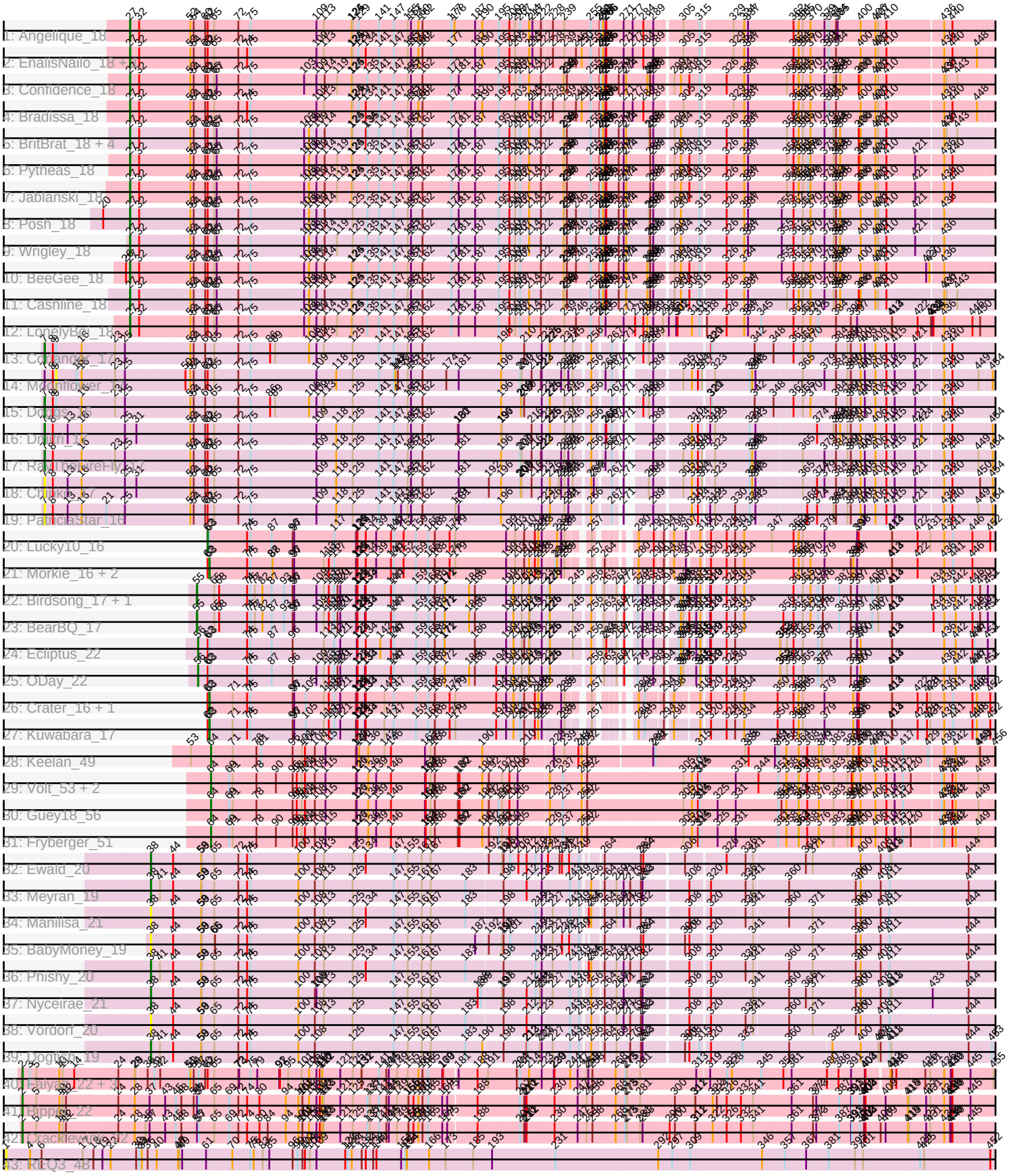
# Zoomed Pham 347668



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 347668 Report

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

Pham number 347668 has 57 members, 8 are drafts.

Phages represented in each track:
- Track 1 : Angelique_18
- Track 2 : EnalisNailo_18, Lilas_18
- Track 3 : Confidence_18
- Track 4 : Bradissa_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, PhorbesPhlower_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
- Track 28 : Keelan_49
- Track 29 : Volt_53, Ronaldo_54, Ziko_54
- Track 30 : Guey18_56
- Track 31 : Fryberger_51
- Track 32 : Ewald_20
- Track 33 : Meyran_19
- Track 34 : Manilisa_21
- Track 35 : BabyMoney_19
- Track 36 : Phishy_20
- Track 37 : Nyceirae_21

• Track 38 : Vordorf_20
• Track 39 : Dogfish_19
• Track 40 : Faiyaz_22, AuntGwenStacy_22, Typha_22, Hilltopfarm_22
• Track 41 : Bipper_22
• Track 42 : Cracklewink_22
• Track 43 : REQ3_48

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

The start number called the most often in the published annotations is 27, it was called in 17 of the 49 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, AuntGwenStacy_22, BabyMoney_19, BearBQ_17, Bipper_22, Birdsong_17, Chipko_17, Coriander_17, Cracklewink_22, Crater_16, Dmitri_17, Dogfish_19, Doggs_16, Ecliptus_22, Ewald_20, Faiyaz_22, Fryberger_51, Guey18_56, Hilltopfarm_22, InLimbo_17, Keelan_49, Kuwabara_17, Lucky10_16, Manilisa_21, Meyran_19, Moonflower_17, Morkie_16, MortyNRick_17, Nyceirae_21, ODay_22, PatriciaStar_16, Phishy_20, PhorbesPhlower_16, REQ3_48, RayTheFireFly_17, Ronaldo_54, Typha_22, Volt_53, Vordorf_20, Ziko_54,

**Summary by start number:**

Start 1:
• Found in 1 of 57 ( 1.8% ) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: REQ3_48 (singleton),

Start 2:
• Found in 6 of 57 ( 10.5% ) of genes in pham
• Manual Annotations of this start: 6 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AuntGwenStacy_22 (Y), Bipper_22 (Y), Cracklewink_22 (Y), Faiyaz_22 (Y), Hilltopfarm_22 (Y), Typha_22 (Y),

Start 7:
• Found in 7 of 57 ( 12.3% ) of genes in pham
• Manual Annotations of this start: 4 of 49
• 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 9:
• Found in 3 of 57 ( 5.3% ) 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 27:
• Found in 17 of 57 ( 29.8% ) of genes in pham
• Manual Annotations of this start: 17 of 49
• 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 38:
• Found in 8 of 57 ( 14.0% ) of genes in pham
• Manual Annotations of this start: 5 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BabyMoney_19 (DT), Dogfish_19 (DT), Ewald_20 (DT), Manilisa_21 (DT), Meyran_19 (DT), Nyceirae_21 (DT), Phishy_20 (DT), Vordorf_20 (DT),

Start 55:
• Found in 5 of 57 ( 8.8% ) of genes in pham
• Manual Annotations of this start: 3 of 49
• Called 60.0% of time when present
• Phage (with cluster) where this start called: BearBQ_17 (DN), Birdsong_17 (DN), MortyNRick_17 (DN),

Start 56:
• Found in 2 of 57 ( 3.5% ) of genes in pham
• Manual Annotations of this start: 2 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ecliptus_22 (DN), ODay_22 (DN),

Start 62:
• Found in 35 of 57 ( 61.4% ) of genes in pham
• Manual Annotations of this start: 1 of 49
• Called 2.9% of time when present
• Phage (with cluster) where this start called: Lucky10_16 (DH),

Start 63:
• Found in 9 of 57 ( 15.8% ) of genes in pham
• Manual Annotations of this start: 5 of 49
• 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),

Start 64:
• Found in 6 of 57 ( 10.5% ) of genes in pham

• Manual Annotations of this start: 6 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Fryberger_51 (DP), Guey18_56 (DP), Keelan_49 (DP), Ronaldo_54 (DP), Volt_53 (DP), Ziko_54 (DP),

**Summary by clusters:**

There are 16 clusters represented in this pham: DN, CY3, CY1, CY7, DH, CY5, CY2, CY4, DB, singleton, DN4, DN3, Y, DT, DP, CY6,

Info for manual annotations of cluster CY1:
•Start number 27 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:
•Start number 27 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY3:
•Start number 27 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:
•Start number 27 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY5:
•Start number 27 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:
•Start number 27 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:
•Start number 27 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DB:
•Start number 7 was manually annotated 4 times for cluster DB.

Info for manual annotations of cluster DH:
•Start number 62 was manually annotated 1 time for cluster DH.
•Start number 63 was manually annotated 2 times for cluster DH.

Info for manual annotations of cluster DN:
•Start number 55 was manually annotated 3 times for cluster DN.
•Start number 56 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN3:
•Start number 63 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:
•Start number 63 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DP:
•Start number 64 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DT:
•Start number 38 was manually annotated 5 times for cluster DT.

Info for manual annotations of cluster Y:
•Start number 2 was manually annotated 6 times for cluster Y.

### *Gene Information:*

Gene: Angelique_18 Start: 11177, Stop: 16801, Start Num: 27
Candidate Starts for Angelique_18:
(Start: 27 @11177 has 17 MA's), (32, 11210), (52, 11390), (54, 11402), (60, 11441), (Start: 62 @11450 has 1 MA's), (65, 11474), (72, 11558), (75, 11600), (109, 11831), (113, 11858), (124, 11954), (125, 11957), (129, 11978), (141, 12050), (147, 12104), (155, 12155), (157, 12167), (160, 12194), (162, 12209), (177, 12314), (178, 12326), (187, 12398), (190, 12419), (195, 12473), (200, 12512), (203, 12533), (207, 12548), (214, 12581), (217, 12593), (222, 12623), (228, 12656), (239, 12698), (255, 12791), (260, 12824), (261, 12827), (262, 12833), (265, 12842), (266, 12845), (271, 12908), (277, 12941), (284, 12980), (289, 13010), (305, 13094), (315, 13151), (329, 13259), (334, 13298), (337, 13310), (362, 13472), (364, 13490), (365, 13505), (370, 13532), (379, 13583), (381, 13598), (384, 13625), (385, 13631), (400, 13709), (406, 13763), (407, 13772), (410, 13802), (436, 13976), (440, 14006), (468, 14237), (470, 14249), (486, 14339), (492, 14387), (500, 14423), (503, 14447), (513, 14498), (515, 14504), (521, 14549), (526, 14570), (544, 14681), (568, 14873), (586, 15008), (646, 15248), (652, 15314), (655, 15335), (656, 15344), (658, 15371), (663, 15449), (664, 15473), (671, 15614), (682, 15749), (685, 15776), (689, 15842), (692, 15896), (697, 15998), (704, 16097), (717, 16232), (743, 16421), (755, 16547), (759, 16577), (766, 16613), (767, 16616), (778, 16691),

Gene: Apricot_17 Start: 9635, Stop: 15046, Start Num: 63
Candidate Starts for Apricot_17:
(Start: 62 @9629 has 1 MA's), (Start: 63 @9635 has 5 MA's), (71, 9713), (74, 9755), (75, 9767), (96, 9908), (97, 9914), (105, 9950), (113, 10010), (116, 10028), (117, 10046), (121, 10067), (126, 10118), (127, 10121), (128, 10124), (133, 10148), (134, 10151), (143, 10217), (147, 10247), (159, 10325), (165, 10370), (168, 10394), (176, 10448), (179, 10469), (194, 10607), (199, 10643), (202, 10670), (207, 10691), (210, 10706), (218, 10745), (220, 10757), (223, 10769), (235, 10829), (239, 10841), (257, 10892), (280, 10967), (285, 10988), (294, 11036), (298, 11054), (316, 11123), (320, 11147), (326, 11204), (330, 11234), (334, 11267), (350, 11384), (362, 11441), (364, 11459), (365, 11474), (379, 11552), (394, 11657), (397, 11669), (398, 11675), (413, 11789), (414, 11792), (422, 11876), (428, 11906), (431, 11918), (436, 11969), (441, 12002), (446, 12071), (448, 12086), (452, 12128), (462, 12182), (464, 12197), (469, 12236), (470, 12242), (474, 12266), (485, 12326), (486, 12332), (487, 12335), (495, 12404), (513, 12491), (515, 12497), (516, 12506), (521, 12542), (527, 12566), (551, 12677), (553, 12689), (576, 12896), (583, 12959), (585, 12968), (589, 13001), (597, 13058), (603, 13085), (614, 13151), (616, 13169), (619, 13181), (646, 13208), (649, 13238), (652, 13274), (655, 13295), (657, 13307), (658, 13331), (663, 13409), (664, 13433), (666, 13448), (670, 13538), (677, 13658), (678, 13673), (681, 13694), (682, 13703), (688, 13790), (701, 14033), (710, 14123), (723, 14273), (727, 14297), (729, 14306), (731, 14333), (736, 14381), (737, 14399), (738, 14417), (742, 14441), (749, 14501), (762, 14624), (769, 14675), (775, 14702), (784, 14801), (786, 14813), (796, 14909), (799, 14927), (801, 14939), (804, 15029),

