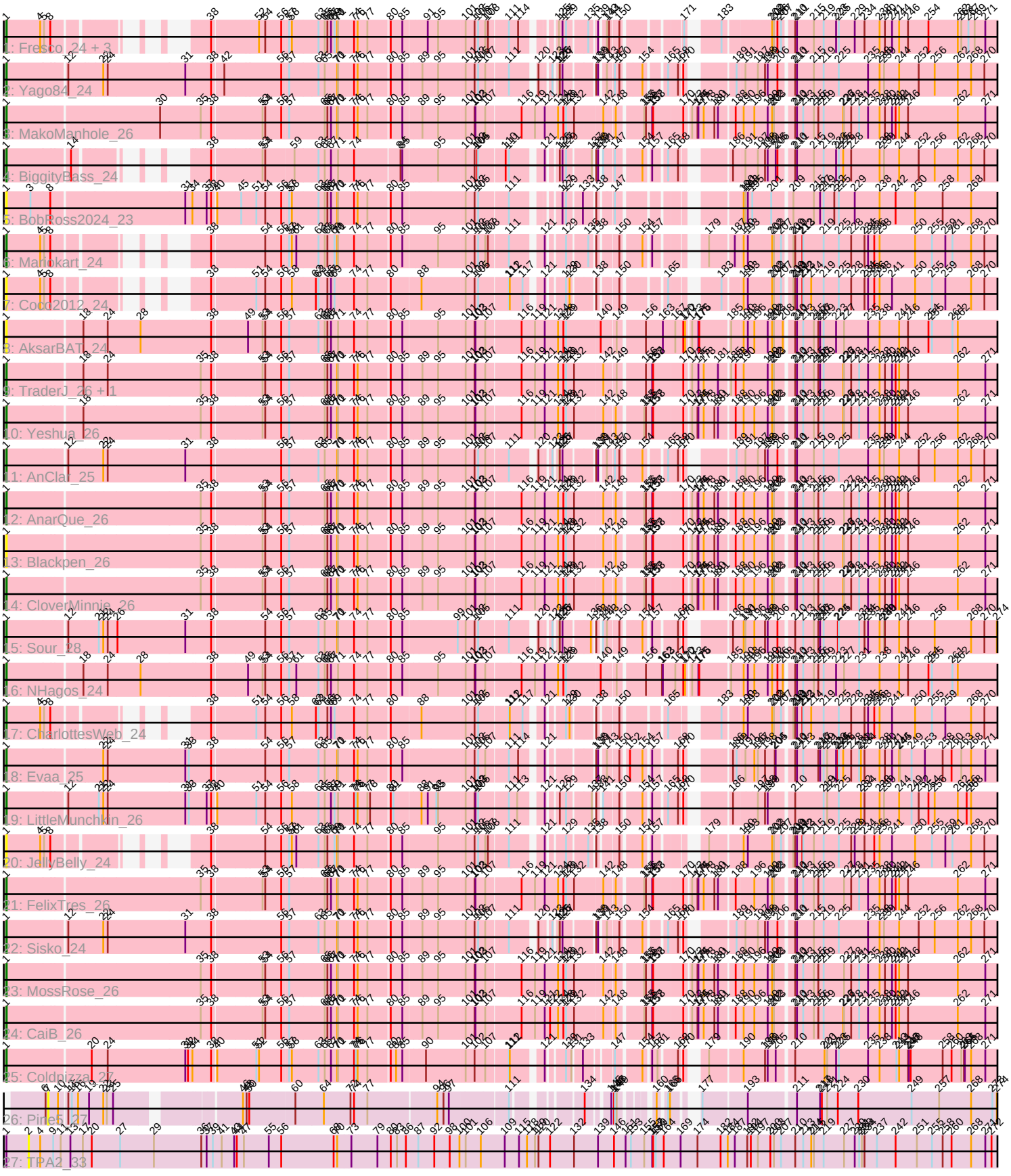
Zoomed Pham 347897



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 347897 Report

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

Pham number 347897 has 31 members, 8 are drafts.

Phages represented in each track:
- Track 1 : Fresco_24, Axumite_24, Shatter_24, Ligma_24
- Track 2 : Yago84_24
- Track 3 : MakoManhole_26
- Track 4 : BiggityBass_24
- Track 5 : BobRoss2024_23
- Track 6 : Mariokart_24
- Track 7 : Coco2012_24
- Track 8 : AksarBAT_24
- Track 9 : TraderJ_26, Wooper_26
- Track 10 : Yeshua_26
- Track 11 : AnClar_25
- Track 12 : AnarQue_26
- Track 13 : Blackpen_26
- Track 14 : CloverMinnie_26
- Track 15 : Sour_28
- Track 16 : NHagos_24
- Track 17 : CharlottesWeb_24
- Track 18 : Evaa_25
- Track 19 : LittleMunchkin_26
- Track 20 : JellyBelly_24
- Track 21 : FelixTres_26
- Track 22 : Sisko_24
- Track 23 : MossRose_26
- Track 24 : CaiB_26
- Track 25 : Coldpizza_27
- Track 26 : Pine5_27
- Track 27 : TPA2_33

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

The start number called the most often in the published annotations is 1, it was called in 23 of the 23 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AksarBAT_24, AnClar_25, AnarQue_26, Axumite_24, BiggityBass_24, Blackpen_26, BobRoss2024_23, CaiB_26, CharlottesWeb_24, CloverMinnie_26, Coco2012_24, Coldpizza_27, Evaa_25, FelixTres_26, Fresco_24, JellyBelly_24, Ligma_24, LittleMunchkin_26, MakoManhole_26, Mariokart_24, MossRose_26, NHagos_24, Shatter_24, Sisko_24, Sour_28, TraderJ_26, Wooper_26, Yago84_24, Yeshua_26,

Genes that have the "Most Annotated" start but do not call it:
• TPA2_33,

Genes that do not have the "Most Annotated" start:
• Pine5_27,

Summary by start number:

Start 1:
• Found in 30 of 31 (96.8%) of genes in pham
• Manual Annotations of this start: 23 of 23
• Called 96.7% of time when present
• Phage (with cluster) where this start called: AksarBAT_24 (DR), AnClar_25 (DR), AnarQue_26 (DR), Axumite_24 (DR), BiggityBass_24 (DR), Blackpen_26 (DR), BobRoss2024_23 (DR), CaiB_26 (DR), CharlottesWeb_24 (DR), CloverMinnie_26 (DR), Coco2012_24 (DR), Coldpizza_27 (DR), Evaa_25 (DR), FelixTres_26 (DR), Fresco_24 (DR), JellyBelly_24 (DR), Ligma_24 (DR), LittleMunchkin_26 (DR), MakoManhole_26 (DR), Mariokart_24 (DR), MossRose_26 (DR), NHagos_24 (DR), Shatter_24 (DR), Sisko_24 (DR), Sour_28 (DR), TraderJ_26 (DR), Wooper_26 (DR), Yago84_24 (DR), Yeshua_26 (DR),

Start 2:
• Found in 1 of 31 (3.2%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: TPA2_33 (singleton),

Start 7:
• Found in 1 of 31 (3.2%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Pine5_27 (singleton),

Summary by clusters:

There are 2 clusters represented in this pham: singleton, DR,

Info for manual annotations of cluster DR:
•Start number 1 was manually annotated 23 times for cluster DR.

Gene Information:

Gene: AksarBAT_24 Start: 18149, Stop: 24019, Start Num: 1
Candidate Starts for AksarBAT_24:

(Start: 1 @18149 has 23 MA's), (18, 18389), (24, 18458), (28, 18566), (38, 18791), (49, 18902), (53, 18950), (54, 18959), (56, 19013), (57, 19034), (63, 19127), (65, 19148), (66, 19157), (67, 19169), (71, 19193), (74, 19247), (77, 19289), (80, 19358), (85, 19397), (95, 19505), (101, 19592), (102, 19622), (103, 19625), (107, 19658), (116, 19763), (119, 19808), (121, 19841), (124, 19883), (128, 19901), (129, 19910), (140, 20018), (149, 20063), (156, 20144), (163, 20201), (167, 20237), (170, 20264), (172, 20270), (173, 20282), (175, 20303), (176, 20306), (185, 20402), (190, 20438), (193, 20450), (196, 20471), (199, 20507), (202, 20522), (203, 20528), (208, 20558), (210, 20582), (211, 20588), (213, 20609), (215, 20645), (216, 20660), (217, 20666), (219, 20678), (223, 20720), (227, 20747), (235, 20828), (238, 20867), (244, 20933), (246, 20963), (254, 21032), (255, 21044), (261, 21113), (262, 21131), (275, 21326), (276, 21332), (277, 21356), (283, 21401), (284, 21410), (285, 21419), (287, 21464), (296, 21533), (299, 21554), (305, 21626), (308, 21665), (310, 21728), (311, 21746), (313, 21767), (316, 21794), (320, 21842), (321, 21848), (322, 21872), (323, 21884), (333, 22040), (344, 22205), (360, 22427), (362, 22436), (363, 22448), (365, 22466), (373, 22568), (378, 22673), (381, 22709), (386, 22796), (389, 22832), (391, 22844), (394, 22871), (396, 22898), (397, 22919), (402, 22955), (403, 22997), (405, 23036), (410, 23081), (413, 23132), (415, 23150), (419, 23189), (421, 23201), (428, 23291), (431, 23303), (432, 23309), (434, 23321), (439, 23363), (440, 23375), (450, 23477), (456, 23525), (457, 23534), (460, 23552), (461, 23558), (466, 23654), (476, 23732), (479, 23768), (483, 23795), (486, 23816), (487, 23828), (488, 23846), (489, 23861), (491, 23885), (497, 23957), (502, 24011),

