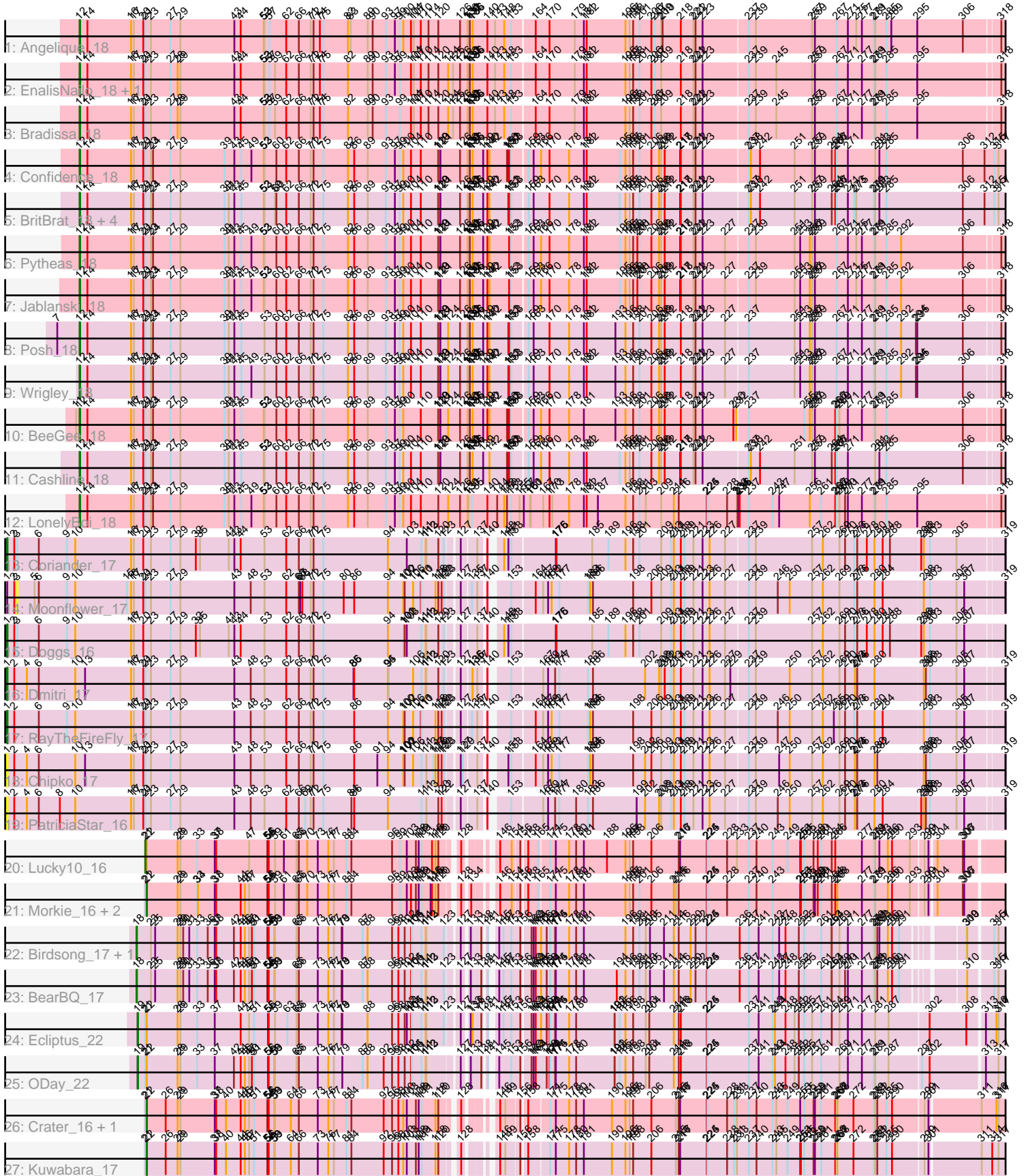


Zoomed Pham 305172



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 305172 Report

This analysis was run 06/08/26 on database version 649.

Pham number 305172 has 36 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Angelique_18
- Track 2 : EnalisNailo_18, Lilas_18
- Track 3 : Bradissa_18
- Track 4 : Confidence_18
- Track 5 : BritBrat_18, Floral_18, EMsquaredA_18, Marteena_18, Pollux_18
- Track 6 : Pytheas_18
- Track 7 : Jablanski_18
- Track 8 : Posh_18
- Track 9 : Wrigley_18
- Track 10 : BeeGee_18
- Track 11 : Cashline_18
- Track 12 : LonelyBoi_18
- Track 13 : Coriander_17
- Track 14 : Moonflower_17
- Track 15 : Doggs_16
- Track 16 : Dmitri_17
- Track 17 : RayTheFireFly_17
- Track 18 : Chipko_17
- Track 19 : PatriciaStar_16
- Track 20 : Lucky10_16
- Track 21 : Morkie_16, PhorbessPhlower_16, InLimbo_17
- Track 22 : Birdsong_17, MortyNRick_17
- Track 23 : BearBQ_17
- Track 24 : Ecliptus_22
- Track 25 : ODay_22
- Track 26 : Crater_16, Apricot_17
- Track 27 : Kuwabara_17

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

The start number called the most often in the published annotations is 12, it was called in 17 of the 32 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angelique_18, BeeGee_18, Bradissa_18, BritBrat_18, Cashline_18, Confidence_18, EMSquaredA_18, EnalisNailo_18, Floral_18, Jablanski_18, Lilas_18, LonelyBoi_18, Marteena_18, Pollux_18, Posh_18, Pytheas_18, Wrigley_18,

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

-

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

- Apricot_17, BearBQ_17, Birdsong_17, Chipko_17, Coriander_17, Crater_16, Dmitri_17, Doggs_16, Ecliptus_22, InLimbo_17, Kuwabara_17, Lucky10_16, Moonflower_17, Morkie_16, MortyNRick_17, ODay_22, PatriciaStar_16, PhorbesPhlower_16, RayTheFireFly_17,

Summary by start number:

Start 1:

- Found in 7 of 36 (19.4%) of genes in pham
- Manual Annotations of this start: 4 of 32
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Chipko_17 (DB), Coriander_17 (DB), Dmitri_17 (DB), Doggs_16 (DB), PatriciaStar_16 (DB), RayTheFireFly_17 (DB),

Start 3:

- Found in 3 of 36 (8.3%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Moonflower_17 (DB),

Start 12:

- Found in 17 of 36 (47.2%) of genes in pham
- Manual Annotations of this start: 17 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique_18 (CY1), BeeGee_18 (CY5), Bradissa_18 (CY1), BritBrat_18 (CY2), Cashline_18 (CY6), Confidence_18 (CY1), EMSquaredA_18 (CY1), EnalisNailo_18 (CY1), Floral_18 (CY1), Jablanski_18 (CY3), Lilas_18 (CY1), LonelyBoi_18 (CY7), Marteena_18 (CY1), Pollux_18 (CY1), Posh_18 (CY4), Pytheas_18 (CY3), Wrigley_18 (CY4),

Start 18:

- Found in 3 of 36 (8.3%) of genes in pham
- Manual Annotations of this start: 3 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ_17 (DN), Birdsong_17 (DN), MortyNRick_17 (DN),

Start 19:

- Found in 2 of 36 (5.6%) of genes in pham
- Manual Annotations of this start: 2 of 32
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ecliptus_22 (DN), ODay_22 (DN),

Start 21:

- Found in 31 of 36 (86.1%) of genes in pham

- Manual Annotations of this start: 1 of 32
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Lucky10_16 (DH),

Start 22:

- Found in 9 of 36 (25.0%) of genes in pham
- Manual Annotations of this start: 5 of 32
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Apricot_17 (DN3), Crater_16 (DN3), InLimbo_17 (DH), Kuwabara_17 (DN4), Morkie_16 (DH), PhorbesPhlower_16 (DH),

Summary by clusters:

There are 12 clusters represented in this pham: DN, CY3, CY1, CY7, DH, CY5, CY4, DB, DN4, DN3, CY2, CY6,

Info for manual annotations of cluster CY1:

- Start number 12 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 12 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY3:

- Start number 12 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:

- Start number 12 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY5:

- Start number 12 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:

- Start number 12 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 12 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DH:

- Start number 21 was manually annotated 1 time for cluster DH.
- Start number 22 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 18 was manually annotated 3 times for cluster DN.
- Start number 19 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN3:

- Start number 22 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 22 was manually annotated 1 time for cluster DN4.

Gene Information:

Gene: Angelique_18 Start: 11177, Stop: 16801, Start Num: 12

Candidate Starts for Angelique_18:

(Start: 12 @11177 has 17 MA's), (14, 11210), (16, 11390), (17, 11402), (20, 11441), (Start: 21 @11450 has 1 MA's), (23, 11474), (27, 11558), (29, 11600), (43, 11831), (44, 11858), (52, 11954), (53, 11957), (57, 11978), (62, 12050), (66, 12104), (71, 12155), (72, 12167), (74, 12194), (75, 12209), (82, 12314), (83, 12326), (89, 12398), (90, 12419), (93, 12473), (97, 12512), (99, 12533), (100, 12548), (104, 12581), (107, 12593), (110, 12623), (114, 12656), (120, 12698), (126, 12791), (130, 12824), (131, 12827), (132, 12833), (135, 12842), (136, 12845), (140, 12908), (143, 12941), (148, 12980), (153, 13010), (164, 13094), (170, 13151), (179, 13259), (181, 13298), (182, 13310), (196, 13472), (197, 13490), (198, 13505), (201, 13532), (206, 13583), (207, 13598), (209, 13625), (210, 13631), (218, 13709), (221, 13763), (222, 13772), (223, 13802), (237, 13976), (239, 14006), (257, 14237), (259, 14249), (267, 14339), (271, 14387), (275, 14423), (277, 14447), (279, 14498), (281, 14504), (285, 14549), (289, 14570), (295, 14681), (306, 14873), (318, 15008), (354, 15248), (358, 15314), (361, 15335), (362, 15344), (364, 15371), (368, 15449), (369, 15473), (375, 15614), (382, 15749), (385, 15776), (388, 15842), (389, 15896), (393, 15998), (396, 16097), (404, 16232), (421, 16421), (428, 16547), (430, 16577), (435, 16613), (436, 16616), (443, 16691),

Gene: Apricot_17 Start: 9635, Stop: 15046, Start Num: 22

Candidate Starts for Apricot_17:

