562), (351, 10574), (358, 10619), (363, 10640), (365, 10649), (371, 10682), (375, 10709), (383, 10751), (384, 10760), (386, 10772), (388, 10784), (389, 10793), (398, 10847), (400, 10856), (401, 10859), (402, 10862), (404, 10880), (405, 10883), (406, 10892), (410, 10916), (414, 10937), (416, 10946), (418, 10958), (421, 10979), (422, 10982), (427, 11006), (434, 11045), (440, 11075), (442, 11081), (444, 11090), (449, 11123), (451, 11141), (452, 11153), (457, 11207), (458, 11210), (460, 11216), (465, 11285), (466, 11294), (467, 11303),

Gene: MrAK_14 Start: 8555, Stop: 11320, Start Num: 33
Candidate Starts for MrAK_14:
(Start: 33 @8555 has 45 MA's), (37, 8582), (39, 8588), (40, 8600), (43, 8633), (45, 8642), (46, 8645), (48, 8675), (50, 8690), (51, 8696), (53, 8717), (54, 8720), (58, 8768), (59, 8798), (64, 8867), (66, 8888), (69, 8909), (74, 8954), (75, 8972), (76, 8981), (77, 8984), (78, 9002), (85, 9059), (87, 9074), (91, 9089), (92, 9092), (94, 9104), (97, 9119), (101, 9131), (104, 9164), (105, 9173), (106, 9176), (112, 9218), (114, 9230), (117, 9275), (120, 9320), (122, 9332), (127, 9362), (131, 9395), (132, 9404), (134, 9416), (136, 9437), (137, 9440), (138, 9452), (141, 9470), (143, 9479), (146, 9491), (149, 9503), (150, 9515), (152, 9524), (156, 9545), (157, 9551), (161, 9581), (163, 9602), (167, 9626), (170, 9656), (172, 9662), (174, 9668), (178, 9698), (182, 9728), (189, 9761), (191, 9782), (195, 9815), (196, 9818), (198, 9827), (200, 9833), (203, 9848), (204, 9860), (207, 9869), (208, 9878), (212, 9899), (213, 9902), (215, 9911), (216, 9920), (218, 9941), (224, 9968), (227, 9974), (229, 9983), (238, 10031), (241, 10049), (242, 10052), (245, 10064), (246, 10067), (253, 10094), (255, 10115), (257, 10121), (258, 10127), (259, 10130), (261, 10139), (262, 10142), (263, 10148), (266, 10163), (269, 10175), (270, 10181), (276, 10214), (279, 10229), (281, 10238), (282, 10244), (283, 10247), (287, 10268), (290, 10277), (291, 10280), (294, 10301), (296, 10310), (297, 10313), (299, 10322), (305, 10358), (306, 10367), (315, 10412), (316, 10421), (317, 10424), (319, 10433), (320, 10442), (322, 10451), (338, 10517), (340, 10532), (342, 10544), (349, 10574), (351, 10586), (358, 10631), (363, 10652), (365, 10661), (371, 10694), (383, 10763), (384, 10772), (386, 10784), (388, 10796), (396, 10850), (398, 10859), (401, 10871), (402, 10874), (404, 10892), (405, 10895), (406, 10904), (410, 10928), (412, 10940), (414, 10949), (416, 10958), (421, 10991), (422, 10994), (427, 11018), (434, 11057), (440, 11087), (442, 11093), (444, 11102), (449, 11135), (451, 11153), (452, 11165), (457, 11219), (458, 11222), (460, 11228), (465, 11297), (466, 11306), (467, 11315),

Gene: Ouroboros_14 Start: 8504, Stop: 11269, Start Num: 33
Candidate Starts for Ouroboros_14:
(Start: 33 @8504 has 45 MA's), (37, 8531), (39, 8537), (40, 8549), (42, 8558), (43, 8582), (45, 8591), (46, 8594), (48, 8624), (50, 8639), (51, 8645), (52, 8651), (53, 8666), (54, 8669), (58, 8717), (59, 8747), (61, 8774), (62, 8783), (64, 8816), (69, 8858), (73, 8888), (74, 8903), (75, 8921), (76, 8930), (77, 8933), (78, 8951), (84, 9005), (85, 9008), (87, 9023), (91, 9038), (92, 9041), (94, 9053), (97, 9068), (100, 9077), (101, 9080), (104, 9113), (105, 9122), (106, 9125), (112, 9167), (114, 9179), (117, 9224), (120, 9269), (126, 9305), (127, 9311), (131, 9344), (134, 9365), (136, 9386), (137, 9389), (141, 9419), (143, 9428), (146, 9440), (149, 9452), (152, 9473), (157, 9500), (159, 9515), (160, 9521), (161, 9530), (163, 9551), (167, 9575), (170, 9605), (174, 9617), (175, 9626), (178, 9647), (185, 9689), (189, 9710), (190, 9719), (191, 9731), (195, 9764), (198, 9776), (203, 9797), (204, 9809), (211, 9839), (213, 9851), (215, 9860), (216, 9869), (218, 9890), (221, 9902), (224, 9917), (227, 9923), (229, 9932), (233, 9956), (238, 9980), (241, 9998), (242, 10001), (243, 10004), (245, 10013), (246, 10016), (248, 10022), (249, 10025), (253, 10043), (257, 10070), (258, 10076), (259, 10079), (261, 10088), (262, 10091), (263, 10097), (266, 10112), (269, 10124), (275, 10151), (279, 10178), (281, 10187), (282, 10193), (283, 10196), (284, 10199), (287, 10217), (290, 10226), (291, 10229), (294, 10250), (295, 10253), (297, 10262), (299, 10271), (305, 10307), (315, 10361), (317, 10373), (319, 10382), (320, 10391), (351, 10535), (358, 10580), (365, 10610), (371, 10643), (375, 10670), (383, 10712), (384, 10721), (386,

10733), (388, 10745), (389, 10754), (392, 10775), (398, 10808), (400, 10817), (401, 10820), (402, 10823), (404, 10841), (405, 10844), (406, 10853), (410, 10877), (414, 10898), (416, 10907), (418, 10919), (421, 10940), (422, 10943), (427, 10967), (434, 11006), (440, 11036), (442, 11042), (444, 11051), (446, 11060), (447, 11072), (451, 11102), (452, 11114), (453, 11150), (457, 11168), (458, 11171), (465, 11246), (466, 11255), (467, 11264),

Gene: P1.1_14 Start: 8512, Stop: 11277, Start Num: 33
Candidate Starts for P1.1_14:
(Start: 33 @8512 has 45 MA's), (37, 8539), (39, 8545), (40, 8557), (42, 8566), (45, 8599), (46, 8602), (50, 8647), (51, 8653), (53, 8674), (54, 8677), (58, 8725), (59, 8755), (62, 8791), (64, 8824), (66, 8845), (69, 8866), (73, 8896), (74, 8911), (75, 8929), (76, 8938), (77, 8941), (78, 8959), (84, 9013), (85, 9016), (87, 9031), (91, 9046), (92, 9049), (94, 9061), (100, 9085), (104, 9121), (105, 9130), (106, 9133), (112, 9175), (114, 9187), (117, 9232), (120, 9277), (127, 9319), (131, 9352), (132, 9361), (136, 9394), (137, 9397), (138, 9409), (141, 9427), (143, 9436), (146, 9448), (149, 9460), (150, 9472), (152, 9481), (156, 9502), (159, 9523), (160, 9529), (161, 9538), (163, 9559), (167, 9583), (170, 9613), (172, 9619), (174, 9625), (177, 9637), (182, 9685), (189, 9718), (190, 9727), (191, 9739), (195, 9772), (196, 9775), (203, 9805), (204, 9817), (210, 9844), (215, 9868), (216, 9877), (218, 9898), (221, 9910), (224, 9925), (227, 9931), (229, 9940), (238, 9988), (240, 9997), (241, 10006), (242, 10009), (243, 10012), (246, 10024), (248, 10030), (252, 10045), (253, 10051), (255, 10072), (257, 10078), (258, 10084), (259, 10087), (261, 10096), (262, 10099), (263, 10105), (266, 10120), (269, 10132), (270, 10138), (276, 10171), (281, 10195), (282, 10201), (283, 10204), (284, 10207), (287, 10225), (290, 10234), (291, 10237), (294, 10258), (295, 10261), (297, 10270), (299, 10279), (305, 10315), (315, 10369), (317, 10381), (319, 10390), (320, 10399), (325, 10414), (338, 10474), (340, 10489), (342, 10501), (351, 10543), (358, 10588), (363, 10609), (365, 10618), (371, 10651), (375, 10678), (383, 10720), (384, 10729), (388, 10753), (389, 10762), (392, 10783), (398, 10816), (400, 10825), (401, 10828), (402, 10831), (404, 10849), (405, 10852), (406, 10861), (410, 10885), (412, 10897), (414, 10906), (416, 10915), (421, 10948), (422, 10951), (427, 10975), (434, 11014), (440, 11044), (442, 11050), (444, 11059), (446, 11068), (451, 11110), (452, 11122), (453, 11158), (457, 11176), (458, 11179), (465, 11254), (466, 11263), (467, 11272),

Gene: P100.1_14 Start: 8519, Stop: 11284, Start Num: 33
Candidate Starts for P100.1_14:
(Start: 33 @8519 has 45 MA's), (37, 8546), (39, 8552), (40, 8564), (43, 8597), (45, 8606), (46, 8609), (48, 8639), (50, 8654), (51, 8660), (53, 8681), (54, 8684), (58, 8732), (59, 8762), (62, 8798), (64, 8831), (66, 8852), (69, 8873), (73, 8903), (74, 8918), (75, 8936), (76, 8945), (77, 8948), (78, 8966), (85, 9023), (87, 9038), (91, 9053), (92, 9056), (94, 9068), (97, 9083), (101, 9095), (104, 9128), (105, 9137), (106, 9140), (112, 9182), (114, 9194), (117, 9239), (119, 9269), (120, 9284), (122, 9296), (127, 9326), (131, 9359), (132, 9368), (134, 9380), (136, 9401), (137, 9404), (138, 9416), (141, 9434), (143, 9443), (146, 9455), (149, 9467), (152, 9488), (157, 9515), (159, 9530), (160, 9536), (161, 9545), (163, 9566), (170, 9620), (172, 9626), (174, 9632), (177, 9644), (178, 9662), (182, 9692), (189, 9725), (190, 9734), (191, 9746), (195, 9779), (196, 9782), (198, 9791), (203, 9812), (204, 9824), (207, 9833), (212, 9863), (215, 9875), (216, 9884), (218, 9905), (221, 9917), (224, 9932), (229, 9947), (237, 9992), (241, 10013), (242, 10016), (243, 10019), (244, 10025), (246, 10031), (253, 10058), (255, 10079), (257, 10085), (258, 10091), (261, 10103), (262, 10106), (264, 10115), (266, 10127), (269, 10139), (271, 10148), (275, 10166), (278, 10187), (279, 10193), (281, 10202), (282, 10208), (283, 10211), (284, 10214), (287, 10232), (290, 10241), (291, 10244), (295, 10268), (299, 10286), (315, 10376), (317, 10388), (319, 10397), (320, 10406), (334, 10463), (342, 10508), (347, 10532), (351, 10550), (358, 10595), (363, 10616), (365, 10625), (371, 10658), (375, 10685), (383, 10727), (384, 10736), (386, 10748), (388, 10760), (389, 10769), (392, 10790), (396, 10814), (398, 10823), (401, 10835), (402, 10838), (404, 10856), (405, 10859), (406, 10868), (410, 10892), (414, 10913), (416, 10922), (421, 10955), (422, 10958), (427, 10982), (434, 11021), (440, 11051), (442, 11057), (444, 11066), (446, 11075), (448, 11096), (449, 11099), (451, 11117), (452, 11129), (457, 11183), (458, 11186), (465, 11261), (466, 11270), (467, 11279),

Gene: P100A_14 Start: 8513, Stop: 11278, Start Num: 33
Candidate Starts for P100A_14:
(Start: 33 @8513 has 45 MA's), (37, 8540), (39, 8546), (40, 8558), (42, 8567), (43, 8591), (46, 8603), (50, 8648), (51, 8654), (52, 8660), (53, 8675), (54, 8678), (58, 8726), (59, 8756), (61, 8783), (62, 8792), (64, 8825), (66, 8846), (73, 8897), (74, 8912), (75, 8930), (76, 8939), (77, 8942), (78, 8960), (85, 9017), (87, 9032), (91, 9047), (92, 9050), (94, 9062), (95, 9071), (100, 9086), (104, 9122), (105, 9131), (106, 9134), (112, 9176), (114, 9188), (117, 9233), (118, 9254), (120, 9278), (123, 9299), (127, 9320), (131, 9353), (134, 9374), (136, 9395), (137, 9398), (138, 9410), (141, 9428), (143, 9437), (146, 9449), (149, 9461), (152, 9482), (156, 9503), (157, 9509), (159, 9524), (160, 9530), (161, 9539), (163, 9560), (170, 9614), (174, 9626), (178, 9656), (182, 9686), (189, 9719), (190, 9728), (191, 9740), (196, 9776), (198, 9785), (203, 9806), (204, 9818), (210, 9845), (213, 9860), (215, 9869), (218, 9899), (219, 9902), (221, 9911), (224, 9926), (227, 9932), (229, 9941), (233, 9965), (238, 9989), (241, 10007), (242, 10010), (243, 10013), (245, 10022), (246, 10025), (252, 10046), (253, 10052), (256, 10076), (257, 10079), (259, 10088), (260, 10094), (261, 10097), (262, 10100), (264, 10109), (266, 10121), (269, 10133), (279, 10187), (281, 10196), (282, 10202), (283, 10205), (284, 10208), (287, 10226), (288, 10229), (291, 10238), (296, 10268), (297, 10271), (305, 10316), (315, 10370), (317, 10382), (319, 10391), (320, 10400), (340, 10490), (342, 10502), (358, 10589), (362, 10607), (363, 10610), (365, 10619), (371, 10652), (375, 10679), (383, 10721), (384, 10730), (386, 10742), (388, 10754), (389, 10763), (398, 10817), (401, 10829), (402, 10832), (404, 10850), (405, 10853), (406, 10862), (410, 10886), (414, 10907), (416, 10916), (418, 10928), (421, 10949), (422, 10952), (427, 10976), (434, 11015), (440, 11045), (442, 11051), (444, 11060), (446, 11069), (451, 11111), (452, 11123), (453, 11159), (457, 11177), (458, 11180), (465, 11255), (466, 11264), (467, 11273),