Gene: AnClar_25 Start: 20494, Stop: 25980, Start Num: 1
Candidate Starts for AnClar_25:
(Start: 1 @20494 has 23 MA's), (12, 20683), (22, 20791), (24, 20803), (31, 21061), (38, 21136), (56, 21358), (57, 21379), (63, 21472), (65, 21493), (70, 21535), (71, 21538), (74, 21592), (76, 21604), (77, 21634), (80, 21703), (85, 21742), (89, 21799), (95, 21850), (101, 21937), (102, 21967), (105, 21979), (107, 22003), (111, 22069), (120, 22135), (123, 22159), (125, 22168), (126, 22171), (127, 22180), (138, 22264), (139, 22270), (143, 22285), (147, 22303), (150, 22318), (154, 22366), (165, 22423), (168, 22450), (170, 22459), (189, 22576), (191, 22600), (197, 22639), (198, 22657), (199, 22663), (206, 22696), (210, 22738), (211, 22744), (215, 22801), (219, 22834), (225, 22885), (235, 22984), (238, 23023), (239, 23038), (244, 23089), (252, 23155), (256, 23209), (262, 23287), (268, 23332), (270, 23377), (275, 23482), (276, 23488), (277, 23512), (279, 23521), (280, 23530), (284, 23566), (285, 23575), (294, 23680), (303, 23746), (305, 23794), (310, 23902), (315, 23953), (339, 24319), (340, 24328), (342, 24352), (344, 24364), (348, 24433), (365, 24604), (375, 24676), (377, 24715), (380, 24733), (381, 24754), (388, 24853), (389, 24877), (391, 24889), (393, 24904), (394, 24916), (402, 25000), (408, 25057), (411, 25075), (412, 25084), (419, 25162), (431, 25252), (432, 25258), (435, 25279), (438, 25303), (439, 25312), (450, 25426), (454, 25465), (461, 25507), (462, 25540), (469, 25636), (472, 25669), (474, 25681), (486, 25777), (488, 25807), (497, 25918), (502, 25972),

Gene: AnarQue_26 Start: 19634, Stop: 25498, Start Num: 1
Candidate Starts for AnarQue_26:
(Start: 1 @19634 has 23 MA's), (35, 20249), (38, 20276), (53, 20435), (54, 20444), (56, 20498), (57, 20519), (65, 20633), (66, 20642), (67, 20654), (70, 20675), (71, 20678), (74, 20732), (76, 20744), (77, 20774), (80, 20843), (85, 20882), (89, 20939), (95, 20990), (101, 21077), (102, 21107), (103, 21110), (107, 21143), (116, 21248), (119, 21293), (121, 21326), (124, 21368), (128, 21386), (129, 21395), (132, 21419), (142, 21512), (148, 21545), (155, 21623), (156, 21629), (157, 21650), (158, 21653), (170, 21749), (173, 21767), (174, 21785), (175, 21788), (178, 21806), (180, 21842), (181, 21854), (188, 21902), (190, 21923), (196, 21956), (199, 21992), (202, 22007), (203, 22013), (210, 22067), (211, 22073), (213, 22094), (215, 22130), (216, 22145), (219, 22163), (227, 22232), (228, 22256), (231, 22283), (235, 22313), (238, 22352), (240, 22370), (241, 22394), (242, 22406), (244, 22418), (246, 22448), (262, 22616), (271, 22709), (275, 22811), (276, 22817), (277, 22841), (284, 22895), (285, 22904), (287, 22949), (289, 22967), (305, 23111), (310, 23213), (311, 23231), (316, 23279), (320, 23327), (322, 23357), (323, 23369), (333, 23525), (334, 23543), (338, 23636), (340, 23654), (344, 23690), (348, 23759), (362, 23909), (363, 23921), (365, 23939), (366, 23942), (371, 23978),

(373, 24041), (378, 24146), (381, 24182), (386, 24269), (388, 24281), (389, 24305), (391, 24317), (394, 24344), (396, 24371), (397, 24392), (399, 24401), (402, 24428), (403, 24470), (413, 24605), (414, 24608), (415, 24623), (416, 24632), (421, 24674), (424, 24722), (427, 24758), (431, 24782), (432, 24788), (434, 24800), (436, 24821), (439, 24842), (450, 24956), (457, 25013), (458, 25016), (460, 25031), (461, 25037), (466, 25133), (476, 25211), (486, 25295), (488, 25325), (491, 25364), (493, 25376), (497, 25436), (502, 25490),

Gene: Axumite_24 Start: 18254, Stop: 23506, Start Num: 1
Candidate Starts for Axumite_24:
(Start: 1 @18254 has 23 MA's), (4, 18365), (5, 18377), (8, 18398), (38, 18653), (52, 18800), (54, 18821), (56, 18875), (57, 18896), (58, 18905), (63, 18989), (65, 19010), (66, 19019), (67, 19031), (69, 19043), (70, 19052), (71, 19055), (74, 19109), (76, 19121), (77, 19151), (80, 19220), (85, 19259), (91, 19334), (95, 19367), (101, 19454), (102, 19484), (105, 19496), (107, 19520), (108, 19529), (111, 19586), (114, 19613), (125, 19685), (127, 19697), (129, 19709), (135, 19766), (139, 19787), (143, 19802), (144, 19808), (150, 19835), (171, 19979), (183, 20054), (202, 20195), (203, 20201), (206, 20213), (207, 20225), (210, 20255), (211, 20261), (215, 20318), (219, 20351), (223, 20393), (225, 20402), (229, 20456), (234, 20489), (238, 20540), (240, 20558), (241, 20582), (244, 20606), (246, 20636), (254, 20705), (262, 20804), (263, 20816), (267, 20840), (269, 20861), (271, 20897), (276, 21005), (277, 21029), (278, 21032), (279, 21038), (281, 21050), (284, 21083), (285, 21092), (291, 21173), (301, 21242), (305, 21299), (310, 21401), (311, 21419), (316, 21467), (318, 21494), (319, 21497), (323, 21557), (325, 21617), (333, 21713), (343, 21875), (344, 21878), (349, 21959), (361, 22106), (362, 22109), (371, 22178), (378, 22253), (379, 22259), (381, 22289), (387, 22379), (389, 22412), (391, 22424), (393, 22439), (394, 22451), (396, 22478), (397, 22499), (402, 22535), (408, 22592), (412, 22619), (436, 22817), (439, 22838), (442, 22871), (450, 22952), (451, 22955), (454, 22991), (461, 23033), (462, 23066), (466, 23141), (472, 23195), (478, 23234), (486, 23303), (488, 23333), (491, 23372), (494, 23396), (497, 23444), (502, 23498),

Gene: BiggityBass_24 Start: 20531, Stop: 25771, Start Num: 1
Candidate Starts for BiggityBass_24:
(Start: 1 @20531 has 23 MA's), (14, 20729), (38, 20930), (53, 21089), (54, 21098), (59, 21191), (63, 21266), (65, 21287), (67, 21308), (71, 21332), (74, 21386), (84, 21530), (85, 21536), (95, 21644), (101, 21731), (102, 21761), (104, 21770), (105, 21773), (110, 21857), (111, 21863), (121, 21944), (126, 21965), (127, 21974), (129, 21986), (137, 22055), (138, 22058), (139, 22064), (141, 22067), (147, 22097), (154, 22160), (157, 22178), (165, 22217), (168, 22244), (186, 22358), (191, 22394), (197, 22433), (198, 22451), (199, 22457), (205, 22484), (206, 22490), (210, 22532), (211, 22538), (215, 22595), (219, 22628), (223, 22670), (225, 22679), (226, 22694), (228, 22721), (238, 22817), (239, 22832), (244, 22883), (252, 22949), (256, 23003), (262, 23081), (268, 23126), (270, 23171), (276, 23282), (277, 23306), (279, 23315), (280, 23324), (284, 23360), (285, 23369), (288, 23420), (303, 23540), (305, 23588), (310, 23696), (339, 24113), (340, 24122), (344, 24158), (365, 24398), (375, 24470), (377, 24509), (380, 24527), (381, 24548), (385, 24629), (388, 24647), (389, 24671), (391, 24683), (393, 24698), (394, 24710), (402, 24794), (408, 24851), (411, 24869), (412, 24878), (419, 24956), (432, 25049), (434, 25061), (435, 25070), (438, 25094), (439, 25103), (450, 25217), (454, 25256), (460, 25292), (461, 25298), (462, 25331), (469, 25427), (472, 25460), (486, 25568), (488, 25598), (497, 25709), (502, 25763),

Gene: Blackpen_26 Start: 19052, Stop: 24916, Start Num: 1
Candidate Starts for Blackpen_26:
(Start: 1 @19052 has 23 MA's), (35, 19667), (38, 19694), (53, 19853), (54, 19862), (56, 19916), (57, 19937), (65, 20051), (66, 20060), (67, 20072), (70, 20093), (71, 20096), (74, 20150), (76, 20162), (77, 20192), (80, 20261), (85, 20300), (89, 20357), (95, 20408), (101, 20495), (102, 20525), (103, 20528), (107, 20561), (116, 20666), (119, 20711), (121, 20744), (124, 20786), (128, 20804), (129, 20813), (132, 20837), (142, 20930), (148, 20963), (155, 21041), (156, 21047), (157, 21068), (158, 21071), (170, 21167), (173, 21185), (174, 21203), (175, 21206), (178, 21224), (180, 21260), (181, 21272),