(Start: 21 @9629 has 1 MA's), (Start: 22 @9635 has 5 MA's), (26, 9713), (28, 9755), (29, 9767), (37, 9908), (38, 9914), (40, 9950), (44, 10010), (46, 10028), (47, 10046), (51, 10067), (54, 10118), (55, 10121), (56, 10124), (58, 10148), (59, 10151), (64, 10217), (66, 10247), (73, 10325), (76, 10370), (77, 10394), (81, 10448), (84, 10469), (92, 10607), (96, 10643), (98, 10670), (100, 10691), (103, 10706), (108, 10745), (109, 10757), (111, 10769), (118, 10829), (120, 10841), (128, 10892), (146, 10967), (149, 10988), (156, 11036), (158, 11054), (171, 11123), (175, 11147), (178, 11204), (180, 11234), (181, 11267), (190, 11384), (196, 11441), (197, 11459), (198, 11474), (206, 11552), (215, 11657), (216, 11669), (217, 11675), (224, 11789), (225, 11792), (228, 11876), (231, 11906), (233, 11918), (237, 11969), (240, 12002), (243, 12071), (245, 12086), (249, 12128), (253, 12182), (255, 12197), (258, 12236), (259, 12242), (261, 12266), (266, 12326), (267, 12332), (268, 12335), (272, 12404), (279, 12491), (281, 12497), (282, 12506), (285, 12542), (290, 12566), (299, 12677), (301, 12689), (311, 12896), (316, 12959), (317, 12968), (320, 13001), (326, 13058), (328, 13085), (332, 13151), (333, 13169), (335, 13181), (354, 13208), (356, 13238), (358, 13274), (361, 13295), (363, 13307), (364, 13331), (368, 13409), (369, 13433), (370, 13448), (374, 13538), (378, 13658), (379, 13673), (381, 13694), (382, 13703), (387, 13790), (395, 14033), (399, 14123), (407, 14273), (409, 14297), (411, 14306), (412, 14333), (416, 14381), (417, 14399), (418, 14417), (420, 14441), (425, 14501), (433, 14624), (437, 14675), (441, 14702), (445, 14801), (447, 14813), (455, 14909), (458, 14927), (459, 14939), (462, 15029),

Gene: BearBQ_17 Start: 9908, Stop: 16477, Start Num: 18

Candidate Starts for BearBQ_17:

(Start: 18 @9908 has 3 MA's), (23, 9965), (25, 9983), (28, 10067), (29, 10079), (30, 10091), (31, 10115), (33, 10145), (36, 10190), (37, 10220), (38, 10226), (42, 10295), (44, 10322), (46, 10340), (47, 10358), (50, 10370), (51, 10379), (54, 10430), (55, 10433), (56, 10436), (58, 10460), (59, 10463), (65, 10550), (66, 10559), (73, 10637), (76, 10682), (77, 10706), (78, 10739), (79, 10742), (87, 10829), (88, 10850), (96, 10955), (98, 10982), (102, 11009), (104, 11036), (105, 11039), (111, 11081), (112, 11099), (113, 11102), (123, 11174), (127, 11216), (133, 11237), (138, 11264), (141, 11273), (145, 11288), (147, 11306), (153, 11339), (156, 11372), (162, 11405), (163, 11414), (164, 11423), (166, 11444), (168, 11468), (171, 11483), (174, 11504), (175, 11507), (178, 11564), (180, 11594), (181,

11627), (194, 11765), (196, 11801), (198, 11834), (201, 11861), (203, 11888), (205, 11906), (211, 11966), (214, 12008), (216, 12029), (220, 12080), (222, 12101), (224, 12149), (225, 12152), (236, 12290), (237, 12329), (241, 12371), (243, 12431), (247, 12458), (248, 12479), (252, 12536), (255, 12557), (261, 12629), (263, 12671), (264, 12674), (269, 12707), (270, 12731), (271, 12743), (277, 12803), (279, 12854), (281, 12860), (282, 12869), (286, 12911), (290, 12929), (291, 12959), (310, 13157), (315, 13238), (317, 13256), (320, 13289), (321, 13301), (325, 13337), (328, 13373), (329, 13397), (330, 13400), (331, 13421), (333, 13457), (335, 13469), (336, 13508), (337, 13535), (338, 13562), (339, 13634), (340, 13664), (341, 13700), (342, 13868), (343, 13946), (344, 13997), (345, 14150), (346, 14285), (347, 14294), (348, 14315), (349, 14318), (350, 14327), (351, 14345), (352, 14375), (353, 14408), (354, 14612), (355, 14630), (356, 14642), (358, 14678), (361, 14699), (366, 14789), (368, 14813), (369, 14837), (374, 14945), (377, 15068), (379, 15092), (381, 15113), (382, 15122), (383, 15125), (386, 15152), (387, 15212), (395, 15455), (397, 15536), (398, 15539), (399, 15545), (407, 15704), (409, 15728), (411, 15737), (414, 15782), (415, 15794), (417, 15827), (418, 15845), (425, 15938), (432, 16043), (434, 16064), (440, 16118), (442, 16157), (444, 16229), (449, 16259), (453, 16298), (454, 16331), (458, 16370), (460, 16418), (461, 16451), (463, 16463),

Gene: BeeGee_18 Start: 10997, Stop: 16621, Start Num: 12

Candidate Starts for BeeGee_18:

(11, 10982), (Start: 12 @10997 has 17 MA's), (14, 11030), (16, 11210), (17, 11222), (20, 11261), (Start: 21 @11270 has 1 MA's), (23, 11294), (24, 11303), (27, 11378), (29, 11420), (39, 11609), (41, 11627), (43, 11651), (45, 11681), (52, 11774), (53, 11777), (60, 11828), (62, 11870), (66, 11924), (71, 11975), (72, 11987), (75, 12029), (82, 12134), (86, 12161), (89, 12218), (93, 12293), (97, 12332), (99, 12353), (100, 12368), (110, 12443), (119, 12515), (120, 12518), (121, 12527), (124, 12560), (126, 12611), (130, 12644), (131, 12647), (132, 12653), (135, 12662), (136, 12665), (139, 12710), (140, 12728), (142, 12737), (150, 12812), (151, 12818), (152, 12821), (153, 12830), (159, 12884), (163, 12905), (166, 12935), (170, 12971), (178, 13055), (181, 13118), (193, 13250), (196, 13292), (198, 13325), (201, 13352), (206, 13403), (208, 13436), (209, 13445), (212, 13460), (218, 13529), (221, 13583), (222, 13592), (223, 13622), (230, 13742), (232, 13754), (237, 13796), (255, 14024), (256, 14048), (257, 14057), (259, 14069), (266, 14153), (267, 14159), (269, 14171), (271, 14207), (277, 14267), (279, 14318), (281, 14324), (285, 14369), (306, 14693), (318, 14828), (354, 15068), (358, 15134), (361, 15155), (362, 15164), (364, 15191), (368, 15269), (369, 15293), (373, 15386), (374, 15410), (375, 15434), (379, 15539), (382, 15569), (388, 15662), (389, 15716), (393, 15818), (396, 15917), (421, 16241), (428, 16367), (430, 16397), (435, 16433), (436, 16436), (443, 16511), (450, 16607),

Gene: Birdsong_17 Start: 9908, Stop: 15370, Start Num: 18

Candidate Starts for Birdsong_17:

(Start: 18 @9908 has 3 MA's), (23, 9965), (25, 9983), (28, 10067), (29, 10079), (30, 10091), (31, 10115), (33, 10145), (36, 10190), (37, 10220), (38, 10226), (42, 10295), (44, 10322), (46, 10340), (47, 10358), (50, 10370), (51, 10379), (54, 10430), (55, 10433), (56, 10436), (58, 10460), (59, 10463), (65, 10550), (66, 10559), (73, 10637), (76, 10682), (77, 10706), (78, 10739), (79, 10742), (87, 10829), (88, 10850), (96, 10955), (98, 10982), (102, 11009), (104, 11036), (105, 11039), (111, 11081), (112, 11099), (113, 11102), (123, 11174), (127, 11216), (133, 11237), (138, 11264), (141, 11273), (145, 11288), (147, 11306), (153, 11339), (156, 11372), (162, 11405), (163, 11414), (164, 11423), (166, 11444), (168, 11468), (171, 11483), (174, 11504), (175, 11507), (178, 11564), (180, 11594), (181, 11627), (196, 11801), (198, 11834), (201, 11861), (203, 11888), (205, 11906), (211, 11966), (214, 12008), (216, 12029), (220, 12080), (222, 12101), (224, 12149), (225, 12152), (236, 12290), (237, 12329), (241, 12371), (243, 12431), (247, 12458), (248, 12479), (252, 12536), (255, 12557), (261, 12629), (263, 12671), (264, 12674), (269, 12707), (271, 12743), (277, 12803), (279, 12854), (281, 12860), (282, 12869), (283, 12878), (286, 12911), (290, 12929), (291, 12959), (309, 13154), (310, 13157), (315, 13238), (317, 13256), (320, 13289), (321, 13301), (325, 13337), (328, 13373), (329, 13397), (330, 13400), (331, 13421), (333, 13457), (335, 13469), (354, 13496), (355, 13514), (356, 13526), (358, 13562), (361, 13583), (366, 13673), (368, 13697), (369, 13721), (374, 13829), (377,

13952), (379, 13976), (382, 14006), (383, 14009), (386, 14036), (395, 14339), (397, 14420), (398, 14423), (399, 14429), (408, 14594), (409, 14612), (411, 14621), (414, 14666), (415, 14678), (417, 14714), (418, 14732), (425, 14831), (432, 14936), (434, 14957), (440, 15011), (442, 15050), (444, 15122), (449, 15152), (453, 15191), (454, 15224), (458, 15263), (460, 15311), (461, 15344), (463, 15356),

Gene: Bradissa_18 Start: 11180, Stop: 16804, Start Num: 12

Candidate Starts for Bradissa_18:

(Start: 12 @11180 has 17 MA's), (14, 11213), (16, 11393), (17, 11405), (20, 11444), (Start: 21 @11453 has 1 MA's), (23, 11477), (27, 11561), (28, 11591), (29, 11603), (43, 11834), (44, 11861), (52, 11957), (53, 11960), (57, 11981), (59, 12005), (62, 12053), (66, 12107), (71, 12158), (72, 12170), (74, 12197), (75, 12212), (82, 12317), (89, 12401), (90, 12422), (93, 12476), (99, 12536), (104, 12584), (107, 12596), (110, 12626), (114, 12659), (120, 12701), (124, 12743), (125, 12764), (126, 12794), (130, 12827), (131, 12830), (132, 12836), (135, 12845), (136, 12848), (140, 12911), (143, 12944), (148, 12983), (153, 13013), (164, 13097), (170, 13154), (179, 13262), (181, 13301), (182, 13313), (196, 13475), (197, 13493), (198, 13508), (201, 13535), (206, 13586), (207, 13601), (209, 13628), (218, 13712), (221, 13766), (222, 13775), (223, 13805), (237, 13979), (239, 14009), (245, 14096), (257, 14240), (259, 14252), (267, 14342), (271, 14390), (277, 14450), (279, 14501), (281, 14507), (285, 14552), (295, 14684), (318, 15011), (328, 15116), (354, 15251), (356, 15281), (358, 15317), (361, 15338), (362, 15347), (364, 15374), (368, 15452), (369, 15476), (375, 15617), (379, 15722), (382, 15752), (383, 15755), (388, 15845), (389, 15899), (393, 16001), (404, 16235), (419, 16403), (421, 16424), (428, 16550), (430, 16580), (435, 16616), (436, 16619),