Gene: AuntGwenStacy_22 Start: 14030, Stop: 18613, Start Num: 2
Candidate Starts for AuntGwenStacy_22:
(Start: 2 @14030 has 6 MA's), (3, 14057), (5, 14081), (10, 14165), (11, 14177), (14, 14219), (24, 14378), (28, 14438), (29, 14441), (36, 14471), (39, 14495), (42, 14513), (51, 14612), (52, 14618), (54, 14630), (57, 14648), (60, 14669), (Start: 62 @14678 has 1 MA's), (65, 14702), (72, 14786), (73, 14789), (75, 14828), (79, 14849), (91, 14927), (92, 14930), (95, 14960), (101, 15008), (106, 15035), (109, 15059), (110, 15071), (111, 15077), (112, 15080), (121, 15140), (125, 15185), (131, 15215),

(132, 15218), (141, 15281), (144, 15308), (145, 15317), (149, 15347), (155, 15386), (160, 15425), (162, 15440), (165, 15461), (169, 15512), (170, 15515), (181, 15560), (188, 15623), (191, 15650), (204, 15752), (207, 15764), (214, 15797), (223, 15842), (229, 15881), (230, 15884), (244, 15941), (247, 15968), (251, 16001), (253, 16007), (258, 16022), (268, 16106), (273, 16139), (275, 16145), (281, 16193), (313, 16394), (319, 16436), (327, 16490), (328, 16505), (345, 16610), (356, 16682), (361, 16712), (380, 16838), (386, 16880), (391, 16925), (403, 16973), (404, 16976), (412, 17045), (414, 17051), (416, 17066), (426, 17159), (431, 17177), (436, 17225), (439, 17249), (440, 17255), (445, 17321), (455, 17405), (457, 17414), (459, 17432), (465, 17477), (471, 17525), (476, 17552), (491, 17639), (494, 17669), (509, 17747), (542, 17948), (548, 17987), (566, 18155), (567, 18158), (574, 18185), (593, 18374), (600, 18407), (602, 18416), (608, 18449), (621, 18545), (624, 18569), (626, 18590), (627, 18599),

Gene: BabyMoney_19 Start: 11680, Stop: 17151, Start Num: 38
Candidate Starts for BabyMoney_19:
(Start: 38 @11680 has 5 MA's), (44, 11758), (58, 11860), (59, 11863), (65, 11905), (66, 11908), (72, 11989), (74, 12019), (75, 12031), (100, 12199), (108, 12256), (113, 12289), (125, 12388), (147, 12535), (155, 12586), (161, 12637), (167, 12670), (187, 12832), (192, 12868), (197, 12916), (198, 12922), (201, 12943), (219, 13033), (223, 13054), (227, 13084), (236, 13111), (242, 13132), (249, 13165), (264, 13216), (282, 13342), (284, 13351), (306, 13471), (308, 13486), (320, 13549), (341, 13693), (371, 13897), (396, 14053), (400, 14071), (408, 14143), (411, 14176), (444, 14449), (459, 14560), (467, 14611), (468, 14620), (469, 14626), (473, 14647), (489, 14743), (517, 14893), (527, 14935), (558, 15085), (563, 15151), (570, 15190), (574, 15199), (581, 15286), (587, 15325), (596, 15394), (598, 15400), (599, 15409), (600, 15412), (617, 15523), (620, 15544), (644, 15556), (645, 15559), (647, 15577), (659, 15700), (673, 15958), (674, 16003), (679, 16039), (690, 16171), (699, 16354), (702, 16387), (703, 16390), (711, 16471), (714, 16495), (720, 16579), (722, 16585), (731, 16660), (733, 16678), (741, 16756), (744, 16777), (747, 16801), (750, 16864), (751, 16900), (755, 16909), (758, 16915), (764, 16966),

Gene: BearBQ_17 Start: 9908, Stop: 16477, Start Num: 55
Candidate Starts for BearBQ_17:
(Start: 55 @9908 has 3 MA's), (65, 9965), (68, 9983), (74, 10067), (75, 10079), (77, 10091), (82, 10115), (87, 10145), (93, 10190), (96, 10220), (97, 10226), (109, 10295), (113, 10322), (116, 10340), (117, 10358), (120, 10370), (121, 10379), (126, 10430), (127, 10433), (128, 10436), (133, 10460), (134, 10463), (146, 10550), (147, 10559), (159, 10637), (165, 10682), (168, 10706), (171, 10739), (172, 10742), (184, 10829), (186, 10850), (199, 10955), (202, 10982), (209, 11009), (214, 11036), (215, 11039), (223, 11081), (225, 11099), (226, 11102), (245, 11174), (256, 11216), (263, 11237), (269, 11264), (272, 11273), (279, 11288), (283, 11306), (289, 11339), (294, 11372), (303, 11405), (304, 11414), (305, 11423), (308, 11444), (313, 11468), (316, 11483), (319, 11504), (320, 11507), (326, 11564), (330, 11594), (334, 11627), (356, 11765), (362, 11801), (365, 11834), (370, 11861), (375, 11888), (378, 11906), (387, 11966), (390, 12008), (397, 12029), (405, 12080), (407, 12101), (413, 12149), (414, 12152), (434, 12290), (436, 12329), (442, 12371), (446, 12431), (450, 12458), (451, 12479), (461, 12536), (464, 12557), (474, 12629), (480, 12671), (481, 12674), (488, 12707), (491, 12731), (492, 12743), (503, 12803), (513, 12854), (515, 12860), (516, 12869), (522, 12911), (527, 12929), (534, 12959), (573, 13157), (582, 13238), (585, 13256), (589, 13289), (590, 13301), (595, 13337), (603, 13373), (606, 13397), (607, 13400), (612, 13421), (616, 13457), (619, 13469), (623, 13508), (625, 13535), (628, 13562), (629, 13634), (630, 13664), (631, 13700), (632, 13868), (633, 13946), (634, 13997), (635, 14150), (636, 14285), (637, 14294), (638, 14315), (639, 14318), (640, 14327), (641, 14345), (642, 14375), (643, 14408), (646, 14612), (648, 14630), (649, 14642), (652, 14678), (655, 14699), (661, 14789), (663, 14813), (664, 14837), (670, 14945), (676, 15068), (678, 15092), (681, 15113), (682, 15122), (683, 15125), (686, 15152), (688, 15212), (701, 15455), (708, 15536), (709, 15539), (710, 15545), (723, 15704), (727, 15728), (729, 15737), (733, 15782), (734, 15794), (737, 15827), (738, 15845), (749, 15938), (761, 16043), (763, 16064), (773, 16118), (777, 16157), (783, 16229), (788, 16259), (793, 16298), (795, 16331), (799, 16370), (802, 16418),

(803, 16451), (805, 16463),

Gene: BeeGee_18 Start: 10997, Stop: 16621, Start Num: 27
Candidate Starts for BeeGee_18:
(26, 10982), (Start: 27 @10997 has 17 MA's), (32, 11030), (52, 11210), (54, 11222), (60, 11261), (Start: 62 @11270 has 1 MA's), (65, 11294), (67, 11303), (72, 11378), (75, 11420), (103, 11609), (106, 11627), (109, 11651), (114, 11681), (124, 11774), (125, 11777), (135, 11828), (141, 11870), (147, 11924), (155, 11975), (157, 11987), (162, 12029), (177, 12134), (181, 12161), (187, 12218), (195, 12293), (200, 12332), (203, 12353), (207, 12368), (222, 12443), (238, 12515), (239, 12518), (240, 12527), (246, 12560), (255, 12611), (260, 12644), (261, 12647), (262, 12653), (265, 12662), (266, 12665), (270, 12710), (271, 12728), (274, 12737), (286, 12812), (287, 12818), (288, 12821), (289, 12830), (299, 12884), (304, 12905), (308, 12935), (315, 12971), (326, 13055), (334, 13118), (355, 13250), (362, 13292), (365, 13325), (370, 13352), (379, 13403), (383, 13436), (384, 13445), (388, 13460), (400, 13529), (406, 13583), (407, 13592), (410, 13622), (427, 13742), (430, 13754), (436, 13796), (464, 14024), (466, 14048), (468, 14057), (470, 14069), (485, 14153), (486, 14159), (488, 14171), (492, 14207), (503, 14267), (513, 14318), (515, 14324), (521, 14369), (568, 14693), (586, 14828), (646, 15068), (652, 15134), (655, 15155), (656, 15164), (658, 15191), (663, 15269), (664, 15293), (669, 15386), (670, 15410), (671, 15434), (678, 15539), (682, 15569), (689, 15662), (692, 15716), (697, 15818), (704, 15917), (743, 16241), (755, 16367), (759, 16397), (766, 16433), (767, 16436), (778, 16511), (789, 16607),

Gene: Bipper_22 Start: 14060, Stop: 18745, Start Num: 2
Candidate Starts for Bipper_22:
(Start: 2 @14060 has 6 MA's), (5, 14111), (10, 14195), (11, 14207), (12, 14219), (24, 14408), (28, 14468), (37, 14522), (43, 14576), (45, 14615), (48, 14633), (54, 14678), (Start: 55 @14690 has 3 MA's), (57, 14696), (65, 14750), (69, 14801), (72, 14834), (74, 14864), (80, 14903), (94, 14999), (100, 15044), (101, 15056), (102, 15059), (106, 15083), (109, 15107), (110, 15119), (112, 15128), (113, 15134), (121, 15188), (125, 15233), (135, 15284), (137, 15293), (141, 15326), (144, 15353), (145, 15362), (149, 15392), (155, 15431), (156, 15434), (158, 15452), (160, 15470), (162, 15485), (165, 15506), (169, 15557), (175, 15575), (188, 15671), (207, 15812), (210, 15827), (211, 15833), (212, 15836), (230, 15932), (247, 16016), (251, 16049), (258, 16070), (268, 16154), (273, 16187), (275, 16193), (281, 16241), (300, 16358), (311, 16430), (312, 16433), (322, 16496), (324, 16511), (326, 16547), (332, 16598), (341, 16640), (361, 16778), (372, 16853), (373, 16865), (387, 16949), (391, 16991), (393, 16994), (399, 17021), (402, 17036), (403, 17039), (404, 17042), (409, 17114), (418, 17192), (419, 17198), (427, 17255), (431, 17270), (436, 17318), (438, 17339), (439, 17342), (440, 17348), (445, 17414), (469, 17579), (471, 17597), (477, 17642), (478, 17651), (485, 17675), (491, 17717), (509, 17828), (511, 17840), (513, 17849), (531, 17969), (536, 17999), (538, 18020), (560, 18179), (565, 18251), (574, 18293), (584, 18419), (600, 18536), (608, 18578), (611, 18590), (621, 18677), (622, 18686), (627, 18731),

Gene: Birdsong_17 Start: 9908, Stop: 15370, Start Num: 55
Candidate Starts for Birdsong_17:
(Start: 55 @9908 has 3 MA's), (65, 9965), (68, 9983), (74, 10067), (75, 10079), (77, 10091), (82, 10115), (87, 10145), (93, 10190), (96, 10220), (97, 10226), (109, 10295), (113, 10322), (116, 10340), (117, 10358), (120, 10370), (121, 10379), (126, 10430), (127, 10433), (128, 10436), (133, 10460), (134, 10463), (146, 10550), (147, 10559), (159, 10637), (165, 10682), (168, 10706), (171, 10739), (172, 10742), (184, 10829), (186, 10850), (199, 10955), (202, 10982), (209, 11009), (214, 11036), (215, 11039), (223, 11081), (225, 11099), (226, 11102), (245, 11174), (256, 11216), (263, 11237), (269, 11264), (272, 11273), (279, 11288), (283, 11306), (289, 11339), (294, 11372), (303, 11405), (304, 11414), (305, 11423), (308, 11444), (313, 11468), (316, 11483), (319, 11504), (320, 11507), (326, 11564), (330, 11594), (334, 11627), (362, 11801), (365, 11834), (370, 11861), (375, 11888), (378, 11906), (387, 11966), (390, 12008), (397, 12029), (405, 12080), (407, 12101), (413, 12149), (414, 12152), (434, 12290), (436, 12329), (442, 12371), (446, 12431), (450, 12458), (451, 12479),