Gene: P100D_14 Start: 8515, Stop: 11280, Start Num: 33
Candidate Starts for P100D_14:
(Start: 33 @8515 has 45 MA's), (37, 8542), (39, 8548), (40, 8560), (42, 8569), (45, 8602), (46, 8605), (50, 8650), (51, 8656), (52, 8662), (53, 8677), (54, 8680), (58, 8728), (59, 8758), (62, 8794), (64, 8827), (66, 8848), (69, 8869), (73, 8899), (74, 8914), (75, 8932), (76, 8941), (77, 8944), (78, 8962), (84, 9016), (85, 9019), (87, 9034), (91, 9049), (92, 9052), (94, 9064), (97, 9079), (98, 9082), (100, 9088), (104, 9124), (105, 9133), (106, 9136), (112, 9178), (114, 9190), (117, 9235), (118, 9256), (119, 9265), (120, 9280), (123, 9301), (127, 9322), (131, 9355), (132, 9364), (136, 9397), (137, 9400), (138, 9412), (141, 9430), (143, 9439), (146, 9451), (149, 9463), (150, 9475), (152, 9484), (157, 9511), (159, 9526), (160, 9532), (161, 9541), (163, 9562), (167, 9586), (170, 9616), (174, 9628), (177, 9640), (178, 9658), (182, 9688), (185, 9700), (189, 9721), (190, 9730), (191, 9742), (196, 9778), (203, 9808), (204, 9820), (210, 9847), (213, 9862), (215, 9871), (218, 9901), (221, 9913), (229, 9943), (237, 9988), (241, 10009), (242, 10012), (243, 10015), (244, 10021), (246, 10027), (253, 10054), (256, 10078), (257, 10081), (259, 10090), (261, 10099), (262, 10102), (263, 10108), (266, 10123), (269, 10135), (270, 10141), (275, 10162), (276, 10174), (278, 10183), (279, 10189), (281, 10198), (282, 10204), (283, 10207), (284, 10210), (287, 10228), (288, 10231), (290, 10237), (291, 10240), (295, 10264), (299, 10282), (315, 10372), (317, 10384), (319, 10393), (320, 10402), (338, 10477), (340, 10492), (342, 10504), (351, 10546), (358, 10591), (363, 10612), (365, 10621), (371, 10654), (375, 10681), (383, 10723), (384, 10732), (386, 10744), (388, 10756), (389, 10765), (398, 10819), (401, 10831), (402, 10834), (404, 10852), (405, 10855), (406, 10864), (410, 10888), (414, 10909), (416, 10918), (421, 10951), (422, 10954), (427, 10978), (434, 11017), (440, 11047), (442, 11053), (444, 11062), (446, 11071), (451, 11113), (452, 11125), (453, 11161), (457, 11179), (458, 11182), (460, 11188), (465, 11257), (466, 11266), (467, 11275),

Gene: P101A_14 Start: 8527, Stop: 11292, Start Num: 33
Candidate Starts for P101A_14:
(Start: 33 @8527 has 45 MA's), (37, 8554), (39, 8560), (40, 8572), (43, 8605), (45, 8614), (46, 8617), (48, 8647), (50, 8662), (51, 8668), (53, 8689), (54, 8692), (58, 8740), (59, 8770), (62, 8806), (64, 8839), (66, 8860), (69, 8881), (73, 8911), (74, 8926), (75, 8944), (76, 8953), (77, 8956), (78, 8974), (85, 9031),

(87, 9046), (91, 9061), (92, 9064), (94, 9076), (97, 9091), (101, 9103), (104, 9136), (105, 9145), (106, 9148), (112, 9190), (114, 9202), (117, 9247), (119, 9277), (120, 9292), (122, 9304), (127, 9334), (131, 9367), (132, 9376), (134, 9388), (136, 9409), (137, 9412), (138, 9424), (141, 9442), (143, 9451), (146, 9463), (149, 9475), (152, 9496), (157, 9523), (159, 9538), (160, 9544), (161, 9553), (163, 9574), (167, 9598), (170, 9628), (172, 9634), (174, 9640), (177, 9652), (178, 9670), (182, 9700), (189, 9733), (190, 9742), (191, 9754), (195, 9787), (196, 9790), (198, 9799), (203, 9820), (204, 9832), (207, 9841), (212, 9871), (215, 9883), (216, 9892), (218, 9913), (221, 9925), (224, 9940), (229, 9955), (237, 10000), (241, 10021), (242, 10024), (243, 10027), (244, 10033), (246, 10039), (253, 10066), (255, 10087), (257, 10093), (258, 10099), (261, 10111), (262, 10114), (264, 10123), (266, 10135), (269, 10147), (271, 10156), (275, 10174), (278, 10195), (279, 10201), (281, 10210), (282, 10216), (283, 10219), (284, 10222), (287, 10240), (290, 10249), (291, 10252), (295, 10276), (299, 10294), (315, 10384), (317, 10396), (319, 10405), (320, 10414), (334, 10471), (342, 10516), (347, 10540), (351, 10558), (358, 10603), (363, 10624), (365, 10633), (371, 10666), (375, 10693), (383, 10735), (384, 10744), (386, 10756), (388, 10768), (389, 10777), (392, 10798), (396, 10822), (398, 10831), (401, 10843), (402, 10846), (404, 10864), (405, 10867), (406, 10876), (410, 10900), (414, 10921), (416, 10930), (421, 10963), (422, 10966), (427, 10990), (434, 11029), (440, 11059), (442, 11065), (444, 11074), (446, 11083), (448, 11104), (449, 11107), (451, 11125), (452, 11137), (457, 11191), (458, 11194), (465, 11269), (466, 11278), (467, 11287),

Gene: P104A_14 Start: 8498, Stop: 11263, Start Num: 33
Candidate Starts for P104A_14:
(Start: 33 @8498 has 45 MA's), (37, 8525), (39, 8531), (40, 8543), (42, 8552), (45, 8585), (46, 8588), (50, 8633), (51, 8639), (53, 8660), (54, 8663), (56, 8693), (58, 8711), (59, 8741), (62, 8777), (64, 8810), (66, 8831), (69, 8852), (73, 8882), (74, 8897), (75, 8915), (76, 8924), (77, 8927), (78, 8945), (84, 8999), (85, 9002), (87, 9017), (91, 9032), (92, 9035), (94, 9047), (100, 9071), (104, 9107), (105, 9116), (106, 9119), (112, 9161), (114, 9173), (117, 9218), (120, 9263), (123, 9284), (127, 9305), (130, 9326), (131, 9338), (132, 9347), (136, 9380), (137, 9383), (138, 9395), (141, 9413), (143, 9422), (146, 9434), (149, 9446), (150, 9458), (152, 9467), (157, 9494), (159, 9509), (160, 9515), (161, 9524), (163, 9545), (166, 9563), (167, 9569), (170, 9599), (172, 9605), (174, 9611), (175, 9620), (177, 9623), (178, 9641), (182, 9671), (189, 9704), (190, 9713), (191, 9725), (196, 9761), (200, 9776), (203, 9791), (204, 9803), (207, 9812), (210, 9830), (213, 9845), (215, 9854), (218, 9884), (219, 9887), (221, 9896), (224, 9911), (227, 9917), (229, 9926), (233, 9950), (238, 9974), (241, 9992), (242, 9995), (243, 9998), (245, 10007), (246, 10010), (252, 10031), (253, 10037), (255, 10058), (257, 10064), (258, 10070), (259, 10073), (261, 10082), (262, 10085), (263, 10091), (266, 10106), (269, 10118), (270, 10124), (278, 10166), (279, 10172), (281, 10181), (282, 10187), (283, 10190), (284, 10193), (287, 10211), (290, 10220), (291, 10223), (295, 10247), (299, 10265), (315, 10355), (317, 10367), (319, 10376), (320, 10385), (338, 10460), (342, 10487), (347, 10511), (351, 10529), (358, 10574), (363, 10595), (365, 10604), (371, 10637), (375, 10664), (383, 10706), (384, 10715), (386, 10727), (388, 10739), (389, 10748), (398, 10802), (400, 10811), (401, 10814), (402, 10817), (404, 10835), (405, 10838), (406, 10847), (410, 10871), (412, 10883), (414, 10892), (416, 10901), (421, 10934), (422, 10937), (427, 10961), (434, 11000), (440, 11030), (442, 11036), (444, 11045), (446, 11054), (448, 11075), (451, 11096), (452, 11108), (453, 11144), (457, 11162), (458, 11165), (460, 11171), (465, 11240), (466, 11249), (467, 11258),

Gene: P104B_14 Start: 8515, Stop: 11280, Start Num: 33
Candidate Starts for P104B_14:
(Start: 33 @8515 has 45 MA's), (37, 8542), (39, 8548), (40, 8560), (42, 8569), (45, 8602), (46, 8605), (50, 8650), (51, 8656), (53, 8677), (54, 8680), (58, 8728), (59, 8758), (62, 8794), (64, 8827), (66, 8848), (69, 8869), (73, 8899), (74, 8914), (75, 8932), (76, 8941), (77, 8944), (78, 8962), (84, 9016), (85, 9019), (87, 9034), (91, 9049), (92, 9052), (94, 9064), (97, 9079), (100, 9088), (104, 9124), (105, 9133), (106, 9136), (112, 9178), (114, 9190), (117, 9235), (120, 9280), (123, 9301), (127, 9322), (131, 9355), (132, 9364), (136, 9397), (137, 9400), (138, 9412), (141, 9430), (143, 9439), (146, 9451), (149, 9463), (150, 9475), (152, 9484), (156, 9505), (157, 9511), (159, 9526), (160, 9532), (161, 9541), (163, 9562), (170,

9616), (172, 9622), (174, 9628), (177, 9640), (178, 9658), (182, 9688), (189, 9721), (190, 9730), (191, 9742), (195, 9775), (196, 9778), (198, 9787), (200, 9793), (204, 9820), (210, 9847), (213, 9862), (215, 9871), (216, 9880), (224, 9928), (227, 9934), (229, 9943), (233, 9967), (238, 9991), (240, 10000), (241, 10009), (242, 10012), (243, 10015), (244, 10021), (245, 10024), (246, 10027), (252, 10048), (253, 10054), (256, 10078), (257, 10081), (259, 10090), (260, 10096), (261, 10099), (262, 10102), (263, 10108), (266, 10123), (269, 10135), (279, 10189), (281, 10198), (282, 10204), (283, 10207), (284, 10210), (287, 10228), (290, 10237), (291, 10240), (294, 10261), (296, 10270), (297, 10273), (299, 10282), (300, 10285), (305, 10318), (315, 10372), (317, 10384), (319, 10393), (320, 10402), (334, 10459), (338, 10477), (340, 10492), (342, 10504), (351, 10546), (358, 10591), (362, 10609), (363, 10612), (371, 10654), (375, 10681), (383, 10723), (384, 10732), (386, 10744), (388, 10756), (389, 10765), (392, 10786), (396, 10810), (398, 10819), (400, 10828), (401, 10831), (402, 10834), (404, 10852), (405, 10855), (406, 10864), (410, 10888), (412, 10900), (414, 10909), (416, 10918), (421, 10951), (422, 10954), (427, 10978), (434, 11017), (440, 11047), (442, 11053), (444, 11062), (446, 11071), (448, 11092), (451, 11113), (452, 11125), (457, 11179), (458, 11182), (460, 11188), (465, 11257), (466, 11266), (467, 11275),

Gene: P105_14 Start: 8500, Stop: 11190, Start Num: 33
Candidate Starts for P105_14:
(Start: 33 @8500 has 45 MA's), (37, 8527), (39, 8533), (40, 8545), (45, 8587), (46, 8590), (48, 8620), (50, 8635), (51, 8641), (53, 8662), (54, 8665), (58, 8713), (59, 8743), (61, 8770), (62, 8779), (64, 8812), (66, 8833), (69, 8854), (73, 8884), (74, 8899), (75, 8917), (76, 8926), (77, 8929), (78, 8947), (84, 9001), (85, 9004), (87, 9019), (91, 9034), (92, 9037), (94, 9049), (97, 9064), (100, 9073), (104, 9109), (105, 9118), (106, 9121), (112, 9163), (114, 9175), (117, 9220), (120, 9265), (127, 9307), (130, 9328), (131, 9340), (132, 9349), (134, 9361), (136, 9382), (137, 9385), (138, 9397), (141, 9415), (143, 9424), (146, 9436), (149, 9448), (150, 9460), (152, 9469), (156, 9490), (157, 9496), (159, 9511), (160, 9517), (161, 9526), (163, 9547), (167, 9571), (170, 9601), (172, 9607), (174, 9613), (177, 9625), (178, 9643), (182, 9673), (189, 9706), (190, 9715), (191, 9727), (196, 9763), (198, 9772), (200, 9778), (213, 9793), (215, 9802), (216, 9811), (218, 9832), (221, 9844), (224, 9859), (227, 9865), (229, 9874), (233, 9898), (238, 9922), (241, 9940), (242, 9943), (243, 9946), (245, 9955), (246, 9958), (248, 9964), (249, 9967), (253, 9985), (255, 10006), (257, 10012), (258, 10018), (259, 10021), (261, 10030), (262, 10033), (263, 10039), (266, 10054), (269, 10066), (270, 10072), (276, 10105), (279, 10120), (281, 10129), (282, 10135), (283, 10138), (284, 10141), (287, 10159), (290, 10168), (294, 10192), (295, 10195), (297, 10204), (299, 10213), (305, 10249), (317, 10294), (319, 10303), (320, 10312), (322, 10321), (342, 10414), (347, 10438), (351, 10456), (358, 10501), (362, 10519), (363, 10522), (365, 10531), (371, 10564), (383, 10633), (384, 10642), (386, 10654), (388, 10666), (389, 10675), (398, 10729), (401, 10741), (402, 10744), (406, 10774), (410, 10798), (411, 10807), (412, 10810), (414, 10819), (416, 10828), (427, 10888), (434, 10927), (440, 10957), (442, 10963), (444, 10972), (451, 11023), (452, 11035), (457, 11089), (458, 11092), (460, 11098), (465, 11167), (466, 11176), (467, 11185),

Gene: P106A_14 Start: 8543, Stop: 11308, Start Num: 33
Candidate Starts for P106A_14:
(Start: 33 @8543 has 45 MA's), (37, 8570), (39, 8576), (40, 8588), (43, 8621), (45, 8630), (46, 8633), (48, 8663), (50, 8678), (51, 8684), (53, 8705), (54, 8708), (58, 8756), (59, 8786), (62, 8822), (64, 8855), (66, 8876), (69, 8897), (73, 8927), (74, 8942), (75, 8960), (76, 8969), (77, 8972), (78, 8990), (85, 9047), (87, 9062), (91, 9077), (92, 9080), (94, 9092), (97, 9107), (101, 9119), (104, 9152), (105, 9161), (106, 9164), (112, 9206), (114, 9218), (117, 9263), (119, 9293), (120, 9308), (122, 9320), (127, 9350), (131, 9383), (132, 9392), (134, 9404), (136, 9425), (137, 9428), (138, 9440), (141, 9458), (143, 9467), (146, 9479), (149, 9491), (152, 9512), (157, 9539), (159, 9554), (160, 9560), (161, 9569), (163, 9590), (170, 9644), (172, 9650), (174, 9656), (177, 9668), (178, 9686), (182, 9716), (189, 9749), (190, 9758), (191, 9770), (195, 9803), (196, 9806), (198, 9815), (203, 9836), (204, 9848), (207, 9857), (212, 9887), (215, 9899), (216, 9908), (218, 9929), (221, 9941), (224, 9956), (229, 9971), (237, 10016), (241, 10037), (242, 10040), (243, 10043), (244, 10049), (246, 10055), (253, 10082), (255, 10103), (257, 10109), (258, 10115), (261, 10127), (262, 10130), (264, 10139), (266, 10151), (269, 10163), (271, 10172),

(275, 10190), (278, 10211), (279, 10217), (281, 10226), (282, 10232), (283, 10235), (284, 10238), (287, 10256), (290, 10265), (291, 10268), (295, 10292), (299, 10310), (315, 10400), (317, 10412), (319, 10421), (320, 10430), (334, 10487), (342, 10532), (347, 10556), (351, 10574), (358, 10619), (363, 10640), (365, 10649), (371, 10682), (375, 10709), (383, 10751), (384, 10760), (386, 10772), (388, 10784), (389, 10793), (392, 10814), (396, 10838), (398, 10847), (401, 10859), (402, 10862), (404, 10880), (405, 10883), (406, 10892), (410, 10916), (412, 10928), (414, 10937), (416, 10946), (422, 10982), (427, 11006), (434, 11045), (440, 11075), (442, 11081), (444, 11090), (446, 11099), (448, 11120), (449, 11123), (451, 11141), (452, 11153), (457, 11207), (458, 11210), (465, 11285), (466, 11294), (467, 11303),