Gene: BritBrat_18 Start: 11003, Stop: 16657, Start Num: 12

Candidate Starts for BritBrat_18:

(Start: 12 @11003 has 17 MA's), (14, 11036), (16, 11216), (17, 11228), (20, 11267), (Start: 21 @11276 has 1 MA's), (23, 11300), (24, 11309), (27, 11384), (29, 11426), (39, 11615), (41, 11633), (43, 11657), (45, 11687), (52, 11780), (53, 11783), (59, 11828), (60, 11834), (62, 11876), (66, 11930), (71, 11981), (72, 11993), (75, 12035), (82, 12140), (86, 12167), (89, 12224), (93, 12299), (97, 12338), (99, 12359), (100, 12374), (104, 12407), (110, 12449), (119, 12521), (120, 12524), (121, 12533), (126, 12617), (130, 12650), (131, 12653), (132, 12659), (135, 12668), (136, 12671), (139, 12716), (140, 12734), (142, 12743), (151, 12824), (152, 12827), (153, 12836), (159, 12890), (163, 12911), (170, 12977), (178, 13061), (181, 13124), (182, 13136), (195, 13274), (196, 13298), (197, 13316), (198, 13331), (201, 13358), (206, 13409), (208, 13442), (209, 13451), (212, 13466), (217, 13532), (218, 13535), (221, 13589), (222, 13598), (223, 13628), (237, 13802), (238, 13811), (242, 13850), (251, 13991), (257, 14063), (259, 14075), (264, 14144), (266, 14159), (267, 14165), (271, 14213), (273, 14240), (275, 14249), (279, 14324), (281, 14330), (283, 14348), (285, 14375), (306, 14699), (312, 14792), (315, 14834), (317, 14852), (354, 15104), (358, 15170), (361, 15191), (362, 15200), (364, 15227), (368, 15305), (369, 15329), (373, 15422), (374, 15446), (375, 15470), (379, 15575), (382, 15605), (388, 15698), (389, 15752), (393, 15854), (396, 15953), (419, 16256), (428, 16403), (430, 16433), (435, 16469), (436, 16472), (443, 16547), (450, 16643),

Gene: Cashline_18 Start: 10857, Stop: 16481, Start Num: 12

Candidate Starts for Cashline_18:

(Start: 12 @10857 has 17 MA's), (14, 10890), (16, 11070), (17, 11082), (20, 11121), (Start: 21 @11130 has 1 MA's), (23, 11154), (24, 11163), (27, 11238), (29, 11280), (39, 11469), (41, 11487), (43, 11511), (45, 11541), (52, 11634), (53, 11637), (60, 11688), (62, 11730), (66, 11784), (71, 11835), (72, 11847), (75, 11889), (82, 11994), (86, 12021), (89, 12078), (93, 12153), (97, 12192), (99, 12213), (100, 12228), (104, 12261), (110, 12303), (119, 12375), (120, 12378), (121, 12387), (126, 12471), (130, 12504), (131, 12507), (132, 12513), (135, 12522), (136, 12525), (139, 12570), (142, 12597), (150, 12672), (151, 12678), (152, 12681), (153, 12690), (159, 12744), (163, 12765), (166, 12795), (170, 12831), (178, 12915), (181, 12978), (182, 12990), (195, 13128), (196, 13152), (197, 13170), (198, 13185), (201, 13212), (206, 13263), (208, 13296), (209, 13305), (212, 13320), (217, 13386), (218, 13389),

(221, 13443), (222, 13452), (223, 13482), (237, 13656), (238, 13665), (242, 13704), (251, 13845), (257, 13917), (259, 13929), (264, 13998), (266, 14013), (267, 14019), (271, 14067), (281, 14184), (283, 14202), (285, 14229), (306, 14553), (318, 14688), (354, 14928), (358, 14994), (361, 15015), (362, 15024), (364, 15051), (368, 15129), (369, 15153), (373, 15246), (374, 15270), (375, 15294), (379, 15399), (382, 15429), (388, 15522), (389, 15576), (393, 15678), (396, 15777), (421, 16101), (428, 16227), (430, 16257), (435, 16293), (436, 16296), (443, 16371), (450, 16467),

Gene: Chipko_17 Start: 10890, Stop: 16577, Start Num: 1

Candidate Starts for Chipko_17:

(Start: 1 @10890 has 4 MA's), (2, 10920), (4, 10974), (6, 11025), (10, 11181), (13, 11223), (16, 11418), (17, 11430), (20, 11469), (Start: 21 @11478 has 1 MA's), (23, 11502), (27, 11586), (29, 11628), (43, 11859), (48, 11928), (53, 11985), (62, 12078), (66, 12132), (71, 12183), (72, 12195), (75, 12237), (86, 12369), (91, 12465), (94, 12510), (100, 12576), (101, 12579), (102, 12582), (106, 12618), (111, 12654), (113, 12675), (117, 12705), (118, 12714), (120, 12726), (122, 12738), (123, 12747), (127, 12789), (129, 12798), (137, 12837), (140, 12852), (151, 12900), (153, 12912), (164, 12996), (167, 13026), (169, 13047), (172, 13062), (177, 13095), (183, 13218), (184, 13227), (186, 13239), (198, 13392), (202, 13443), (206, 13470), (209, 13512), (213, 13554), (214, 13566), (218, 13596), (219, 13611), (221, 13650), (223, 13689), (226, 13719), (227, 13779), (237, 13863), (239, 13893), (247, 13992), (250, 14031), (257, 14124), (262, 14169), (269, 14232), (270, 14256), (273, 14289), (274, 14292), (276, 14301), (280, 14367), (282, 14379), (298, 14544), (300, 14553), (303, 14565), (305, 14664), (307, 14697), (319, 14844), (320, 14847), (321, 14859), (323, 14880), (327, 14907), (334, 15024), (357, 15102), (359, 15123), (361, 15144), (371, 15279), (372, 15297), (379, 15462), (382, 15492), (386, 15522), (392, 15726), (393, 15744), (394, 15762), (403, 15939), (405, 15999), (406, 16008), (410, 16053), (427, 16317), (430, 16350), (431, 16353), (434, 16374), (438, 16416), (439, 16419), (442, 16455), (446, 16530), (447, 16536), (448, 16539), (451, 16566), (452, 16569),

Gene: Confidence_18 Start: 10997, Stop: 16651, Start Num: 12

Candidate Starts for Confidence_18:

(Start: 12 @10997 has 17 MA's), (14, 11030), (16, 11210), (17, 11222), (20, 11261), (Start: 21 @11270 has 1 MA's), (23, 11294), (24, 11303), (27, 11378), (29, 11420), (39, 11609), (43, 11651), (45, 11681), (49, 11723), (52, 11774), (53, 11777), (60, 11828), (62, 11870), (66, 11924), (71, 11975), (72, 11987), (75, 12029), (82, 12134), (86, 12161), (89, 12218), (93, 12293), (97, 12332), (99, 12353), (100, 12368), (104, 12401), (110, 12443), (119, 12515), (120, 12518), (121, 12527), (126, 12611), (130, 12644), (131, 12647), (132, 12653), (135, 12662), (136, 12665), (139, 12710), (140, 12728), (142, 12737), (150, 12812), (151, 12818), (152, 12821), (153, 12830), (159, 12884), (163, 12905), (166, 12935), (170, 12971), (178, 13055), (181, 13118), (182, 13130), (195, 13268), (196, 13292), (197, 13310), (198, 13325), (201, 13352), (206, 13403), (208, 13436), (209, 13445), (212, 13460), (217, 13526), (218, 13529), (221, 13583), (222, 13592), (223, 13622), (237, 13796), (238, 13805), (242, 13844), (251, 13985), (257, 14057), (259, 14069), (264, 14138), (266, 14153), (267, 14159), (271, 14207), (281, 14324), (283, 14342), (285, 14369), (306, 14693), (312, 14786), (315, 14828), (317, 14846), (354, 15098), (358, 15164), (361, 15185), (362, 15194), (364, 15221), (368, 15299), (369, 15323), (373, 15416), (375, 15464), (379, 15569), (382, 15599), (388, 15692), (389, 15746), (393, 15848), (396, 15947), (419, 16250), (421, 16271), (428, 16397), (430, 16427), (435, 16463), (436, 16466), (443, 16541), (450, 16637),

Gene: Coriander_17 Start: 10886, Stop: 16564, Start Num: 1

Candidate Starts for Coriander_17:

(Start: 1 @10886 has 4 MA's), (2, 10916), (3, 10928), (6, 11021), (9, 11141), (10, 11177), (16, 11414), (17, 11426), (20, 11465), (23, 11498), (27, 11582), (29, 11624), (32, 11690), (35, 11708), (41, 11831), (43, 11855), (44, 11882), (53, 11981), (62, 12074), (66, 12128), (71, 12179), (72, 12191), (75, 12233), (94, 12506), (103, 12587), (111, 12650), (112, 12668), (113, 12671), (120, 12722), (123, 12743), (127, 12785), (137, 12833), (140, 12848), (148, 12878), (151, 12896), (153, 12908), (175, 13076), (176, 13079), (185, 13229), (189, 13298), (196, 13358), (198, 13391), (201, 13418), (209, 13511), (213,

13553), (214, 13565), (218, 13595), (219, 13610), (221, 13649), (223, 13688), (226, 13718), (227, 13778), (237, 13862), (239, 13892), (257, 14123), (262, 14168), (269, 14231), (270, 14255), (273, 14288), (276, 14300), (278, 14339), (280, 14366), (284, 14399), (288, 14429), (296, 14534), (298, 14543), (303, 14564), (305, 14663), (319, 14843), (320, 14846), (321, 14858), (323, 14879), (327, 14906), (357, 15101), (359, 15122), (360, 15125), (361, 15143), (371, 15278), (378, 15446), (382, 15491), (386, 15521), (389, 15629), (393, 15731), (396, 15830), (403, 15926), (405, 15986), (410, 16040), (426, 16298), (427, 16304), (430, 16337), (431, 16340), (434, 16361), (438, 16403), (439, 16406), (442, 16442), (446, 16517), (447, 16523), (448, 16526), (451, 16553),