(461, 12536), (464, 12557), (474, 12629), (480, 12671), (481, 12674), (488, 12707), (492, 12743), (503, 12803), (513, 12854), (515, 12860), (516, 12869), (517, 12878), (522, 12911), (527, 12929), (534, 12959), (571, 13154), (573, 13157), (582, 13238), (585, 13256), (589, 13289), (590, 13301), (595, 13337), (603, 13373), (606, 13397), (607, 13400), (612, 13421), (616, 13457), (619, 13469), (646, 13496), (648, 13514), (649, 13526), (652, 13562), (655, 13583), (661, 13673), (663, 13697), (664, 13721), (670, 13829), (676, 13952), (678, 13976), (682, 14006), (683, 14009), (686, 14036), (701, 14339), (708, 14420), (709, 14423), (710, 14429), (725, 14594), (727, 14612), (729, 14621), (733, 14666), (734, 14678), (737, 14714), (738, 14732), (749, 14831), (761, 14936), (763, 14957), (773, 15011), (777, 15050), (783, 15122), (788, 15152), (793, 15191), (795, 15224), (799, 15263), (802, 15311), (803, 15344), (805, 15356),

Gene: Bradissa_18 Start: 11180, Stop: 16804, Start Num: 27
Candidate Starts for Bradissa_18:
(Start: 27 @11180 has 17 MA's), (32, 11213), (52, 11393), (54, 11405), (60, 11444), (Start: 62 @11453 has 1 MA's), (65, 11477), (72, 11561), (74, 11591), (75, 11603), (109, 11834), (113, 11861), (124, 11957), (125, 11960), (129, 11981), (134, 12005), (141, 12053), (147, 12107), (155, 12158), (157, 12170), (160, 12197), (162, 12212), (177, 12317), (187, 12401), (190, 12422), (195, 12476), (203, 12536), (214, 12584), (217, 12596), (222, 12626), (228, 12659), (239, 12701), (246, 12743), (250, 12764), (255, 12794), (260, 12827), (261, 12830), (262, 12836), (265, 12845), (266, 12848), (271, 12911), (277, 12944), (284, 12983), (289, 13013), (305, 13097), (315, 13154), (329, 13262), (334, 13301), (337, 13313), (362, 13475), (364, 13493), (365, 13508), (370, 13535), (379, 13586), (381, 13601), (384, 13628), (400, 13712), (406, 13766), (407, 13775), (410, 13805), (436, 13979), (440, 14009), (448, 14096), (468, 14240), (470, 14252), (486, 14342), (492, 14390), (503, 14450), (513, 14501), (515, 14507), (521, 14552), (544, 14684), (586, 15011), (603, 15116), (646, 15251), (649, 15281), (652, 15317), (655, 15338), (656, 15347), (658, 15374), (663, 15452), (664, 15476), (671, 15617), (678, 15722), (682, 15752), (683, 15755), (689, 15845), (692, 15899), (697, 16001), (717, 16235), (739, 16403), (743, 16424), (755, 16550), (759, 16580), (766, 16616), (767, 16619),

Gene: BritBrat_18 Start: 11003, Stop: 16657, Start Num: 27
Candidate Starts for BritBrat_18:
(Start: 27 @11003 has 17 MA's), (32, 11036), (52, 11216), (54, 11228), (60, 11267), (Start: 62 @11276 has 1 MA's), (65, 11300), (67, 11309), (72, 11384), (75, 11426), (103, 11615), (106, 11633), (109, 11657), (114, 11687), (124, 11780), (125, 11783), (134, 11828), (135, 11834), (141, 11876), (147, 11930), (155, 11981), (157, 11993), (162, 12035), (177, 12140), (181, 12167), (187, 12224), (195, 12299), (200, 12338), (203, 12359), (207, 12374), (214, 12407), (222, 12449), (238, 12521), (239, 12524), (240, 12533), (255, 12617), (260, 12650), (261, 12653), (262, 12659), (265, 12668), (266, 12671), (270, 12716), (271, 12734), (274, 12743), (287, 12824), (288, 12827), (289, 12836), (299, 12890), (304, 12911), (315, 12977), (326, 13061), (334, 13124), (337, 13136), (359, 13274), (362, 13298), (364, 13316), (365, 13331), (370, 13358), (379, 13409), (383, 13442), (384, 13451), (388, 13466), (398, 13532), (400, 13535), (406, 13589), (407, 13598), (410, 13628), (436, 13802), (437, 13811), (443, 13850), (458, 13991), (468, 14063), (470, 14075), (481, 14144), (485, 14159), (486, 14165), (492, 14213), (496, 14240), (500, 14249), (513, 14324), (515, 14330), (517, 14348), (521, 14375), (568, 14699), (577, 14792), (582, 14834), (585, 14852), (646, 15104), (652, 15170), (655, 15191), (656, 15200), (658, 15227), (663, 15305), (664, 15329), (669, 15422), (670, 15446), (671, 15470), (678, 15575), (682, 15605), (689, 15698), (692, 15752), (697, 15854), (704, 15953), (739, 16256), (755, 16403), (759, 16433), (766, 16469), (767, 16472), (778, 16547), (789, 16643),

Gene: Cashline_18 Start: 10857, Stop: 16481, Start Num: 27
Candidate Starts for Cashline_18:
(Start: 27 @10857 has 17 MA's), (32, 10890), (52, 11070), (54, 11082), (60, 11121), (Start: 62 @11130 has 1 MA's), (65, 11154), (67, 11163), (72, 11238), (75, 11280), (103, 11469), (106, 11487), (109, 11511), (114, 11541), (124, 11634), (125, 11637), (135, 11688), (141, 11730), (147, 11784), (155, 11835), (157, 11847), (162, 11889), (177, 11994), (181, 12021), (187, 12078), (195, 12153), (200,

12192), (203, 12213), (207, 12228), (214, 12261), (222, 12303), (238, 12375), (239, 12378), (240, 12387), (255, 12471), (260, 12504), (261, 12507), (262, 12513), (265, 12522), (266, 12525), (270, 12570), (274, 12597), (286, 12672), (287, 12678), (288, 12681), (289, 12690), (299, 12744), (304, 12765), (308, 12795), (315, 12831), (326, 12915), (334, 12978), (337, 12990), (359, 13128), (362, 13152), (364, 13170), (365, 13185), (370, 13212), (379, 13263), (383, 13296), (384, 13305), (388, 13320), (398, 13386), (400, 13389), (406, 13443), (407, 13452), (410, 13482), (436, 13656), (437, 13665), (443, 13704), (458, 13845), (468, 13917), (470, 13929), (481, 13998), (485, 14013), (486, 14019), (492, 14067), (515, 14184), (517, 14202), (521, 14229), (568, 14553), (586, 14688), (646, 14928), (652, 14994), (655, 15015), (656, 15024), (658, 15051), (663, 15129), (664, 15153), (669, 15246), (670, 15270), (671, 15294), (678, 15399), (682, 15429), (689, 15522), (692, 15576), (697, 15678), (704, 15777), (743, 16101), (755, 16227), (759, 16257), (766, 16293), (767, 16296), (778, 16371), (789, 16467),

Gene: Chipko_17 Start: 10890, Stop: 16577, Start Num: 7
Candidate Starts for Chipko_17:
(Start: 7 @10890 has 4 MA's), (8, 10920), (13, 10974), (16, 11025), (25, 11181), (31, 11223), (52, 11418), (54, 11430), (60, 11469), (Start: 62 @11478 has 1 MA's), (65, 11502), (72, 11586), (75, 11628), (109, 11859), (118, 11928), (125, 11985), (141, 12078), (147, 12132), (155, 12183), (157, 12195), (162, 12237), (181, 12369), (192, 12465), (196, 12510), (207, 12576), (208, 12579), (209, 12582), (216, 12618), (223, 12654), (226, 12675), (233, 12705), (235, 12714), (239, 12726), (241, 12738), (245, 12747), (256, 12789), (259, 12798), (267, 12837), (271, 12852), (287, 12900), (289, 12912), (305, 12996), (310, 13026), (314, 13047), (317, 13062), (323, 13095), (339, 13218), (340, 13227), (343, 13239), (365, 13392), (374, 13443), (379, 13470), (384, 13512), (389, 13554), (390, 13566), (400, 13596), (403, 13611), (406, 13650), (410, 13689), (415, 13719), (421, 13779), (436, 13863), (440, 13893), (450, 13992), (454, 14031), (468, 14124), (475, 14169), (488, 14232), (491, 14256), (496, 14289), (498, 14292), (501, 14301), (514, 14367), (516, 14379), (550, 14544), (552, 14553), (555, 14565), (564, 14664), (569, 14697), (588, 14844), (589, 14847), (590, 14859), (592, 14880), (598, 14907), (618, 15024), (650, 15102), (653, 15123), (655, 15144), (665, 15279), (667, 15297), (678, 15462), (682, 15492), (686, 15522), (696, 15726), (697, 15744), (698, 15762), (716, 15939), (718, 15999), (719, 16008), (728, 16053), (754, 16317), (759, 16350), (760, 16353), (763, 16374), (770, 16416), (772, 16419), (777, 16455), (785, 16530), (786, 16536), (787, 16539), (790, 16566), (791, 16569),

Gene: Confidence_18 Start: 10997, Stop: 16651, Start Num: 27
Candidate Starts for Confidence_18:
(Start: 27 @10997 has 17 MA's), (32, 11030), (52, 11210), (54, 11222), (60, 11261), (Start: 62 @11270 has 1 MA's), (65, 11294), (67, 11303), (72, 11378), (75, 11420), (103, 11609), (109, 11651), (114, 11681), (119, 11723), (124, 11774), (125, 11777), (135, 11828), (141, 11870), (147, 11924), (155, 11975), (157, 11987), (162, 12029), (177, 12134), (181, 12161), (187, 12218), (195, 12293), (200, 12332), (203, 12353), (207, 12368), (214, 12401), (222, 12443), (238, 12515), (239, 12518), (240, 12527), (255, 12611), (260, 12644), (261, 12647), (262, 12653), (265, 12662), (266, 12665), (270, 12710), (271, 12728), (274, 12737), (286, 12812), (287, 12818), (288, 12821), (289, 12830), (299, 12884), (304, 12905), (308, 12935), (315, 12971), (326, 13055), (334, 13118), (337, 13130), (359, 13268), (362, 13292), (364, 13310), (365, 13325), (370, 13352), (379, 13403), (383, 13436), (384, 13445), (388, 13460), (398, 13526), (400, 13529), (406, 13583), (407, 13592), (410, 13622), (436, 13796), (437, 13805), (443, 13844), (458, 13985), (468, 14057), (470, 14069), (481, 14138), (485, 14153), (486, 14159), (492, 14207), (515, 14324), (517, 14342), (521, 14369), (568, 14693), (577, 14786), (582, 14828), (585, 14846), (646, 15098), (652, 15164), (655, 15185), (656, 15194), (658, 15221), (663, 15299), (664, 15323), (669, 15416), (671, 15464), (678, 15569), (682, 15599), (689, 15692), (692, 15746), (697, 15848), (704, 15947), (739, 16250), (743, 16271), (755, 16397), (759, 16427), (766, 16463), (767, 16466), (778, 16541), (789, 16637),

Gene: Coriander_17 Start: 10886, Stop: 16564, Start Num: 7

Candidate Starts for Coriander_17:
(Start: 7 @10886 has 4 MA's), (8, 10916), (9, 10928), (16, 11021), (23, 11141), (25, 11177), (52, 11414), (54, 11426), (60, 11465), (65, 11498), (72, 11582), (75, 11624), (86, 11690), (89, 11708), (106, 11831), (109, 11855), (113, 11882), (125, 11981), (141, 12074), (147, 12128), (155, 12179), (157, 12191), (162, 12233), (196, 12506), (210, 12587), (223, 12650), (225, 12668), (226, 12671), (239, 12722), (245, 12743), (256, 12785), (267, 12833), (271, 12848), (284, 12878), (287, 12896), (289, 12908), (320, 13076), (321, 13079), (342, 13229), (348, 13298), (362, 13358), (365, 13391), (370, 13418), (384, 13511), (389, 13553), (390, 13565), (400, 13595), (403, 13610), (406, 13649), (410, 13688), (415, 13718), (421, 13778), (436, 13862), (440, 13892), (468, 14123), (475, 14168), (488, 14231), (491, 14255), (496, 14288), (501, 14300), (508, 14339), (514, 14366), (520, 14399), (525, 14429), (546, 14534), (550, 14543), (555, 14564), (564, 14663), (588, 14843), (589, 14846), (590, 14858), (592, 14879), (598, 14906), (650, 15101), (653, 15122), (654, 15125), (655, 15143), (665, 15278), (677, 15446), (682, 15491), (686, 15521), (692, 15629), (697, 15731), (704, 15830), (716, 15926), (718, 15986), (728, 16040), (752, 16298), (754, 16304), (759, 16337), (760, 16340), (763, 16361), (770, 16403), (772, 16406), (777, 16442), (785, 16517), (786, 16523), (787, 16526), (790, 16553),