Gene: P106C_14 Start: 8543, Stop: 11308, Start Num: 33
Candidate Starts for P106C_14:
(Start: 33 @8543 has 45 MA's), (37, 8570), (39, 8576), (40, 8588), (43, 8621), (45, 8630), (46, 8633), (48, 8663), (50, 8678), (51, 8684), (53, 8705), (54, 8708), (58, 8756), (59, 8786), (62, 8822), (64, 8855), (66, 8876), (69, 8897), (73, 8927), (74, 8942), (75, 8960), (76, 8969), (77, 8972), (78, 8990), (85, 9047), (87, 9062), (91, 9077), (92, 9080), (94, 9092), (97, 9107), (101, 9119), (104, 9152), (105, 9161), (106, 9164), (112, 9206), (114, 9218), (117, 9263), (119, 9293), (120, 9308), (122, 9320), (127, 9350), (131, 9383), (132, 9392), (134, 9404), (136, 9425), (137, 9428), (138, 9440), (141, 9458), (143, 9467), (146, 9479), (149, 9491), (152, 9512), (157, 9539), (159, 9554), (160, 9560), (161, 9569), (163, 9590), (170, 9644), (172, 9650), (174, 9656), (177, 9668), (178, 9686), (182, 9716), (189, 9749), (190, 9758), (191, 9770), (195, 9803), (196, 9806), (198, 9815), (203, 9836), (204, 9848), (207, 9857), (212, 9887), (215, 9899), (216, 9908), (218, 9929), (221, 9941), (224, 9956), (229, 9971), (237, 10016), (241, 10037), (242, 10040), (243, 10043), (244, 10049), (246, 10055), (253, 10082), (255, 10103), (257, 10109), (258, 10115), (261, 10127), (262, 10130), (264, 10139), (266, 10151), (269, 10163), (271, 10172), (275, 10190), (278, 10211), (279, 10217), (281, 10226), (282, 10232), (283, 10235), (284, 10238), (287, 10256), (290, 10265), (291, 10268), (295, 10292), (299, 10310), (315, 10400), (317, 10412), (319, 10421), (320, 10430), (334, 10487), (342, 10532), (347, 10556), (351, 10574), (358, 10619), (363, 10640), (365, 10649), (371, 10682), (375, 10709), (383, 10751), (384, 10760), (386, 10772), (388, 10784), (389, 10793), (392, 10814), (396, 10838), (398, 10847), (401, 10859), (402, 10862), (404, 10880), (405, 10883), (406, 10892), (410, 10916), (412, 10928), (414, 10937), (416, 10946), (422, 10982), (427, 11006), (434, 11045), (440, 11075), (442, 11081), (444, 11090), (446, 11099), (448, 11120), (449, 11123), (451, 11141), (452, 11153), (457, 11207), (458, 11210), (465, 11285), (466, 11294), (467, 11303),

Gene: P106I_14 Start: 8543, Stop: 11308, Start Num: 33
Candidate Starts for P106I_14:
(Start: 33 @8543 has 45 MA's), (37, 8570), (39, 8576), (40, 8588), (43, 8621), (45, 8630), (46, 8633), (48, 8663), (50, 8678), (51, 8684), (53, 8705), (54, 8708), (58, 8756), (59, 8786), (62, 8822), (64, 8855), (66, 8876), (69, 8897), (73, 8927), (74, 8942), (75, 8960), (76, 8969), (77, 8972), (78, 8990), (85, 9047), (87, 9062), (91, 9077), (92, 9080), (94, 9092), (97, 9107), (101, 9119), (104, 9152), (105, 9161), (106, 9164), (112, 9206), (114, 9218), (117, 9263), (119, 9293), (120, 9308), (122, 9320), (127, 9350), (131, 9383), (132, 9392), (134, 9404), (136, 9425), (137, 9428), (138, 9440), (141, 9458), (143, 9467), (146, 9479), (149, 9491), (152, 9512), (157, 9539), (159, 9554), (160, 9560), (161, 9569), (163, 9590), (170, 9644), (172, 9650), (174, 9656), (177, 9668), (178, 9686), (182, 9716), (189, 9749), (190, 9758), (191, 9770), (195, 9803), (196, 9806), (198, 9815), (203, 9836), (204, 9848), (207, 9857), (212, 9887), (215, 9899), (216, 9908), (218, 9929), (221, 9941), (224, 9956), (229, 9971), (237, 10016), (241, 10037), (242, 10040), (243, 10043), (244, 10049), (246, 10055), (253, 10082), (255, 10103), (257, 10109), (258, 10115), (261, 10127), (262, 10130), (264, 10139), (266, 10151), (269, 10163), (271, 10172), (275, 10190), (278, 10211), (279, 10217), (281, 10226), (282, 10232), (283, 10235), (284, 10238), (287, 10256), (290, 10265), (291, 10268), (295, 10292), (299, 10310), (315, 10400), (317, 10412), (319, 10421), (320, 10430), (334, 10487), (342, 10532), (347, 10556), (351, 10574), (358, 10619), (363, 10640), (365, 10649), (371, 10682), (375, 10709), (383, 10751), (384, 10760), (386, 10772), (388, 10784), (389, 10793), (392, 10814), (396, 10838), (398, 10847), (401, 10859), (402, 10862),

(404, 10880), (405, 10883), (406, 10892), (410, 10916), (412, 10928), (414, 10937), (416, 10946), (422, 10982), (427, 11006), (434, 11045), (440, 11075), (442, 11081), (444, 11090), (446, 11099), (448, 11120), (449, 11123), (451, 11141), (452, 11153), (457, 11207), (458, 11210), (465, 11285), (466, 11294), (467, 11303),

Gene: P106L_14 Start: 8543, Stop: 11308, Start Num: 33
Candidate Starts for P106L_14:
(Start: 33 @8543 has 45 MA's), (37, 8570), (39, 8576), (40, 8588), (43, 8621), (45, 8630), (46, 8633), (48, 8663), (50, 8678), (51, 8684), (53, 8705), (54, 8708), (58, 8756), (59, 8786), (62, 8822), (64, 8855), (66, 8876), (69, 8897), (73, 8927), (74, 8942), (75, 8960), (76, 8969), (77, 8972), (78, 8990), (85, 9047), (87, 9062), (91, 9077), (92, 9080), (94, 9092), (97, 9107), (101, 9119), (104, 9152), (105, 9161), (106, 9164), (112, 9206), (114, 9218), (117, 9263), (119, 9293), (120, 9308), (122, 9320), (127, 9350), (131, 9383), (132, 9392), (134, 9404), (136, 9425), (137, 9428), (138, 9440), (141, 9458), (143, 9467), (146, 9479), (149, 9491), (152, 9512), (157, 9539), (159, 9554), (160, 9560), (161, 9569), (163, 9590), (170, 9644), (172, 9650), (174, 9656), (177, 9668), (178, 9686), (182, 9716), (189, 9749), (190, 9758), (191, 9770), (195, 9803), (196, 9806), (198, 9815), (203, 9836), (204, 9848), (207, 9857), (212, 9887), (215, 9899), (216, 9908), (218, 9929), (221, 9941), (224, 9956), (229, 9971), (237, 10016), (241, 10037), (242, 10040), (243, 10043), (244, 10049), (246, 10055), (253, 10082), (255, 10103), (257, 10109), (258, 10115), (261, 10127), (262, 10130), (264, 10139), (266, 10151), (269, 10163), (271, 10172), (275, 10190), (278, 10211), (279, 10217), (281, 10226), (282, 10232), (283, 10235), (284, 10238), (287, 10256), (290, 10265), (291, 10268), (295, 10292), (299, 10310), (315, 10400), (317, 10412), (319, 10421), (320, 10430), (334, 10487), (342, 10532), (347, 10556), (351, 10574), (358, 10619), (363, 10640), (365, 10649), (371, 10682), (375, 10709), (383, 10751), (384, 10760), (386, 10772), (388, 10784), (389, 10793), (392, 10814), (396, 10838), (398, 10847), (401, 10859), (402, 10862), (404, 10880), (405, 10883), (406, 10892), (410, 10916), (412, 10928), (414, 10937), (416, 10946), (422, 10982), (427, 11006), (434, 11045), (440, 11075), (442, 11081), (444, 11090), (446, 11099), (448, 11120), (449, 11123), (451, 11141), (452, 11153), (457, 11207), (458, 11210), (465, 11285), (466, 11294), (467, 11303),

Gene: P106M_14 Start: 8543, Stop: 11308, Start Num: 33
Candidate Starts for P106M_14:
(Start: 33 @8543 has 45 MA's), (37, 8570), (39, 8576), (40, 8588), (43, 8621), (45, 8630), (46, 8633), (48, 8663), (50, 8678), (51, 8684), (53, 8705), (54, 8708), (58, 8756), (59, 8786), (62, 8822), (64, 8855), (66, 8876), (69, 8897), (73, 8927), (74, 8942), (75, 8960), (76, 8969), (77, 8972), (78, 8990), (85, 9047), (87, 9062), (91, 9077), (92, 9080), (94, 9092), (97, 9107), (101, 9119), (104, 9152), (105, 9161), (106, 9164), (112, 9206), (114, 9218), (117, 9263), (119, 9293), (120, 9308), (122, 9320), (127, 9350), (131, 9383), (132, 9392), (134, 9404), (136, 9425), (137, 9428), (138, 9440), (141, 9458), (143, 9467), (146, 9479), (149, 9491), (152, 9512), (157, 9539), (159, 9554), (160, 9560), (161, 9569), (163, 9590), (170, 9644), (172, 9650), (174, 9656), (177, 9668), (178, 9686), (182, 9716), (189, 9749), (190, 9758), (191, 9770), (195, 9803), (196, 9806), (198, 9815), (203, 9836), (204, 9848), (207, 9857), (212, 9887), (215, 9899), (216, 9908), (218, 9929), (221, 9941), (224, 9956), (229, 9971), (237, 10016), (241, 10037), (242, 10040), (243, 10043), (244, 10049), (246, 10055), (253, 10082), (255, 10103), (257, 10109), (258, 10115), (261, 10127), (262, 10130), (264, 10139), (266, 10151), (269, 10163), (271, 10172), (275, 10190), (278, 10211), (279, 10217), (281, 10226), (282, 10232), (283, 10235), (284, 10238), (287, 10256), (290, 10265), (291, 10268), (295, 10292), (299, 10310), (315, 10400), (317, 10412), (319, 10421), (320, 10430), (334, 10487), (342, 10532), (347, 10556), (351, 10574), (358, 10619), (363, 10640), (365, 10649), (371, 10682), (375, 10709), (383, 10751), (384, 10760), (386, 10772), (388, 10784), (389, 10793), (392, 10814), (396, 10838), (398, 10847), (401, 10859), (402, 10862), (404, 10880), (405, 10883), (406, 10892), (410, 10916), (412, 10928), (414, 10937), (416, 10946), (422, 10982), (427, 11006), (434, 11045), (440, 11075), (442, 11081), (444, 11090), (446, 11099), (448, 11120), (449, 11123), (451, 11141), (452, 11153), (457, 11207), (458, 11210), (465, 11285), (466, 11294), (467, 11303),

Gene: P107A_14 Start: 8520, Stop: 11285, Start Num: 33
Candidate Starts for P107A_14:
(Start: 33 @8520 has 45 MA's), (37, 8547), (39, 8553), (40, 8565), (42, 8574), (43, 8598), (45, 8607), (46, 8610), (50, 8655), (52, 8667), (53, 8682), (54, 8685), (58, 8733), (59, 8763), (62, 8799), (64, 8832), (66, 8853), (73, 8904), (74, 8919), (75, 8937), (76, 8946), (78, 8967), (85, 9024), (87, 9039), (91, 9054), (92, 9057), (94, 9069), (97, 9084), (100, 9093), (101, 9096), (104, 9129), (105, 9138), (106, 9141), (112, 9183), (114, 9195), (117, 9240), (118, 9261), (120, 9285), (123, 9306), (127, 9327), (131, 9360), (132, 9369), (136, 9402), (137, 9405), (138, 9417), (141, 9435), (143, 9444), (146, 9456), (149, 9468), (150, 9480), (152, 9489), (156, 9510), (157, 9516), (159, 9531), (160, 9537), (161, 9546), (163, 9567), (174, 9633), (175, 9642), (177, 9645), (178, 9663), (182, 9693), (189, 9726), (190, 9735), (191, 9747), (196, 9783), (198, 9792), (203, 9813), (204, 9825), (210, 9852), (213, 9867), (215, 9876), (216, 9885), (218, 9906), (221, 9918), (224, 9933), (227, 9939), (229, 9948), (233, 9972), (238, 9996), (241, 10014), (242, 10017), (243, 10020), (245, 10029), (246, 10032), (248, 10038), (249, 10041), (252, 10053), (253, 10059), (255, 10080), (257, 10086), (258, 10092), (259, 10095), (261, 10104), (262, 10107), (263, 10113), (266, 10128), (268, 10137), (269, 10140), (271, 10149), (275, 10167), (278, 10188), (279, 10194), (281, 10203), (282, 10209), (283, 10212), (287, 10233), (290, 10242), (291, 10245), (294, 10266), (295, 10269), (297, 10278), (299, 10287), (305, 10323), (315, 10377), (317, 10389), (319, 10398), (320, 10407), (342, 10509), (351, 10551), (358, 10596), (363, 10617), (365, 10626), (371, 10659), (375, 10686), (383, 10728), (384, 10737), (388, 10761), (389, 10770), (398, 10824), (401, 10836), (402, 10839), (404, 10857), (405, 10860), (406, 10869), (410, 10893), (414, 10914), (416, 10923), (421, 10956), (422, 10959), (427, 10983), (434, 11022), (440, 11052), (442, 11058), (444, 11067), (446, 11076), (451, 11118), (452, 11130), (453, 11166), (457, 11184), (458, 11187), (465, 11262), (466, 11271), (467, 11280),

Gene: P107C_14 Start: 8502, Stop: 11267, Start Num: 33
Candidate Starts for P107C_14:
(Start: 33 @8502 has 45 MA's), (37, 8529), (39, 8535), (40, 8547), (42, 8556), (45, 8589), (46, 8592), (48, 8622), (50, 8637), (51, 8643), (52, 8649), (53, 8664), (54, 8667), (58, 8715), (59, 8745), (61, 8772), (62, 8781), (64, 8814), (66, 8835), (69, 8856), (73, 8886), (74, 8901), (75, 8919), (76, 8928), (77, 8931), (78, 8949), (85, 9006), (87, 9021), (91, 9036), (92, 9039), (94, 9051), (97, 9066), (98, 9069), (100, 9075), (104, 9111), (105, 9120), (106, 9123), (112, 9165), (114, 9177), (117, 9222), (120, 9267), (123, 9288), (127, 9309), (130, 9330), (131, 9342), (132, 9351), (134, 9363), (136, 9384), (137, 9387), (138, 9399), (141, 9417), (143, 9426), (146, 9438), (149, 9450), (150, 9462), (152, 9471), (156, 9492), (157, 9498), (159, 9513), (160, 9519), (161, 9528), (163, 9549), (174, 9615), (178, 9645), (182, 9675), (189, 9708), (191, 9729), (196, 9765), (198, 9774), (200, 9780), (203, 9795), (204, 9807), (210, 9834), (213, 9849), (215, 9858), (218, 9888), (224, 9915), (227, 9921), (229, 9930), (238, 9978), (241, 9996), (242, 9999), (243, 10002), (246, 10014), (252, 10035), (253, 10041), (257, 10068), (258, 10074), (259, 10077), (261, 10086), (262, 10089), (263, 10095), (266, 10110), (269, 10122), (279, 10176), (281, 10185), (282, 10191), (283, 10194), (284, 10197), (287, 10215), (290, 10224), (291, 10227), (294, 10248), (295, 10251), (297, 10260), (299, 10269), (305, 10305), (315, 10359), (317, 10371), (319, 10380), (320, 10389), (325, 10404), (338, 10464), (340, 10479), (342, 10491), (351, 10533), (358, 10578), (363, 10599), (365, 10608), (371, 10641), (375, 10668), (383, 10710), (384, 10719), (386, 10731), (388, 10743), (389, 10752), (392, 10773), (398, 10806), (400, 10815), (401, 10818), (402, 10821), (404, 10839), (405, 10842), (406, 10851), (410, 10875), (411, 10884), (412, 10887), (414, 10896), (416, 10905), (421, 10938), (422, 10941), (427, 10965), (434, 11004), (440, 11034), (442, 11040), (444, 11049), (446, 11058), (451, 11100), (452, 11112), (453, 11148), (457, 11166), (458, 11169), (460, 11175), (465, 11244), (466, 11253), (467, 11262),