Gene: Crater_16 Start: 9635, Stop: 15046, Start Num: 22

Candidate Starts for Crater_16:

(Start: 21 @9629 has 1 MA's), (Start: 22 @9635 has 5 MA's), (26, 9713), (28, 9755), (29, 9767), (37, 9908), (38, 9914), (40, 9950), (44, 10010), (46, 10028), (47, 10046), (51, 10067), (54, 10118), (55, 10121), (56, 10124), (58, 10148), (59, 10151), (64, 10217), (66, 10247), (73, 10325), (76, 10370), (77, 10394), (81, 10448), (84, 10469), (92, 10607), (96, 10643), (98, 10670), (100, 10691), (103, 10706), (108, 10745), (109, 10757), (111, 10769), (118, 10829), (120, 10841), (128, 10892), (146, 10967), (149, 10988), (156, 11036), (158, 11054), (171, 11123), (175, 11147), (178, 11204), (180, 11234), (181, 11267), (190, 11384), (196, 11441), (197, 11459), (198, 11474), (206, 11552), (215, 11657), (216, 11669), (217, 11675), (224, 11789), (225, 11792), (228, 11876), (231, 11906), (233, 11918), (237, 11969), (240, 12002), (243, 12071), (245, 12086), (249, 12128), (253, 12182), (255, 12197), (258, 12236), (259, 12242), (261, 12266), (266, 12326), (267, 12332), (268, 12335), (272, 12404), (279, 12491), (281, 12497), (282, 12506), (285, 12542), (290, 12566), (299, 12677), (301, 12689), (311, 12896), (316, 12959), (317, 12968), (320, 13001), (326, 13058), (328, 13085), (332, 13151), (333, 13169), (335, 13181), (354, 13208), (356, 13238), (358, 13274), (361, 13295), (363, 13307), (364, 13331), (368, 13409), (369, 13433), (370, 13448), (374, 13538), (378, 13658), (379, 13673), (381, 13694), (382, 13703), (387, 13790), (395, 14033), (399, 14123), (407, 14273), (409, 14297), (411, 14306), (412, 14333), (416, 14381), (417, 14399), (418, 14417), (420, 14441), (425, 14501), (433, 14624), (437, 14675), (441, 14702), (445, 14801), (447, 14813), (455, 14909), (458, 14927), (459, 14939), (462, 15029),

Gene: Dmitri_17 Start: 10871, Stop: 16561, Start Num: 1

Candidate Starts for Dmitri_17:

(Start: 1 @10871 has 4 MA's), (2, 10901), (4, 10955), (6, 11006), (10, 11162), (13, 11204), (16, 11399), (17, 11411), (20, 11450), (Start: 21 @11459 has 1 MA's), (23, 11483), (27, 11567), (29, 11609), (43, 11840), (48, 11909), (53, 11966), (62, 12059), (66, 12113), (71, 12164), (72, 12176), (75, 12218), (85, 12347), (86, 12350), (94, 12491), (95, 12494), (106, 12599), (111, 12635), (112, 12653), (113, 12656), (120, 12707), (123, 12728), (127, 12770), (135, 12800), (136, 12803), (137, 12818), (140, 12833), (153, 12893), (167, 13007), (169, 13028), (174, 13058), (177, 13076), (183, 13199), (186, 13220), (202, 13424), (208, 13484), (209, 13493), (212, 13508), (213, 13535), (214, 13547), (218, 13577), (221, 13631), (223, 13670), (226, 13700), (227, 13760), (229, 13781), (237, 13844), (239, 13874), (250, 14012), (257, 14105), (262, 14150), (269, 14213), (270, 14237), (273, 14270), (274, 14273), (276, 14282), (280, 14348), (298, 14525), (300, 14534), (303, 14546), (305, 14645), (307, 14678), (319, 14825), (320, 14828), (321, 14840), (323, 14861), (327, 14888), (334, 15005), (357, 15083), (359, 15104), (361, 15125), (371, 15260), (382, 15476), (384, 15485), (386, 15506), (393, 15728), (394, 15746), (403, 15923), (405, 15983), (406, 15992), (410, 16037), (427, 16301), (430, 16334), (431, 16337), (434, 16358), (438, 16400), (439, 16403), (442, 16439), (446, 16514), (447, 16520), (448, 16523), (451, 16550), (452, 16553),

Gene: Doggs_16 Start: 10586, Stop: 16264, Start Num: 1

Candidate Starts for Doggs_16:

(Start: 1 @10586 has 4 MA's), (2, 10616), (3, 10628), (6, 10721), (9, 10841), (10, 10877), (16, 11114), (17, 11126), (20, 11165), (23, 11198), (27, 11282), (29, 11324), (32, 11390), (35, 11408), (41, 11531), (43, 11555), (44, 11582), (53, 11681), (62, 11774), (66, 11828), (71, 11879), (72, 11891), (75, 11933),

(94, 12206), (101, 12275), (102, 12278), (103, 12287), (111, 12350), (112, 12368), (113, 12371), (120, 12422), (123, 12443), (127, 12485), (137, 12533), (140, 12548), (148, 12578), (151, 12596), (153, 12608), (175, 12776), (176, 12779), (185, 12929), (189, 12998), (196, 13058), (198, 13091), (201, 13118), (209, 13211), (213, 13253), (214, 13265), (218, 13295), (219, 13310), (221, 13349), (223, 13388), (226, 13418), (227, 13478), (237, 13562), (239, 13592), (257, 13823), (262, 13868), (269, 13931), (270, 13955), (273, 13988), (276, 14000), (278, 14039), (280, 14066), (284, 14099), (288, 14129), (296, 14234), (298, 14243), (303, 14264), (305, 14363), (307, 14396), (320, 14546), (321, 14558), (323, 14579), (327, 14606), (357, 14801), (359, 14822), (360, 14825), (361, 14843), (371, 14978), (378, 15146), (382, 15191), (386, 15221), (389, 15329), (391, 15401), (393, 15431), (396, 15530), (403, 15629), (405, 15689), (413, 15782), (422, 15890), (424, 15902), (426, 15998), (427, 16004), (430, 16037), (431, 16040), (438, 16103), (439, 16106), (446, 16217), (447, 16223), (448, 16226), (451, 16253), (452, 16256),

Gene: EMSquaredA_18 Start: 11003, Stop: 16657, Start Num: 12

Candidate Starts for EMSquaredA_18:

(Start: 12 @11003 has 17 MA's), (14, 11036), (16, 11216), (17, 11228), (20, 11267), (Start: 21 @11276 has 1 MA's), (23, 11300), (24, 11309), (27, 11384), (29, 11426), (39, 11615), (41, 11633), (43, 11657), (45, 11687), (52, 11780), (53, 11783), (59, 11828), (60, 11834), (62, 11876), (66, 11930), (71, 11981), (72, 11993), (75, 12035), (82, 12140), (86, 12167), (89, 12224), (93, 12299), (97, 12338), (99, 12359), (100, 12374), (104, 12407), (110, 12449), (119, 12521), (120, 12524), (121, 12533), (126, 12617), (130, 12650), (131, 12653), (132, 12659), (135, 12668), (136, 12671), (139, 12716), (140, 12734), (142, 12743), (151, 12824), (152, 12827), (153, 12836), (159, 12890), (163, 12911), (170, 12977), (178, 13061), (181, 13124), (182, 13136), (195, 13274), (196, 13298), (197, 13316), (198, 13331), (201, 13358), (206, 13409), (208, 13442), (209, 13451), (212, 13466), (217, 13532), (218, 13535), (221, 13589), (222, 13598), (223, 13628), (237, 13802), (238, 13811), (242, 13850), (251, 13991), (257, 14063), (259, 14075), (264, 14144), (266, 14159), (267, 14165), (271, 14213), (273, 14240), (275, 14249), (279, 14324), (281, 14330), (283, 14348), (285, 14375), (306, 14699), (312, 14792), (315, 14834), (317, 14852), (354, 15104), (358, 15170), (361, 15191), (362, 15200), (364, 15227), (368, 15305), (369, 15329), (373, 15422), (374, 15446), (375, 15470), (379, 15575), (382, 15605), (388, 15698), (389, 15752), (393, 15854), (396, 15953), (419, 16256), (428, 16403), (430, 16433), (435, 16469), (436, 16472), (443, 16547), (450, 16643),

Gene: Ecliptus_22 Start: 11993, Stop: 17506, Start Num: 19

Candidate Starts for Ecliptus_22:

(Start: 19 @11993 has 2 MA's), (Start: 21 @12026 has 1 MA's), (Start: 22 @12032 has 5 MA's), (28, 12152), (29, 12164), (33, 12230), (37, 12305), (44, 12407), (47, 12443), (51, 12464), (55, 12518), (56, 12521), (59, 12548), (63, 12599), (65, 12635), (66, 12644), (73, 12722), (76, 12767), (77, 12791), (78, 12824), (79, 12827), (88, 12935), (96, 13040), (98, 13067), (102, 13094), (103, 13103), (104, 13121), (105, 13124), (111, 13166), (112, 13184), (113, 13187), (123, 13259), (127, 13301), (133, 13322), (136, 13328), (138, 13349), (141, 13358), (145, 13373), (147, 13391), (153, 13424), (156, 13457), (162, 13490), (163, 13499), (164, 13508), (166, 13529), (168, 13553), (170, 13565), (171, 13568), (174, 13589), (175, 13592), (178, 13649), (180, 13679), (191, 13838), (192, 13841), (195, 13862), (196, 13886), (198, 13919), (203, 13973), (204, 13988), (214, 14093), (216, 14114), (218, 14123), (224, 14234), (225, 14237), (237, 14414), (241, 14456), (243, 14516), (244, 14525), (248, 14564), (251, 14603), (252, 14621), (255, 14642), (257, 14675), (261, 14714), (264, 14759), (269, 14792), (271, 14828), (277, 14888), (281, 14945), (287, 14999), (302, 15152), (308, 15305), (313, 15359), (316, 15404), (317, 15413), (320, 15446), (330, 15551), (333, 15608), (354, 15647), (358, 15713), (361, 15734), (367, 15842), (368, 15848), (369, 15872), (374, 15986), (375, 16010), (376, 16085), (379, 16121), (381, 16142), (382, 16151), (383, 16154), (386, 16181), (395, 16484), (397, 16565), (398, 16568), (399, 16574), (408, 16739), (409, 16757), (411, 16766), (414, 16811), (415, 16823), (417, 16856), (418, 16874), (425, 16967), (432, 17072), (434, 17093), (440, 17147), (442, 17186), (444, 17258), (449, 17288), (453, 17327), (454, 17360), (458, 17399), (460, 17447), (461, 17480), (463, 17492),