(188, 21320), (190, 21341), (196, 21374), (199, 21410), (202, 21425), (203, 21431), (210, 21485), (211, 21491), (213, 21512), (215, 21548), (216, 21563), (219, 21581), (226, 21647), (227, 21650), (228, 21674), (231, 21701), (235, 21731), (238, 21770), (240, 21788), (241, 21812), (242, 21824), (244, 21836), (246, 21866), (262, 22034), (271, 22127), (275, 22229), (276, 22235), (277, 22259), (284, 22313), (285, 22322), (287, 22367), (289, 22385), (305, 22529), (310, 22631), (311, 22649), (316, 22697), (320, 22745), (322, 22775), (323, 22787), (333, 22943), (334, 22961), (338, 23054), (340, 23072), (344, 23108), (348, 23177), (362, 23327), (363, 23339), (365, 23357), (366, 23360), (371, 23396), (373, 23459), (378, 23564), (381, 23600), (386, 23687), (388, 23699), (389, 23723), (391, 23735), (394, 23762), (396, 23789), (397, 23810), (399, 23819), (402, 23846), (403, 23888), (413, 24023), (414, 24026), (415, 24041), (416, 24050), (421, 24092), (424, 24140), (431, 24200), (432, 24206), (433, 24212), (434, 24218), (436, 24239), (439, 24260), (450, 24374), (457, 24431), (458, 24434), (460, 24449), (461, 24455), (466, 24551), (476, 24629), (479, 24665), (486, 24713), (488, 24743), (491, 24782), (493, 24794), (497, 24854), (502, 24908),

Gene: BobRoss2024_23 Start: 18016, Stop: 23535, Start Num: 1
Candidate Starts for BobRoss2024_23:
(Start: 1 @18016 has 23 MA's), (3, 18094), (8, 18160), (31, 18583), (34, 18607), (37, 18646), (38, 18658), (40, 18670), (45, 18748), (51, 18796), (54, 18826), (56, 18880), (57, 18901), (58, 18910), (63, 18994), (65, 19015), (66, 19024), (67, 19036), (70, 19057), (71, 19060), (74, 19114), (76, 19126), (77, 19156), (80, 19225), (85, 19264), (101, 19459), (102, 19489), (105, 19501), (111, 19591), (127, 19702), (129, 19714), (133, 19756), (138, 19786), (147, 19825), (190, 20116), (191, 20122), (193, 20128), (195, 20143), (201, 20197), (209, 20254), (215, 20323), (217, 20344), (219, 20356), (222, 20392), (225, 20407), (229, 20461), (238, 20545), (242, 20599), (250, 20665), (258, 20758), (268, 20854), (275, 21004), (276, 21010), (277, 21034), (278, 21037), (284, 21088), (285, 21097), (296, 21211), (305, 21304), (308, 21343), (310, 21406), (311, 21424), (313, 21445), (323, 21562), (333, 21718), (334, 21736), (340, 21847), (362, 22105), (365, 22135), (378, 22240), (385, 22357), (386, 22363), (389, 22399), (394, 22438), (418, 22693), (419, 22696), (431, 22807), (432, 22813), (435, 22834), (439, 22867), (455, 23026), (457, 23038), (460, 23056), (462, 23095), (467, 23179), (469, 23191), (486, 23332), (488, 23362), (490, 23383),

Gene: CaiB_26 Start: 19620, Stop: 25484, Start Num: 1
Candidate Starts for CaiB_26:
(Start: 1 @19620 has 23 MA's), (35, 20235), (38, 20262), (53, 20421), (54, 20430), (56, 20484), (57, 20505), (65, 20619), (66, 20628), (67, 20640), (70, 20661), (71, 20664), (74, 20718), (76, 20730), (77, 20760), (80, 20829), (85, 20868), (89, 20925), (95, 20976), (101, 21063), (102, 21093), (103, 21096), (107, 21129), (116, 21234), (119, 21279), (121, 21312), (122, 21330), (124, 21354), (128, 21372), (129, 21381), (132, 21405), (142, 21498), (148, 21531), (155, 21609), (156, 21615), (157, 21636), (158, 21639), (170, 21735), (173, 21753), (174, 21771), (175, 21774), (178, 21792), (180, 21828), (181, 21840), (188, 21888), (190, 21909), (196, 21942), (199, 21978), (202, 21993), (203, 21999), (210, 22053), (211, 22059), (213, 22080), (215, 22116), (216, 22131), (219, 22149), (226, 22215), (227, 22218), (228, 22242), (231, 22269), (235, 22299), (238, 22338), (240, 22356), (241, 22380), (242, 22392), (244, 22404), (246, 22434), (262, 22602), (271, 22695), (275, 22797), (276, 22803), (277, 22827), (284, 22881), (285, 22890), (287, 22935), (289, 22953), (305, 23097), (310, 23199), (311, 23217), (316, 23265), (320, 23313), (322, 23343), (323, 23355), (333, 23511), (334, 23529), (338, 23622), (340, 23640), (344, 23676), (348, 23745), (362, 23895), (363, 23907), (365, 23925), (366, 23928), (371, 23964), (373, 24027), (378, 24132), (381, 24168), (386, 24255), (388, 24267), (389, 24291), (391, 24303), (394, 24330), (396, 24357), (397, 24378), (399, 24387), (402, 24414), (403, 24456), (413, 24591), (414, 24594), (415, 24609), (416, 24618), (421, 24660), (424, 24708), (431, 24768), (432, 24774), (434, 24786), (436, 24807), (439, 24828), (450, 24942), (457, 24999), (458, 25002), (460, 25017), (461, 25023), (466, 25119), (476, 25197), (479, 25233), (486, 25281), (488, 25311), (491, 25350), (493, 25362), (497, 25422), (502, 25476),

Gene: CharlottesWeb_24 Start: 18138, Stop: 23423, Start Num: 1

Candidate Starts for CharlottesWeb_24:
(Start: 1 @18138 has 23 MA's), (4, 18249), (5, 18261), (8, 18282), (38, 18537), (51, 18675), (54, 18705), (56, 18759), (58, 18789), (62, 18864), (63, 18873), (66, 18903), (67, 18915), (69, 18927), (74, 18993), (77, 19035), (80, 19104), (88, 19197), (101, 19338), (102, 19368), (105, 19380), (111, 19470), (112, 19473), (117, 19512), (121, 19551), (129, 19593), (130, 19602), (138, 19665), (150, 19719), (165, 19824), (183, 19938), (190, 19995), (193, 20007), (202, 20079), (203, 20085), (207, 20109), (209, 20133), (210, 20139), (211, 20145), (212, 20163), (213, 20166), (214, 20193), (219, 20235), (225, 20286), (228, 20328), (234, 20373), (235, 20385), (236, 20406), (238, 20424), (241, 20466), (250, 20544), (255, 20601), (259, 20646), (268, 20733), (270, 20778), (276, 20889), (277, 20913), (278, 20916), (279, 20922), (280, 20931), (284, 20967), (285, 20976), (293, 21066), (305, 21186), (310, 21288), (311, 21306), (316, 21354), (318, 21381), (323, 21444), (331, 21585), (333, 21600), (339, 21720), (343, 21762), (346, 21828), (347, 21831), (355, 21939), (356, 21951), (358, 21981), (363, 22032), (385, 22281), (391, 22335), (394, 22362), (396, 22389), (417, 22599), (419, 22611), (424, 22635), (434, 22713), (435, 22722), (438, 22746), (439, 22755), (443, 22815), (451, 22872), (452, 22884), (457, 22926), (458, 22929), (461, 22950), (464, 23034), (469, 23079), (472, 23112), (477, 23139), (483, 23199), (486, 23220), (488, 23250), (491, 23289), (494, 23313), (497, 23361), (502, 23415),

Gene: CloverMinnie_26 Start: 19560, Stop: 25424, Start Num: 1
Candidate Starts for CloverMinnie_26:
(Start: 1 @19560 has 23 MA's), (35, 20175), (38, 20202), (53, 20361), (54, 20370), (56, 20424), (57, 20445), (65, 20559), (66, 20568), (67, 20580), (70, 20601), (71, 20604), (74, 20658), (76, 20670), (77, 20700), (80, 20769), (85, 20808), (89, 20865), (95, 20916), (101, 21003), (102, 21033), (103, 21036), (107, 21069), (116, 21174), (119, 21219), (121, 21252), (124, 21294), (128, 21312), (129, 21321), (132, 21345), (142, 21438), (148, 21471), (155, 21549), (156, 21555), (157, 21576), (158, 21579), (170, 21675), (173, 21693), (174, 21711), (175, 21714), (178, 21732), (180, 21768), (181, 21780), (188, 21828), (190, 21849), (196, 21882), (199, 21918), (202, 21933), (203, 21939), (210, 21993), (211, 21999), (213, 22020), (215, 22056), (216, 22071), (219, 22089), (226, 22155), (227, 22158), (228, 22182), (231, 22209), (235, 22239), (238, 22278), (240, 22296), (241, 22320), (242, 22332), (244, 22344), (246, 22374), (262, 22542), (271, 22635), (275, 22737), (276, 22743), (277, 22767), (284, 22821), (285, 22830), (287, 22875), (289, 22893), (305, 23037), (310, 23139), (311, 23157), (316, 23205), (320, 23253), (322, 23283), (323, 23295), (333, 23451), (334, 23469), (338, 23562), (340, 23580), (344, 23616), (348, 23685), (362, 23835), (363, 23847), (365, 23865), (366, 23868), (371, 23904), (373, 23967), (378, 24072), (381, 24108), (386, 24195), (388, 24207), (389, 24231), (391, 24243), (394, 24270), (396, 24297), (397, 24318), (399, 24327), (402, 24354), (403, 24396), (413, 24531), (414, 24534), (415, 24549), (416, 24558), (421, 24600), (424, 24648), (431, 24708), (432, 24714), (434, 24726), (436, 24747), (439, 24768), (450, 24882), (457, 24939), (458, 24942), (460, 24957), (461, 24963), (466, 25059), (476, 25137), (479, 25173), (486, 25221), (488, 25251), (491, 25290), (493, 25302), (497, 25362), (502, 25416),