Gene: P108C_14 Start: 8510, Stop: 11275, Start Num: 33
Candidate Starts for P108C_14:
(Start: 33 @8510 has 45 MA's), (37, 8537), (39, 8543), (40, 8555), (42, 8564), (43, 8588), (46, 8600), (48, 8630), (50, 8645), (51, 8651), (53, 8672), (54, 8675), (58, 8723), (59, 8753), (62, 8789), (64, 8822), (66, 8843), (69, 8864), (73, 8894), (74, 8909), (75, 8927), (76, 8936), (77, 8939), (78, 8957), (85, 9014),

(87, 9029), (91, 9044), (92, 9047), (94, 9059), (97, 9074), (101, 9086), (104, 9119), (105, 9128), (106, 9131), (112, 9173), (114, 9185), (117, 9230), (119, 9260), (120, 9275), (122, 9287), (127, 9317), (131, 9350), (132, 9359), (134, 9371), (136, 9392), (137, 9395), (138, 9407), (141, 9425), (143, 9434), (146, 9446), (149, 9458), (152, 9479), (157, 9506), (159, 9521), (160, 9527), (161, 9536), (163, 9557), (172, 9617), (174, 9623), (175, 9632), (178, 9653), (182, 9683), (189, 9716), (190, 9725), (191, 9737), (196, 9773), (200, 9788), (204, 9815), (208, 9833), (210, 9842), (213, 9857), (215, 9866), (216, 9875), (218, 9896), (221, 9908), (224, 9923), (229, 9938), (238, 9986), (241, 10004), (242, 10007), (243, 10010), (245, 10019), (246, 10022), (248, 10028), (253, 10049), (257, 10076), (258, 10082), (259, 10085), (261, 10094), (262, 10097), (263, 10103), (266, 10118), (269, 10130), (270, 10136), (279, 10184), (281, 10193), (282, 10199), (283, 10202), (284, 10205), (287, 10223), (291, 10235), (294, 10256), (295, 10259), (297, 10268), (299, 10277), (305, 10313), (315, 10367), (317, 10379), (319, 10388), (320, 10397), (325, 10412), (338, 10472), (342, 10499), (351, 10541), (358, 10586), (363, 10607), (365, 10616), (371, 10649), (375, 10676), (383, 10718), (384, 10727), (386, 10739), (388, 10751), (389, 10760), (392, 10781), (398, 10814), (401, 10826), (402, 10829), (404, 10847), (405, 10850), (410, 10883), (412, 10895), (414, 10904), (416, 10913), (421, 10946), (422, 10949), (427, 10973), (434, 11012), (440, 11042), (442, 11048), (444, 11057), (446, 11066), (451, 11108), (452, 11120), (453, 11156), (457, 11174), (458, 11177), (460, 11183), (465, 11252), (466, 11261), (467, 11270),

Gene: P14.4_14 Start: 8510, Stop: 11275, Start Num: 33
Candidate Starts for P14.4_14:
(Start: 33 @8510 has 45 MA's), (37, 8537), (39, 8543), (40, 8555), (42, 8564), (45, 8597), (46, 8600), (50, 8645), (51, 8651), (53, 8672), (54, 8675), (58, 8723), (59, 8753), (62, 8789), (64, 8822), (66, 8843), (69, 8864), (73, 8894), (74, 8909), (75, 8927), (76, 8936), (77, 8939), (78, 8957), (85, 9014), (87, 9029), (91, 9044), (92, 9047), (94, 9059), (97, 9074), (100, 9083), (104, 9119), (105, 9128), (106, 9131), (112, 9173), (114, 9185), (117, 9230), (120, 9275), (123, 9296), (127, 9317), (130, 9338), (131, 9350), (132, 9359), (136, 9392), (137, 9395), (138, 9407), (141, 9425), (143, 9434), (146, 9446), (149, 9458), (150, 9470), (152, 9479), (156, 9500), (157, 9506), (159, 9521), (160, 9527), (161, 9536), (163, 9557), (167, 9581), (170, 9611), (172, 9617), (174, 9623), (178, 9653), (182, 9683), (189, 9716), (190, 9725), (191, 9737), (195, 9770), (196, 9773), (198, 9782), (200, 9788), (204, 9815), (207, 9824), (209, 9836), (210, 9842), (213, 9857), (215, 9866), (216, 9875), (218, 9896), (221, 9908), (227, 9929), (229, 9938), (233, 9962), (238, 9986), (241, 10004), (242, 10007), (243, 10010), (245, 10019), (246, 10022), (248, 10028), (249, 10031), (252, 10043), (253, 10049), (256, 10073), (257, 10076), (259, 10085), (261, 10094), (262, 10097), (263, 10103), (266, 10118), (269, 10130), (270, 10136), (275, 10157), (276, 10169), (279, 10184), (281, 10193), (282, 10199), (283, 10202), (284, 10205), (287, 10223), (288, 10226), (290, 10232), (291, 10235), (294, 10256), (295, 10259), (297, 10268), (299, 10277), (305, 10313), (315, 10367), (317, 10379), (319, 10388), (320, 10397), (340, 10487), (342, 10499), (351, 10541), (358, 10586), (363, 10607), (365, 10616), (371, 10649), (375, 10676), (383, 10718), (384, 10727), (386, 10739), (388, 10751), (389, 10760), (392, 10781), (398, 10814), (400, 10823), (401, 10826), (402, 10829), (404, 10847), (405, 10850), (406, 10859), (410, 10883), (414, 10904), (416, 10913), (421, 10946), (422, 10949), (427, 10973), (434, 11012), (440, 11042), (442, 11048), (444, 11057), (446, 11066), (451, 11108), (452, 11120), (457, 11174), (458, 11177), (460, 11183), (465, 11252), (466, 11261), (467, 11270),

Gene: P9.1_14 Start: 8505, Stop: 11270, Start Num: 33
Candidate Starts for P9.1_14:
(Start: 33 @8505 has 45 MA's), (37, 8532), (39, 8538), (40, 8550), (42, 8559), (45, 8592), (46, 8595), (48, 8625), (50, 8640), (51, 8646), (53, 8667), (54, 8670), (58, 8718), (59, 8748), (62, 8784), (64, 8817), (66, 8838), (69, 8859), (73, 8889), (74, 8904), (75, 8922), (76, 8931), (77, 8934), (78, 8952), (84, 9006), (85, 9009), (87, 9024), (91, 9039), (92, 9042), (94, 9054), (100, 9078), (104, 9114), (105, 9123), (106, 9126), (112, 9168), (114, 9180), (117, 9225), (120, 9270), (123, 9291), (127, 9312), (130, 9333), (131, 9345), (134, 9366), (137, 9390), (138, 9402), (141, 9420), (143, 9429), (146, 9441), (149, 9453), (150, 9465), (152, 9474), (156, 9495), (157, 9501), (159, 9516), (160, 9522), (161, 9531), (163, 9552), (167, 9576), (170, 9606), (172, 9612), (174, 9618), (177, 9630), (178, 9648), (182, 9678), (189, 9711), (190,

9720), (191, 9732), (196, 9768), (198, 9777), (203, 9798), (204, 9810), (207, 9819), (210, 9837), (213, 9852), (215, 9861), (216, 9870), (218, 9891), (219, 9894), (221, 9903), (224, 9918), (227, 9924), (229, 9933), (233, 9957), (237, 9978), (238, 9981), (241, 9999), (242, 10002), (245, 10014), (246, 10017), (248, 10023), (249, 10026), (253, 10044), (255, 10065), (257, 10071), (258, 10077), (259, 10080), (261, 10089), (262, 10092), (263, 10098), (266, 10113), (269, 10125), (279, 10179), (281, 10188), (282, 10194), (283, 10197), (284, 10200), (287, 10218), (288, 10221), (290, 10227), (291, 10230), (294, 10251), (295, 10254), (297, 10263), (299, 10272), (305, 10308), (315, 10362), (317, 10374), (319, 10383), (320, 10392), (325, 10407), (340, 10482), (342, 10494), (351, 10536), (358, 10581), (363, 10602), (365, 10611), (371, 10644), (383, 10713), (384, 10722), (388, 10746), (389, 10755), (392, 10776), (398, 10809), (400, 10818), (401, 10821), (402, 10824), (404, 10842), (405, 10845), (406, 10854), (410, 10878), (411, 10887), (412, 10890), (414, 10899), (416, 10908), (421, 10941), (422, 10944), (427, 10968), (434, 11007), (440, 11037), (442, 11043), (444, 11052), (451, 11103), (452, 11115), (457, 11169), (460, 11178), (465, 11247), (466, 11256), (467, 11265),

Gene: PA6_14 Start: 8532, Stop: 11297, Start Num: 33
Candidate Starts for PA6_14:
(Start: 33 @8532 has 45 MA's), (37, 8559), (39, 8565), (40, 8577), (42, 8586), (45, 8619), (46, 8622), (48, 8652), (50, 8667), (51, 8673), (53, 8694), (54, 8697), (58, 8745), (59, 8775), (61, 8802), (62, 8811), (64, 8844), (69, 8886), (73, 8916), (74, 8931), (75, 8949), (76, 8958), (77, 8961), (78, 8979), (84, 9033), (85, 9036), (87, 9051), (91, 9066), (92, 9069), (94, 9081), (100, 9105), (104, 9141), (105, 9150), (106, 9153), (112, 9195), (114, 9207), (117, 9252), (120, 9297), (123, 9318), (127, 9339), (131, 9372), (132, 9381), (136, 9414), (137, 9417), (138, 9429), (141, 9447), (143, 9456), (146, 9468), (149, 9480), (150, 9492), (152, 9501), (156, 9522), (157, 9528), (159, 9543), (160, 9549), (161, 9558), (163, 9579), (170, 9633), (172, 9639), (174, 9645), (177, 9657), (178, 9675), (182, 9705), (185, 9717), (189, 9738), (190, 9747), (191, 9759), (196, 9795), (198, 9804), (200, 9810), (203, 9825), (204, 9837), (207, 9846), (208, 9855), (212, 9876), (215, 9888), (218, 9918), (221, 9930), (224, 9945), (229, 9960), (237, 10005), (241, 10026), (242, 10029), (243, 10032), (244, 10038), (246, 10044), (253, 10071), (255, 10092), (257, 10098), (258, 10104), (261, 10116), (262, 10119), (264, 10128), (266, 10140), (269, 10152), (271, 10161), (275, 10179), (278, 10200), (279, 10206), (281, 10215), (282, 10221), (283, 10224), (284, 10227), (287, 10245), (290, 10254), (291, 10257), (295, 10281), (299, 10299), (315, 10389), (317, 10401), (319, 10410), (320, 10419), (342, 10521), (347, 10545), (351, 10563), (358, 10608), (363, 10629), (365, 10638), (371, 10671), (375, 10698), (383, 10740), (384, 10749), (386, 10761), (388, 10773), (389, 10782), (392, 10803), (396, 10827), (398, 10836), (401, 10848), (402, 10851), (404, 10869), (405, 10872), (406, 10881), (410, 10905), (412, 10917), (414, 10926), (416, 10935), (427, 10995), (434, 11034), (440, 11064), (442, 11070), (444, 11079), (446, 11088), (449, 11112), (451, 11130), (452, 11142), (457, 11196), (458, 11199), (460, 11205), (465, 11274), (466, 11283), (467, 11292),

Gene: PAD20_14 Start: 8508, Stop: 11273, Start Num: 33
Candidate Starts for PAD20_14:
(Start: 33 @8508 has 45 MA's), (37, 8535), (39, 8541), (40, 8553), (42, 8562), (43, 8586), (44, 8592), (46, 8598), (50, 8643), (51, 8649), (53, 8670), (54, 8673), (58, 8721), (59, 8751), (61, 8778), (62, 8787), (64, 8820), (66, 8841), (69, 8862), (73, 8892), (74, 8907), (75, 8925), (76, 8934), (77, 8937), (78, 8955), (84, 9009), (85, 9012), (87, 9027), (91, 9042), (92, 9045), (94, 9057), (100, 9081), (104, 9117), (105, 9126), (106, 9129), (112, 9171), (114, 9183), (117, 9228), (120, 9273), (123, 9294), (127, 9315), (131, 9348), (132, 9357), (136, 9390), (137, 9393), (138, 9405), (141, 9423), (143, 9432), (146, 9444), (149, 9456), (150, 9468), (152, 9477), (156, 9498), (157, 9504), (159, 9519), (160, 9525), (161, 9534), (163, 9555), (170, 9609), (172, 9615), (174, 9621), (178, 9651), (182, 9681), (189, 9714), (190, 9723), (191, 9735), (196, 9771), (198, 9780), (200, 9786), (204, 9813), (207, 9822), (208, 9831), (210, 9840), (216, 9873), (218, 9894), (223, 9918), (224, 9921), (227, 9927), (229, 9936), (233, 9960), (238, 9984), (240, 9993), (241, 10002), (242, 10005), (245, 10017), (246, 10020), (248, 10026), (249, 10029), (253, 10047), (255, 10068), (257, 10074), (258, 10080), (259, 10083), (260, 10089), (261, 10092), (262, 10095), (263, 10101), (266, 10116), (269, 10128), (270, 10134), (275, 10155), (276, 10167), (277,

10170), (278, 10176), (281, 10191), (282, 10197), (283, 10200), (284, 10203), (287, 10221), (290, 10230), (291, 10233), (294, 10254), (296, 10263), (297, 10266), (299, 10275), (305, 10311), (317, 10377), (319, 10386), (320, 10395), (340, 10485), (342, 10497), (347, 10521), (351, 10539), (358, 10584), (363, 10605), (365, 10614), (371, 10647), (375, 10674), (383, 10716), (384, 10725), (386, 10737), (388, 10749), (389, 10758), (392, 10779), (398, 10812), (400, 10821), (401, 10824), (402, 10827), (404, 10845), (405, 10848), (406, 10857), (410, 10881), (412, 10893), (414, 10902), (416, 10911), (421, 10944), (422, 10947), (427, 10971), (434, 11010), (440, 11040), (442, 11046), (444, 11055), (446, 11064), (451, 11106), (452, 11118), (457, 11172), (458, 11175), (460, 11181), (465, 11250), (466, 11259), (467, 11268),