Gene: EnalisNailo_18 Start: 11182, Stop: 16806, Start Num: 12

Candidate Starts for EnalisNailo_18:

(Start: 12 @11182 has 17 MA's), (14, 11215), (16, 11395), (17, 11407), (20, 11446), (Start: 21 @11455 has 1 MA's), (23, 11479), (27, 11563), (28, 11593), (29, 11605), (43, 11836), (44, 11863), (52, 11959), (53, 11962), (57, 11983), (59, 12007), (62, 12055), (66, 12109), (71, 12160), (72, 12172), (74, 12199), (75, 12214), (82, 12319), (89, 12403), (90, 12424), (93, 12478), (97, 12517), (99, 12538), (104, 12586), (107, 12598), (110, 12628), (114, 12661), (120, 12703), (124, 12745), (125, 12766), (126, 12796), (130, 12829), (131, 12832), (132, 12838), (135, 12847), (136, 12850), (140, 12913), (143, 12946), (148, 12985), (153, 13015), (164, 13099), (170, 13156), (179, 13264), (181, 13303), (182, 13315), (196, 13477), (197, 13495), (198, 13510), (201, 13537), (206, 13588), (207, 13603), (209, 13630), (218, 13714), (221, 13768), (222, 13777), (223, 13807), (237, 13981), (239, 14011), (245, 14098), (257, 14242), (259, 14254), (267, 14344), (271, 14392), (277, 14452), (279, 14503), (281, 14509), (285, 14554), (295, 14686), (318, 15013), (328, 15118), (354, 15253), (356, 15283), (358, 15319), (361, 15340), (362, 15349), (364, 15376), (368, 15454), (369, 15478), (375, 15619), (379, 15724), (382, 15754), (383, 15757), (388, 15847), (389, 15901), (393, 16003), (404, 16237), (419, 16405), (421, 16426), (428, 16552), (430, 16582), (435, 16618), (436, 16621),

Gene: Floral_18 Start: 11003, Stop: 16657, Start Num: 12

Candidate Starts for Floral_18:

(Start: 12 @11003 has 17 MA's), (14, 11036), (16, 11216), (17, 11228), (20, 11267), (Start: 21 @11276 has 1 MA's), (23, 11300), (24, 11309), (27, 11384), (29, 11426), (39, 11615), (41, 11633), (43, 11657), (45, 11687), (52, 11780), (53, 11783), (59, 11828), (60, 11834), (62, 11876), (66, 11930), (71, 11981), (72, 11993), (75, 12035), (82, 12140), (86, 12167), (89, 12224), (93, 12299), (97, 12338), (99, 12359), (100, 12374), (104, 12407), (110, 12449), (119, 12521), (120, 12524), (121, 12533), (126, 12617), (130, 12650), (131, 12653), (132, 12659), (135, 12668), (136, 12671), (139, 12716), (140, 12734), (142, 12743), (151, 12824), (152, 12827), (153, 12836), (159, 12890), (163, 12911), (170, 12977), (178, 13061), (181, 13124), (182, 13136), (195, 13274), (196, 13298), (197, 13316), (198, 13331), (201, 13358), (206, 13409), (208, 13442), (209, 13451), (212, 13466), (217, 13532), (218, 13535), (221, 13589), (222, 13598), (223, 13628), (237, 13802), (238, 13811), (242, 13850), (251, 13991), (257, 14063), (259, 14075), (264, 14144), (266, 14159), (267, 14165), (271, 14213), (273, 14240), (275, 14249), (279, 14324), (281, 14330), (283, 14348), (285, 14375), (306, 14699), (312, 14792), (315, 14834), (317, 14852), (354, 15104), (358, 15170), (361, 15191), (362, 15200), (364, 15227), (368, 15305), (369, 15329), (373, 15422), (374, 15446), (375, 15470), (379, 15575), (382, 15605), (388, 15698), (389, 15752), (393, 15854), (396, 15953), (419, 16256), (428, 16403), (430, 16433), (435, 16469), (436, 16472), (443, 16547), (450, 16643),

Gene: InLimbo_17 Start: 8855, Stop: 14248, Start Num: 22

Candidate Starts for InLimbo_17:

(Start: 21 @8849 has 1 MA's), (Start: 22 @8855 has 5 MA's), (28, 8975), (29, 8987), (33, 9053), (34, 9056), (37, 9128), (38, 9134), (44, 9230), (46, 9248), (47, 9266), (54, 9338), (55, 9341), (56, 9344), (59, 9371), (61, 9407), (65, 9458), (66, 9467), (70, 9503), (73, 9545), (76, 9590), (77, 9614), (81, 9668), (84, 9689), (96, 9863), (99, 9896), (103, 9926), (104, 9944), (108, 9965), (109, 9977), (111, 9989), (115, 10028), (116, 10034), (118, 10049), (120, 10061), (128, 10112), (134, 10133), (146, 10187), (154, 10235), (156, 10256), (158, 10274), (165, 10304), (171, 10343), (175, 10367), (178, 10424), (180, 10454), (181, 10487), (196, 10661), (197, 10679), (198, 10694), (201, 10721), (206, 10772), (214, 10868), (215, 10877), (216, 10889), (224, 11009), (225, 11012), (228, 11096), (237, 11189), (240, 11222), (243, 11291), (253, 11402), (254, 11405), (255, 11417), (258, 11456), (259, 11462), (260, 11474), (261, 11486), (264, 11531), (266, 11546), (268, 11555), (277, 11660), (279, 11711), (281, 11717), (286, 11768), (290, 11786), (293, 11861), (299, 11897), (301, 11909), (304, 11930), (306, 12035), (307, 12041), (320, 12191), (321, 12203), (322, 12212), (324, 12236), (333, 12353), (335, 12365), (354, 12392), (356, 12422), (358, 12458), (361, 12479), (368, 12593), (369, 12617), (374, 12725), (379, 12863), (382, 12893), (386, 12923), (387, 12983), (395, 13226), (399, 13316), (411,

13508), (417, 13598), (418, 13616), (429, 13784), (434, 13835), (440, 13889), (441, 13904), (444, 14000), (449, 14030), (453, 14069), (454, 14102), (455, 14123), (456, 14135), (457, 14138), (461, 14222), (463, 14234),

Gene: Jablanski_18 Start: 11132, Stop: 16768, Start Num: 12

Candidate Starts for Jablanski_18:

(Start: 12 @11132 has 17 MA's), (14, 11165), (16, 11345), (17, 11357), (20, 11396), (Start: 21 @11405 has 1 MA's), (23, 11429), (24, 11438), (27, 11513), (29, 11555), (39, 11744), (41, 11762), (43, 11786), (45, 11816), (49, 11858), (52, 11909), (53, 11912), (60, 11963), (62, 12005), (66, 12059), (71, 12110), (72, 12122), (75, 12164), (82, 12269), (86, 12296), (89, 12353), (93, 12428), (97, 12467), (99, 12488), (100, 12503), (104, 12536), (110, 12578), (119, 12650), (120, 12653), (121, 12662), (126, 12746), (130, 12779), (131, 12782), (132, 12788), (135, 12797), (136, 12800), (139, 12845), (140, 12863), (142, 12872), (152, 12956), (153, 12965), (159, 13019), (163, 13040), (166, 13070), (170, 13106), (178, 13190), (181, 13253), (182, 13265), (195, 13403), (196, 13427), (197, 13445), (198, 13460), (200, 13478), (201, 13487), (206, 13538), (208, 13571), (209, 13580), (212, 13595), (217, 13661), (218, 13664), (221, 13718), (222, 13727), (223, 13757), (227, 13847), (237, 13931), (239, 13961), (251, 14120), (253, 14144), (256, 14183), (257, 14192), (259, 14204), (267, 14294), (271, 14342), (275, 14378), (277, 14402), (279, 14453), (281, 14459), (285, 14504), (292, 14567), (306, 14828), (318, 14963), (354, 15203), (358, 15269), (361, 15290), (362, 15299), (364, 15326), (368, 15404), (369, 15428), (373, 15521), (375, 15569), (379, 15674), (380, 15686), (382, 15704), (388, 15797), (389, 15851), (390, 15875), (393, 15953), (396, 16052), (404, 16199), (421, 16388), (428, 16514), (430, 16544), (435, 16580), (436, 16583), (450, 16754),

Gene: Kuwabara_17 Start: 9635, Stop: 15067, Start Num: 22

Candidate Starts for Kuwabara_17:

(Start: 21 @9629 has 1 MA's), (Start: 22 @9635 has 5 MA's), (26, 9713), (28, 9755), (29, 9767), (37, 9908), (38, 9914), (40, 9950), (44, 10010), (46, 10028), (47, 10046), (51, 10067), (54, 10118), (55, 10121), (56, 10124), (58, 10148), (59, 10151), (64, 10217), (66, 10247), (73, 10325), (76, 10370), (77, 10394), (81, 10448), (84, 10469), (92, 10607), (96, 10643), (98, 10670), (100, 10691), (103, 10706), (108, 10745), (109, 10757), (111, 10769), (118, 10829), (120, 10841), (128, 10892), (146, 10967), (149, 10988), (156, 11036), (158, 11054), (171, 11123), (175, 11147), (178, 11204), (180, 11234), (181, 11267), (190, 11384), (196, 11441), (197, 11459), (198, 11474), (206, 11552), (215, 11657), (216, 11669), (217, 11675), (224, 11789), (225, 11792), (228, 11876), (231, 11906), (233, 11918), (237, 11969), (240, 12002), (243, 12071), (245, 12086), (249, 12128), (253, 12182), (254, 12185), (255, 12197), (258, 12236), (259, 12242), (261, 12266), (266, 12326), (267, 12332), (268, 12335), (272, 12404), (279, 12491), (281, 12497), (282, 12506), (285, 12542), (290, 12566), (299, 12677), (301, 12689), (311, 12896), (314, 12941), (317, 12968), (320, 13001), (328, 13079), (329, 13103), (330, 13106), (333, 13163), (335, 13175), (354, 13202), (355, 13220), (358, 13268), (361, 13289), (366, 13379), (368, 13403), (369, 13427), (374, 13535), (377, 13658), (379, 13682), (381, 13703), (382, 13712), (383, 13715), (386, 13742), (387, 13802), (395, 14045), (397, 14126), (398, 14129), (399, 14135), (408, 14300), (409, 14318), (411, 14327), (414, 14372), (415, 14384), (417, 14417), (418, 14435), (425, 14528), (432, 14633), (434, 14654), (440, 14708), (442, 14747), (444, 14819), (449, 14849), (453, 14888), (454, 14921), (458, 14960), (460, 15008), (461, 15041), (463, 15053),