Gene: Cracklewink_22 Start: 14060, Stop: 18745, Start Num: 2
Candidate Starts for Cracklewink_22:
(Start: 2 @14060 has 6 MA's), (5, 14111), (10, 14195), (11, 14207), (12, 14219), (24, 14408), (28, 14468), (35, 14507), (37, 14522), (43, 14576), (45, 14615), (48, 14633), (Start: 55 @14690 has 3 MA's), (57, 14696), (65, 14750), (69, 14801), (72, 14834), (74, 14864), (80, 14903), (84, 14933), (94, 14999), (100, 15044), (101, 15056), (102, 15059), (106, 15083), (109, 15107), (110, 15119), (112, 15128), (113, 15134), (121, 15188), (125, 15233), (135, 15284), (137, 15293), (141, 15326), (144, 15353), (145, 15362), (149, 15392), (155, 15431), (156, 15434), (158, 15452), (160, 15470), (162, 15485), (165, 15506), (169, 15557), (175, 15575), (188, 15671), (207, 15812), (210, 15827), (211, 15833), (212, 15836), (230, 15932), (247, 16016), (251, 16049), (258, 16070), (268, 16154), (273, 16187), (275, 16193), (281, 16241), (283, 16250), (296, 16340), (300, 16358), (311, 16430), (312, 16433), (322, 16496), (326, 16547), (332, 16598), (341, 16640), (361, 16778), (372, 16853), (373, 16865), (387, 16949), (391, 16991), (393, 16994), (399, 17021), (402, 17036), (403, 17039), (404, 17042), (408, 17096), (409, 17114), (418, 17192), (419, 17198), (427, 17255), (431, 17270), (436, 17318), (438, 17339), (439, 17342), (440, 17348), (445, 17414), (469, 17579), (471, 17597), (477, 17642), (478, 17651), (485, 17675), (491, 17717), (509, 17828), (511, 17840), (513, 17849), (531, 17969), (536, 17999), (538, 18020), (560, 18179), (565, 18251), (574, 18293), (584, 18419), (600, 18536), (608, 18578), (611, 18590), (621, 18677), (622, 18686), (627, 18731),

Gene: Crater_16 Start: 9635, Stop: 15046, Start Num: 63
Candidate Starts for Crater_16:
(Start: 62 @9629 has 1 MA's), (Start: 63 @9635 has 5 MA's), (71, 9713), (74, 9755), (75, 9767), (96, 9908), (97, 9914), (105, 9950), (113, 10010), (116, 10028), (117, 10046), (121, 10067), (126, 10118), (127, 10121), (128, 10124), (133, 10148), (134, 10151), (143, 10217), (147, 10247), (159, 10325), (165, 10370), (168, 10394), (176, 10448), (179, 10469), (194, 10607), (199, 10643), (202, 10670), (207, 10691), (210, 10706), (218, 10745), (220, 10757), (223, 10769), (235, 10829), (239, 10841), (257, 10892), (280, 10967), (285, 10988), (294, 11036), (298, 11054), (316, 11123), (320, 11147), (326, 11204), (330, 11234), (334, 11267), (350, 11384), (362, 11441), (364, 11459), (365, 11474), (379, 11552), (394, 11657), (397, 11669), (398, 11675), (413, 11789), (414, 11792), (422, 11876), (428, 11906), (431, 11918), (436, 11969), (441, 12002), (446, 12071), (448, 12086), (452, 12128), (462, 12182), (464, 12197), (469, 12236), (470, 12242), (474, 12266), (485, 12326), (486, 12332), (487, 12335), (495, 12404), (513, 12491), (515, 12497), (516, 12506), (521, 12542), (527, 12566), (551, 12677), (553, 12689), (576, 12896), (583, 12959), (585, 12968), (589, 13001), (597, 13058), (603, 13085), (614, 13151), (616, 13169), (619, 13181), (646, 13208), (649, 13238), (652, 13274), (655, 13295), (657, 13307), (658, 13331), (663, 13409), (664, 13433), (666, 13448), (670, 13538), (677, 13658), (678, 13673), (681, 13694), (682, 13703), (688, 13790), (701, 14033), (710, 14123),

(723, 14273), (727, 14297), (729, 14306), (731, 14333), (736, 14381), (737, 14399), (738, 14417), (742, 14441), (749, 14501), (762, 14624), (769, 14675), (775, 14702), (784, 14801), (786, 14813), (796, 14909), (799, 14927), (801, 14939), (804, 15029),

Gene: Dmitri_17 Start: 10871, Stop: 16561, Start Num: 7
Candidate Starts for Dmitri_17:
(Start: 7 @10871 has 4 MA's), (8, 10901), (13, 10955), (16, 11006), (25, 11162), (31, 11204), (52, 11399), (54, 11411), (60, 11450), (Start: 62 @11459 has 1 MA's), (65, 11483), (72, 11567), (75, 11609), (109, 11840), (118, 11909), (125, 11966), (141, 12059), (147, 12113), (155, 12164), (157, 12176), (162, 12218), (180, 12347), (181, 12350), (196, 12491), (197, 12494), (216, 12599), (223, 12635), (225, 12653), (226, 12656), (239, 12707), (245, 12728), (256, 12770), (265, 12800), (266, 12803), (267, 12818), (271, 12833), (289, 12893), (310, 13007), (314, 13028), (319, 13058), (323, 13076), (339, 13199), (343, 13220), (374, 13424), (383, 13484), (384, 13493), (388, 13508), (389, 13535), (390, 13547), (400, 13577), (406, 13631), (410, 13670), (415, 13700), (421, 13760), (424, 13781), (436, 13844), (440, 13874), (454, 14012), (468, 14105), (475, 14150), (488, 14213), (491, 14237), (496, 14270), (498, 14273), (501, 14282), (514, 14348), (550, 14525), (552, 14534), (555, 14546), (564, 14645), (569, 14678), (588, 14825), (589, 14828), (590, 14840), (592, 14861), (598, 14888), (618, 15005), (650, 15083), (653, 15104), (655, 15125), (665, 15260), (682, 15476), (684, 15485), (686, 15506), (697, 15728), (698, 15746), (716, 15923), (718, 15983), (719, 15992), (728, 16037), (754, 16301), (759, 16334), (760, 16337), (763, 16358), (770, 16400), (772, 16403), (777, 16439), (785, 16514), (786, 16520), (787, 16523), (790, 16550), (791, 16553),

Gene: Dogfish_19 Start: 11823, Stop: 17324, Start Num: 38
Candidate Starts for Dogfish_19:
(Start: 38 @11823 has 5 MA's), (41, 11853), (44, 11901), (58, 12003), (59, 12006), (65, 12048), (72, 12132), (74, 12162), (75, 12174), (100, 12342), (108, 12399), (125, 12531), (147, 12678), (155, 12729), (161, 12780), (167, 12813), (183, 12939), (190, 12996), (198, 13065), (212, 13143), (213, 13146), (221, 13191), (223, 13197), (227, 13227), (243, 13290), (249, 13323), (256, 13350), (264, 13386), (269, 13428), (276, 13473), (282, 13512), (283, 13518), (306, 13644), (308, 13659), (315, 13695), (320, 13722), (333, 13836), (360, 13995), (382, 14142), (400, 14235), (407, 14298), (408, 14307), (411, 14340), (413, 14346), (444, 14613), (453, 14691), (459, 14724), (467, 14775), (468, 14784), (469, 14790), (473, 14811), (504, 14985), (505, 14988), (506, 14991), (507, 15000), (517, 15057), (518, 15063), (527, 15099), (532, 15111), (533, 15114), (541, 15159), (558, 15252), (562, 15306), (563, 15318), (570, 15357), (574, 15366), (583, 15465), (587, 15492), (596, 15561), (598, 15567), (599, 15576), (600, 15579), (615, 15684), (617, 15690), (620, 15711), (644, 15723), (645, 15726), (647, 15744), (673, 16125), (674, 16170), (679, 16203), (690, 16335), (699, 16524), (702, 16557), (711, 16641), (714, 16665), (720, 16749), (722, 16755), (733, 16848), (741, 16926), (744, 16947), (747, 16971), (750, 17034), (751, 17070), (755, 17079), (764, 17136),

Gene: Doggs_16 Start: 10586, Stop: 16264, Start Num: 7
Candidate Starts for Doggs_16:
(Start: 7 @10586 has 4 MA's), (8, 10616), (9, 10628), (16, 10721), (23, 10841), (25, 10877), (52, 11114), (54, 11126), (60, 11165), (65, 11198), (72, 11282), (75, 11324), (86, 11390), (89, 11408), (106, 11531), (109, 11555), (113, 11582), (125, 11681), (141, 11774), (147, 11828), (155, 11879), (157, 11891), (162, 11933), (196, 12206), (208, 12275), (209, 12278), (210, 12287), (223, 12350), (225, 12368), (226, 12371), (239, 12422), (245, 12443), (256, 12485), (267, 12533), (271, 12548), (284, 12578), (287, 12596), (289, 12608), (320, 12776), (321, 12779), (342, 12929), (348, 12998), (362, 13058), (365, 13091), (370, 13118), (384, 13211), (389, 13253), (390, 13265), (400, 13295), (403, 13310), (406, 13349), (410, 13388), (415, 13418), (421, 13478), (436, 13562), (440, 13592), (468, 13823), (475, 13868), (488, 13931), (491, 13955), (496, 13988), (501, 14000), (508, 14039), (514, 14066), (520, 14099), (525, 14129), (546, 14234), (550, 14243), (555, 14264), (564, 14363), (569, 14396), (589, 14546), (590, 14558), (592, 14579), (598, 14606), (650, 14801), (653, 14822), (654, 14825), (655, 14843), (665, 14978), (677, 15146), (682, 15191), (686, 15221), (692, 15329), (695,

15401), (697, 15431), (704, 15530), (716, 15629), (718, 15689), (732, 15782), (745, 15890), (748, 15902), (752, 15998), (754, 16004), (759, 16037), (760, 16040), (770, 16103), (772, 16106), (785, 16217), (786, 16223), (787, 16226), (790, 16253), (791, 16256),

Gene: EMsquaredA_18 Start: 11003, Stop: 16657, Start Num: 27
Candidate Starts for EMsquaredA_18:
(Start: 27 @11003 has 17 MA's), (32, 11036), (52, 11216), (54, 11228), (60, 11267), (Start: 62 @11276 has 1 MA's), (65, 11300), (67, 11309), (72, 11384), (75, 11426), (103, 11615), (106, 11633), (109, 11657), (114, 11687), (124, 11780), (125, 11783), (134, 11828), (135, 11834), (141, 11876), (147, 11930), (155, 11981), (157, 11993), (162, 12035), (177, 12140), (181, 12167), (187, 12224), (195, 12299), (200, 12338), (203, 12359), (207, 12374), (214, 12407), (222, 12449), (238, 12521), (239, 12524), (240, 12533), (255, 12617), (260, 12650), (261, 12653), (262, 12659), (265, 12668), (266, 12671), (270, 12716), (271, 12734), (274, 12743), (287, 12824), (288, 12827), (289, 12836), (299, 12890), (304, 12911), (315, 12977), (326, 13061), (334, 13124), (337, 13136), (359, 13274), (362, 13298), (364, 13316), (365, 13331), (370, 13358), (379, 13409), (383, 13442), (384, 13451), (388, 13466), (398, 13532), (400, 13535), (406, 13589), (407, 13598), (410, 13628), (436, 13802), (437, 13811), (443, 13850), (458, 13991), (468, 14063), (470, 14075), (481, 14144), (485, 14159), (486, 14165), (492, 14213), (496, 14240), (500, 14249), (513, 14324), (515, 14330), (517, 14348), (521, 14375), (568, 14699), (577, 14792), (582, 14834), (585, 14852), (646, 15104), (652, 15170), (655, 15191), (656, 15200), (658, 15227), (663, 15305), (664, 15329), (669, 15422), (670, 15446), (671, 15470), (678, 15575), (682, 15605), (689, 15698), (692, 15752), (697, 15854), (704, 15953), (739, 16256), (755, 16403), (759, 16433), (766, 16469), (767, 16472), (778, 16547), (789, 16643),