Gene: Coco2012_24 Start: 18135, Stop: 23420, Start Num: 1
Candidate Starts for Coco2012_24:
(Start: 1 @18135 has 23 MA's), (4, 18246), (5, 18258), (8, 18279), (38, 18534), (51, 18672), (54, 18702), (56, 18756), (58, 18786), (62, 18861), (63, 18870), (66, 18900), (67, 18912), (69, 18924), (74, 18990), (77, 19032), (80, 19101), (88, 19194), (101, 19335), (102, 19365), (105, 19377), (111, 19467), (112, 19470), (117, 19509), (121, 19548), (129, 19590), (130, 19599), (138, 19662), (150, 19716), (165, 19821), (183, 19935), (190, 19992), (193, 20004), (202, 20076), (203, 20082), (207, 20106), (209, 20130), (210, 20136), (211, 20142), (212, 20160), (213, 20163), (214, 20190), (219, 20232), (225, 20283), (228, 20325), (234, 20370), (235, 20382), (236, 20403), (238, 20421), (241, 20463), (250, 20541), (255, 20598), (259, 20643), (268, 20730), (270, 20775), (276, 20886), (277, 20910), (278, 20913), (279, 20919), (280, 20928), (284, 20964), (285, 20973), (293, 21063), (305, 21183), (310, 21285), (311, 21303), (316, 21351), (318, 21378), (323, 21441), (331, 21582), (333, 21597), (339, 21717), (343, 21759), (346, 21825), (347, 21828), (352, 21924), (355, 21936), (356, 21948),

(358, 21978), (363, 22029), (385, 22278), (391, 22332), (394, 22359), (396, 22386), (417, 22596), (419, 22608), (424, 22632), (434, 22710), (435, 22719), (438, 22743), (439, 22752), (443, 22812), (451, 22869), (452, 22881), (457, 22923), (458, 22926), (461, 22947), (464, 23031), (469, 23076), (472, 23109), (477, 23136), (483, 23196), (486, 23217), (488, 23247), (491, 23286), (494, 23310), (497, 23358), (502, 23412),

Gene: Coldpizza_27 Start: 22439, Stop: 27937, Start Num: 1
Candidate Starts for Coldpizza_27:
(Start: 1 @22439 has 23 MA's), (20, 22697), (24, 22745), (31, 23003), (32, 23012), (34, 23027), (38, 23078), (40, 23090), (51, 23216), (52, 23225), (56, 23300), (57, 23321), (58, 23330), (63, 23414), (65, 23435), (67, 23456), (70, 23477), (71, 23480), (74, 23534), (75, 23540), (76, 23546), (77, 23576), (80, 23645), (82, 23663), (85, 23684), (90, 23753), (101, 23879), (102, 23909), (107, 23945), (111, 24011), (112, 24014), (121, 24092), (129, 24134), (131, 24149), (133, 24176), (147, 24245), (154, 24308), (157, 24326), (161, 24344), (168, 24392), (170, 24401), (179, 24437), (190, 24536), (198, 24599), (199, 24605), (205, 24632), (210, 24680), (220, 24779), (221, 24788), (223, 24818), (225, 24827), (235, 24926), (238, 24965), (243, 25022), (244, 25031), (246, 25061), (247, 25064), (248, 25070), (258, 25178), (260, 25208), (263, 25241), (264, 25250), (265, 25253), (268, 25274), (271, 25322), (275, 25424), (276, 25430), (277, 25454), (279, 25463), (284, 25508), (285, 25517), (286, 25559), (287, 25562), (295, 25628), (297, 25643), (300, 25667), (305, 25739), (310, 25841), (311, 25859), (316, 25907), (323, 25997), (327, 26087), (333, 26153), (337, 26261), (340, 26282), (359, 26516), (361, 26534), (363, 26549), (371, 26606), (376, 26663), (381, 26702), (385, 26783), (388, 26801), (390, 26831), (391, 26837), (394, 26864), (396, 26891), (402, 26948), (418, 27119), (426, 27188), (435, 27242), (436, 27254), (438, 27266), (439, 27275), (453, 27422), (460, 27464), (461, 27470), (464, 27554), (483, 27719), (484, 27731), (486, 27740), (488, 27770), (502, 27929),

Gene: Evaa_25 Start: 19484, Stop: 24991, Start Num: 1
Candidate Starts for Evaa_25:
(Start: 1 @19484 has 23 MA's), (22, 19778), (24, 19790), (31, 20048), (33, 20060), (38, 20123), (54, 20291), (56, 20345), (57, 20366), (63, 20459), (65, 20480), (70, 20522), (71, 20525), (74, 20579), (76, 20591), (77, 20621), (80, 20690), (85, 20729), (101, 20924), (102, 20954), (105, 20966), (107, 20990), (111, 21056), (114, 21083), (121, 21137), (138, 21251), (139, 21257), (143, 21272), (150, 21305), (152, 21320), (154, 21353), (157, 21371), (168, 21437), (170, 21446), (186, 21551), (189, 21563), (191, 21587), (196, 21614), (197, 21626), (198, 21644), (204, 21674), (205, 21677), (210, 21725), (211, 21731), (213, 21752), (216, 21803), (217, 21809), (219, 21821), (221, 21833), (223, 21863), (224, 21869), (225, 21872), (226, 21887), (228, 21914), (231, 21941), (232, 21947), (234, 21959), (238, 22010), (240, 22028), (241, 22052), (244, 22076), (245, 22079), (249, 22118), (253, 22163), (258, 22223), (260, 22253), (263, 22286), (268, 22319), (271, 22367), (275, 22469), (276, 22475), (277, 22499), (279, 22508), (281, 22520), (282, 22526), (284, 22553), (285, 22562), (300, 22712), (305, 22784), (309, 22841), (310, 22886), (311, 22904), (313, 22925), (318, 22979), (323, 23042), (325, 23102), (331, 23183), (333, 23198), (334, 23216), (337, 23306), (344, 23363), (345, 23393), (359, 23561), (364, 23597), (365, 23612), (367, 23624), (382, 23762), (383, 23768), (385, 23828), (388, 23846), (391, 23882), (394, 23909), (396, 23936), (402, 23993), (408, 24062), (412, 24089), (420, 24176), (428, 24257), (429, 24263), (435, 24296), (436, 24308), (439, 24329), (440, 24341), (449, 24440), (452, 24458), (455, 24488), (456, 24491), (458, 24503), (460, 24518), (461, 24524), (462, 24557), (464, 24608), (472, 24686), (475, 24701), (480, 24755), (483, 24773), (486, 24794), (488, 24824), (497, 24929), (502, 24983),

Gene: FelixTres_26 Start: 19623, Stop: 25487, Start Num: 1
Candidate Starts for FelixTres_26:
(Start: 1 @19623 has 23 MA's), (35, 20238), (38, 20265), (53, 20424), (54, 20433), (56, 20487), (57, 20508), (65, 20622), (66, 20631), (67, 20643), (70, 20664), (71, 20667), (74, 20721), (76, 20733), (77, 20763), (80, 20832), (85, 20871), (89, 20928), (95, 20979), (101, 21066), (102, 21096), (103, 21099), (107, 21132), (116, 21237), (119, 21282), (121, 21315), (124, 21357), (128, 21375), (129, 21384),

(132, 21408), (142, 21501), (148, 21534), (155, 21612), (156, 21618), (157, 21639), (158, 21642), (170, 21738), (173, 21756), (174, 21774), (175, 21777), (178, 21795), (180, 21831), (181, 21843), (188, 21891), (196, 21945), (199, 21981), (202, 21996), (203, 22002), (210, 22056), (211, 22062), (213, 22083), (215, 22119), (216, 22134), (219, 22152), (227, 22221), (228, 22245), (231, 22272), (235, 22302), (238, 22341), (240, 22359), (241, 22383), (242, 22395), (244, 22407), (246, 22437), (262, 22605), (271, 22698), (275, 22800), (276, 22806), (277, 22830), (284, 22884), (285, 22893), (287, 22938), (289, 22956), (305, 23100), (310, 23202), (311, 23220), (316, 23268), (320, 23316), (322, 23346), (323, 23358), (333, 23514), (334, 23532), (338, 23625), (340, 23643), (344, 23679), (348, 23748), (362, 23898), (363, 23910), (365, 23928), (366, 23931), (371, 23967), (373, 24030), (378, 24135), (381, 24171), (386, 24258), (388, 24270), (389, 24294), (391, 24306), (394, 24333), (396, 24360), (397, 24381), (399, 24390), (402, 24417), (403, 24459), (413, 24594), (414, 24597), (415, 24612), (416, 24621), (421, 24663), (424, 24711), (427, 24747), (431, 24771), (432, 24777), (434, 24789), (436, 24810), (439, 24831), (450, 24945), (457, 25002), (458, 25005), (460, 25020), (461, 25026), (466, 25122), (471, 25167), (476, 25200), (479, 25236), (486, 25284), (488, 25314), (491, 25353), (493, 25365), (497, 25425), (502, 25479),