Gene: Lilas_18 Start: 11182, Stop: 16806, Start Num: 12

Candidate Starts for Lilas_18:

(Start: 12 @11182 has 17 MA's), (14, 11215), (16, 11395), (17, 11407), (20, 11446), (Start: 21 @11455 has 1 MA's), (23, 11479), (27, 11563), (28, 11593), (29, 11605), (43, 11836), (44, 11863), (52, 11959), (53, 11962), (57, 11983), (59, 12007), (62, 12055), (66, 12109), (71, 12160), (72, 12172), (74, 12199), (75, 12214), (82, 12319), (89, 12403), (90, 12424), (93, 12478), (97, 12517), (99, 12538), (104, 12586), (107, 12598), (110, 12628), (114, 12661), (120, 12703), (124, 12745), (125, 12766), (126, 12796), (130, 12829), (131, 12832), (132, 12838), (135, 12847), (136, 12850), (140, 12913), (143, 12946), (148, 12985), (153, 13015), (164, 13099), (170, 13156), (179, 13264), (181, 13303), (182, 13315),

(196, 13477), (197, 13495), (198, 13510), (201, 13537), (206, 13588), (207, 13603), (209, 13630), (218, 13714), (221, 13768), (222, 13777), (223, 13807), (237, 13981), (239, 14011), (245, 14098), (257, 14242), (259, 14254), (267, 14344), (271, 14392), (277, 14452), (279, 14503), (281, 14509), (285, 14554), (295, 14686), (318, 15013), (328, 15118), (354, 15253), (356, 15283), (358, 15319), (361, 15340), (362, 15349), (364, 15376), (368, 15454), (369, 15478), (375, 15619), (379, 15724), (382, 15754), (383, 15757), (388, 15847), (389, 15901), (393, 16003), (404, 16237), (419, 16405), (421, 16426), (428, 16552), (430, 16582), (435, 16618), (436, 16621),

Gene: LonelyBoi_18 Start: 11131, Stop: 16809, Start Num: 12

Candidate Starts for LonelyBoi_18:

(Start: 12 @11131 has 17 MA's), (14, 11164), (16, 11344), (17, 11356), (20, 11395), (Start: 21 @11404 has 1 MA's), (23, 11428), (24, 11437), (27, 11512), (29, 11554), (39, 11743), (41, 11761), (43, 11785), (45, 11815), (49, 11857), (52, 11908), (53, 11911), (60, 11962), (62, 12004), (66, 12058), (71, 12109), (72, 12121), (75, 12163), (82, 12268), (86, 12295), (89, 12352), (93, 12427), (97, 12466), (99, 12487), (100, 12502), (104, 12535), (110, 12577), (120, 12652), (124, 12694), (126, 12745), (130, 12778), (131, 12781), (135, 12796), (140, 12862), (144, 12904), (148, 12934), (150, 12946), (153, 12964), (155, 13000), (157, 13018), (160, 13045), (161, 13048), (167, 13099), (170, 13126), (173, 13138), (178, 13210), (181, 13273), (182, 13285), (187, 13330), (196, 13447), (198, 13480), (201, 13507), (203, 13534), (209, 13600), (214, 13654), (216, 13675), (224, 13795), (225, 13798), (228, 13882), (233, 13924), (234, 13927), (235, 13933), (236, 13936), (237, 13975), (243, 14077), (247, 14104), (256, 14233), (261, 14281), (266, 14341), (267, 14347), (269, 14359), (270, 14383), (271, 14395), (277, 14455), (279, 14506), (281, 14512), (285, 14557), (295, 14689), (318, 15016), (354, 15256), (358, 15322), (361, 15343), (362, 15352), (364, 15379), (368, 15457), (369, 15481), (373, 15574), (374, 15598), (375, 15622), (379, 15727), (382, 15757), (388, 15850), (389, 15904), (393, 16006), (396, 16105), (419, 16408), (421, 16429), (428, 16555), (430, 16585), (435, 16621), (436, 16624), (443, 16699), (450, 16795),

Gene: Lucky10_16 Start: 8884, Stop: 14280, Start Num: 21

Candidate Starts for Lucky10_16:

(Start: 21 @8884 has 1 MA's), (Start: 22 @8890 has 5 MA's), (28, 9010), (29, 9022), (33, 9088), (37, 9163), (38, 9169), (47, 9301), (54, 9373), (55, 9376), (56, 9379), (59, 9406), (61, 9442), (65, 9493), (66, 9502), (70, 9538), (73, 9580), (76, 9625), (77, 9649), (81, 9703), (84, 9724), (96, 9898), (99, 9931), (103, 9961), (108, 10000), (109, 10012), (111, 10024), (116, 10069), (118, 10084), (120, 10096), (128, 10147), (146, 10222), (154, 10270), (156, 10291), (158, 10309), (165, 10339), (171, 10378), (175, 10402), (178, 10459), (180, 10489), (181, 10522), (188, 10618), (196, 10696), (197, 10714), (198, 10729), (206, 10807), (216, 10924), (217, 10930), (224, 11044), (225, 11047), (228, 11131), (233, 11173), (237, 11224), (240, 11257), (243, 11326), (249, 11383), (253, 11437), (254, 11440), (255, 11452), (258, 11491), (260, 11509), (261, 11521), (264, 11566), (266, 11581), (277, 11695), (279, 11746), (281, 11752), (283, 11770), (286, 11803), (290, 11821), (293, 11896), (299, 11932), (301, 11944), (304, 11965), (306, 12070), (307, 12076), (320, 12226), (321, 12238), (322, 12247), (327, 12286), (329, 12328), (333, 12388), (335, 12400), (354, 12427), (356, 12457), (358, 12493), (361, 12514), (368, 12628), (369, 12652), (379, 12895), (380, 12907), (382, 12925), (387, 13015), (395, 13258), (401, 13378), (411, 13540), (417, 13630), (418, 13648), (429, 13816), (434, 13867), (440, 13921), (441, 13936), (444, 14032), (449, 14062), (453, 14101), (454, 14134), (455, 14155), (456, 14167), (457, 14170), (460, 14221), (461, 14254), (463, 14266),

Gene: Marteena_18 Start: 11003, Stop: 16657, Start Num: 12

Candidate Starts for Marteena_18:

(Start: 12 @11003 has 17 MA's), (14, 11036), (16, 11216), (17, 11228), (20, 11267), (Start: 21 @11276 has 1 MA's), (23, 11300), (24, 11309), (27, 11384), (29, 11426), (39, 11615), (41, 11633), (43, 11657), (45, 11687), (52, 11780), (53, 11783), (59, 11828), (60, 11834), (62, 11876), (66, 11930), (71, 11981), (72, 11993), (75, 12035), (82, 12140), (86, 12167), (89, 12224), (93, 12299), (97, 12338), (99, 12359), (100, 12374), (104, 12407), (110, 12449), (119, 12521), (120, 12524), (121, 12533), (126, 12617),

(130, 12650), (131, 12653), (132, 12659), (135, 12668), (136, 12671), (139, 12716), (140, 12734), (142, 12743), (151, 12824), (152, 12827), (153, 12836), (159, 12890), (163, 12911), (170, 12977), (178, 13061), (181, 13124), (182, 13136), (195, 13274), (196, 13298), (197, 13316), (198, 13331), (201, 13358), (206, 13409), (208, 13442), (209, 13451), (212, 13466), (217, 13532), (218, 13535), (221, 13589), (222, 13598), (223, 13628), (237, 13802), (238, 13811), (242, 13850), (251, 13991), (257, 14063), (259, 14075), (264, 14144), (266, 14159), (267, 14165), (271, 14213), (273, 14240), (275, 14249), (279, 14324), (281, 14330), (283, 14348), (285, 14375), (306, 14699), (312, 14792), (315, 14834), (317, 14852), (354, 15104), (358, 15170), (361, 15191), (362, 15200), (364, 15227), (368, 15305), (369, 15329), (373, 15422), (374, 15446), (375, 15470), (379, 15575), (382, 15605), (388, 15698), (389, 15752), (393, 15854), (396, 15953), (419, 16256), (428, 16403), (430, 16433), (435, 16469), (436, 16472), (443, 16547), (450, 16643),

Gene: Moonflower_17 Start: 10660, Stop: 16308, Start Num: 3

Candidate Starts for Moonflower_17:

(Start: 1 @10618 has 4 MA's), (2, 10648), (3, 10660), (5, 10735), (6, 10753), (9, 10873), (10, 10909), (15, 11128), (16, 11146), (17, 11158), (20, 11197), (Start: 21 @11206 has 1 MA's), (23, 11230), (27, 11314), (29, 11356), (43, 11587), (48, 11656), (53, 11713), (62, 11806), (66, 11860), (67, 11866), (68, 11875), (71, 11911), (72, 11923), (75, 11965), (80, 12052), (86, 12097), (94, 12238), (100, 12304), (102, 12310), (106, 12346), (110, 12379), (111, 12382), (118, 12442), (120, 12454), (122, 12466), (123, 12475), (127, 12517), (135, 12547), (137, 12565), (140, 12580), (153, 12640), (164, 12724), (167, 12754), (169, 12775), (172, 12790), (177, 12823), (183, 12946), (184, 12955), (186, 12967), (198, 13120), (206, 13198), (209, 13240), (213, 13282), (214, 13294), (218, 13324), (219, 13339), (221, 13378), (223, 13417), (226, 13447), (227, 13507), (237, 13591), (239, 13621), (246, 13714), (250, 13759), (257, 13852), (262, 13897), (269, 13960), (273, 14017), (276, 14029), (280, 14095), (284, 14128), (298, 14272), (303, 14293), (305, 14392), (307, 14425), (319, 14572), (320, 14575), (321, 14587), (323, 14608), (327, 14635), (334, 14752), (357, 14830), (359, 14851), (360, 14854), (361, 14872), (371, 15007), (378, 15178), (382, 15223), (393, 15475), (394, 15493), (402, 15664), (405, 15733), (413, 15826), (422, 15934), (424, 15946), (426, 16042), (427, 16048), (430, 16081), (431, 16084), (434, 16105), (438, 16147), (439, 16150), (442, 16186), (446, 16261), (447, 16267), (448, 16270), (451, 16297), (452, 16300),

Gene: Morkie_16 Start: 8855, Stop: 14248, Start Num: 22

Candidate Starts for Morkie_16:

(Start: 21 @8849 has 1 MA's), (Start: 22 @8855 has 5 MA's), (28, 8975), (29, 8987), (33, 9053), (34, 9056), (37, 9128), (38, 9134), (44, 9230), (46, 9248), (47, 9266), (54, 9338), (55, 9341), (56, 9344), (59, 9371), (61, 9407), (65, 9458), (66, 9467), (70, 9503), (73, 9545), (76, 9590), (77, 9614), (81, 9668), (84, 9689), (96, 9863), (99, 9896), (103, 9926), (104, 9944), (108, 9965), (109, 9977), (111, 9989), (115, 10028), (116, 10034), (118, 10049), (120, 10061), (128, 10112), (134, 10133), (146, 10187), (154, 10235), (156, 10256), (158, 10274), (165, 10304), (171, 10343), (175, 10367), (178, 10424), (180, 10454), (181, 10487), (196, 10661), (197, 10679), (198, 10694), (201, 10721), (206, 10772), (214, 10868), (215, 10877), (216, 10889), (224, 11009), (225, 11012), (228, 11096), (237, 11189), (240, 11222), (243, 11291), (253, 11402), (254, 11405), (255, 11417), (258, 11456), (259, 11462), (260, 11474), (261, 11486), (264, 11531), (266, 11546), (268, 11555), (277, 11660), (279, 11711), (281, 11717), (286, 11768), (290, 11786), (293, 11861), (299, 11897), (301, 11909), (304, 11930), (306, 12035), (307, 12041), (320, 12191), (321, 12203), (322, 12212), (324, 12236), (333, 12353), (335, 12365), (354, 12392), (356, 12422), (358, 12458), (361, 12479), (368, 12593), (369, 12617), (374, 12725), (379, 12863), (382, 12893), (386, 12923), (387, 12983), (395, 13226), (399, 13316), (411, 13508), (417, 13598), (418, 13616), (429, 13784), (434, 13835), (440, 13889), (441, 13904), (444, 14000), (449, 14030), (453, 14069), (454, 14102), (455, 14123), (456, 14135), (457, 14138), (461, 14222), (463, 14234),

Gene: MortyNRick_17 Start: 9908, Stop: 15370, Start Num: 18

Candidate Starts for MortyNRick_17:

(Start: 18 @9908 has 3 MA's), (23, 9965), (25, 9983), (28, 10067), (29, 10079), (30, 10091), (31, 10115), (33, 10145), (36, 10190), (37, 10220), (38, 10226), (42, 10295), (44, 10322), (46, 10340), (47, 10358), (50, 10370), (51, 10379), (54, 10430), (55, 10433), (56, 10436), (58, 10460), (59, 10463), (65, 10550), (66, 10559), (73, 10637), (76, 10682), (77, 10706), (78, 10739), (79, 10742), (87, 10829), (88, 10850), (96, 10955), (98, 10982), (102, 11009), (104, 11036), (105, 11039), (111, 11081), (112, 11099), (113, 11102), (123, 11174), (127, 11216), (133, 11237), (138, 11264), (141, 11273), (145, 11288), (147, 11306), (153, 11339), (156, 11372), (162, 11405), (163, 11414), (164, 11423), (166, 11444), (168, 11468), (171, 11483), (174, 11504), (175, 11507), (178, 11564), (180, 11594), (181, 11627), (196, 11801), (198, 11834), (201, 11861), (203, 11888), (205, 11906), (211, 11966), (214, 12008), (216, 12029), (220, 12080), (222, 12101), (224, 12149), (225, 12152), (236, 12290), (237, 12329), (241, 12371), (243, 12431), (247, 12458), (248, 12479), (252, 12536), (255, 12557), (261, 12629), (263, 12671), (264, 12674), (269, 12707), (271, 12743), (277, 12803), (279, 12854), (281, 12860), (282, 12869), (283, 12878), (286, 12911), (290, 12929), (291, 12959), (309, 13154), (310, 13157), (315, 13238), (317, 13256), (320, 13289), (321, 13301), (325, 13337), (328, 13373), (329, 13397), (330, 13400), (331, 13421), (333, 13457), (335, 13469), (354, 13496), (355, 13514), (356, 13526), (358, 13562), (361, 13583), (366, 13673), (368, 13697), (369, 13721), (374, 13829), (377, 13952), (379, 13976), (382, 14006), (383, 14009), (386, 14036), (395, 14339), (397, 14420), (398, 14423), (399, 14429), (408, 14594), (409, 14612), (411, 14621), (414, 14666), (415, 14678), (417, 14714), (418, 14732), (425, 14831), (432, 14936), (434, 14957), (440, 15011), (442, 15050), (444, 15122), (449, 15152), (453, 15191), (454, 15224), (458, 15263), (460, 15311), (461, 15344), (463, 15356),

Gene: ODay_22 Start: 12098, Stop: 17611, Start Num: 19

Candidate Starts for ODay_22:

(Start: 19 @12098 has 2 MA's), (Start: 21 @12131 has 1 MA's), (Start: 22 @12137 has 5 MA's), (28, 12257), (29, 12269), (33, 12335), (37, 12410), (42, 12485), (44, 12512), (46, 12530), (47, 12548), (50, 12560), (51, 12569), (55, 12623), (56, 12626), (58, 12650), (59, 12653), (65, 12740), (66, 12749), (73, 12827), (76, 12872), (77, 12896), (79, 12932), (87, 13019), (88, 13040), (92, 13109), (96, 13145), (98, 13172), (102, 13199), (104, 13226), (105, 13229), (111, 13271), (112, 13289), (113, 13292), (127, 13406), (133, 13427), (138, 13454), (141, 13463), (145, 13478), (153, 13529), (156, 13562), (162, 13595), (163, 13604), (164, 13613), (168, 13658), (170, 13670), (171, 13673), (174, 13694), (175, 13697), (178, 13754), (180, 13784), (191, 13943), (192, 13946), (195, 13967), (196, 13991), (198, 14024), (203, 14078), (204, 14093), (214, 14198), (216, 14219), (218, 14228), (224, 14339), (225, 14342), (237, 14519), (241, 14561), (243, 14621), (244, 14630), (248, 14669), (251, 14708), (252, 14726), (255, 14747), (257, 14780), (261, 14819), (269, 14897), (271, 14933), (277, 14993), (279, 15044), (281, 15050), (287, 15104), (297, 15230), (302, 15257), (313, 15464), (317, 15518), (322, 15572), (330, 15656), (333, 15713), (354, 15752), (358, 15818), (361, 15839), (364, 15875), (365, 15890), (368, 15953), (369, 15977), (373, 16067), (374, 16091), (375, 16115), (376, 16190), (377, 16202), (379, 16226), (381, 16247), (382, 16256), (386, 16286), (387, 16346), (395, 16589), (397, 16670), (398, 16673), (399, 16679), (408, 16844), (409, 16862), (411, 16871), (414, 16916), (415, 16928), (417, 16961), (418, 16979), (425, 17072), (432, 17177), (434, 17198), (440, 17252), (442, 17291), (444, 17363), (449, 17393), (453, 17432), (454, 17465), (458, 17504), (460, 17552), (461, 17585), (463, 17597),

Gene: PatriciaStar_16 Start: 10219, Stop: 15909, Start Num: 1

Candidate Starts for PatriciaStar_16:

(Start: 1 @10219 has 4 MA's), (2, 10249), (4, 10303), (6, 10354), (8, 10444), (10, 10510), (16, 10747), (17, 10759), (20, 10798), (Start: 21 @10807 has 1 MA's), (23, 10831), (27, 10915), (29, 10957), (43, 11188), (48, 11257), (53, 11314), (62, 11407), (66, 11461), (69, 11488), (71, 11512), (72, 11524), (75, 11566), (84, 11686), (86, 11698), (94, 11839), (111, 11983), (113, 12004), (120, 12055), (122, 12067), (127, 12118), (137, 12166), (140, 12181), (153, 12241), (167, 12355), (169, 12376), (174, 12406), (177, 12424), (180, 12496), (183, 12547), (186, 12568), (199, 12736), (202, 12772), (208, 12832), (209, 12841), (213, 12883), (214, 12895), (218, 12925), (219, 12940), (221, 12979), (223, 13018),

(226, 13048), (227, 13108), (237, 13192), (239, 13222), (246, 13315), (250, 13360), (257, 13453), (262, 13498), (269, 13561), (270, 13585), (273, 13618), (274, 13621), (276, 13630), (280, 13696), (284, 13729), (296, 13864), (298, 13873), (300, 13882), (303, 13894), (305, 13993), (307, 14026), (319, 14173), (320, 14176), (321, 14188), (323, 14209), (327, 14236), (334, 14353), (357, 14431), (359, 14452), (361, 14473), (371, 14608), (382, 14824), (386, 14854), (393, 15076), (394, 15094), (405, 15334), (413, 15427), (422, 15535), (423, 15541), (427, 15649), (434, 15706), (438, 15748), (439, 15751), (442, 15787), (446, 15862), (447, 15868), (448, 15871), (451, 15898), (452, 15901),

Gene: PhorbesPhlower_16 Start: 8855, Stop: 14248, Start Num: 22

Candidate Starts for PhorbesPhlower_16:

(Start: 21 @8849 has 1 MA's), (Start: 22 @8855 has 5 MA's), (28, 8975), (29, 8987), (33, 9053), (34, 9056), (37, 9128), (38, 9134), (44, 9230), (46, 9248), (47, 9266), (54, 9338), (55, 9341), (56, 9344), (59, 9371), (61, 9407), (65, 9458), (66, 9467), (70, 9503), (73, 9545), (76, 9590), (77, 9614), (81, 9668), (84, 9689), (96, 9863), (99, 9896), (103, 9926), (104, 9944), (108, 9965), (109, 9977), (111, 9989), (115, 10028), (116, 10034), (118, 10049), (120, 10061), (128, 10112), (134, 10133), (146, 10187), (154, 10235), (156, 10256), (158, 10274), (165, 10304), (171, 10343), (175, 10367), (178, 10424), (180, 10454), (181, 10487), (196, 10661), (197, 10679), (198, 10694), (201, 10721), (206, 10772), (214, 10868), (215, 10877), (216, 10889), (224, 11009), (225, 11012), (228, 11096), (237, 11189), (240, 11222), (243, 11291), (253, 11402), (254, 11405), (255, 11417), (258, 11456), (259, 11462), (260, 11474), (261, 11486), (264, 11531), (266, 11546), (268, 11555), (277, 11660), (279, 11711), (281, 11717), (286, 11768), (290, 11786), (293, 11861), (299, 11897), (301, 11909), (304, 11930), (306, 12035), (307, 12041), (320, 12191), (321, 12203), (322, 12212), (324, 12236), (333, 12353), (335, 12365), (354, 12392), (356, 12422), (358, 12458), (361, 12479), (368, 12593), (369, 12617), (374, 12725), (379, 12863), (382, 12893), (386, 12923), (387, 12983), (395, 13226), (399, 13316), (411, 13508), (417, 13598), (418, 13616), (429, 13784), (434, 13835), (440, 13889), (441, 13904), (444, 14000), (449, 14030), (453, 14069), (454, 14102), (455, 14123), (456, 14135), (457, 14138), (461, 14222), (463, 14234),