Gene: PAS50_14 Start: 8517, Stop: 11282, Start Num: 33
Candidate Starts for PAS50_14:
(17, 8298), (19, 8316), (20, 8373), (22, 8409), (23, 8448), (24, 8460), (26, 8466), (27, 8472), (Start: 33 @8517 has 45 MA's), (37, 8544), (39, 8550), (42, 8571), (46, 8607), (50, 8652), (51, 8658), (53, 8679), (54, 8682), (58, 8730), (59, 8760), (62, 8796), (64, 8829), (69, 8871), (73, 8901), (74, 8916), (75, 8934), (76, 8943), (77, 8946), (78, 8964), (85, 9021), (87, 9036), (91, 9051), (92, 9054), (94, 9066), (97, 9081), (100, 9090), (104, 9126), (105, 9135), (106, 9138), (112, 9180), (114, 9192), (117, 9237), (119, 9267), (120, 9282), (123, 9303), (127, 9324), (131, 9357), (132, 9366), (136, 9399), (137, 9402), (138, 9414), (141, 9432), (143, 9441), (146, 9453), (149, 9465), (152, 9486), (156, 9507), (157, 9513), (159, 9528), (160, 9534), (161, 9543), (163, 9564), (167, 9588), (170, 9618), (172, 9624), (174, 9630), (177, 9642), (178, 9660), (182, 9690), (185, 9702), (189, 9723), (190, 9732), (191, 9744), (196, 9780), (198, 9789), (203, 9810), (204, 9822), (212, 9861), (215, 9873), (216, 9882), (218, 9903), (221, 9915), (224, 9930), (229, 9945), (237, 9990), (241, 10011), (242, 10014), (244, 10023), (246, 10029), (253, 10056), (255, 10077), (257, 10083), (258, 10089), (259, 10092), (260, 10098), (261, 10101), (262, 10104), (264, 10113), (266, 10125), (269, 10137), (271, 10146), (275, 10164), (278, 10185), (279, 10191), (281, 10200), (282, 10206), (283, 10209), (284, 10212), (287, 10230), (290, 10239), (291, 10242), (295, 10266), (299, 10284), (315, 10374), (317, 10386), (319, 10395), (320, 10404), (340, 10494), (342, 10506), (347, 10530), (351, 10548), (358, 10593), (363, 10614), (365, 10623), (371, 10656), (375, 10683), (383, 10725), (384, 10734), (386, 10746), (388, 10758), (389, 10767), (398, 10821), (400, 10830), (401, 10833), (402, 10836), (404, 10854), (405, 10857), (406, 10866), (410, 10890), (412, 10902), (414, 10911), (416, 10920), (421, 10953), (422, 10956), (427, 10980), (434, 11019), (440, 11049), (442, 11055), (444, 11064), (446, 11073), (448, 11094), (449, 11097), (451, 11115), (452, 11127), (457, 11181), (458, 11184), (465, 11259), (466, 11268), (467, 11277),

Gene: PHL010M04_14 Start: 8505, Stop: 11270, Start Num: 33
Candidate Starts for PHL010M04_14:
(Start: 33 @8505 has 45 MA's), (37, 8532), (39, 8538), (40, 8550), (42, 8559), (43, 8583), (45, 8592), (46, 8595), (50, 8640), (51, 8646), (52, 8652), (53, 8667), (54, 8670), (58, 8718), (59, 8748), (62, 8784), (64, 8817), (73, 8889), (74, 8904), (75, 8922), (76, 8931), (77, 8934), (78, 8952), (85, 9009), (91, 9039), (92, 9042), (94, 9054), (97, 9069), (98, 9072), (100, 9078), (104, 9114), (105, 9123), (106, 9126), (112, 9168), (114, 9180), (117, 9225), (118, 9246), (120, 9270), (122, 9282), (123, 9291), (127, 9312), (131, 9345), (134, 9366), (136, 9387), (137, 9390), (138, 9402), (141, 9420), (143, 9429), (146, 9441), (149, 9453), (150, 9465), (152, 9474), (156, 9495), (157, 9501), (159, 9516), (160, 9522), (161, 9531), (163, 9552), (165, 9564), (167, 9576), (170, 9606), (172, 9612), (174, 9618), (175, 9627), (177, 9630), (178, 9648), (182, 9678), (189, 9711), (190, 9720), (191, 9732), (195, 9765), (196, 9768), (198, 9777), (203, 9798), (204, 9810), (207, 9819), (210, 9837), (213, 9852), (215, 9861), (216, 9870), (218, 9891), (219, 9894), (221, 9903), (224, 9918), (227, 9924), (229, 9933), (233, 9957), (238, 9981), (241, 9999), (246, 10017), (248, 10023), (249, 10026), (252, 10038), (253, 10044), (255, 10065), (257, 10071), (259, 10080), (261, 10089), (262, 10092), (263, 10098), (266, 10113), (268, 10122), (269, 10125), (275, 10152), (279, 10179), (281, 10188), (283, 10197), (284, 10200), (287, 10218), (290, 10227), (291, 10230), (294, 10251), (299, 10272), (305, 10308), (315, 10362), (317, 10374), (319, 10383), (320, 10392), (340, 10482), (342, 10494), (349, 10524), (358, 10581), (362, 10599), (363, 10602), (365, 10611), (371, 10644), (383, 10713), (384, 10722), (386, 10734), (388, 10746), (389, 10755), (390,

10758), (398, 10809), (400, 10818), (401, 10821), (402, 10824), (404, 10842), (410, 10878), (414, 10899), (416, 10908), (418, 10920), (421, 10941), (422, 10944), (427, 10968), (434, 11007), (440, 11037), (442, 11043), (444, 11052), (446, 11061), (449, 11085), (451, 11103), (452, 11115), (457, 11169), (458, 11172), (465, 11247), (466, 11256), (467, 11265),

Gene: PHL037M02_14 Start: 8521, Stop: 11286, Start Num: 33
Candidate Starts for PHL037M02_14:
(Start: 33 @8521 has 45 MA's), (37, 8548), (39, 8554), (40, 8566), (46, 8611), (50, 8656), (51, 8662), (53, 8683), (54, 8686), (58, 8734), (59, 8764), (62, 8800), (64, 8833), (66, 8854), (69, 8875), (73, 8905), (74, 8920), (75, 8938), (76, 8947), (77, 8950), (78, 8968), (84, 9022), (85, 9025), (87, 9040), (91, 9055), (92, 9058), (94, 9070), (97, 9085), (100, 9094), (104, 9130), (105, 9139), (106, 9142), (112, 9184), (114, 9196), (117, 9241), (118, 9262), (120, 9286), (123, 9307), (127, 9328), (131, 9361), (132, 9370), (136, 9403), (137, 9406), (138, 9418), (141, 9436), (143, 9445), (146, 9457), (149, 9469), (150, 9481), (156, 9511), (157, 9517), (159, 9532), (160, 9538), (161, 9547), (163, 9568), (165, 9580), (167, 9592), (170, 9622), (172, 9628), (174, 9634), (178, 9664), (182, 9694), (189, 9727), (190, 9736), (191, 9748), (195, 9781), (196, 9784), (198, 9793), (200, 9799), (201, 9802), (203, 9814), (204, 9826), (208, 9844), (211, 9856), (213, 9868), (215, 9877), (216, 9886), (218, 9907), (221, 9919), (224, 9934), (227, 9940), (229, 9949), (233, 9973), (238, 9997), (241, 10015), (242, 10018), (243, 10021), (245, 10030), (246, 10033), (248, 10039), (252, 10054), (253, 10060), (256, 10084), (257, 10087), (259, 10096), (260, 10102), (261, 10105), (262, 10108), (263, 10114), (266, 10129), (268, 10138), (269, 10141), (270, 10147), (271, 10150), (275, 10168), (279, 10195), (281, 10204), (283, 10213), (284, 10216), (287, 10234), (288, 10237), (290, 10243), (294, 10267), (295, 10270), (299, 10288), (303, 10312), (305, 10324), (315, 10378), (317, 10390), (319, 10399), (320, 10408), (340, 10498), (347, 10534), (351, 10552), (358, 10597), (362, 10615), (363, 10618), (365, 10627), (371, 10660), (375, 10687), (383, 10729), (384, 10738), (386, 10750), (388, 10762), (398, 10825), (401, 10837), (402, 10840), (404, 10858), (405, 10861), (406, 10870), (410, 10894), (414, 10915), (416, 10924), (418, 10936), (421, 10957), (422, 10960), (427, 10984), (434, 11023), (440, 11053), (442, 11059), (444, 11068), (449, 11101), (451, 11119), (452, 11131), (457, 11185), (458, 11188), (460, 11194), (465, 11263), (466, 11272), (467, 11281),

Gene: PHL060L00_14 Start: 8521, Stop: 11286, Start Num: 33
Candidate Starts for PHL060L00_14:
(Start: 33 @8521 has 45 MA's), (37, 8548), (39, 8554), (40, 8566), (43, 8599), (45, 8608), (46, 8611), (48, 8641), (50, 8656), (51, 8662), (53, 8683), (54, 8686), (58, 8734), (59, 8764), (62, 8800), (64, 8833), (66, 8854), (69, 8875), (73, 8905), (74, 8920), (75, 8938), (76, 8947), (77, 8950), (78, 8968), (85, 9025), (87, 9040), (91, 9055), (92, 9058), (94, 9070), (97, 9085), (101, 9097), (104, 9130), (105, 9139), (106, 9142), (112, 9184), (114, 9196), (117, 9241), (119, 9271), (120, 9286), (122, 9298), (127, 9328), (131, 9361), (132, 9370), (134, 9382), (136, 9403), (137, 9406), (138, 9418), (141, 9436), (143, 9445), (146, 9457), (149, 9469), (152, 9490), (157, 9517), (159, 9532), (160, 9538), (161, 9547), (163, 9568), (170, 9622), (172, 9628), (174, 9634), (177, 9646), (178, 9664), (182, 9694), (189, 9727), (190, 9736), (191, 9748), (195, 9781), (196, 9784), (198, 9793), (203, 9814), (204, 9826), (207, 9835), (212, 9865), (215, 9877), (216, 9886), (218, 9907), (221, 9919), (224, 9934), (229, 9949), (232, 9967), (237, 9994), (241, 10015), (242, 10018), (243, 10021), (244, 10027), (246, 10033), (253, 10060), (255, 10081), (257, 10087), (258, 10093), (261, 10105), (262, 10108), (264, 10117), (266, 10129), (269, 10141), (271, 10150), (275, 10168), (278, 10189), (279, 10195), (281, 10204), (282, 10210), (283, 10213), (284, 10216), (287, 10234), (290, 10243), (291, 10246), (295, 10270), (299, 10288), (315, 10378), (317, 10390), (319, 10399), (320, 10408), (334, 10465), (342, 10510), (347, 10534), (351, 10552), (358, 10597), (363, 10618), (365, 10627), (371, 10660), (375, 10687), (383, 10729), (384, 10738), (386, 10750), (388, 10762), (389, 10771), (392, 10792), (396, 10816), (398, 10825), (401, 10837), (402, 10840), (404, 10858), (405, 10861), (406, 10870), (410, 10894), (414, 10915), (416, 10924), (421, 10957), (422, 10960), (427, 10984), (434, 11023), (440, 11053), (442, 11059), (444, 11068), (446, 11077), (451, 11119), (452, 11131), (457, 11185), (458, 11188), (460, 11194), (465, 11263), (466, 11272), (467, 11281),

Gene: PHL067M10_14 Start: 8488, Stop: 11253, Start Num: 33
Candidate Starts for PHL067M10_14:
(Start: 33 @8488 has 45 MA's), (37, 8515), (39, 8521), (40, 8533), (42, 8542), (45, 8575), (46, 8578), (50, 8623), (52, 8635), (53, 8650), (54, 8653), (58, 8701), (59, 8731), (61, 8758), (62, 8767), (64, 8800), (66, 8821), (69, 8842), (73, 8872), (74, 8887), (75, 8905), (76, 8914), (77, 8917), (78, 8935), (84, 8989), (85, 8992), (87, 9007), (91, 9022), (92, 9025), (94, 9037), (100, 9061), (104, 9097), (105, 9106), (106, 9109), (112, 9151), (114, 9163), (117, 9208), (120, 9253), (127, 9295), (130, 9316), (131, 9328), (132, 9337), (136, 9370), (137, 9373), (138, 9385), (141, 9403), (143, 9412), (146, 9424), (149, 9436), (152, 9457), (156, 9478), (157, 9484), (159, 9499), (160, 9505), (161, 9514), (163, 9535), (170, 9589), (172, 9595), (174, 9601), (178, 9631), (182, 9661), (185, 9673), (189, 9694), (190, 9703), (191, 9715), (195, 9748), (196, 9751), (198, 9760), (200, 9766), (204, 9793), (207, 9802), (209, 9814), (210, 9820), (213, 9835), (215, 9844), (216, 9853), (218, 9874), (221, 9886), (224, 9901), (227, 9907), (229, 9916), (233, 9940), (238, 9964), (241, 9982), (242, 9985), (243, 9988), (245, 9997), (246, 10000), (248, 10006), (249, 10009), (252, 10021), (253, 10027), (255, 10048), (257, 10054), (258, 10060), (259, 10063), (261, 10072), (262, 10075), (266, 10096), (269, 10108), (279, 10162), (281, 10171), (282, 10177), (283, 10180), (290, 10210), (291, 10213), (294, 10234), (296, 10243), (297, 10246), (299, 10255), (305, 10291), (306, 10300), (315, 10345), (317, 10357), (319, 10366), (320, 10375), (334, 10432), (340, 10465), (347, 10501), (351, 10519), (358, 10564), (362, 10582), (363, 10585), (365, 10594), (371, 10627), (383, 10696), (384, 10705), (386, 10717), (389, 10738), (396, 10783), (398, 10792), (400, 10801), (401, 10804), (402, 10807), (404, 10825), (405, 10828), (406, 10837), (410, 10861), (412, 10873), (414, 10882), (416, 10891), (421, 10924), (422, 10927), (427, 10951), (434, 10990), (440, 11020), (442, 11026), (444, 11035), (451, 11086), (452, 11098), (457, 11152), (458, 11155), (460, 11161), (465, 11230), (466, 11239), (467, 11248),

Gene: PHL071N05_14 Start: 8516, Stop: 11281, Start Num: 33
Candidate Starts for PHL071N05_14:
(Start: 33 @8516 has 45 MA's), (37, 8543), (39, 8549), (40, 8561), (42, 8570), (43, 8594), (46, 8606), (50, 8651), (51, 8657), (53, 8678), (54, 8681), (58, 8729), (59, 8759), (62, 8795), (64, 8828), (66, 8849), (69, 8870), (73, 8900), (74, 8915), (75, 8933), (76, 8942), (77, 8945), (78, 8963), (84, 9017), (85, 9020), (87, 9035), (91, 9050), (92, 9053), (94, 9065), (97, 9080), (100, 9089), (104, 9125), (105, 9134), (106, 9137), (112, 9179), (114, 9191), (117, 9236), (118, 9257), (120, 9281), (127, 9323), (131, 9356), (132, 9365), (134, 9377), (136, 9398), (137, 9401), (138, 9413), (141, 9431), (143, 9440), (146, 9452), (149, 9464), (150, 9476), (152, 9485), (156, 9506), (157, 9512), (159, 9527), (160, 9533), (161, 9542), (163, 9563), (174, 9629), (178, 9659), (182, 9689), (189, 9722), (190, 9731), (191, 9743), (196, 9779), (198, 9788), (200, 9794), (203, 9809), (204, 9821), (207, 9830), (210, 9848), (213, 9863), (215, 9872), (218, 9902), (221, 9914), (224, 9929), (227, 9935), (229, 9944), (233, 9968), (238, 9992), (241, 10010), (242, 10013), (243, 10016), (245, 10025), (246, 10028), (253, 10055), (256, 10079), (257, 10082), (259, 10091), (261, 10100), (262, 10103), (263, 10109), (266, 10124), (269, 10136), (270, 10142), (276, 10175), (279, 10190), (281, 10199), (282, 10205), (283, 10208), (284, 10211), (287, 10229), (290, 10238), (291, 10241), (294, 10262), (295, 10265), (297, 10274), (299, 10283), (305, 10319), (315, 10373), (317, 10385), (319, 10394), (320, 10403), (338, 10478), (340, 10493), (342, 10505), (351, 10547), (358, 10592), (362, 10610), (363, 10613), (365, 10622), (371, 10655), (375, 10682), (383, 10724), (384, 10733), (386, 10745), (388, 10757), (389, 10766), (392, 10787), (398, 10820), (400, 10829), (401, 10832), (402, 10835), (404, 10853), (405, 10856), (406, 10865), (410, 10889), (411, 10898), (412, 10901), (414, 10910), (416, 10919), (421, 10952), (422, 10955), (427, 10979), (434, 11018), (440, 11048), (442, 11054), (444, 11063), (446, 11072), (449, 11096), (451, 11114), (452, 11126), (457, 11180), (458, 11183), (460, 11189), (465, 11258), (466, 11267), (467, 11276),