Gene: Fresco_24 Start: 18254, Stop: 23506, Start Num: 1
Candidate Starts for Fresco_24:
(Start: 1 @18254 has 23 MA's), (4, 18365), (5, 18377), (8, 18398), (38, 18653), (52, 18800), (54, 18821), (56, 18875), (57, 18896), (58, 18905), (63, 18989), (65, 19010), (66, 19019), (67, 19031), (69, 19043), (70, 19052), (71, 19055), (74, 19109), (76, 19121), (77, 19151), (80, 19220), (85, 19259), (91, 19334), (95, 19367), (101, 19454), (102, 19484), (105, 19496), (107, 19520), (108, 19529), (111, 19586), (114, 19613), (125, 19685), (127, 19697), (129, 19709), (135, 19766), (139, 19787), (143, 19802), (144, 19808), (150, 19835), (171, 19979), (183, 20054), (202, 20195), (203, 20201), (206, 20213), (207, 20225), (210, 20255), (211, 20261), (215, 20318), (219, 20351), (223, 20393), (225, 20402), (229, 20456), (234, 20489), (238, 20540), (240, 20558), (241, 20582), (244, 20606), (246, 20636), (254, 20705), (262, 20804), (263, 20816), (267, 20840), (269, 20861), (271, 20897), (276, 21005), (277, 21029), (278, 21032), (279, 21038), (281, 21050), (284, 21083), (285, 21092), (291, 21173), (301, 21242), (305, 21299), (310, 21401), (311, 21419), (316, 21467), (318, 21494), (319, 21497), (323, 21557), (325, 21617), (333, 21713), (343, 21875), (344, 21878), (349, 21959), (361, 22106), (362, 22109), (371, 22178), (378, 22253), (379, 22259), (381, 22289), (387, 22379), (389, 22412), (391, 22424), (393, 22439), (394, 22451), (396, 22478), (397, 22499), (402, 22535), (408, 22592), (412, 22619), (436, 22817), (439, 22838), (442, 22871), (450, 22952), (451, 22955), (454, 22991), (461, 23033), (462, 23066), (466, 23141), (472, 23195), (478, 23234), (486, 23303), (488, 23333), (491, 23372), (494, 23396), (497, 23444), (502, 23498),

Gene: JellyBelly_24 Start: 18141, Stop: 23426, Start Num: 1
Candidate Starts for JellyBelly_24:
(Start: 1 @18141 has 23 MA's), (4, 18252), (5, 18264), (8, 18285), (38, 18540), (54, 18708), (56, 18762), (57, 18783), (58, 18792), (61, 18807), (63, 18876), (65, 18897), (66, 18906), (69, 18930), (70, 18939), (71, 18942), (74, 18996), (77, 19038), (80, 19107), (85, 19146), (95, 19254), (101, 19341), (102, 19371), (105, 19383), (107, 19407), (108, 19416), (111, 19473), (121, 19554), (129, 19596), (135, 19653), (138, 19668), (150, 19722), (154, 19770), (157, 19788), (179, 19899), (190, 19998), (193, 20010), (202, 20082), (203, 20088), (207, 20112), (209, 20136), (210, 20142), (211, 20148), (212, 20166), (213, 20169), (215, 20205), (219, 20238), (225, 20289), (228, 20331), (229, 20343), (234, 20376), (236, 20409), (238, 20427), (241, 20469), (250, 20547), (255, 20604), (259, 20649), (261, 20673), (268, 20736), (270, 20781), (276, 20892), (277, 20916), (278, 20919), (279, 20925), (280, 20934), (284, 20970), (285, 20979), (293, 21069), (305, 21189), (310, 21291), (311, 21309), (316, 21357), (318, 21384), (323, 21447), (331, 21588), (333, 21603), (339, 21723), (343, 21765), (346, 21831), (347, 21834), (352, 21930), (355, 21942), (356, 21954), (358, 21984), (363, 22035), (385, 22284), (391, 22338), (394, 22365), (396, 22392), (417, 22602), (419, 22614), (424, 22638), (434, 22716), (435, 22725), (438, 22749), (439, 22758), (443, 22818), (451, 22875), (452, 22887), (457, 22929), (458, 22932), (461, 22953), (463, 22989), (464, 23037), (469, 23082), (472, 23115),

(477, 23142), (483, 23202), (486, 23223), (488, 23253), (491, 23292), (494, 23316), (497, 23364), (502, 23418),

Gene: Ligma_24 Start: 18254, Stop: 23506, Start Num: 1
Candidate Starts for Ligma_24:
(Start: 1 @18254 has 23 MA's), (4, 18365), (5, 18377), (8, 18398), (38, 18653), (52, 18800), (54, 18821), (56, 18875), (57, 18896), (58, 18905), (63, 18989), (65, 19010), (66, 19019), (67, 19031), (69, 19043), (70, 19052), (71, 19055), (74, 19109), (76, 19121), (77, 19151), (80, 19220), (85, 19259), (91, 19334), (95, 19367), (101, 19454), (102, 19484), (105, 19496), (107, 19520), (108, 19529), (111, 19586), (114, 19613), (125, 19685), (127, 19697), (129, 19709), (135, 19766), (139, 19787), (143, 19802), (144, 19808), (150, 19835), (171, 19979), (183, 20054), (202, 20195), (203, 20201), (206, 20213), (207, 20225), (210, 20255), (211, 20261), (215, 20318), (219, 20351), (223, 20393), (225, 20402), (229, 20456), (234, 20489), (238, 20540), (240, 20558), (241, 20582), (244, 20606), (246, 20636), (254, 20705), (262, 20804), (263, 20816), (267, 20840), (269, 20861), (271, 20897), (276, 21005), (277, 21029), (278, 21032), (279, 21038), (281, 21050), (284, 21083), (285, 21092), (291, 21173), (301, 21242), (305, 21299), (310, 21401), (311, 21419), (316, 21467), (318, 21494), (319, 21497), (323, 21557), (325, 21617), (333, 21713), (343, 21875), (344, 21878), (349, 21959), (361, 22106), (362, 22109), (371, 22178), (378, 22253), (379, 22259), (381, 22289), (387, 22379), (389, 22412), (391, 22424), (393, 22439), (394, 22451), (396, 22478), (397, 22499), (402, 22535), (408, 22592), (412, 22619), (436, 22817), (439, 22838), (442, 22871), (450, 22952), (451, 22955), (454, 22991), (461, 23033), (462, 23066), (466, 23141), (472, 23195), (478, 23234), (486, 23303), (488, 23333), (491, 23372), (494, 23396), (497, 23444), (502, 23498),

Gene: LittleMunchkin_26 Start: 21076, Stop: 26559, Start Num: 1
Candidate Starts for LittleMunchkin_26:
(Start: 1 @21076 has 23 MA's), (12, 21265), (21, 21358), (22, 21373), (24, 21385), (31, 21643), (33, 21655), (37, 21706), (38, 21718), (40, 21730), (51, 21856), (54, 21886), (56, 21940), (58, 21970), (63, 22054), (65, 22075), (67, 22096), (69, 22108), (71, 22120), (74, 22174), (75, 22180), (76, 22186), (77, 22216), (78, 22225), (80, 22285), (81, 22294), (88, 22378), (91, 22399), (93, 22426), (95, 22432), (101, 22519), (102, 22549), (103, 22552), (105, 22561), (111, 22651), (113, 22675), (121, 22732), (126, 22753), (129, 22774), (137, 22843), (138, 22846), (141, 22855), (150, 22900), (154, 22948), (157, 22966), (165, 23005), (168, 23032), (170, 23041), (186, 23146), (197, 23221), (198, 23239), (199, 23245), (210, 23320), (219, 23416), (221, 23428), (225, 23467), (232, 23542), (234, 23554), (238, 23605), (239, 23620), (244, 23671), (249, 23713), (252, 23737), (254, 23770), (256, 23791), (262, 23869), (266, 23899), (268, 23914), (276, 24070), (277, 24094), (280, 24112), (284, 24148), (285, 24157), (288, 24208), (303, 24328), (305, 24376), (310, 24484), (321, 24598), (330, 24748), (339, 24901), (340, 24910), (343, 24943), (344, 24946), (346, 25009), (354, 25099), (362, 25156), (377, 25297), (378, 25300), (380, 25315), (381, 25336), (391, 25471), (393, 25486), (394, 25498), (402, 25582), (408, 25639), (412, 25666), (418, 25741), (419, 25744), (422, 25753), (424, 25771), (432, 25837), (434, 25849), (436, 25870), (438, 25882), (439, 25891), (450, 26005), (453, 26038), (454, 26044), (459, 26074), (461, 26086), (462, 26119), (469, 26215), (472, 26248), (483, 26335), (486, 26356), (488, 26386), (491, 26425), (497, 26497), (498, 26500), (502, 26551),

Gene: MakoManhole_26 Start: 19638, Stop: 25502, Start Num: 1
Candidate Starts for MakoManhole_26:
(Start: 1 @19638 has 23 MA's), (30, 20121), (35, 20253), (38, 20280), (53, 20439), (54, 20448), (56, 20502), (57, 20523), (65, 20637), (66, 20646), (67, 20658), (70, 20679), (71, 20682), (74, 20736), (76, 20748), (77, 20778), (80, 20847), (85, 20886), (89, 20943), (95, 20994), (101, 21081), (102, 21111), (103, 21114), (107, 21147), (116, 21252), (119, 21297), (121, 21330), (124, 21372), (128, 21390), (129, 21399), (132, 21423), (142, 21516), (148, 21549), (155, 21627), (156, 21633), (157, 21654), (158, 21657), (170, 21753), (173, 21771), (174, 21789), (175, 21792), (178, 21810), (180, 21846), (181, 21858), (188, 21906), (190, 21927), (196, 21960), (199, 21996), (202, 22011), (203, 22017), (210, 22071), (211, 22077), (213, 22098), (215, 22134), (216, 22149), (219, 22167), (226, 22233),