Gene: Ecliptus_22 Start: 11993, Stop: 17506, Start Num: 56
Candidate Starts for Ecliptus_22:
(Start: 56 @11993 has 2 MA's), (Start: 62 @12026 has 1 MA's), (Start: 63 @12032 has 5 MA's), (74, 12152), (75, 12164), (87, 12230), (96, 12305), (113, 12407), (117, 12443), (121, 12464), (127, 12518), (128, 12521), (134, 12548), (142, 12599), (146, 12635), (147, 12644), (159, 12722), (165, 12767), (168, 12791), (171, 12824), (172, 12827), (186, 12935), (199, 13040), (202, 13067), (209, 13094), (210, 13103), (214, 13121), (215, 13124), (223, 13166), (225, 13184), (226, 13187), (245, 13259), (256, 13301), (263, 13322), (266, 13328), (269, 13349), (272, 13358), (279, 13373), (283, 13391), (289, 13424), (294, 13457), (303, 13490), (304, 13499), (305, 13508), (308, 13529), (313, 13553), (315, 13565), (316, 13568), (319, 13589), (320, 13592), (326, 13649), (330, 13679), (352, 13838), (353, 13841), (359, 13862), (362, 13886), (365, 13919), (375, 13973), (377, 13988), (390, 14093), (397, 14114), (400, 14123), (413, 14234), (414, 14237), (436, 14414), (442, 14456), (446, 14516), (447, 14525), (451, 14564), (458, 14603), (461, 14621), (464, 14642), (468, 14675), (474, 14714), (481, 14759), (488, 14792), (492, 14828), (503, 14888), (515, 14945), (524, 14999), (554, 15152), (570, 15305), (578, 15359), (583, 15404), (585, 15413), (589, 15446), (607, 15551), (616, 15608), (646, 15647), (652, 15713), (655, 15734), (662, 15842), (663, 15848), (664, 15872), (670, 15986), (671, 16010), (674, 16085), (678, 16121), (681, 16142), (682, 16151), (683, 16154), (686, 16181), (701, 16484), (708, 16565), (709, 16568), (710, 16574), (725, 16739), (727, 16757), (729, 16766), (733, 16811), (734, 16823), (737, 16856), (738, 16874), (749, 16967), (761, 17072), (763, 17093), (773, 17147), (777, 17186), (783, 17258), (788, 17288), (793, 17327), (795, 17360), (799, 17399), (802, 17447), (803, 17480), (805, 17492),

Gene: EnalisNailo_18 Start: 11182, Stop: 16806, Start Num: 27
Candidate Starts for EnalisNailo_18:
(Start: 27 @11182 has 17 MA's), (32, 11215), (52, 11395), (54, 11407), (60, 11446), (Start: 62 @11455 has 1 MA's), (65, 11479), (72, 11563), (74, 11593), (75, 11605), (109, 11836), (113, 11863), (124, 11959), (125, 11962), (129, 11983), (134, 12007), (141, 12055), (147, 12109), (155, 12160), (157, 12172), (160, 12199), (162, 12214), (177, 12319), (187, 12403), (190, 12424), (195, 12478), (200, 12517), (203, 12538), (214, 12586), (217, 12598), (222, 12628), (228, 12661), (239, 12703), (246, 12745), (250, 12766), (255, 12796), (260, 12829), (261, 12832), (262, 12838), (265, 12847), (266,

12850), (271, 12913), (277, 12946), (284, 12985), (289, 13015), (305, 13099), (315, 13156), (329, 13264), (334, 13303), (337, 13315), (362, 13477), (364, 13495), (365, 13510), (370, 13537), (379, 13588), (381, 13603), (384, 13630), (400, 13714), (406, 13768), (407, 13777), (410, 13807), (436, 13981), (440, 14011), (448, 14098), (468, 14242), (470, 14254), (486, 14344), (492, 14392), (503, 14452), (513, 14503), (515, 14509), (521, 14554), (544, 14686), (586, 15013), (603, 15118), (646, 15253), (649, 15283), (652, 15319), (655, 15340), (656, 15349), (658, 15376), (663, 15454), (664, 15478), (671, 15619), (678, 15724), (682, 15754), (683, 15757), (689, 15847), (692, 15901), (697, 16003), (717, 16237), (739, 16405), (743, 16426), (755, 16552), (759, 16582), (766, 16618), (767, 16621),

Gene: Ewald_20 Start: 12085, Stop: 17598, Start Num: 38
Candidate Starts for Ewald_20:
(Start: 38 @12085 has 5 MA's), (44, 12163), (58, 12265), (59, 12268), (65, 12310), (72, 12394), (74, 12424), (75, 12436), (100, 12604), (108, 12661), (113, 12694), (125, 12793), (134, 12838), (147, 12940), (155, 12991), (161, 13042), (167, 13075), (192, 13273), (197, 13321), (198, 13327), (201, 13348), (206, 13375), (212, 13405), (219, 13438), (223, 13459), (224, 13474), (234, 13507), (236, 13516), (242, 13537), (249, 13570), (264, 13621), (282, 13747), (284, 13756), (306, 13876), (326, 14011), (336, 14077), (341, 14098), (366, 14278), (371, 14302), (400, 14476), (408, 14548), (411, 14581), (413, 14587), (444, 14854), (459, 14965), (467, 15016), (468, 15025), (469, 15031), (473, 15052), (489, 15148), (505, 15229), (506, 15232), (527, 15352), (563, 15595), (570, 15637), (581, 15733), (583, 15745), (587, 15772), (589, 15787), (596, 15841), (598, 15847), (599, 15856), (600, 15859), (610, 15910), (613, 15937), (617, 15970), (620, 15991), (645, 16006), (647, 16024), (651, 16063), (673, 16405), (674, 16450), (679, 16486), (690, 16618), (702, 16834), (714, 16942), (720, 17026), (722, 17032), (726, 17056), (730, 17092), (731, 17107), (741, 17203), (744, 17224), (747, 17248), (750, 17311), (751, 17347), (755, 17356), (758, 17362), (764, 17413),

Gene: Faiyaz_22 Start: 14030, Stop: 18613, Start Num: 2
Candidate Starts for Faiyaz_22:
(Start: 2 @14030 has 6 MA's), (3, 14057), (5, 14081), (10, 14165), (11, 14177), (14, 14219), (24, 14378), (28, 14438), (29, 14441), (36, 14471), (39, 14495), (42, 14513), (51, 14612), (52, 14618), (54, 14630), (57, 14648), (60, 14669), (Start: 62 @14678 has 1 MA's), (65, 14702), (72, 14786), (73, 14789), (75, 14828), (79, 14849), (91, 14927), (92, 14930), (95, 14960), (101, 15008), (106, 15035), (109, 15059), (110, 15071), (111, 15077), (112, 15080), (121, 15140), (125, 15185), (131, 15215), (132, 15218), (141, 15281), (144, 15308), (145, 15317), (149, 15347), (155, 15386), (160, 15425), (162, 15440), (165, 15461), (169, 15512), (170, 15515), (181, 15560), (188, 15623), (191, 15650), (204, 15752), (207, 15764), (214, 15797), (223, 15842), (229, 15881), (230, 15884), (244, 15941), (247, 15968), (251, 16001), (253, 16007), (258, 16022), (268, 16106), (273, 16139), (275, 16145), (281, 16193), (313, 16394), (319, 16436), (327, 16490), (328, 16505), (345, 16610), (356, 16682), (361, 16712), (380, 16838), (386, 16880), (391, 16925), (403, 16973), (404, 16976), (412, 17045), (414, 17051), (416, 17066), (426, 17159), (431, 17177), (436, 17225), (439, 17249), (440, 17255), (445, 17321), (455, 17405), (457, 17414), (459, 17432), (465, 17477), (471, 17525), (476, 17552), (491, 17639), (494, 17669), (509, 17747), (542, 17948), (548, 17987), (566, 18155), (567, 18158), (574, 18185), (593, 18374), (600, 18407), (602, 18416), (608, 18449), (621, 18545), (624, 18569), (626, 18590), (627, 18599),

Gene: Floral_18 Start: 11003, Stop: 16657, Start Num: 27
Candidate Starts for Floral_18:
(Start: 27 @11003 has 17 MA's), (32, 11036), (52, 11216), (54, 11228), (60, 11267), (Start: 62 @11276 has 1 MA's), (65, 11300), (67, 11309), (72, 11384), (75, 11426), (103, 11615), (106, 11633), (109, 11657), (114, 11687), (124, 11780), (125, 11783), (134, 11828), (135, 11834), (141, 11876), (147, 11930), (155, 11981), (157, 11993), (162, 12035), (177, 12140), (181, 12167), (187, 12224), (195, 12299), (200, 12338), (203, 12359), (207, 12374), (214, 12407), (222, 12449), (238, 12521), (239, 12524), (240, 12533), (255, 12617), (260, 12650), (261, 12653), (262, 12659), (265, 12668), (266,

12671), (270, 12716), (271, 12734), (274, 12743), (287, 12824), (288, 12827), (289, 12836), (299, 12890), (304, 12911), (315, 12977), (326, 13061), (334, 13124), (337, 13136), (359, 13274), (362, 13298), (364, 13316), (365, 13331), (370, 13358), (379, 13409), (383, 13442), (384, 13451), (388, 13466), (398, 13532), (400, 13535), (406, 13589), (407, 13598), (410, 13628), (436, 13802), (437, 13811), (443, 13850), (458, 13991), (468, 14063), (470, 14075), (481, 14144), (485, 14159), (486, 14165), (492, 14213), (496, 14240), (500, 14249), (513, 14324), (515, 14330), (517, 14348), (521, 14375), (568, 14699), (577, 14792), (582, 14834), (585, 14852), (646, 15104), (652, 15170), (655, 15191), (656, 15200), (658, 15227), (663, 15305), (664, 15329), (669, 15422), (670, 15446), (671, 15470), (678, 15575), (682, 15605), (689, 15698), (692, 15752), (697, 15854), (704, 15953), (739, 16256), (755, 16403), (759, 16433), (766, 16469), (767, 16472), (778, 16547), (789, 16643),

Gene: Fryberger_51 Start: 21435, Stop: 26990, Start Num: 64
Candidate Starts for Fryberger_51:
(Start: 64 @21435 has 6 MA's), (69, 21501), (71, 21513), (78, 21585), (90, 21654), (96, 21714), (98, 21729), (101, 21747), (104, 21759), (108, 21789), (115, 21822), (126, 21924), (127, 21927), (136, 21969), (139, 21993), (146, 22044), (163, 22164), (164, 22167), (167, 22185), (168, 22200), (180, 22284), (182, 22290), (190, 22371), (192, 22395), (195, 22431), (197, 22443), (200, 22470), (205, 22497), (226, 22605), (237, 22650), (250, 22719), (252, 22731), (305, 23070), (310, 23100), (314, 23121), (315, 23127), (325, 23193), (331, 23259), (351, 23412), (358, 23442), (363, 23481), (364, 23484), (368, 23514), (376, 23556), (383, 23610), (389, 23661), (392, 23676), (394, 23682), (400, 23703), (406, 23757), (410, 23796), (415, 23826), (417, 23856), (420, 23880), (435, 23970), (436, 23979), (440, 24009), (442, 24021), (449, 24102), (458, 24168), (460, 24180), (482, 24333), (483, 24336), (490, 24381), (510, 24498), (527, 24588), (534, 24618), (537, 24657), (540, 24666), (545, 24681), (561, 24756), (603, 25035), (604, 25041), (646, 25173), (657, 25272), (663, 25368), (668, 25446), (678, 25653), (687, 25764), (696, 25929), (697, 25953), (700, 26010), (707, 26097), (718, 26235), (721, 26253), (724, 26274), (735, 26376), (740, 26421), (743, 26445), (756, 26595), (765, 26655), (768, 26685), (774, 26712), (776, 26727), (779, 26781), (781, 26796), (792, 26877), (793, 26892), (800, 26967),

Gene: Guey18_56 Start: 22628, Stop: 28183, Start Num: 64
Candidate Starts for Guey18_56:
(Start: 64 @22628 has 6 MA's), (69, 22694), (71, 22706), (78, 22778), (96, 22907), (98, 22922), (101, 22940), (104, 22952), (108, 22982), (115, 23015), (126, 23117), (127, 23120), (136, 23162), (139, 23186), (146, 23237), (163, 23357), (164, 23360), (167, 23378), (168, 23393), (180, 23477), (182, 23483), (190, 23564), (192, 23588), (195, 23624), (197, 23636), (200, 23663), (205, 23690), (226, 23798), (237, 23843), (250, 23912), (252, 23924), (305, 24263), (310, 24293), (314, 24314), (315, 24320), (325, 24386), (331, 24452), (351, 24605), (354, 24617), (358, 24635), (363, 24674), (364, 24677), (368, 24707), (376, 24749), (383, 24803), (389, 24854), (392, 24869), (394, 24875), (400, 24896), (406, 24950), (410, 24989), (415, 25019), (417, 25049), (435, 25163), (436, 25172), (440, 25202), (442, 25214), (449, 25295), (458, 25361), (460, 25373), (482, 25526), (483, 25529), (490, 25574), (510, 25691), (527, 25781), (534, 25811), (537, 25850), (540, 25859), (545, 25874), (561, 25949), (603, 26228), (604, 26234), (646, 26366), (657, 26465), (663, 26561), (668, 26639), (675, 26819), (678, 26846), (687, 26957), (696, 27122), (697, 27146), (700, 27203), (707, 27290), (718, 27428), (721, 27446), (724, 27467), (735, 27569), (743, 27638), (768, 27878), (774, 27905), (776, 27920), (779, 27974), (792, 28070), (793, 28085), (800, 28160),