Gene: PHL111M01_14 Start: 8506, Stop: 11271, Start Num: 33
Candidate Starts for PHL111M01_14:
(Start: 33 @8506 has 45 MA's), (37, 8533), (39, 8539), (40, 8551), (42, 8560), (45, 8593), (46, 8596), (48, 8626), (50, 8641), (51, 8647), (53, 8668), (54, 8671), (58, 8719), (59, 8749), (62, 8785), (64, 8818),

(66, 8839), (69, 8860), (73, 8890), (74, 8905), (75, 8923), (76, 8932), (77, 8935), (78, 8953), (84, 9007), (85, 9010), (87, 9025), (91, 9040), (92, 9043), (94, 9055), (100, 9079), (104, 9115), (105, 9124), (106, 9127), (112, 9169), (114, 9181), (117, 9226), (120, 9271), (123, 9292), (127, 9313), (131, 9346), (132, 9355), (136, 9388), (137, 9391), (138, 9403), (141, 9421), (143, 9430), (146, 9442), (149, 9454), (150, 9466), (152, 9475), (156, 9496), (157, 9502), (159, 9517), (160, 9523), (161, 9532), (163, 9553), (167, 9577), (170, 9607), (172, 9613), (174, 9619), (175, 9628), (177, 9631), (178, 9649), (182, 9679), (189, 9712), (191, 9733), (195, 9766), (196, 9769), (198, 9778), (200, 9784), (201, 9787), (203, 9799), (204, 9811), (213, 9853), (215, 9862), (218, 9892), (219, 9895), (221, 9904), (224, 9919), (227, 9925), (229, 9934), (233, 9958), (237, 9979), (238, 9982), (241, 10000), (242, 10003), (245, 10015), (246, 10018), (248, 10024), (249, 10027), (253, 10045), (255, 10066), (257, 10072), (258, 10078), (259, 10081), (261, 10090), (262, 10093), (263, 10099), (266, 10114), (269, 10126), (270, 10132), (278, 10174), (279, 10180), (281, 10189), (282, 10195), (283, 10198), (284, 10201), (287, 10219), (290, 10228), (291, 10231), (295, 10255), (299, 10273), (315, 10363), (317, 10375), (319, 10384), (320, 10393), (342, 10495), (347, 10519), (351, 10537), (358, 10582), (363, 10603), (365, 10612), (371, 10645), (375, 10672), (383, 10714), (384, 10723), (386, 10735), (388, 10747), (389, 10756), (392, 10777), (398, 10810), (401, 10822), (402, 10825), (404, 10843), (405, 10846), (406, 10855), (410, 10879), (411, 10888), (412, 10891), (414, 10900), (416, 10909), (421, 10942), (422, 10945), (427, 10969), (434, 11008), (440, 11038), (442, 11044), (446, 11062), (451, 11104), (452, 11116), (457, 11170), (458, 11173), (460, 11179), (465, 11248), (466, 11257), (467, 11266),

Gene: PHL112N00_14 Start: 8502, Stop: 11267, Start Num: 33
Candidate Starts for PHL112N00_14:
(Start: 33 @8502 has 45 MA's), (37, 8529), (39, 8535), (40, 8547), (42, 8556), (45, 8589), (46, 8592), (50, 8637), (51, 8643), (52, 8649), (53, 8664), (54, 8667), (58, 8715), (59, 8745), (61, 8772), (62, 8781), (64, 8814), (66, 8835), (69, 8856), (73, 8886), (74, 8901), (75, 8919), (76, 8928), (77, 8931), (78, 8949), (84, 9003), (85, 9006), (87, 9021), (91, 9036), (92, 9039), (94, 9051), (97, 9066), (100, 9075), (104, 9111), (105, 9120), (106, 9123), (112, 9165), (114, 9177), (117, 9222), (120, 9267), (127, 9309), (130, 9330), (131, 9342), (132, 9351), (136, 9384), (137, 9387), (138, 9399), (141, 9417), (143, 9426), (146, 9438), (149, 9450), (150, 9462), (152, 9471), (157, 9498), (159, 9513), (160, 9519), (161, 9528), (163, 9549), (166, 9567), (167, 9573), (170, 9603), (172, 9609), (174, 9615), (177, 9627), (178, 9645), (182, 9675), (189, 9708), (190, 9717), (191, 9729), (195, 9762), (196, 9765), (198, 9774), (203, 9795), (204, 9807), (212, 9846), (215, 9858), (218, 9888), (221, 9900), (224, 9915), (229, 9930), (237, 9975), (241, 9996), (242, 9999), (243, 10002), (244, 10008), (246, 10014), (253, 10041), (255, 10062), (257, 10068), (258, 10074), (259, 10077), (261, 10086), (262, 10089), (263, 10095), (266, 10110), (269, 10122), (271, 10131), (275, 10149), (278, 10170), (279, 10176), (281, 10185), (282, 10191), (283, 10194), (284, 10197), (287, 10215), (290, 10224), (291, 10227), (295, 10251), (299, 10269), (315, 10359), (317, 10371), (319, 10380), (320, 10389), (340, 10479), (342, 10491), (351, 10533), (358, 10578), (363, 10599), (365, 10608), (371, 10641), (375, 10668), (383, 10710), (384, 10719), (386, 10731), (388, 10743), (389, 10752), (392, 10773), (398, 10806), (400, 10815), (401, 10818), (402, 10821), (404, 10839), (405, 10842), (406, 10851), (410, 10875), (412, 10887), (414, 10896), (416, 10905), (422, 10941), (427, 10965), (434, 11004), (440, 11034), (442, 11040), (444, 11049), (446, 11058), (451, 11100), (452, 11112), (457, 11166), (458, 11169), (460, 11175), (465, 11244), (466, 11253), (467, 11262),

Gene: PHL113M01_14 Start: 8530, Stop: 11295, Start Num: 33
Candidate Starts for PHL113M01_14:
(Start: 33 @8530 has 45 MA's), (37, 8557), (39, 8563), (40, 8575), (42, 8584), (45, 8617), (46, 8620), (50, 8665), (51, 8671), (53, 8692), (54, 8695), (58, 8743), (59, 8773), (61, 8800), (62, 8809), (64, 8842), (66, 8863), (69, 8884), (74, 8929), (75, 8947), (76, 8956), (77, 8959), (78, 8977), (84, 9031), (85, 9034), (87, 9049), (91, 9064), (92, 9067), (94, 9079), (100, 9103), (104, 9139), (105, 9148), (106, 9151), (112, 9193), (114, 9205), (117, 9250), (118, 9271), (120, 9295), (123, 9316), (127, 9337), (131, 9370), (132, 9379), (136, 9412), (137, 9415), (138, 9427), (141, 9445), (143, 9454), (146, 9466), (149, 9478), (150, 9490), (152, 9499), (156, 9520), (157, 9526), (159, 9541), (160, 9547), (161, 9556), (163, 9577), (170,

9631), (172, 9637), (174, 9643), (175, 9652), (177, 9655), (178, 9673), (182, 9703), (185, 9715), (189, 9736), (190, 9745), (191, 9757), (195, 9790), (196, 9793), (198, 9802), (203, 9823), (204, 9835), (212, 9874), (215, 9886), (216, 9895), (218, 9916), (221, 9928), (224, 9943), (229, 9958), (237, 10003), (241, 10024), (242, 10027), (243, 10030), (244, 10036), (246, 10042), (253, 10069), (257, 10096), (258, 10102), (261, 10114), (262, 10117), (264, 10126), (266, 10138), (269, 10150), (271, 10159), (275, 10177), (278, 10198), (279, 10204), (281, 10213), (282, 10219), (283, 10222), (284, 10225), (287, 10243), (290, 10252), (291, 10255), (295, 10279), (299, 10297), (315, 10387), (317, 10399), (319, 10408), (320, 10417), (342, 10519), (347, 10543), (351, 10561), (358, 10606), (363, 10627), (365, 10636), (371, 10669), (375, 10696), (383, 10738), (384, 10747), (386, 10759), (388, 10771), (389, 10780), (398, 10834), (400, 10843), (401, 10846), (402, 10849), (404, 10867), (405, 10870), (406, 10879), (410, 10903), (414, 10924), (416, 10933), (422, 10969), (427, 10993), (434, 11032), (440, 11062), (442, 11068), (444, 11077), (446, 11086), (449, 11110), (451, 11128), (452, 11140), (457, 11194), (458, 11197), (465, 11272), (466, 11281), (467, 11290),

Gene: PHL114L00_14 Start: 8508, Stop: 11273, Start Num: 33
Candidate Starts for PHL114L00_14:
(Start: 33 @8508 has 45 MA's), (37, 8535), (39, 8541), (40, 8553), (42, 8562), (46, 8598), (48, 8628), (50, 8643), (51, 8649), (53, 8670), (54, 8673), (58, 8721), (59, 8751), (62, 8787), (64, 8820), (66, 8841), (69, 8862), (73, 8892), (74, 8907), (75, 8925), (76, 8934), (77, 8937), (78, 8955), (85, 9012), (87, 9027), (91, 9042), (92, 9045), (94, 9057), (95, 9066), (97, 9072), (98, 9075), (101, 9084), (104, 9117), (105, 9126), (106, 9129), (112, 9171), (114, 9183), (117, 9228), (120, 9273), (123, 9294), (127, 9315), (131, 9348), (132, 9357), (134, 9369), (136, 9390), (137, 9393), (138, 9405), (141, 9423), (143, 9432), (146, 9444), (149, 9456), (152, 9477), (156, 9498), (159, 9519), (160, 9525), (161, 9534), (163, 9555), (167, 9579), (170, 9609), (172, 9615), (174, 9621), (177, 9633), (178, 9651), (182, 9681), (189, 9714), (190, 9723), (191, 9735), (196, 9771), (198, 9780), (204, 9813), (207, 9822), (210, 9840), (213, 9855), (215, 9864), (218, 9894), (221, 9906), (224, 9921), (227, 9927), (229, 9936), (233, 9960), (238, 9984), (241, 10002), (246, 10020), (248, 10026), (249, 10029), (251, 10038), (252, 10041), (253, 10047), (255, 10068), (257, 10074), (259, 10083), (260, 10089), (261, 10092), (262, 10095), (263, 10101), (266, 10116), (269, 10128), (275, 10155), (278, 10176), (279, 10182), (281, 10191), (284, 10203), (287, 10221), (288, 10224), (290, 10230), (291, 10233), (292, 10245), (294, 10254), (295, 10257), (297, 10266), (299, 10275), (305, 10311), (315, 10365), (316, 10374), (317, 10377), (319, 10386), (320, 10395), (342, 10497), (351, 10539), (358, 10584), (362, 10602), (363, 10605), (365, 10614), (371, 10647), (380, 10701), (383, 10716), (384, 10725), (386, 10737), (388, 10749), (389, 10758), (398, 10812), (401, 10824), (402, 10827), (404, 10845), (405, 10848), (406, 10857), (410, 10881), (411, 10890), (412, 10893), (414, 10902), (416, 10911), (418, 10923), (421, 10944), (422, 10947), (427, 10971), (434, 11010), (440, 11040), (442, 11046), (444, 11055), (446, 11064), (451, 11106), (452, 11118), (453, 11154), (457, 11172), (458, 11175), (460, 11181), (465, 11250), (466, 11259), (467, 11268),

Gene: Percival_15 Start: 10890, Stop: 13811, Start Num: 49
Candidate Starts for Percival_15:
(Start: 49 @10890 has 7 MA's), (65, 11073), (68, 11097), (75, 11169), (89, 11277), (103, 11337), (127, 11532), (149, 11667), (153, 11691), (154, 11694), (183, 11820), (187, 11829), (193, 11871), (206, 11937), (235, 12084), (250, 12144), (273, 12243), (283, 12294), (290, 12324), (305, 12408), (318, 12459), (326, 12492), (364, 12690), (381, 12783), (385, 12810), (391, 12843), (393, 12864), (399, 12897), (405, 12927), (413, 12975), (423, 13026), (450, 13158), (468, 13305), (479, 13437), (495, 13539), (501, 13596), (502, 13605), (510, 13698), (513, 13740), (517, 13776),

Gene: Pirate_14 Start: 8499, Stop: 11264, Start Num: 33
Candidate Starts for Pirate_14:
(Start: 33 @8499 has 45 MA's), (37, 8526), (39, 8532), (40, 8544), (42, 8553), (46, 8589), (50, 8634), (51, 8640), (53, 8661), (54, 8664), (58, 8712), (59, 8742), (62, 8778), (64, 8811), (66, 8832), (69, 8853), (73, 8883), (74, 8898), (75, 8916), (76, 8925), (77, 8928), (78, 8946), (85, 9003), (87, 9018), (91, 9033),

(92, 9036), (94, 9048), (97, 9063), (100, 9072), (104, 9108), (105, 9117), (106, 9120), (112, 9162), (114, 9174), (117, 9219), (120, 9264), (123, 9285), (127, 9306), (131, 9339), (132, 9348), (136, 9381), (137, 9384), (138, 9396), (141, 9414), (143, 9423), (146, 9435), (149, 9447), (150, 9459), (156, 9489), (157, 9495), (159, 9510), (160, 9516), (161, 9525), (163, 9546), (170, 9600), (172, 9606), (174, 9612), (178, 9642), (182, 9672), (189, 9705), (190, 9714), (191, 9726), (195, 9759), (196, 9762), (198, 9771), (200, 9777), (201, 9780), (203, 9792), (204, 9804), (208, 9822), (211, 9834), (213, 9846), (215, 9855), (216, 9864), (218, 9885), (221, 9897), (224, 9912), (227, 9918), (229, 9927), (232, 9945), (233, 9951), (238, 9975), (241, 9993), (242, 9996), (243, 9999), (245, 10008), (246, 10011), (248, 10017), (252, 10032), (253, 10038), (256, 10062), (257, 10065), (259, 10074), (260, 10080), (261, 10083), (262, 10086), (263, 10092), (266, 10107), (269, 10119), (271, 10128), (279, 10173), (281, 10182), (282, 10188), (283, 10191), (284, 10194), (287, 10212), (288, 10215), (290, 10221), (291, 10224), (294, 10245), (295, 10248), (299, 10266), (305, 10302), (315, 10356), (317, 10368), (319, 10377), (320, 10386), (340, 10476), (342, 10488), (347, 10512), (349, 10518), (358, 10575), (363, 10596), (365, 10605), (371, 10638), (375, 10665), (383, 10707), (384, 10716), (386, 10728), (388, 10740), (389, 10749), (398, 10803), (400, 10812), (401, 10815), (402, 10818), (404, 10836), (405, 10839), (406, 10848), (410, 10872), (414, 10893), (416, 10902), (418, 10914), (421, 10935), (422, 10938), (427, 10962), (432, 10989), (434, 11001), (440, 11031), (442, 11037), (444, 11046), (446, 11055), (449, 11079), (451, 11097), (452, 11109), (453, 11145), (457, 11163), (458, 11166), (465, 11241), (466, 11250), (467, 11259),