(227, 22236), (228, 22260), (231, 22287), (235, 22317), (238, 22356), (240, 22374), (241, 22398), (242, 22410), (244, 22422), (246, 22452), (262, 22620), (271, 22713), (275, 22815), (276, 22821), (277, 22845), (284, 22899), (285, 22908), (287, 22953), (289, 22971), (305, 23115), (310, 23217), (311, 23235), (316, 23283), (320, 23331), (322, 23361), (323, 23373), (333, 23529), (334, 23547), (338, 23640), (340, 23658), (344, 23694), (348, 23763), (362, 23913), (363, 23925), (365, 23943), (366, 23946), (371, 23982), (373, 24045), (378, 24150), (381, 24186), (386, 24273), (388, 24285), (389, 24309), (391, 24321), (394, 24348), (396, 24375), (397, 24396), (399, 24405), (402, 24432), (403, 24474), (413, 24609), (414, 24612), (415, 24627), (416, 24636), (421, 24678), (424, 24726), (431, 24786), (432, 24792), (434, 24804), (436, 24825), (439, 24846), (450, 24960), (457, 25017), (458, 25020), (460, 25035), (461, 25041), (466, 25137), (471, 25182), (476, 25215), (479, 25251), (486, 25299), (488, 25329), (491, 25368), (493, 25380), (497, 25440), (502, 25494),

Gene: Mariokart_24 Start: 18137, Stop: 23422, Start Num: 1
Candidate Starts for Mariokart_24:
(Start: 1 @18137 has 23 MA's), (4, 18248), (5, 18260), (8, 18281), (38, 18536), (54, 18704), (56, 18758), (57, 18779), (58, 18788), (61, 18803), (63, 18872), (65, 18893), (66, 18902), (69, 18926), (70, 18935), (71, 18938), (74, 18992), (77, 19034), (80, 19103), (85, 19142), (95, 19250), (101, 19337), (102, 19367), (105, 19379), (107, 19403), (108, 19412), (111, 19469), (121, 19550), (129, 19592), (135, 19649), (138, 19664), (150, 19718), (154, 19766), (157, 19784), (179, 19895), (187, 19970), (190, 19994), (193, 20006), (202, 20078), (203, 20084), (207, 20108), (209, 20132), (210, 20138), (212, 20162), (213, 20165), (219, 20234), (225, 20285), (228, 20327), (234, 20372), (235, 20384), (236, 20405), (238, 20423), (250, 20543), (255, 20600), (259, 20645), (261, 20669), (268, 20732), (270, 20777), (276, 20888), (277, 20912), (278, 20915), (279, 20921), (280, 20930), (284, 20966), (285, 20975), (293, 21065), (305, 21185), (310, 21287), (311, 21305), (316, 21353), (318, 21380), (323, 21443), (331, 21584), (333, 21599), (339, 21719), (343, 21761), (346, 21827), (347, 21830), (355, 21938), (356, 21950), (358, 21980), (363, 22031), (385, 22280), (391, 22334), (394, 22361), (396, 22388), (417, 22598), (419, 22610), (424, 22634), (434, 22712), (435, 22721), (438, 22745), (439, 22754), (443, 22814), (451, 22871), (452, 22883), (457, 22925), (458, 22928), (461, 22949), (463, 22985), (464, 23033), (469, 23078), (472, 23111), (477, 23138), (483, 23198), (486, 23219), (488, 23249), (491, 23288), (494, 23312), (497, 23360), (502, 23414),

Gene: MossRose_26 Start: 19617, Stop: 25481, Start Num: 1
Candidate Starts for MossRose_26:
(Start: 1 @19617 has 23 MA's), (35, 20232), (38, 20259), (53, 20418), (54, 20427), (56, 20481), (57, 20502), (65, 20616), (66, 20625), (67, 20637), (70, 20658), (71, 20661), (74, 20715), (76, 20727), (77, 20757), (80, 20826), (85, 20865), (89, 20922), (95, 20973), (101, 21060), (102, 21090), (103, 21093), (107, 21126), (116, 21231), (119, 21276), (121, 21309), (124, 21351), (128, 21369), (129, 21378), (132, 21402), (142, 21495), (148, 21528), (155, 21606), (156, 21612), (157, 21633), (158, 21636), (170, 21732), (173, 21750), (174, 21768), (175, 21771), (178, 21789), (180, 21825), (181, 21837), (188, 21885), (190, 21906), (196, 21939), (199, 21975), (202, 21990), (203, 21996), (210, 22050), (211, 22056), (213, 22077), (215, 22113), (216, 22128), (219, 22146), (227, 22215), (228, 22239), (231, 22266), (235, 22296), (238, 22335), (240, 22353), (241, 22377), (242, 22389), (244, 22401), (246, 22431), (262, 22599), (271, 22692), (275, 22794), (276, 22800), (277, 22824), (284, 22878), (285, 22887), (287, 22932), (289, 22950), (305, 23094), (310, 23196), (311, 23214), (316, 23262), (320, 23310), (322, 23340), (323, 23352), (333, 23508), (334, 23526), (338, 23619), (340, 23637), (344, 23673), (348, 23742), (362, 23892), (363, 23904), (365, 23922), (366, 23925), (369, 23946), (371, 23961), (373, 24024), (378, 24129), (381, 24165), (386, 24252), (388, 24264), (389, 24288), (391, 24300), (394, 24327), (396, 24354), (397, 24375), (399, 24384), (402, 24411), (403, 24453), (413, 24588), (414, 24591), (415, 24606), (416, 24615), (421, 24657), (424, 24705), (431, 24765), (432, 24771), (434, 24783), (436, 24804), (439, 24825), (450, 24939), (457, 24996), (458, 24999), (460, 25014), (461, 25020), (466, 25116), (476, 25194), (479, 25230), (486, 25278), (488, 25308), (491, 25347), (493, 25359), (497, 25419), (502, 25473),

Gene: NHagos_24 Start: 18152, Stop: 24022, Start Num: 1
Candidate Starts for NHagos_24:
(Start: 1 @18152 has 23 MA's), (18, 18392), (24, 18461), (28, 18569), (38, 18794), (49, 18905), (53, 18953), (54, 18962), (56, 19016), (57, 19037), (61, 19061), (63, 19130), (65, 19151), (66, 19160), (67, 19172), (71, 19196), (74, 19250), (77, 19292), (80, 19361), (85, 19400), (95, 19508), (101, 19595), (102, 19625), (103, 19628), (107, 19661), (116, 19766), (119, 19811), (121, 19844), (124, 19886), (128, 19904), (129, 19913), (140, 20021), (149, 20066), (156, 20147), (162, 20201), (163, 20204), (167, 20240), (170, 20267), (172, 20273), (173, 20285), (175, 20306), (176, 20309), (185, 20405), (190, 20441), (193, 20453), (196, 20474), (199, 20510), (202, 20525), (206, 20543), (208, 20561), (210, 20585), (211, 20591), (213, 20612), (215, 20648), (216, 20663), (219, 20681), (223, 20723), (227, 20750), (231, 20801), (238, 20870), (244, 20936), (246, 20966), (254, 21035), (255, 21047), (261, 21116), (262, 21134), (275, 21329), (276, 21335), (277, 21359), (283, 21404), (284, 21413), (285, 21422), (287, 21467), (296, 21536), (299, 21557), (305, 21629), (308, 21668), (310, 21731), (311, 21749), (313, 21770), (316, 21797), (320, 21845), (321, 21851), (322, 21875), (323, 21887), (333, 22043), (348, 22277), (353, 22364), (360, 22430), (362, 22439), (363, 22451), (365, 22469), (373, 22571), (378, 22676), (381, 22712), (386, 22799), (389, 22835), (391, 22847), (394, 22874), (396, 22901), (397, 22922), (402, 22958), (403, 23000), (405, 23039), (413, 23135), (414, 23138), (415, 23153), (419, 23192), (421, 23204), (428, 23294), (431, 23306), (432, 23312), (434, 23324), (439, 23366), (440, 23378), (450, 23480), (456, 23528), (457, 23537), (459, 23549), (460, 23555), (461, 23561), (466, 23657), (476, 23735), (479, 23771), (483, 23798), (486, 23819), (487, 23831), (488, 23849), (489, 23864), (491, 23888), (497, 23960), (502, 24014),

Gene: Pine5_27 Start: 20638, Stop: 25836, Start Num: 7
Candidate Starts for Pine5_27:
(6, 20629), (7, 20638), (10, 20671), (12, 20695), (15, 20707), (16, 20728), (19, 20761), (22, 20806), (23, 20818), (25, 20839), (46, 21193), (48, 21205), (50, 21214), (60, 21361), (64, 21454), (72, 21544), (74, 21556), (77, 21601), (94, 21811), (96, 21832), (97, 21850), (111, 22027), (134, 22189), (145, 22249), (146, 22252), (147, 22255), (149, 22261), (160, 22336), (165, 22357), (166, 22363), (177, 22402), (193, 22540), (211, 22675), (217, 22753), (218, 22759), (221, 22777), (224, 22813), (230, 22882), (249, 23059), (257, 23152), (268, 23260), (273, 23332), (274, 23347), (285, 23509), (290, 23563), (300, 23638), (304, 23683), (305, 23710), (310, 23818), (323, 23956), (326, 24040), (332, 24100), (338, 24217), (350, 24382), (360, 24472), (362, 24481), (368, 24532), (369, 24535), (371, 24550), (380, 24652), (384, 24712), (394, 24820), (401, 24895), (409, 24988), (423, 25129), (430, 25198), (431, 25201), (434, 25219), (439, 25261), (444, 25327), (446, 25342), (448, 25348), (456, 25402), (457, 25411), (458, 25414), (479, 25603), (480, 25612), (484, 25642), (485, 25648), (486, 25651), (491, 25720),