Gene: Hilltopfarm_22 Start: 14060, Stop: 18643, Start Num: 2
Candidate Starts for Hilltopfarm_22:
(Start: 2 @14060 has 6 MA's), (3, 14087), (5, 14111), (10, 14195), (11, 14207), (14, 14249), (24, 14408), (28, 14468), (29, 14471), (36, 14501), (39, 14525), (42, 14543), (51, 14642), (52, 14648), (54, 14660), (57, 14678), (60, 14699), (Start: 62 @14708 has 1 MA's), (65, 14732), (72, 14816), (73, 14819), (75, 14858), (79, 14879), (91, 14957), (92, 14960), (95, 14990), (101, 15038), (106, 15065), (109, 15089), (110, 15101), (111, 15107), (112, 15110), (121, 15170), (125, 15215), (131, 15245),

(132, 15248), (141, 15311), (144, 15338), (145, 15347), (149, 15377), (155, 15416), (160, 15455), (162, 15470), (165, 15491), (169, 15542), (170, 15545), (181, 15590), (188, 15653), (191, 15680), (204, 15782), (207, 15794), (214, 15827), (223, 15872), (229, 15911), (230, 15914), (244, 15971), (247, 15998), (251, 16031), (253, 16037), (258, 16052), (268, 16136), (273, 16169), (275, 16175), (281, 16223), (313, 16424), (319, 16466), (327, 16520), (328, 16535), (345, 16640), (356, 16712), (361, 16742), (380, 16868), (386, 16910), (391, 16955), (403, 17003), (404, 17006), (412, 17075), (414, 17081), (416, 17096), (426, 17189), (431, 17207), (436, 17255), (439, 17279), (440, 17285), (445, 17351), (455, 17435), (457, 17444), (459, 17462), (465, 17507), (471, 17555), (476, 17582), (491, 17669), (494, 17699), (509, 17777), (542, 17978), (548, 18017), (566, 18185), (567, 18188), (574, 18215), (593, 18404), (600, 18437), (602, 18446), (608, 18479), (621, 18575), (624, 18599), (626, 18620), (627, 18629),

Gene: InLimbo_17 Start: 8855, Stop: 14248, Start Num: 63
Candidate Starts for InLimbo_17:
(Start: 62 @8849 has 1 MA's), (Start: 63 @8855 has 5 MA's), (74, 8975), (75, 8987), (87, 9053), (88, 9056), (96, 9128), (97, 9134), (113, 9230), (116, 9248), (117, 9266), (126, 9338), (127, 9341), (128, 9344), (134, 9371), (139, 9407), (146, 9458), (147, 9467), (152, 9503), (159, 9545), (165, 9590), (168, 9614), (176, 9668), (179, 9689), (199, 9863), (203, 9896), (210, 9926), (214, 9944), (218, 9965), (220, 9977), (223, 9989), (231, 10028), (232, 10034), (235, 10049), (239, 10061), (257, 10112), (264, 10133), (280, 10187), (290, 10235), (294, 10256), (298, 10274), (307, 10304), (316, 10343), (320, 10367), (326, 10424), (330, 10454), (334, 10487), (362, 10661), (364, 10679), (365, 10694), (370, 10721), (379, 10772), (390, 10868), (394, 10877), (397, 10889), (413, 11009), (414, 11012), (422, 11096), (436, 11189), (441, 11222), (446, 11291), (462, 11402), (463, 11405), (464, 11417), (469, 11456), (470, 11462), (472, 11474), (474, 11486), (481, 11531), (485, 11546), (487, 11555), (503, 11660), (513, 11711), (515, 11717), (522, 11768), (527, 11786), (539, 11861), (551, 11897), (553, 11909), (556, 11930), (568, 12035), (569, 12041), (589, 12191), (590, 12203), (591, 12212), (594, 12236), (616, 12353), (619, 12365), (646, 12392), (649, 12422), (652, 12458), (655, 12479), (663, 12593), (664, 12617), (670, 12725), (678, 12863), (682, 12893), (686, 12923), (688, 12983), (701, 13226), (710, 13316), (729, 13508), (737, 13598), (738, 13616), (757, 13784), (763, 13835), (773, 13889), (775, 13904), (783, 14000), (788, 14030), (793, 14069), (795, 14102), (796, 14123), (797, 14135), (798, 14138), (803, 14222), (805, 14234),

Gene: Jablanski_18 Start: 11132, Stop: 16768, Start Num: 27
Candidate Starts for Jablanski_18:
(Start: 27 @11132 has 17 MA's), (32, 11165), (52, 11345), (54, 11357), (60, 11396), (Start: 62 @11405 has 1 MA's), (65, 11429), (67, 11438), (72, 11513), (75, 11555), (103, 11744), (106, 11762), (109, 11786), (114, 11816), (119, 11858), (124, 11909), (125, 11912), (135, 11963), (141, 12005), (147, 12059), (155, 12110), (157, 12122), (162, 12164), (177, 12269), (181, 12296), (187, 12353), (195, 12428), (200, 12467), (203, 12488), (207, 12503), (214, 12536), (222, 12578), (238, 12650), (239, 12653), (240, 12662), (255, 12746), (260, 12779), (261, 12782), (262, 12788), (265, 12797), (266, 12800), (270, 12845), (271, 12863), (274, 12872), (288, 12956), (289, 12965), (299, 13019), (304, 13040), (308, 13070), (315, 13106), (326, 13190), (334, 13253), (337, 13265), (359, 13403), (362, 13427), (364, 13445), (365, 13460), (369, 13478), (370, 13487), (379, 13538), (383, 13571), (384, 13580), (388, 13595), (398, 13661), (400, 13664), (406, 13718), (407, 13727), (410, 13757), (421, 13847), (436, 13931), (440, 13961), (458, 14120), (462, 14144), (466, 14183), (468, 14192), (470, 14204), (486, 14294), (492, 14342), (500, 14378), (503, 14402), (513, 14453), (515, 14459), (521, 14504), (535, 14567), (568, 14828), (586, 14963), (646, 15203), (652, 15269), (655, 15290), (656, 15299), (658, 15326), (663, 15404), (664, 15428), (669, 15521), (671, 15569), (678, 15674), (680, 15686), (682, 15704), (689, 15797), (692, 15851), (694, 15875), (697, 15953), (704, 16052), (717, 16199), (743, 16388), (755, 16514), (759, 16544), (766, 16580), (767, 16583), (789, 16754),

Gene: Keelan_49 Start: 21419, Stop: 26977, Start Num: 64
Candidate Starts for Keelan_49:

(53, 21353), (Start: 64 @21419 has 6 MA's), (71, 21497), (78, 21569), (81, 21584), (96, 21698), (101, 21731), (104, 21743), (108, 21773), (115, 21806), (126, 21908), (127, 21911), (130, 21920), (136, 21953), (143, 22007), (146, 22028), (163, 22148), (167, 22169), (168, 22184), (190, 22355), (210, 22505), (229, 22601), (239, 22640), (248, 22691), (250, 22703), (252, 22715), (289, 22937), (291, 22946), (315, 23099), (335, 23264), (338, 23276), (349, 23372), (351, 23384), (358, 23414), (364, 23456), (368, 23486), (376, 23528), (377, 23540), (383, 23582), (389, 23633), (394, 23654), (398, 23672), (400, 23675), (405, 23717), (406, 23729), (410, 23768), (417, 23828), (429, 23903), (436, 23951), (442, 23993), (449, 24074), (450, 24080), (456, 24128), (458, 24140), (479, 24296), (493, 24377), (502, 24425), (507, 24452), (510, 24470), (519, 24518), (523, 24542), (527, 24560), (549, 24671), (561, 24740), (572, 24815), (604, 25025), (646, 25157), (657, 25256), (663, 25352), (664, 25376), (668, 25430), (672, 25541), (678, 25643), (687, 25754), (696, 25919), (697, 25943), (706, 26075), (721, 26240), (724, 26261), (731, 26318), (735, 26363), (740, 26408), (743, 26432), (756, 26582), (767, 26654), (768, 26672), (771, 26693), (774, 26699), (779, 26768), (780, 26777), (782, 26801), (794, 26891), (800, 26954),

Gene: Kuwabara_17 Start: 9635, Stop: 15067, Start Num: 63
Candidate Starts for Kuwabara_17:
(Start: 62 @9629 has 1 MA's), (Start: 63 @9635 has 5 MA's), (71, 9713), (74, 9755), (75, 9767), (96, 9908), (97, 9914), (105, 9950), (113, 10010), (116, 10028), (117, 10046), (121, 10067), (126, 10118), (127, 10121), (128, 10124), (133, 10148), (134, 10151), (143, 10217), (147, 10247), (159, 10325), (165, 10370), (168, 10394), (176, 10448), (179, 10469), (194, 10607), (199, 10643), (202, 10670), (207, 10691), (210, 10706), (218, 10745), (220, 10757), (223, 10769), (235, 10829), (239, 10841), (257, 10892), (280, 10967), (285, 10988), (294, 11036), (298, 11054), (316, 11123), (320, 11147), (326, 11204), (330, 11234), (334, 11267), (350, 11384), (362, 11441), (364, 11459), (365, 11474), (379, 11552), (394, 11657), (397, 11669), (398, 11675), (413, 11789), (414, 11792), (422, 11876), (428, 11906), (431, 11918), (436, 11969), (441, 12002), (446, 12071), (448, 12086), (452, 12128), (462, 12182), (463, 12185), (464, 12197), (469, 12236), (470, 12242), (474, 12266), (485, 12326), (486, 12332), (487, 12335), (495, 12404), (513, 12491), (515, 12497), (516, 12506), (521, 12542), (527, 12566), (551, 12677), (553, 12689), (576, 12896), (580, 12941), (585, 12968), (589, 13001), (603, 13079), (606, 13103), (607, 13106), (616, 13163), (619, 13175), (646, 13202), (648, 13220), (652, 13268), (655, 13289), (661, 13379), (663, 13403), (664, 13427), (670, 13535), (676, 13658), (678, 13682), (681, 13703), (682, 13712), (683, 13715), (686, 13742), (688, 13802), (701, 14045), (708, 14126), (709, 14129), (710, 14135), (725, 14300), (727, 14318), (729, 14327), (733, 14372), (734, 14384), (737, 14417), (738, 14435), (749, 14528), (761, 14633), (763, 14654), (773, 14708), (777, 14747), (783, 14819), (788, 14849), (793, 14888), (795, 14921), (799, 14960), (802, 15008), (803, 15041), (805, 15053),

Gene: Lilas_18 Start: 11182, Stop: 16806, Start Num: 27
Candidate Starts for Lilas_18:
(Start: 27 @11182 has 17 MA's), (32, 11215), (52, 11395), (54, 11407), (60, 11446), (Start: 62 @11455 has 1 MA's), (65, 11479), (72, 11563), (74, 11593), (75, 11605), (109, 11836), (113, 11863), (124, 11959), (125, 11962), (129, 11983), (134, 12007), (141, 12055), (147, 12109), (155, 12160), (157, 12172), (160, 12199), (162, 12214), (177, 12319), (187, 12403), (190, 12424), (195, 12478), (200, 12517), (203, 12538), (214, 12586), (217, 12598), (222, 12628), (228, 12661), (239, 12703), (246, 12745), (250, 12766), (255, 12796), (260, 12829), (261, 12832), (262, 12838), (265, 12847), (266, 12850), (271, 12913), (277, 12946), (284, 12985), (289, 13015), (305, 13099), (315, 13156), (329, 13264), (334, 13303), (337, 13315), (362, 13477), (364, 13495), (365, 13510), (370, 13537), (379, 13588), (381, 13603), (384, 13630), (400, 13714), (406, 13768), (407, 13777), (410, 13807), (436, 13981), (440, 14011), (448, 14098), (468, 14242), (470, 14254), (486, 14344), (492, 14392), (503, 14452), (513, 14503), (515, 14509), (521, 14554), (544, 14686), (586, 15013), (603, 15118), (646, 15253), (649, 15283), (652, 15319), (655, 15340), (656, 15349), (658, 15376), (663, 15454), (664, 15478), (671, 15619), (678, 15724), (682, 15754), (683, 15757), (689, 15847), (692, 15901), (697, 16003), (717, 16237), (739, 16405), (743, 16426), (755, 16552), (759, 16582), (766, 16618), (767,