Gene: Procrass1_14 Start: 8513, Stop: 11278, Start Num: 33
Candidate Starts for Procrass1_14:
(Start: 33 @8513 has 45 MA's), (37, 8540), (39, 8546), (40, 8558), (42, 8567), (45, 8600), (46, 8603), (50, 8648), (51, 8654), (52, 8660), (53, 8675), (54, 8678), (58, 8726), (59, 8756), (61, 8783), (62, 8792), (64, 8825), (66, 8846), (69, 8867), (73, 8897), (74, 8912), (75, 8930), (76, 8939), (77, 8942), (78, 8960), (84, 9014), (85, 9017), (87, 9032), (91, 9047), (92, 9050), (94, 9062), (100, 9086), (104, 9122), (105, 9131), (106, 9134), (112, 9176), (114, 9188), (117, 9233), (118, 9254), (120, 9278), (123, 9299), (127, 9320), (130, 9341), (131, 9353), (132, 9362), (134, 9374), (136, 9395), (137, 9398), (138, 9410), (141, 9428), (143, 9437), (146, 9449), (149, 9461), (150, 9473), (156, 9503), (157, 9509), (159, 9524), (160, 9530), (161, 9539), (163, 9560), (167, 9584), (170, 9614), (172, 9620), (174, 9626), (177, 9638), (178, 9656), (182, 9686), (189, 9719), (190, 9728), (191, 9740), (196, 9776), (198, 9785), (203, 9806), (204, 9818), (212, 9857), (215, 9869), (218, 9899), (221, 9911), (224, 9926), (229, 9941), (237, 9986), (241, 10007), (242, 10010), (243, 10013), (244, 10019), (246, 10025), (253, 10052), (255, 10073), (257, 10079), (258, 10085), (261, 10097), (262, 10100), (264, 10109), (266, 10121), (269, 10133), (271, 10142), (275, 10160), (276, 10172), (278, 10181), (279, 10187), (281, 10196), (282, 10202), (283, 10205), (284, 10208), (287, 10226), (290, 10235), (291, 10238), (295, 10262), (299, 10280), (315, 10370), (317, 10382), (319, 10391), (320, 10400), (340, 10490), (342, 10502), (351, 10544), (358, 10589), (363, 10610), (365, 10619), (371, 10652), (375, 10679), (383, 10721), (384, 10730), (386, 10742), (388, 10754), (389, 10763), (392, 10784), (398, 10817), (400, 10826), (401, 10829), (402, 10832), (404, 10850), (405, 10853), (406, 10862), (410, 10886), (412, 10898), (414, 10907), (416, 10916), (421, 10949), (422, 10952), (427, 10976), (434, 11015), (440, 11045), (442, 11051), (444, 11060), (446, 11069), (451, 11111), (452, 11123), (457, 11177), (458, 11180), (460, 11186), (465, 11255), (466, 11264), (467, 11273),

Gene: QueenBey_14 Start: 8507, Stop: 11272, Start Num: 33
Candidate Starts for QueenBey_14:
(Start: 33 @8507 has 45 MA's), (37, 8534), (39, 8540), (40, 8552), (42, 8561), (46, 8597), (50, 8642), (51, 8648), (52, 8654), (53, 8669), (54, 8672), (58, 8720), (59, 8750), (61, 8777), (62, 8786), (64, 8819), (66, 8840), (69, 8861), (73, 8891), (74, 8906), (75, 8924), (76, 8933), (77, 8936), (78, 8954), (85, 9011), (87, 9026), (91, 9041), (92, 9044), (94, 9056), (100, 9080), (104, 9116), (105, 9125), (106, 9128), (112, 9170), (114, 9182), (117, 9227), (120, 9272), (127, 9314), (132, 9356), (134, 9368), (136, 9389), (137, 9392), (138, 9404), (141, 9422), (143, 9431), (146, 9443), (149, 9455), (150, 9467), (152, 9476), (156, 9497), (157, 9503), (159, 9518), (160, 9524), (161, 9533), (163, 9554), (167, 9578), (170, 9608), (174,

9620), (175, 9629), (177, 9632), (178, 9650), (182, 9680), (189, 9713), (190, 9722), (191, 9734), (196, 9770), (198, 9779), (200, 9785), (203, 9800), (204, 9812), (210, 9839), (211, 9842), (213, 9854), (215, 9863), (218, 9893), (219, 9896), (221, 9905), (224, 9920), (227, 9926), (229, 9935), (233, 9959), (238, 9983), (241, 10001), (246, 10019), (253, 10046), (256, 10070), (258, 10079), (259, 10082), (261, 10091), (262, 10094), (263, 10100), (266, 10115), (268, 10124), (269, 10127), (271, 10136), (275, 10154), (279, 10181), (281, 10190), (282, 10196), (283, 10199), (290, 10229), (291, 10232), (294, 10253), (296, 10262), (297, 10265), (305, 10310), (315, 10364), (317, 10376), (319, 10385), (320, 10394), (340, 10484), (351, 10538), (358, 10583), (362, 10601), (363, 10604), (365, 10613), (371, 10646), (375, 10673), (383, 10715), (384, 10724), (386, 10736), (388, 10748), (389, 10757), (398, 10811), (400, 10820), (401, 10823), (402, 10826), (404, 10844), (405, 10847), (406, 10856), (410, 10880), (411, 10889), (412, 10892), (414, 10901), (416, 10910), (421, 10943), (422, 10946), (427, 10970), (434, 11009), (440, 11039), (442, 11045), (444, 11054), (449, 11087), (451, 11105), (452, 11117), (453, 11153), (457, 11171), (458, 11174), (465, 11249), (466, 11258), (467, 11267),

Gene: Rileysaurus_14 Start: 8502, Stop: 11267, Start Num: 33
Candidate Starts for Rileysaurus_14:
(Start: 33 @8502 has 45 MA's), (37, 8529), (39, 8535), (40, 8547), (42, 8556), (43, 8580), (45, 8589), (46, 8592), (50, 8637), (53, 8664), (54, 8667), (58, 8715), (59, 8745), (61, 8772), (62, 8781), (64, 8814), (66, 8835), (69, 8856), (73, 8886), (74, 8901), (75, 8919), (76, 8928), (77, 8931), (78, 8949), (84, 9003), (85, 9006), (87, 9021), (91, 9036), (92, 9039), (94, 9051), (97, 9066), (100, 9075), (104, 9111), (105, 9120), (106, 9123), (112, 9165), (114, 9177), (117, 9222), (118, 9243), (120, 9267), (127, 9309), (131, 9342), (132, 9351), (134, 9363), (136, 9384), (137, 9387), (138, 9399), (141, 9417), (143, 9426), (146, 9438), (149, 9450), (150, 9462), (152, 9471), (156, 9492), (157, 9498), (159, 9513), (160, 9519), (161, 9528), (163, 9549), (167, 9573), (170, 9603), (172, 9609), (174, 9615), (175, 9624), (178, 9645), (182, 9675), (189, 9708), (190, 9717), (191, 9729), (195, 9762), (196, 9765), (198, 9774), (204, 9807), (207, 9816), (211, 9837), (213, 9849), (215, 9858), (216, 9867), (218, 9888), (221, 9900), (224, 9915), (227, 9921), (229, 9930), (233, 9954), (238, 9978), (241, 9996), (242, 9999), (243, 10002), (246, 10014), (248, 10020), (249, 10023), (252, 10035), (253, 10041), (256, 10065), (257, 10068), (258, 10074), (259, 10077), (260, 10083), (261, 10086), (262, 10089), (263, 10095), (266, 10110), (268, 10119), (269, 10122), (275, 10149), (276, 10161), (279, 10176), (281, 10185), (284, 10197), (287, 10215), (288, 10218), (290, 10224), (294, 10248), (295, 10251), (297, 10260), (299, 10269), (305, 10305), (315, 10359), (317, 10371), (319, 10380), (320, 10389), (340, 10479), (342, 10491), (347, 10515), (351, 10533), (355, 10566), (358, 10578), (362, 10596), (363, 10599), (365, 10608), (371, 10641), (375, 10668), (383, 10710), (384, 10719), (386, 10731), (388, 10743), (389, 10752), (392, 10773), (398, 10806), (400, 10815), (401, 10818), (402, 10821), (404, 10839), (405, 10842), (406, 10851), (410, 10875), (414, 10896), (416, 10905), (418, 10917), (421, 10938), (422, 10941), (427, 10965), (434, 11004), (440, 11034), (442, 11040), (444, 11049), (446, 11058), (451, 11100), (452, 11112), (453, 11148), (457, 11166), (458, 11169), (460, 11175), (465, 11244), (466, 11253), (467, 11262),

Gene: RootBeer_15 Start: 9305, Stop: 13243, Start Num: 8
Candidate Starts for RootBeer_15:
(6, 9296), (7, 9299), (Start: 8 @9305 has 1 MA's), (14, 9497), (16, 9518), (55, 9938), (61, 10028), (71, 10133), (78, 10205), (81, 10244), (83, 10250), (93, 10301), (102, 10337), (108, 10388), (113, 10433), (115, 10454), (122, 10535), (125, 10553), (148, 10697), (180, 10838), (189, 10889), (197, 10949), (205, 10991), (217, 11060), (239, 11138), (253, 11195), (265, 11261), (267, 11270), (269, 11276), (270, 11282), (280, 11339), (284, 11354), (285, 11363), (286, 11369), (292, 11396), (293, 11402), (299, 11426), (320, 11546), (322, 11555), (331, 11594), (335, 11612), (337, 11621), (338, 11624), (341, 11648), (345, 11657), (366, 11768), (368, 11789), (384, 11888), (401, 11987), (406, 12020), (409, 12041), (418, 12086), (429, 12140), (443, 12206), (471, 12362), (472, 12374), (489, 12530), (498, 12605), (516, 12797), (524, 12908), (529, 12959), (530, 12968), (533, 12983), (536, 13004), (541, 13037), (543, 13058), (547, 13067), (556, 13148),

Gene: SKKY_14 Start: 8549, Stop: 11314, Start Num: 33

Candidate Starts for SKKY_14:
(Start: 33 @8549 has 45 MA's), (37, 8576), (39, 8582), (40, 8594), (43, 8627), (45, 8636), (46, 8639), (50, 8684), (51, 8690), (53, 8711), (54, 8714), (58, 8762), (59, 8792), (62, 8828), (64, 8861), (66, 8882), (69, 8903), (73, 8933), (74, 8948), (75, 8966), (76, 8975), (77, 8978), (78, 8996), (84, 9050), (85, 9053), (87, 9068), (91, 9083), (92, 9086), (94, 9098), (97, 9113), (100, 9122), (104, 9158), (105, 9167), (106, 9170), (112, 9212), (114, 9224), (117, 9269), (120, 9314), (122, 9326), (127, 9356), (131, 9389), (132, 9398), (134, 9410), (136, 9431), (137, 9434), (138, 9446), (141, 9464), (143, 9473), (146, 9485), (149, 9497), (152, 9518), (157, 9545), (159, 9560), (161, 9575), (163, 9596), (165, 9608), (167, 9620), (172, 9656), (178, 9692), (182, 9722), (185, 9734), (189, 9755), (191, 9776), (195, 9809), (196, 9812), (198, 9821), (200, 9827), (203, 9842), (204, 9854), (207, 9863), (208, 9872), (212, 9893), (213, 9896), (215, 9905), (218, 9935), (221, 9947), (224, 9962), (227, 9968), (229, 9977), (232, 9995), (238, 10025), (241, 10043), (242, 10046), (243, 10049), (245, 10058), (246, 10061), (248, 10067), (249, 10070), (253, 10088), (255, 10109), (257, 10115), (258, 10121), (259, 10124), (261, 10133), (262, 10136), (263, 10142), (266, 10157), (269, 10169), (270, 10175), (276, 10208), (277, 10211), (278, 10217), (281, 10232), (282, 10238), (283, 10241), (287, 10262), (290, 10271), (291, 10274), (294, 10295), (296, 10304), (297, 10307), (299, 10316), (305, 10352), (306, 10361), (317, 10418), (319, 10427), (320, 10436), (322, 10445), (338, 10511), (340, 10526), (342, 10538), (351, 10580), (358, 10625), (363, 10646), (365, 10655), (371, 10688), (375, 10715), (383, 10757), (384, 10766), (386, 10778), (388, 10790), (389, 10799), (396, 10844), (398, 10853), (400, 10862), (401, 10865), (402, 10868), (404, 10886), (405, 10889), (406, 10898), (410, 10922), (414, 10943), (416, 10952), (421, 10985), (422, 10988), (427, 11012), (434, 11051), (440, 11081), (442, 11087), (444, 11096), (446, 11105), (449, 11129), (451, 11147), (452, 11159), (457, 11213), (458, 11216), (460, 11222), (465, 11291), (466, 11300), (467, 11309),

Gene: Solid_14 Start: 8502, Stop: 11267, Start Num: 33
Candidate Starts for Solid_14:
(Start: 33 @8502 has 45 MA's), (37, 8529), (39, 8535), (40, 8547), (42, 8556), (46, 8592), (50, 8637), (51, 8643), (52, 8649), (53, 8664), (54, 8667), (58, 8715), (59, 8745), (61, 8772), (62, 8781), (64, 8814), (66, 8835), (69, 8856), (73, 8886), (74, 8901), (75, 8919), (76, 8928), (77, 8931), (78, 8949), (84, 9003), (85, 9006), (87, 9021), (91, 9036), (92, 9039), (94, 9051), (97, 9066), (100, 9075), (104, 9111), (105, 9120), (106, 9123), (112, 9165), (114, 9177), (117, 9222), (120, 9267), (123, 9288), (127, 9309), (130, 9330), (131, 9342), (132, 9351), (136, 9384), (137, 9387), (138, 9399), (141, 9417), (143, 9426), (146, 9438), (149, 9450), (150, 9462), (156, 9492), (157, 9498), (159, 9513), (160, 9519), (161, 9528), (163, 9549), (167, 9573), (170, 9603), (172, 9609), (174, 9615), (178, 9645), (182, 9675), (189, 9708), (190, 9717), (191, 9729), (196, 9765), (203, 9795), (204, 9807), (207, 9816), (208, 9825), (210, 9834), (213, 9849), (215, 9858), (216, 9867), (218, 9888), (223, 9912), (224, 9915), (227, 9921), (229, 9930), (230, 9933), (233, 9954), (238, 9978), (241, 9996), (242, 9999), (246, 10014), (248, 10020), (249, 10023), (253, 10041), (257, 10068), (258, 10074), (259, 10077), (261, 10086), (262, 10089), (263, 10095), (266, 10110), (269, 10122), (270, 10128), (276, 10161), (279, 10176), (281, 10185), (282, 10191), (283, 10194), (284, 10197), (287, 10215), (290, 10224), (291, 10227), (295, 10251), (299, 10269), (315, 10359), (317, 10371), (319, 10380), (320, 10389), (342, 10491), (347, 10515), (351, 10533), (358, 10578), (363, 10599), (365, 10608), (371, 10641), (375, 10668), (383, 10710), (384, 10719), (386, 10731), (388, 10743), (389, 10752), (392, 10773), (398, 10806), (400, 10815), (401, 10818), (402, 10821), (404, 10839), (405, 10842), (406, 10851), (410, 10875), (412, 10887), (414, 10896), (416, 10905), (421, 10938), (422, 10941), (427, 10965), (432, 10992), (434, 11004), (440, 11034), (442, 11040), (444, 11049), (446, 11058), (451, 11100), (452, 11112), (453, 11148), (457, 11166), (458, 11169), (460, 11175), (465, 11244), (466, 11253), (467, 11262),