Gene: Pollux_18 Start: 11003, Stop: 16657, Start Num: 12

Candidate Starts for Pollux_18:

(Start: 12 @11003 has 17 MA's), (14, 11036), (16, 11216), (17, 11228), (20, 11267), (Start: 21 @11276 has 1 MA's), (23, 11300), (24, 11309), (27, 11384), (29, 11426), (39, 11615), (41, 11633), (43, 11657), (45, 11687), (52, 11780), (53, 11783), (59, 11828), (60, 11834), (62, 11876), (66, 11930), (71, 11981), (72, 11993), (75, 12035), (82, 12140), (86, 12167), (89, 12224), (93, 12299), (97, 12338), (99, 12359), (100, 12374), (104, 12407), (110, 12449), (119, 12521), (120, 12524), (121, 12533), (126, 12617), (130, 12650), (131, 12653), (132, 12659), (135, 12668), (136, 12671), (139, 12716), (140, 12734), (142, 12743), (151, 12824), (152, 12827), (153, 12836), (159, 12890), (163, 12911), (170, 12977), (178, 13061), (181, 13124), (182, 13136), (195, 13274), (196, 13298), (197, 13316), (198, 13331), (201, 13358), (206, 13409), (208, 13442), (209, 13451), (212, 13466), (217, 13532), (218, 13535), (221, 13589), (222, 13598), (223, 13628), (237, 13802), (238, 13811), (242, 13850), (251, 13991), (257, 14063), (259, 14075), (264, 14144), (266, 14159), (267, 14165), (271, 14213), (273, 14240), (275, 14249), (279, 14324), (281, 14330), (283, 14348), (285, 14375), (306, 14699), (312, 14792), (315, 14834), (317, 14852), (354, 15104), (358, 15170), (361, 15191), (362, 15200), (364, 15227), (368, 15305), (369, 15329), (373, 15422), (374, 15446), (375, 15470), (379, 15575), (382, 15605), (388, 15698), (389, 15752), (393, 15854), (396, 15953), (419, 16256), (428, 16403), (430, 16433), (435, 16469), (436, 16472), (443, 16547), (450, 16643),

Gene: Posh_18 Start: 11000, Stop: 16621, Start Num: 12

Candidate Starts for Posh_18:

(7, 10904), (Start: 12 @11000 has 17 MA's), (14, 11033), (16, 11213), (17, 11225), (20, 11264), (Start: 21 @11273 has 1 MA's), (23, 11297), (24, 11306), (27, 11381), (29, 11423), (39, 11612), (41, 11630), (43, 11654), (45, 11684), (53, 11780), (60, 11831), (62, 11873), (66, 11927), (71, 11978), (72, 11990), (75, 12032), (82, 12137), (86, 12164), (89, 12221), (93, 12296), (97, 12335), (99, 12356), (100, 12371),

(104, 12404), (110, 12446), (119, 12518), (120, 12521), (121, 12530), (124, 12563), (126, 12614), (130, 12647), (131, 12650), (132, 12656), (135, 12665), (136, 12668), (139, 12713), (140, 12731), (142, 12740), (151, 12821), (152, 12824), (153, 12833), (159, 12887), (163, 12908), (170, 12974), (178, 13058), (181, 13121), (182, 13133), (193, 13253), (196, 13295), (198, 13328), (201, 13355), (206, 13406), (208, 13439), (209, 13448), (212, 13463), (218, 13532), (221, 13586), (222, 13595), (223, 13625), (227, 13715), (237, 13799), (251, 13988), (253, 14012), (256, 14051), (257, 14060), (259, 14072), (267, 14162), (271, 14210), (277, 14270), (279, 14321), (281, 14327), (285, 14372), (292, 14435), (294, 14495), (295, 14501), (306, 14693), (318, 14828), (354, 15068), (358, 15134), (361, 15155), (362, 15164), (364, 15191), (368, 15269), (369, 15293), (373, 15386), (375, 15434), (379, 15539), (380, 15551), (382, 15569), (383, 15572), (388, 15662), (389, 15716), (390, 15740), (393, 15818), (396, 15917), (419, 16220), (421, 16241), (428, 16367), (430, 16397), (435, 16433), (436, 16436), (443, 16511), (450, 16607),

Gene: Pytheas_18 Start: 11131, Stop: 16767, Start Num: 12

Candidate Starts for Pytheas_18:

(Start: 12 @11131 has 17 MA's), (14, 11164), (16, 11344), (17, 11356), (20, 11395), (Start: 21 @11404 has 1 MA's), (23, 11428), (24, 11437), (27, 11512), (29, 11554), (39, 11743), (41, 11761), (43, 11785), (45, 11815), (49, 11857), (52, 11908), (53, 11911), (60, 11962), (62, 12004), (66, 12058), (71, 12109), (72, 12121), (75, 12163), (82, 12268), (86, 12295), (89, 12352), (93, 12427), (97, 12466), (99, 12487), (100, 12502), (104, 12535), (110, 12577), (119, 12649), (120, 12652), (121, 12661), (126, 12745), (130, 12778), (131, 12781), (132, 12787), (135, 12796), (136, 12799), (139, 12844), (140, 12862), (142, 12871), (152, 12955), (153, 12964), (159, 13018), (163, 13039), (166, 13069), (170, 13105), (178, 13189), (181, 13252), (182, 13264), (195, 13402), (196, 13426), (197, 13444), (198, 13459), (200, 13477), (201, 13486), (206, 13537), (208, 13570), (209, 13579), (212, 13594), (217, 13660), (218, 13663), (221, 13717), (222, 13726), (223, 13756), (227, 13846), (237, 13930), (239, 13960), (251, 14119), (253, 14143), (256, 14182), (257, 14191), (259, 14203), (267, 14293), (271, 14341), (275, 14377), (277, 14401), (279, 14452), (281, 14458), (285, 14503), (292, 14566), (306, 14827), (318, 14962), (354, 15202), (358, 15268), (361, 15289), (362, 15298), (364, 15325), (368, 15403), (369, 15427), (373, 15520), (375, 15568), (379, 15673), (380, 15685), (382, 15703), (388, 15796), (389, 15850), (390, 15874), (393, 15952), (396, 16051), (404, 16198), (421, 16387), (428, 16513), (430, 16543), (435, 16579), (436, 16582), (450, 16753),

Gene: RayTheFireFly_17 Start: 10898, Stop: 16588, Start Num: 1

Candidate Starts for RayTheFireFly_17:

(Start: 1 @10898 has 4 MA's), (2, 10928), (6, 11033), (9, 11153), (10, 11189), (16, 11426), (17, 11438), (20, 11477), (Start: 21 @11486 has 1 MA's), (23, 11510), (27, 11594), (29, 11636), (43, 11867), (48, 11936), (53, 11993), (62, 12086), (66, 12140), (71, 12191), (72, 12203), (75, 12245), (86, 12377), (94, 12518), (100, 12584), (102, 12590), (106, 12626), (110, 12659), (111, 12662), (118, 12722), (120, 12734), (122, 12746), (123, 12755), (127, 12797), (135, 12827), (137, 12845), (140, 12860), (153, 12920), (164, 13004), (167, 13034), (169, 13055), (172, 13070), (177, 13103), (183, 13226), (184, 13235), (186, 13247), (198, 13400), (206, 13478), (209, 13520), (213, 13562), (214, 13574), (218, 13604), (219, 13619), (221, 13658), (223, 13697), (226, 13727), (227, 13787), (237, 13871), (239, 13901), (246, 13994), (250, 14039), (257, 14132), (262, 14177), (265, 14219), (269, 14240), (270, 14264), (273, 14297), (276, 14309), (280, 14375), (284, 14408), (298, 14552), (303, 14573), (305, 14672), (307, 14705), (319, 14852), (320, 14855), (321, 14867), (323, 14888), (327, 14915), (334, 15032), (357, 15110), (359, 15131), (360, 15134), (378, 15458), (382, 15503), (393, 15755), (394, 15773), (400, 15920), (405, 16013), (413, 16106), (422, 16214), (423, 16220), (426, 16322), (427, 16328), (430, 16361), (431, 16364), (434, 16385), (438, 16427), (439, 16430), (442, 16466), (446, 16541), (447, 16547), (448, 16550), (451, 16577), (452, 16580),

Gene: Wrigley_18 Start: 10897, Stop: 16518, Start Num: 12

Candidate Starts for Wrigley_18:

(Start: 12 @10897 has 17 MA's), (14, 10930), (16, 11110), (17, 11122), (20, 11161), (Start: 21 @11170 has 1 MA's), (23, 11194), (24, 11203), (27, 11278), (29, 11320), (39, 11509), (41, 11527), (43, 11551), (45, 11581), (49, 11623), (53, 11677), (60, 11728), (62, 11770), (66, 11824), (71, 11875), (72, 11887), (75, 11929), (82, 12034), (86, 12061), (89, 12118), (93, 12193), (97, 12232), (99, 12253), (100, 12268), (104, 12301), (110, 12343), (119, 12415), (120, 12418), (121, 12427), (124, 12460), (126, 12511), (130, 12544), (131, 12547), (132, 12553), (135, 12562), (136, 12565), (139, 12610), (140, 12628), (142, 12637), (151, 12718), (152, 12721), (153, 12730), (159, 12784), (163, 12805), (170, 12871), (178, 12955), (181, 13018), (182, 13030), (193, 13150), (196, 13192), (198, 13225), (201, 13252), (206, 13303), (208, 13336), (209, 13345), (212, 13360), (218, 13429), (221, 13483), (222, 13492), (223, 13522), (227, 13612), (237, 13696), (251, 13885), (253, 13909), (256, 13948), (257, 13957), (259, 13969), (267, 14059), (271, 14107), (277, 14167), (279, 14218), (281, 14224), (285, 14269), (292, 14332), (294, 14392), (295, 14398), (306, 14590), (318, 14725), (354, 14965), (358, 15031), (361, 15052), (362, 15061), (364, 15088), (368, 15166), (369, 15190), (373, 15283), (375, 15331), (379, 15436), (380, 15448), (382, 15466), (388, 15559), (389, 15613), (390, 15637), (393, 15715), (396, 15814), (428, 16264), (430, 16294), (435, 16330), (436, 16333), (443, 16408), (450, 16504),