16621),

Gene: LonelyBoi_18 Start: 11131, Stop: 16809, Start Num: 27
Candidate Starts for LonelyBoi_18:
(Start: 27 @11131 has 17 MA's), (32, 11164), (52, 11344), (54, 11356), (60, 11395), (Start: 62 @11404 has 1 MA's), (65, 11428), (67, 11437), (72, 11512), (75, 11554), (103, 11743), (106, 11761), (109, 11785), (114, 11815), (119, 11857), (124, 11908), (125, 11911), (135, 11962), (141, 12004), (147, 12058), (155, 12109), (157, 12121), (162, 12163), (177, 12268), (181, 12295), (187, 12352), (195, 12427), (200, 12466), (203, 12487), (207, 12502), (214, 12535), (222, 12577), (239, 12652), (246, 12694), (255, 12745), (260, 12778), (261, 12781), (265, 12796), (271, 12862), (278, 12904), (284, 12934), (286, 12946), (289, 12964), (293, 13000), (295, 13018), (301, 13045), (302, 13048), (310, 13099), (315, 13126), (318, 13138), (326, 13210), (334, 13273), (337, 13285), (345, 13330), (362, 13447), (365, 13480), (370, 13507), (375, 13534), (384, 13600), (390, 13654), (397, 13675), (413, 13795), (414, 13798), (422, 13882), (431, 13924), (432, 13927), (433, 13933), (434, 13936), (436, 13975), (446, 14077), (450, 14104), (466, 14233), (474, 14281), (485, 14341), (486, 14347), (488, 14359), (491, 14383), (492, 14395), (503, 14455), (513, 14506), (515, 14512), (521, 14557), (544, 14689), (586, 15016), (646, 15256), (652, 15322), (655, 15343), (656, 15352), (658, 15379), (663, 15457), (664, 15481), (669, 15574), (670, 15598), (671, 15622), (678, 15727), (682, 15757), (689, 15850), (692, 15904), (697, 16006), (704, 16105), (739, 16408), (743, 16429), (755, 16555), (759, 16585), (766, 16621), (767, 16624), (778, 16699), (789, 16795),

Gene: Lucky10_16 Start: 8884, Stop: 14280, Start Num: 62
Candidate Starts for Lucky10_16:
(Start: 62 @8884 has 1 MA's), (Start: 63 @8890 has 5 MA's), (74, 9010), (75, 9022), (87, 9088), (96, 9163), (97, 9169), (117, 9301), (126, 9373), (127, 9376), (128, 9379), (134, 9406), (139, 9442), (146, 9493), (147, 9502), (152, 9538), (159, 9580), (165, 9625), (168, 9649), (176, 9703), (179, 9724), (199, 9898), (203, 9931), (210, 9961), (218, 10000), (220, 10012), (223, 10024), (232, 10069), (235, 10084), (239, 10096), (257, 10147), (280, 10222), (290, 10270), (294, 10291), (298, 10309), (307, 10339), (316, 10378), (320, 10402), (326, 10459), (330, 10489), (334, 10522), (347, 10618), (362, 10696), (364, 10714), (365, 10729), (379, 10807), (397, 10924), (398, 10930), (413, 11044), (414, 11047), (422, 11131), (431, 11173), (436, 11224), (441, 11257), (446, 11326), (452, 11383), (462, 11437), (463, 11440), (464, 11452), (469, 11491), (472, 11509), (474, 11521), (481, 11566), (485, 11581), (503, 11695), (513, 11746), (515, 11752), (517, 11770), (522, 11803), (527, 11821), (539, 11896), (551, 11932), (553, 11944), (556, 11965), (568, 12070), (569, 12076), (589, 12226), (590, 12238), (591, 12247), (598, 12286), (606, 12328), (616, 12388), (619, 12400), (646, 12427), (649, 12457), (652, 12493), (655, 12514), (663, 12628), (664, 12652), (678, 12895), (680, 12907), (682, 12925), (688, 13015), (701, 13258), (713, 13378), (729, 13540), (737, 13630), (738, 13648), (757, 13816), (763, 13867), (773, 13921), (775, 13936), (783, 14032), (788, 14062), (793, 14101), (795, 14134), (796, 14155), (797, 14167), (798, 14170), (802, 14221), (803, 14254), (805, 14266),

Gene: Manilisa_21 Start: 12686, Stop: 18193, Start Num: 38
Candidate Starts for Manilisa_21:
(Start: 38 @12686 has 5 MA's), (44, 12764), (58, 12866), (59, 12869), (65, 12911), (72, 12995), (74, 13025), (75, 13037), (100, 13205), (108, 13262), (113, 13295), (125, 13394), (134, 13439), (147, 13541), (155, 13592), (161, 13643), (167, 13676), (183, 13802), (198, 13928), (219, 14039), (223, 14060), (227, 14090), (243, 14153), (249, 14186), (254, 14204), (256, 14213), (264, 14249), (269, 14291), (271, 14312), (276, 14336), (282, 14375), (308, 14522), (320, 14585), (336, 14708), (341, 14729), (360, 14849), (371, 14933), (396, 15089), (400, 15107), (408, 15179), (411, 15212), (444, 15485), (459, 15596), (467, 15647), (468, 15656), (469, 15662), (473, 15683), (504, 15857), (527, 15971), (558, 16124), (563, 16190), (570, 16229), (574, 16238), (581, 16325), (587, 16364), (596, 16433), (598, 16439), (599, 16448), (600, 16451), (617, 16562), (620, 16583), (644, 16595), (645, 16598), (647, 16616), (673, 16997), (674, 17042), (679, 17078), (690, 17210), (702, 17429), (703, 17432), (711, 17513), (714, 17537), (720, 17621), (722, 17627), (731, 17702), (733, 17720), (741,

17798), (744, 17819), (747, 17843), (750, 17906), (751, 17942), (755, 17951), (758, 17957), (764, 18008),

Gene: Marteena_18 Start: 11003, Stop: 16657, Start Num: 27
Candidate Starts for Marteena_18:
(Start: 27 @11003 has 17 MA's), (32, 11036), (52, 11216), (54, 11228), (60, 11267), (Start: 62 @11276 has 1 MA's), (65, 11300), (67, 11309), (72, 11384), (75, 11426), (103, 11615), (106, 11633), (109, 11657), (114, 11687), (124, 11780), (125, 11783), (134, 11828), (135, 11834), (141, 11876), (147, 11930), (155, 11981), (157, 11993), (162, 12035), (177, 12140), (181, 12167), (187, 12224), (195, 12299), (200, 12338), (203, 12359), (207, 12374), (214, 12407), (222, 12449), (238, 12521), (239, 12524), (240, 12533), (255, 12617), (260, 12650), (261, 12653), (262, 12659), (265, 12668), (266, 12671), (270, 12716), (271, 12734), (274, 12743), (287, 12824), (288, 12827), (289, 12836), (299, 12890), (304, 12911), (315, 12977), (326, 13061), (334, 13124), (337, 13136), (359, 13274), (362, 13298), (364, 13316), (365, 13331), (370, 13358), (379, 13409), (383, 13442), (384, 13451), (388, 13466), (398, 13532), (400, 13535), (406, 13589), (407, 13598), (410, 13628), (436, 13802), (437, 13811), (443, 13850), (458, 13991), (468, 14063), (470, 14075), (481, 14144), (485, 14159), (486, 14165), (492, 14213), (496, 14240), (500, 14249), (513, 14324), (515, 14330), (517, 14348), (521, 14375), (568, 14699), (577, 14792), (582, 14834), (585, 14852), (646, 15104), (652, 15170), (655, 15191), (656, 15200), (658, 15227), (663, 15305), (664, 15329), (669, 15422), (670, 15446), (671, 15470), (678, 15575), (682, 15605), (689, 15698), (692, 15752), (697, 15854), (704, 15953), (739, 16256), (755, 16403), (759, 16433), (766, 16469), (767, 16472), (778, 16547), (789, 16643),

Gene: Meyran_19 Start: 12510, Stop: 18056, Start Num: 38
Candidate Starts for Meyran_19:
(Start: 38 @12510 has 5 MA's), (41, 12540), (44, 12588), (58, 12690), (59, 12693), (65, 12735), (72, 12819), (74, 12849), (75, 12861), (100, 13029), (108, 13086), (113, 13119), (125, 13218), (147, 13365), (155, 13416), (161, 13467), (167, 13500), (183, 13626), (198, 13752), (212, 13830), (223, 13884), (243, 13977), (249, 14010), (256, 14037), (264, 14073), (269, 14115), (271, 14136), (276, 14160), (282, 14199), (283, 14205), (308, 14346), (320, 14409), (336, 14532), (341, 14553), (360, 14673), (396, 14913), (400, 14931), (408, 15003), (411, 15036), (444, 15309), (459, 15420), (467, 15471), (468, 15480), (469, 15486), (473, 15507), (489, 15603), (504, 15681), (506, 15687), (527, 15807), (529, 15813), (558, 15984), (562, 16038), (563, 16050), (570, 16089), (574, 16098), (583, 16197), (587, 16224), (596, 16293), (599, 16308), (600, 16311), (617, 16422), (620, 16443), (644, 16455), (645, 16458), (651, 16515), (673, 16857), (674, 16902), (679, 16938), (690, 17070), (699, 17256), (702, 17289), (703, 17292), (711, 17373), (714, 17397), (720, 17481), (722, 17487), (731, 17562), (733, 17580), (741, 17658), (744, 17679), (747, 17703), (750, 17766), (751, 17802), (755, 17811), (758, 17817), (764, 17868),

Gene: Moonflower_17 Start: 10660, Stop: 16308, Start Num: 9
Candidate Starts for Moonflower_17:
(Start: 7 @10618 has 4 MA's), (8, 10648), (9, 10660), (15, 10735), (16, 10753), (23, 10873), (25, 10909), (50, 11128), (52, 11146), (54, 11158), (60, 11197), (Start: 62 @11206 has 1 MA's), (65, 11230), (72, 11314), (75, 11356), (109, 11587), (118, 11656), (125, 11713), (141, 11806), (147, 11860), (148, 11866), (150, 11875), (155, 11911), (157, 11923), (162, 11965), (174, 12052), (181, 12097), (196, 12238), (207, 12304), (209, 12310), (216, 12346), (222, 12379), (223, 12382), (235, 12442), (239, 12454), (241, 12466), (245, 12475), (256, 12517), (265, 12547), (267, 12565), (271, 12580), (289, 12640), (305, 12724), (310, 12754), (314, 12775), (317, 12790), (323, 12823), (339, 12946), (340, 12955), (343, 12967), (365, 13120), (379, 13198), (384, 13240), (389, 13282), (390, 13294), (400, 13324), (403, 13339), (406, 13378), (410, 13417), (415, 13447), (421, 13507), (436, 13591), (440, 13621), (449, 13714), (454, 13759), (468, 13852), (475, 13897), (488, 13960), (496, 14017), (501, 14029), (514, 14095), (520, 14128), (550, 14272), (555, 14293), (564, 14392), (569, 14425), (588, 14572), (589, 14575), (590, 14587), (592, 14608), (598, 14635), (618, 14752), (650, 14830), (653, 14851), (654, 14854), (655, 14872), (665, 15007), (677, 15178), (682, 15223), (697,

15475), (698, 15493), (715, 15664), (718, 15733), (732, 15826), (745, 15934), (748, 15946), (752, 16042), (754, 16048), (759, 16081), (760, 16084), (763, 16105), (770, 16147), (772, 16150), (777, 16186), (785, 16261), (786, 16267), (787, 16270), (790, 16297), (791, 16300),