Gene: Sonali_16 Start: 13198, Stop: 17811, Start Num: 1
Candidate Starts for Sonali_16:
(Start: 1 @13198 has 3 MA's), (2, 13219), (3, 13225), (4, 13234), (5, 13285), (Start: 9 @13450 has 2 MA's), (10, 13501), (12, 13531), (13, 13636), (14, 13642), (15, 13654), (61, 14179), (70, 14281), (71, 14284), (78, 14356), (80, 14389), (81, 14395), (83, 14401), (88, 14431), (102, 14488), (103, 14497),

(108, 14539), (113, 14584), (122, 14686), (155, 14896), (158, 14920), (164, 14983), (169, 15046), (180, 15106), (185, 15136), (197, 15217), (217, 15328), (238, 15424), (247, 15460), (254, 15499), (261, 15529), (265, 15550), (267, 15559), (269, 15565), (283, 15640), (295, 15697), (312, 15790), (313, 15793), (314, 15796), (320, 15835), (331, 15883), (332, 15889), (333, 15892), (335, 15901), (337, 15910), (341, 15937), (365, 16054), (372, 16108), (384, 16177), (394, 16246), (401, 16276), (409, 16330), (414, 16354), (418, 16375), (429, 16429), (455, 16627), (461, 16702), (471, 16807), (484, 16945), (488, 16972), (491, 16996), (492, 16999), (501, 17074), (516, 17242), (520, 17308), (524, 17353), (535, 17434), (542, 17497), (565, 17731), (566, 17743),

Gene: Spartoi_14 Start: 8472, Stop: 11996, Start Num: 31
Candidate Starts for Spartoi_14:
(Start: 31 @8472 has 1 MA's), (39, 8511), (60, 8736), (64, 8793), (79, 8952), (80, 8961), (84, 8982), (90, 9012), (105, 9099), (112, 9144), (116, 9177), (118, 9222), (129, 9300), (147, 9432), (195, 9825), (211, 9897), (232, 10011), (291, 10299), (294, 10320), (317, 10440), (320, 10458), (324, 10473), (334, 10518), (339, 10545), (343, 10566), (350, 10599), (353, 10623), (356, 10638), (359, 10653), (361, 10656), (365, 10674), (378, 10758), (392, 10848), (395, 10869), (397, 10875), (398, 10881), (403, 10908), (407, 10929), (415, 10980), (420, 11001), (425, 11037), (428, 11046), (433, 11082), (438, 11115), (450, 11175), (452, 11196), (456, 11241), (464, 11331), (470, 11409), (474, 11454), (483, 11544), (486, 11553), (490, 11586), (496, 11625), (504, 11691), (506, 11730), (512, 11799), (519, 11901), (521, 11925), (525, 11976), (526, 11991),

Gene: Stormborn_14 Start: 8516, Stop: 11281, Start Num: 33
Candidate Starts for Stormborn_14:
(Start: 33 @8516 has 45 MA's), (37, 8543), (39, 8549), (40, 8561), (45, 8603), (46, 8606), (50, 8651), (51, 8657), (52, 8663), (53, 8678), (54, 8681), (58, 8729), (59, 8759), (61, 8786), (62, 8795), (64, 8828), (66, 8849), (69, 8870), (73, 8900), (74, 8915), (75, 8933), (76, 8942), (77, 8945), (78, 8963), (85, 9020), (87, 9035), (91, 9050), (92, 9053), (94, 9065), (97, 9080), (98, 9083), (100, 9089), (104, 9125), (105, 9134), (106, 9137), (112, 9179), (114, 9191), (117, 9236), (120, 9281), (123, 9302), (127, 9323), (130, 9344), (131, 9356), (132, 9365), (134, 9377), (136, 9398), (137, 9401), (138, 9413), (141, 9431), (143, 9440), (146, 9452), (149, 9464), (150, 9476), (152, 9485), (156, 9506), (157, 9512), (159, 9527), (160, 9533), (161, 9542), (163, 9563), (167, 9587), (168, 9599), (170, 9617), (174, 9629), (175, 9638), (177, 9641), (178, 9659), (182, 9689), (189, 9722), (190, 9731), (191, 9743), (196, 9779), (203, 9809), (204, 9821), (208, 9839), (210, 9848), (213, 9863), (215, 9872), (216, 9881), (218, 9902), (221, 9914), (224, 9929), (227, 9935), (229, 9944), (233, 9968), (238, 9992), (241, 10010), (246, 10028), (248, 10034), (249, 10037), (251, 10046), (252, 10049), (253, 10055), (255, 10076), (257, 10082), (259, 10091), (261, 10100), (262, 10103), (263, 10109), (268, 10133), (269, 10136), (271, 10145), (278, 10184), (279, 10190), (281, 10199), (282, 10205), (283, 10208), (287, 10229), (288, 10232), (290, 10238), (294, 10262), (295, 10265), (297, 10274), (299, 10283), (305, 10319), (315, 10373), (317, 10385), (319, 10394), (320, 10403), (325, 10418), (340, 10493), (342, 10505), (351, 10547), (358, 10592), (363, 10613), (365, 10622), (371, 10655), (375, 10682), (383, 10724), (384, 10733), (386, 10745), (388, 10757), (389, 10766), (392, 10787), (398, 10820), (401, 10832), (402, 10835), (404, 10853), (405, 10856), (406, 10865), (410, 10889), (412, 10901), (414, 10910), (416, 10919), (418, 10931), (421, 10952), (422, 10955), (427, 10979), (434, 11018), (440, 11048), (442, 11054), (444, 11063), (446, 11072), (451, 11114), (452, 11126), (453, 11162), (457, 11180), (458, 11183), (465, 11258), (467, 11276),

Gene: SuMoo_14 Start: 9221, Stop: 12058, Start Num: 49
Candidate Starts for SuMoo_14:
(Start: 49 @9221 has 7 MA's), (86, 9584), (96, 9617), (110, 9689), (111, 9698), (117, 9752), (128, 9836), (133, 9866), (140, 9914), (145, 9935), (187, 10115), (220, 10304), (225, 10325), (273, 10529), (275, 10535), (277, 10550), (281, 10571), (318, 10745), (329, 10796), (354, 10895), (360, 10928), (374, 11009), (381, 11036), (385, 11063), (386, 11069), (399, 11150), (402, 11159), (405, 11180), (439, 11360), (473, 11612), (475, 11642), (477, 11657),

Gene: Sunshine23_17 Start: 13210, Stop: 17823, Start Num: 1
Candidate Starts for Sunshine23_17:
(Start: 1 @13210 has 3 MA's), (2, 13231), (3, 13237), (4, 13246), (5, 13297), (Start: 9 @13462 has 2 MA's), (12, 13543), (13, 13648), (14, 13654), (15, 13666), (30, 13912), (55, 14101), (61, 14191), (70, 14293), (71, 14296), (78, 14368), (80, 14401), (81, 14407), (83, 14413), (88, 14443), (102, 14500), (103, 14509), (108, 14551), (113, 14596), (122, 14698), (155, 14908), (158, 14932), (164, 14995), (169, 15058), (180, 15118), (185, 15148), (194, 15202), (197, 15229), (217, 15340), (238, 15436), (247, 15472), (261, 15541), (265, 15562), (267, 15571), (269, 15577), (282, 15649), (283, 15652), (295, 15709), (312, 15802), (313, 15805), (314, 15808), (320, 15847), (331, 15895), (333, 15904), (335, 15913), (337, 15922), (341, 15949), (365, 16066), (384, 16189), (394, 16258), (401, 16288), (404, 16309), (409, 16342), (412, 16357), (418, 16387), (429, 16441), (455, 16639), (461, 16714), (471, 16819), (484, 16957), (488, 16984), (491, 17008), (492, 17011), (516, 17254), (520, 17320), (524, 17365), (529, 17416), (535, 17446), (542, 17509), (565, 17743), (566, 17755),

Gene: SuperHands_15 Start: 11062, Stop: 13983, Start Num: 49
Candidate Starts for SuperHands_15:
(Start: 49 @11062 has 7 MA's), (65, 11245), (68, 11269), (75, 11341), (89, 11449), (103, 11509), (127, 11704), (149, 11839), (153, 11863), (154, 11866), (183, 11992), (187, 12001), (193, 12043), (206, 12109), (235, 12256), (250, 12316), (273, 12415), (283, 12466), (290, 12496), (305, 12580), (318, 12631), (326, 12664), (364, 12862), (381, 12955), (385, 12982), (391, 13015), (393, 13036), (399, 13069), (405, 13099), (413, 13147), (423, 13198), (450, 13330), (468, 13477), (479, 13609), (495, 13711), (501, 13768), (502, 13777), (510, 13870), (513, 13912), (517, 13948),

Gene: Supernova_14 Start: 8521, Stop: 11286, Start Num: 33
Candidate Starts for Supernova_14:
(Start: 33 @8521 has 45 MA's), (37, 8548), (39, 8554), (40, 8566), (45, 8608), (46, 8611), (50, 8656), (51, 8662), (53, 8683), (54, 8686), (58, 8734), (59, 8764), (61, 8791), (62, 8800), (64, 8833), (66, 8854), (69, 8875), (73, 8905), (74, 8920), (75, 8938), (76, 8947), (77, 8950), (78, 8968), (84, 9022), (85, 9025), (87, 9040), (91, 9055), (92, 9058), (94, 9070), (97, 9085), (100, 9094), (104, 9130), (105, 9139), (106, 9142), (112, 9184), (114, 9196), (117, 9241), (119, 9271), (120, 9286), (122, 9298), (127, 9328), (131, 9361), (134, 9382), (136, 9403), (137, 9406), (138, 9418), (141, 9436), (143, 9445), (146, 9457), (149, 9469), (150, 9481), (152, 9490), (156, 9511), (157, 9517), (159, 9532), (160, 9538), (161, 9547), (163, 9568), (167, 9592), (170, 9622), (172, 9628), (174, 9634), (177, 9646), (178, 9664), (182, 9694), (185, 9706), (189, 9727), (190, 9736), (191, 9748), (195, 9781), (196, 9784), (198, 9793), (200, 9799), (203, 9814), (204, 9826), (207, 9835), (209, 9847), (210, 9853), (212, 9865), (213, 9868), (215, 9877), (218, 9907), (221, 9919), (224, 9934), (227, 9940), (229, 9949), (238, 9997), (241, 10015), (242, 10018), (243, 10021), (245, 10030), (246, 10033), (248, 10039), (249, 10042), (253, 10060), (255, 10081), (257, 10087), (258, 10093), (259, 10096), (261, 10105), (262, 10108), (263, 10114), (266, 10129), (269, 10141), (270, 10147), (271, 10150), (276, 10180), (278, 10189), (279, 10195), (281, 10204), (282, 10210), (283, 10213), (287, 10234), (290, 10243), (291, 10246), (294, 10267), (296, 10276), (297, 10279), (299, 10288), (305, 10324), (306, 10333), (316, 10387), (317, 10390), (319, 10399), (320, 10408), (322, 10417), (340, 10498), (342, 10510), (351, 10552), (358, 10597), (363, 10618), (365, 10627), (371, 10660), (375, 10687), (383, 10729), (384, 10738), (386, 10750), (388, 10762), (389, 10771), (396, 10816), (398, 10825), (401, 10837), (402, 10840), (404, 10858), (405, 10861), (406, 10870), (410, 10894), (412, 10906), (414, 10915), (416, 10924), (427, 10984), (434, 11023), (440, 11053), (442, 11059), (444, 11068), (449, 11101), (451, 11119), (452, 11131), (457, 11185), (458, 11188), (460, 11194), (465, 11263), (466, 11272), (467, 11281),

Gene: Tyrumbra_34 Start: 19760, Stop: 23368, Start Num: 36
Candidate Starts for Tyrumbra_34:
(Start: 36 @19760 has 2 MA's), (38, 19784), (67, 20090), (68, 20093), (99, 20309), (107, 20363), (109, 20384), (121, 20504), (129, 20546), (131, 20567), (139, 20633), (142, 20648), (154, 20711), (169,

20762), (171, 20774), (176, 20795), (181, 20825), (184, 20849), (188, 20867), (192, 20894), (196, 20927), (202, 20948), (217, 21041), (234, 21116), (254, 21206), (260, 21233), (289, 21377), (297, 21419), (303, 21452), (304, 21461), (305, 21464), (310, 21491), (315, 21518), (322, 21557), (324, 21563), (330, 21593), (336, 21617), (337, 21623), (342, 21653), (348, 21680), (368, 21794), (372, 21821), (382, 21878), (390, 21926), (391, 21929), (404, 22010), (408, 22037), (409, 22043), (424, 22121), (431, 22145), (432, 22154), (437, 22190), (454, 22307), (459, 22325), (463, 22382), (469, 22427), (470, 22463), (476, 22529), (478, 22562), (485, 22604), (491, 22649), (494, 22661), (499, 22712), (509, 22832), (518, 22934), (527, 23045), (535, 23093), (538, 23126), (545, 23183), (547, 23192), (552, 23213), (554, 23252), (557, 23285), (558, 23324), (560, 23354), (561, 23357),

Gene: Wizzo_14 Start: 8534, Stop: 11299, Start Num: 33
Candidate Starts for Wizzo_14:
(Start: 33 @8534 has 45 MA's), (37, 8561), (39, 8567), (40, 8579), (42, 8588), (45, 8621), (46, 8624), (50, 8669), (51, 8675), (52, 8681), (53, 8696), (54, 8699), (58, 8747), (59, 8777), (64, 8846), (69, 8888), (73, 8918), (74, 8933), (75, 8951), (76, 8960), (77, 8963), (78, 8981), (84, 9035), (85, 9038), (87, 9053), (91, 9068), (92, 9071), (94, 9083), (100, 9107), (104, 9143), (105, 9152), (112, 9197), (114, 9209), (117, 9254), (120, 9299), (123, 9320), (127, 9341), (131, 9374), (132, 9383), (136, 9416), (137, 9419), (138, 9431), (141, 9449), (143, 9458), (146, 9470), (149, 9482), (150, 9494), (152, 9503), (156, 9524), (157, 9530), (159, 9545), (160, 9551), (161, 9560), (163, 9581), (167, 9605), (170, 9635), (172, 9641), (174, 9647), (177, 9659), (178, 9677), (182, 9707), (185, 9719), (189, 9740), (190, 9749), (191, 9761), (196, 9797), (203, 9827), (204, 9839), (207, 9848), (210, 9866), (213, 9881), (215, 9890), (218, 9920), (224, 9947), (227, 9953), (229, 9962), (238, 10010), (240, 10019), (241, 10028), (242, 10031), (243, 10034), (246, 10046), (248, 10052), (252, 10067), (253, 10073), (257, 10100), (258, 10106), (259, 10109), (262, 10121), (263, 10127), (266, 10142), (269, 10154), (276, 10193), (279, 10208), (281, 10217), (282, 10223), (283, 10226), (284, 10229), (287, 10247), (288, 10250), (290, 10256), (291, 10259), (294, 10280), (295, 10283), (297, 10292), (299, 10301), (305, 10337), (315, 10391), (317, 10403), (319, 10412), (320, 10421), (325, 10436), (338, 10496), (340, 10511), (342, 10523), (351, 10565), (358, 10610), (363, 10631), (365, 10640), (371, 10673), (375, 10700), (383, 10742), (384, 10751), (386, 10763), (388, 10775), (389, 10784), (392, 10805), (398, 10838), (400, 10847), (401, 10850), (402, 10853), (404, 10871), (405, 10874), (406, 10883), (410, 10907), (412, 10919), (414, 10928), (416, 10937), (421, 10970), (422, 10973), (427, 10997), (440, 11066), (442, 11072), (444, 11081), (446, 11090), (451, 11132), (452, 11144), (457, 11198), (458, 11201), (460, 11207), (465, 11276), (466, 11285), (467, 11294),