Gene: Shatter_24 Start: 18254, Stop: 23506, Start Num: 1
Candidate Starts for Shatter_24:
(Start: 1 @18254 has 23 MA's), (4, 18365), (5, 18377), (8, 18398), (38, 18653), (52, 18800), (54, 18821), (56, 18875), (57, 18896), (58, 18905), (63, 18989), (65, 19010), (66, 19019), (67, 19031), (69, 19043), (70, 19052), (71, 19055), (74, 19109), (76, 19121), (77, 19151), (80, 19220), (85, 19259), (91, 19334), (95, 19367), (101, 19454), (102, 19484), (105, 19496), (107, 19520), (108, 19529), (111, 19586), (114, 19613), (125, 19685), (127, 19697), (129, 19709), (135, 19766), (139, 19787), (143, 19802), (144, 19808), (150, 19835), (171, 19979), (183, 20054), (202, 20195), (203, 20201), (206, 20213), (207, 20225), (210, 20255), (211, 20261), (215, 20318), (219, 20351), (223, 20393), (225, 20402), (229, 20456), (234, 20489), (238, 20540), (240, 20558), (241, 20582), (244, 20606), (246, 20636), (254, 20705), (262, 20804), (263, 20816), (267, 20840), (269, 20861), (271, 20897), (276, 21005), (277, 21029), (278, 21032), (279, 21038), (281, 21050), (284, 21083), (285, 21092), (291, 21173), (301, 21242), (305, 21299), (310, 21401), (311, 21419), (316, 21467), (318, 21494), (319, 21497), (323, 21557), (325, 21617), (333, 21713), (343, 21875), (344, 21878), (349, 21959), (361, 22106), (362, 22109), (371, 22178), (378, 22253), (379, 22259), (381, 22289), (387, 22379), (389, 22412), (391, 22424), (393, 22439), (394, 22451), (396, 22478), (397, 22499), (402, 22535), (408,

22592), (412, 22619), (436, 22817), (439, 22838), (442, 22871), (450, 22952), (451, 22955), (454, 22991), (461, 23033), (462, 23066), (466, 23141), (472, 23195), (478, 23234), (486, 23303), (488, 23333), (491, 23372), (494, 23396), (497, 23444), (502, 23498),

Gene: Sisko_24 Start: 18501, Stop: 23987, Start Num: 1
Candidate Starts for Sisko_24:
(Start: 1 @18501 has 23 MA's), (12, 18690), (22, 18798), (24, 18810), (31, 19068), (38, 19143), (56, 19365), (57, 19386), (63, 19479), (65, 19500), (70, 19542), (71, 19545), (74, 19599), (76, 19611), (77, 19641), (80, 19710), (85, 19749), (89, 19806), (95, 19857), (101, 19944), (102, 19974), (105, 19986), (107, 20010), (111, 20076), (120, 20142), (123, 20166), (125, 20175), (126, 20178), (127, 20187), (138, 20271), (139, 20277), (143, 20292), (150, 20325), (154, 20373), (165, 20430), (168, 20457), (170, 20466), (189, 20583), (191, 20607), (197, 20646), (198, 20664), (199, 20670), (206, 20703), (210, 20745), (211, 20751), (215, 20808), (219, 20841), (225, 20892), (235, 20991), (238, 21030), (239, 21045), (244, 21096), (252, 21162), (256, 21216), (262, 21294), (268, 21339), (270, 21384), (275, 21489), (276, 21495), (277, 21519), (279, 21528), (280, 21537), (284, 21573), (285, 21582), (294, 21687), (303, 21753), (305, 21801), (310, 21909), (315, 21960), (339, 22326), (340, 22335), (342, 22359), (344, 22371), (348, 22440), (365, 22611), (375, 22683), (377, 22722), (380, 22740), (381, 22761), (388, 22860), (389, 22884), (391, 22896), (393, 22911), (394, 22923), (402, 23007), (408, 23064), (411, 23082), (412, 23091), (419, 23169), (431, 23259), (432, 23265), (435, 23286), (438, 23310), (439, 23319), (450, 23433), (454, 23472), (461, 23514), (462, 23547), (472, 23676), (474, 23688), (486, 23784), (488, 23814), (497, 23925), (502, 23979),

Gene: Sour_28 Start: 22231, Stop: 27735, Start Num: 1
Candidate Starts for Sour_28:
(Start: 1 @22231 has 23 MA's), (12, 22420), (21, 22513), (22, 22528), (24, 22540), (26, 22570), (31, 22798), (38, 22873), (54, 23041), (56, 23095), (57, 23116), (63, 23209), (65, 23230), (70, 23272), (71, 23275), (74, 23329), (77, 23371), (80, 23440), (85, 23479), (99, 23653), (101, 23674), (102, 23704), (105, 23716), (111, 23806), (120, 23872), (123, 23896), (125, 23905), (126, 23908), (127, 23917), (136, 23995), (138, 24001), (141, 24010), (143, 24022), (150, 24055), (154, 24103), (157, 24121), (168, 24187), (170, 24196), (186, 24301), (190, 24331), (191, 24337), (196, 24364), (198, 24394), (199, 24400), (206, 24433), (210, 24475), (213, 24502), (215, 24538), (216, 24553), (217, 24559), (219, 24571), (224, 24619), (225, 24622), (231, 24691), (234, 24709), (235, 24721), (238, 24760), (239, 24775), (240, 24778), (244, 24826), (246, 24856), (256, 24946), (268, 25069), (270, 25114), (274, 25156), (275, 25219), (276, 25225), (277, 25249), (280, 25267), (284, 25303), (285, 25312), (288, 25363), (292, 25396), (294, 25417), (298, 25441), (303, 25483), (305, 25531), (310, 25639), (315, 25690), (323, 25786), (330, 25903), (339, 26056), (340, 26065), (341, 26077), (344, 26101), (346, 26164), (348, 26170), (354, 26254), (362, 26311), (365, 26341), (370, 26374), (380, 26470), (381, 26491), (385, 26572), (391, 26626), (392, 26629), (394, 26653), (400, 26725), (407, 26812), (412, 26845), (417, 26911), (419, 26923), (424, 26947), (426, 26980), (431, 27007), (432, 27013), (434, 27025), (439, 27067), (450, 27181), (454, 27220), (459, 27250), (461, 27262), (462, 27295), (469, 27391), (472, 27424), (486, 27532), (488, 27562), (494, 27625), (497, 27673), (500, 27715), (502, 27727),

Gene: TPA2_33 Start: 20583, Stop: 27740, Start Num: 2
Candidate Starts for TPA2_33:
(Start: 1 @20508 has 23 MA's), (2, 20583), (4, 20622), (9, 20664), (11, 20688), (13, 20721), (17, 20763), (20, 20793), (27, 20889), (29, 21003), (36, 21162), (37, 21180), (39, 21201), (41, 21231), (43, 21273), (44, 21282), (47, 21306), (55, 21390), (56, 21432), (68, 21609), (70, 21621), (73, 21663), (79, 21744), (80, 21789), (83, 21810), (86, 21840), (87, 21882), (92, 21936), (98, 21987), (100, 22020), (101, 22041), (106, 22092), (109, 22173), (115, 22221), (118, 22248), (119, 22275), (120, 22287), (122, 22326), (132, 22407), (139, 22488), (146, 22542), (151, 22581), (153, 22599), (155, 22641), (157, 22668), (158, 22671), (159, 22680), (164, 22707), (169, 22764), (174, 22821), (182, 22899), (184, 22923), (187, 22947), (192, 22989), (194, 23001), (197, 23025), (200, 23067), (203, 23079),

(207, 23103), (210, 23151), (213, 23178), (214, 23205), (215, 23214), (219, 23247), (227, 23316), (229, 23352), (231, 23367), (233, 23376), (234, 23385), (237, 23427), (242, 23490), (251, 23562), (255, 23613), (258, 23649), (260, 23679), (268, 23745), (271, 23793), (272, 23814), (275, 23895), (276, 23901), (277, 23925), (280, 23943), (282, 23952), (284, 23979), (302, 24162), (306, 24246), (307, 24249), (308, 24252), (312, 24348), (314, 24378), (317, 24411), (323, 24477), (324, 24495), (328, 24591), (329, 24603), (335, 24726), (336, 24729), (345, 24861), (346, 24894), (347, 24897), (350, 24939), (351, 24942), (357, 25023), (372, 25182), (374, 25242), (377, 25347), (395, 25581), (398, 25623), (404, 25710), (406, 25764), (420, 25911), (425, 25968), (434, 26031), (437, 26061), (441, 26100), (445, 26163), (447, 26175), (452, 26199), (465, 26358), (468, 26394), (470, 26427), (473, 26439), (479, 26502), (481, 26514), (482, 26526), (487, 26562), (491, 26625), (492, 26631), (495, 26655), (496, 26670), (499, 26709), (501, 26745), (503, 26766), (504, 26781), (505, 26811), (506, 26922), (507, 26934), (508, 26943), (509, 26952), (510, 26973), (511, 26988), (512, 26994), (513, 27006), (514, 27108), (515, 27189), (516, 27222), (517, 27384), (518, 27450), (519, 27543), (520, 27546), (521, 27576), (522, 27615), (523, 27732),

Gene: TraderJ_26 Start: 19623, Stop: 25487, Start Num: 1
Candidate Starts for TraderJ_26:
(Start: 1 @19623 has 23 MA's), (18, 19863), (24, 19932), (35, 20238), (38, 20265), (53, 20424), (54, 20433), (56, 20487), (57, 20508), (65, 20622), (66, 20631), (67, 20643), (70, 20664), (71, 20667), (74, 20721), (76, 20733), (77, 20763), (80, 20832), (85, 20871), (89, 20928), (95, 20979), (101, 21066), (102, 21096), (103, 21099), (107, 21132), (116, 21237), (119, 21282), (121, 21315), (124, 21357), (128, 21375), (129, 21384), (132, 21408), (142, 21501), (149, 21537), (156, 21618), (157, 21639), (158, 21642), (170, 21738), (173, 21756), (175, 21777), (178, 21795), (181, 21843), (185, 21876), (188, 21891), (190, 21912), (199, 21981), (202, 21996), (203, 22002), (210, 22056), (211, 22062), (213, 22083), (215, 22119), (216, 22134), (217, 22140), (219, 22152), (226, 22218), (227, 22221), (228, 22245), (231, 22272), (235, 22302), (238, 22341), (240, 22359), (241, 22383), (242, 22395), (244, 22407), (246, 22437), (262, 22605), (271, 22698), (275, 22800), (276, 22806), (277, 22830), (284, 22884), (285, 22893), (287, 22938), (289, 22956), (305, 23100), (310, 23202), (311, 23220), (316, 23268), (320, 23316), (322, 23346), (323, 23358), (333, 23514), (334, 23532), (338, 23625), (340, 23643), (344, 23679), (348, 23748), (362, 23898), (363, 23910), (365, 23928), (371, 23967), (373, 24030), (378, 24135), (381, 24171), (386, 24258), (388, 24270), (389, 24294), (391, 24306), (394, 24333), (396, 24360), (397, 24381), (399, 24390), (402, 24417), (403, 24459), (413, 24594), (414, 24597), (415, 24612), (421, 24663), (424, 24711), (431, 24771), (432, 24777), (436, 24810), (439, 24831), (450, 24945), (457, 25002), (458, 25005), (460, 25020), (461, 25026), (466, 25122), (476, 25200), (479, 25236), (486, 25284), (488, 25314), (491, 25353), (493, 25365), (497, 25425), (502, 25479),

Gene: Wooper_26 Start: 19629, Stop: 25493, Start Num: 1
Candidate Starts for Wooper_26:
(Start: 1 @19629 has 23 MA's), (18, 19869), (24, 19938), (35, 20244), (38, 20271), (53, 20430), (54, 20439), (56, 20493), (57, 20514), (65, 20628), (66, 20637), (67, 20649), (70, 20670), (71, 20673), (74, 20727), (76, 20739), (77, 20769), (80, 20838), (85, 20877), (89, 20934), (95, 20985), (101, 21072), (102, 21102), (103, 21105), (107, 21138), (116, 21243), (119, 21288), (121, 21321), (124, 21363), (128, 21381), (129, 21390), (132, 21414), (142, 21507), (149, 21543), (156, 21624), (157, 21645), (158, 21648), (170, 21744), (173, 21762), (175, 21783), (178, 21801), (181, 21849), (185, 21882), (188, 21897), (190, 21918), (199, 21987), (202, 22002), (203, 22008), (210, 22062), (211, 22068), (213, 22089), (215, 22125), (216, 22140), (217, 22146), (219, 22158), (226, 22224), (227, 22227), (228, 22251), (231, 22278), (235, 22308), (238, 22347), (240, 22365), (241, 22389), (242, 22401), (244, 22413), (246, 22443), (262, 22611), (271, 22704), (275, 22806), (276, 22812), (277, 22836), (284, 22890), (285, 22899), (287, 22944), (289, 22962), (305, 23106), (310, 23208), (311, 23226), (316, 23274), (320, 23322), (322, 23352), (323, 23364), (333, 23520), (334, 23538), (338, 23631), (340, 23649), (344, 23685), (348, 23754), (362, 23904), (363, 23916), (365, 23934), (371, 23973), (373, 24036), (378, 24141), (381, 24177), (386, 24264), (388, 24276), (389, 24300), (391, 24312),

(394, 24339), (396, 24366), (397, 24387), (399, 24396), (402, 24423), (403, 24465), (413, 24600), (414, 24603), (415, 24618), (421, 24669), (424, 24717), (431, 24777), (432, 24783), (436, 24816), (439, 24837), (450, 24951), (457, 25008), (458, 25011), (460, 25026), (461, 25032), (466, 25128), (476, 25206), (479, 25242), (486, 25290), (488, 25320), (491, 25359), (493, 25371), (497, 25431), (502, 25485),

Gene: Yago84_24 Start: 18575, Stop: 24061, Start Num: 1
Candidate Starts for Yago84_24:
(Start: 1 @18575 has 23 MA's), (12, 18764), (22, 18872), (24, 18884), (31, 19142), (38, 19217), (42, 19253), (56, 19439), (57, 19460), (63, 19553), (65, 19574), (70, 19616), (71, 19619), (74, 19673), (76, 19685), (77, 19715), (80, 19784), (85, 19823), (89, 19880), (95, 19931), (101, 20018), (102, 20048), (105, 20060), (107, 20084), (111, 20150), (120, 20216), (123, 20240), (125, 20249), (126, 20252), (127, 20261), (138, 20345), (139, 20351), (143, 20366), (147, 20384), (150, 20399), (154, 20447), (165, 20504), (168, 20531), (170, 20540), (189, 20657), (191, 20681), (197, 20720), (198, 20738), (199, 20744), (206, 20777), (210, 20819), (211, 20825), (215, 20882), (219, 20915), (225, 20966), (235, 21065), (238, 21104), (239, 21119), (244, 21170), (252, 21236), (256, 21290), (262, 21368), (268, 21413), (270, 21458), (275, 21563), (276, 21569), (277, 21593), (279, 21602), (280, 21611), (284, 21647), (285, 21656), (294, 21761), (303, 21827), (305, 21875), (310, 21983), (315, 22034), (339, 22400), (340, 22409), (342, 22433), (344, 22445), (348, 22514), (365, 22685), (375, 22757), (377, 22796), (380, 22814), (381, 22835), (388, 22934), (389, 22958), (391, 22970), (393, 22985), (394, 22997), (402, 23081), (408, 23138), (411, 23156), (412, 23165), (419, 23243), (431, 23333), (432, 23339), (435, 23360), (438, 23384), (439, 23393), (450, 23507), (454, 23546), (461, 23588), (462, 23621), (472, 23750), (474, 23762), (486, 23858), (488, 23888), (497, 23999), (502, 24053),

Gene: Yeshua_26 Start: 19606, Stop: 25470, Start Num: 1
Candidate Starts for Yeshua_26:
(Start: 1 @19606 has 23 MA's), (18, 19846), (35, 20221), (38, 20248), (53, 20407), (54, 20416), (56, 20470), (57, 20491), (65, 20605), (66, 20614), (67, 20626), (70, 20647), (71, 20650), (74, 20704), (76, 20716), (77, 20746), (80, 20815), (85, 20854), (89, 20911), (95, 20962), (101, 21049), (102, 21079), (103, 21082), (107, 21115), (116, 21220), (119, 21265), (121, 21298), (124, 21340), (128, 21358), (129, 21367), (132, 21391), (142, 21484), (148, 21517), (155, 21595), (156, 21601), (157, 21622), (158, 21625), (170, 21721), (173, 21739), (174, 21757), (175, 21760), (178, 21778), (180, 21814), (181, 21826), (188, 21874), (190, 21895), (196, 21928), (199, 21964), (202, 21979), (203, 21985), (210, 22039), (211, 22045), (213, 22066), (215, 22102), (216, 22117), (219, 22135), (226, 22201), (227, 22204), (228, 22228), (231, 22255), (235, 22285), (238, 22324), (240, 22342), (241, 22366), (242, 22378), (244, 22390), (246, 22420), (262, 22588), (271, 22681), (275, 22783), (276, 22789), (277, 22813), (284, 22867), (285, 22876), (287, 22921), (289, 22939), (305, 23083), (310, 23185), (311, 23203), (316, 23251), (320, 23299), (322, 23329), (323, 23341), (333, 23497), (334, 23515), (338, 23608), (340, 23626), (344, 23662), (348, 23731), (362, 23881), (363, 23893), (365, 23911), (366, 23914), (371, 23950), (373, 24013), (378, 24118), (381, 24154), (386, 24241), (388, 24253), (389, 24277), (391, 24289), (394, 24316), (396, 24343), (397, 24364), (399, 24373), (402, 24400), (403, 24442), (413, 24577), (414, 24580), (415, 24595), (421, 24646), (424, 24694), (431, 24754), (432, 24760), (436, 24793), (439, 24814), (450, 24928), (457, 24985), (458, 24988), (460, 25003), (461, 25009), (466, 25105), (476, 25183), (479, 25219), (486, 25267), (488, 25297), (491, 25336), (493, 25348), (497, 25408), (502, 25462),