Gene: Morkie_16 Start: 8855, Stop: 14248, Start Num: 63
Candidate Starts for Morkie_16:
(Start: 62 @8849 has 1 MA's), (Start: 63 @8855 has 5 MA's), (74, 8975), (75, 8987), (87, 9053), (88, 9056), (96, 9128), (97, 9134), (113, 9230), (116, 9248), (117, 9266), (126, 9338), (127, 9341), (128, 9344), (134, 9371), (139, 9407), (146, 9458), (147, 9467), (152, 9503), (159, 9545), (165, 9590), (168, 9614), (176, 9668), (179, 9689), (199, 9863), (203, 9896), (210, 9926), (214, 9944), (218, 9965), (220, 9977), (223, 9989), (231, 10028), (232, 10034), (235, 10049), (239, 10061), (257, 10112), (264, 10133), (280, 10187), (290, 10235), (294, 10256), (298, 10274), (307, 10304), (316, 10343), (320, 10367), (326, 10424), (330, 10454), (334, 10487), (362, 10661), (364, 10679), (365, 10694), (370, 10721), (379, 10772), (390, 10868), (394, 10877), (397, 10889), (413, 11009), (414, 11012), (422, 11096), (436, 11189), (441, 11222), (446, 11291), (462, 11402), (463, 11405), (464, 11417), (469, 11456), (470, 11462), (472, 11474), (474, 11486), (481, 11531), (485, 11546), (487, 11555), (503, 11660), (513, 11711), (515, 11717), (522, 11768), (527, 11786), (539, 11861), (551, 11897), (553, 11909), (556, 11930), (568, 12035), (569, 12041), (589, 12191), (590, 12203), (591, 12212), (594, 12236), (616, 12353), (619, 12365), (646, 12392), (649, 12422), (652, 12458), (655, 12479), (663, 12593), (664, 12617), (670, 12725), (678, 12863), (682, 12893), (686, 12923), (688, 12983), (701, 13226), (710, 13316), (729, 13508), (737, 13598), (738, 13616), (757, 13784), (763, 13835), (773, 13889), (775, 13904), (783, 14000), (788, 14030), (793, 14069), (795, 14102), (796, 14123), (797, 14135), (798, 14138), (803, 14222), (805, 14234),

Gene: MortyNRick_17 Start: 9908, Stop: 15370, Start Num: 55
Candidate Starts for MortyNRick_17:
(Start: 55 @9908 has 3 MA's), (65, 9965), (68, 9983), (74, 10067), (75, 10079), (77, 10091), (82, 10115), (87, 10145), (93, 10190), (96, 10220), (97, 10226), (109, 10295), (113, 10322), (116, 10340), (117, 10358), (120, 10370), (121, 10379), (126, 10430), (127, 10433), (128, 10436), (133, 10460), (134, 10463), (146, 10550), (147, 10559), (159, 10637), (165, 10682), (168, 10706), (171, 10739), (172, 10742), (184, 10829), (186, 10850), (199, 10955), (202, 10982), (209, 11009), (214, 11036), (215, 11039), (223, 11081), (225, 11099), (226, 11102), (245, 11174), (256, 11216), (263, 11237), (269, 11264), (272, 11273), (279, 11288), (283, 11306), (289, 11339), (294, 11372), (303, 11405), (304, 11414), (305, 11423), (308, 11444), (313, 11468), (316, 11483), (319, 11504), (320, 11507), (326, 11564), (330, 11594), (334, 11627), (362, 11801), (365, 11834), (370, 11861), (375, 11888), (378, 11906), (387, 11966), (390, 12008), (397, 12029), (405, 12080), (407, 12101), (413, 12149), (414, 12152), (434, 12290), (436, 12329), (442, 12371), (446, 12431), (450, 12458), (451, 12479), (461, 12536), (464, 12557), (474, 12629), (480, 12671), (481, 12674), (488, 12707), (492, 12743), (503, 12803), (513, 12854), (515, 12860), (516, 12869), (517, 12878), (522, 12911), (527, 12929), (534, 12959), (571, 13154), (573, 13157), (582, 13238), (585, 13256), (589, 13289), (590, 13301), (595, 13337), (603, 13373), (606, 13397), (607, 13400), (612, 13421), (616, 13457), (619, 13469), (646, 13496), (648, 13514), (649, 13526), (652, 13562), (655, 13583), (661, 13673), (663, 13697), (664, 13721), (670, 13829), (676, 13952), (678, 13976), (682, 14006), (683, 14009), (686, 14036), (701, 14339), (708, 14420), (709, 14423), (710, 14429), (725, 14594), (727, 14612), (729, 14621), (733, 14666), (734, 14678), (737, 14714), (738, 14732), (749, 14831), (761, 14936), (763, 14957), (773, 15011), (777, 15050), (783, 15122), (788, 15152), (793, 15191), (795, 15224), (799, 15263), (802, 15311), (803, 15344), (805, 15356),

Gene: Nyceirae_21 Start: 12425, Stop: 17932, Start Num: 38
Candidate Starts for Nyceirae_21:
(Start: 38 @12425 has 5 MA's), (44, 12503), (58, 12605), (59, 12608), (65, 12650), (72, 12734), (74, 12764), (75, 12776), (100, 12944), (108, 13001), (109, 13007), (113, 13034), (125, 13133), (147, 13280), (155, 13331), (161, 13382), (167, 13415), (188, 13586), (189, 13592), (197, 13661), (198,

13667), (212, 13745), (219, 13778), (221, 13793), (223, 13799), (227, 13829), (243, 13892), (249, 13925), (256, 13952), (264, 13988), (269, 14030), (271, 14051), (282, 14114), (283, 14120), (308, 14261), (320, 14324), (341, 14468), (360, 14588), (366, 14648), (371, 14672), (396, 14828), (400, 14846), (408, 14918), (411, 14951), (413, 14957), (433, 15095), (444, 15224), (459, 15335), (467, 15386), (468, 15395), (469, 15401), (473, 15422), (481, 15473), (489, 15518), (499, 15569), (541, 15773), (558, 15866), (563, 15932), (570, 15971), (574, 15980), (581, 16067), (583, 16079), (587, 16106), (589, 16121), (596, 16175), (598, 16181), (599, 16190), (600, 16193), (605, 16226), (617, 16304), (620, 16325), (644, 16337), (645, 16340), (647, 16358), (651, 16397), (673, 16739), (674, 16784), (679, 16820), (690, 16952), (691, 16967), (693, 17003), (699, 17135), (702, 17168), (705, 17195), (714, 17276), (720, 17360), (722, 17366), (726, 17390), (730, 17426), (741, 17537), (744, 17558), (747, 17582), (750, 17645), (751, 17681), (753, 17687), (755, 17690), (764, 17747),

Gene: ODay_22 Start: 12098, Stop: 17611, Start Num: 56
Candidate Starts for ODay_22:
(Start: 56 @12098 has 2 MA's), (Start: 62 @12131 has 1 MA's), (Start: 63 @12137 has 5 MA's), (74, 12257), (75, 12269), (87, 12335), (96, 12410), (109, 12485), (113, 12512), (116, 12530), (117, 12548), (120, 12560), (121, 12569), (127, 12623), (128, 12626), (133, 12650), (134, 12653), (146, 12740), (147, 12749), (159, 12827), (165, 12872), (168, 12896), (172, 12932), (184, 13019), (186, 13040), (194, 13109), (199, 13145), (202, 13172), (209, 13199), (214, 13226), (215, 13229), (223, 13271), (225, 13289), (226, 13292), (256, 13406), (263, 13427), (269, 13454), (272, 13463), (279, 13478), (289, 13529), (294, 13562), (303, 13595), (304, 13604), (305, 13613), (313, 13658), (315, 13670), (316, 13673), (319, 13694), (320, 13697), (326, 13754), (330, 13784), (352, 13943), (353, 13946), (359, 13967), (362, 13991), (365, 14024), (375, 14078), (377, 14093), (390, 14198), (397, 14219), (400, 14228), (413, 14339), (414, 14342), (436, 14519), (442, 14561), (446, 14621), (447, 14630), (451, 14669), (458, 14708), (461, 14726), (464, 14747), (468, 14780), (474, 14819), (488, 14897), (492, 14933), (503, 14993), (513, 15044), (515, 15050), (524, 15104), (547, 15230), (554, 15257), (578, 15464), (585, 15518), (591, 15572), (607, 15656), (616, 15713), (646, 15752), (652, 15818), (655, 15839), (658, 15875), (660, 15890), (663, 15953), (664, 15977), (669, 16067), (670, 16091), (671, 16115), (674, 16190), (676, 16202), (678, 16226), (681, 16247), (682, 16256), (686, 16286), (688, 16346), (701, 16589), (708, 16670), (709, 16673), (710, 16679), (725, 16844), (727, 16862), (729, 16871), (733, 16916), (734, 16928), (737, 16961), (738, 16979), (749, 17072), (761, 17177), (763, 17198), (773, 17252), (777, 17291), (783, 17363), (788, 17393), (793, 17432), (795, 17465), (799, 17504), (802, 17552), (803, 17585), (805, 17597),

Gene: PatriciaStar_16 Start: 10219, Stop: 15909, Start Num: 7
Candidate Starts for PatriciaStar_16:
(Start: 7 @10219 has 4 MA's), (8, 10249), (13, 10303), (16, 10354), (21, 10444), (25, 10510), (52, 10747), (54, 10759), (60, 10798), (Start: 62 @10807 has 1 MA's), (65, 10831), (72, 10915), (75, 10957), (109, 11188), (118, 11257), (125, 11314), (141, 11407), (147, 11461), (151, 11488), (155, 11512), (157, 11524), (162, 11566), (179, 11686), (181, 11698), (196, 11839), (223, 11983), (226, 12004), (239, 12055), (241, 12067), (256, 12118), (267, 12166), (271, 12181), (289, 12241), (310, 12355), (314, 12376), (319, 12406), (323, 12424), (330, 12496), (339, 12547), (343, 12568), (368, 12736), (374, 12772), (383, 12832), (384, 12841), (389, 12883), (390, 12895), (400, 12925), (403, 12940), (406, 12979), (410, 13018), (415, 13048), (421, 13108), (436, 13192), (440, 13222), (449, 13315), (454, 13360), (468, 13453), (475, 13498), (488, 13561), (491, 13585), (496, 13618), (498, 13621), (501, 13630), (514, 13696), (520, 13729), (546, 13864), (550, 13873), (552, 13882), (555, 13894), (564, 13993), (569, 14026), (588, 14173), (589, 14176), (590, 14188), (592, 14209), (598, 14236), (618, 14353), (650, 14431), (653, 14452), (655, 14473), (665, 14608), (682, 14824), (686, 14854), (697, 15076), (698, 15094), (718, 15334), (732, 15427), (745, 15535), (746, 15541), (754, 15649), (763, 15706), (770, 15748), (772, 15751), (777, 15787), (785, 15862), (786, 15868), (787, 15871), (790, 15898), (791, 15901),

Gene: Phishy_20 Start: 12376, Stop: 17922, Start Num: 38

Candidate Starts for Phishy_20:
(Start: 38 @12376 has 5 MA's), (41, 12406), (44, 12454), (58, 12556), (59, 12559), (65, 12601), (72, 12685), (74, 12715), (75, 12727), (100, 12895), (108, 12952), (113, 12985), (125, 13084), (134, 13129), (147, 13231), (155, 13282), (161, 13333), (167, 13366), (183, 13492), (198, 13618), (219, 13729), (223, 13750), (227, 13780), (243, 13843), (249, 13876), (254, 13894), (256, 13903), (264, 13939), (269, 13981), (271, 14002), (276, 14026), (282, 14065), (308, 14212), (320, 14275), (336, 14398), (341, 14419), (360, 14539), (371, 14623), (396, 14779), (400, 14797), (408, 14869), (411, 14902), (444, 15175), (459, 15286), (467, 15337), (468, 15346), (469, 15352), (473, 15373), (489, 15469), (497, 15517), (504, 15547), (506, 15553), (527, 15673), (558, 15850), (563, 15916), (570, 15955), (574, 15964), (581, 16051), (587, 16090), (596, 16159), (598, 16165), (599, 16174), (600, 16177), (617, 16288), (620, 16309), (644, 16321), (645, 16324), (647, 16342), (673, 16723), (674, 16768), (679, 16804), (690, 16936), (699, 17122), (702, 17155), (703, 17158), (711, 17239), (714, 17263), (720, 17347), (722, 17353), (731, 17428), (733, 17446), (741, 17524), (744, 17545), (747, 17569), (750, 17632), (751, 17668), (755, 17677), (758, 17683), (764, 17734),

Gene: PhorbesPhlower_16 Start: 8855, Stop: 14248, Start Num: 63
Candidate Starts for PhorbesPhlower_16:
(Start: 62 @8849 has 1 MA's), (Start: 63 @8855 has 5 MA's), (74, 8975), (75, 8987), (87, 9053), (88, 9056), (96, 9128), (97, 9134), (113, 9230), (116, 9248), (117, 9266), (126, 9338), (127, 9341), (128, 9344), (134, 9371), (139, 9407), (146, 9458), (147, 9467), (152, 9503), (159, 9545), (165, 9590), (168, 9614), (176, 9668), (179, 9689), (199, 9863), (203, 9896), (210, 9926), (214, 9944), (218, 9965), (220, 9977), (223, 9989), (231, 10028), (232, 10034), (235, 10049), (239, 10061), (257, 10112), (264, 10133), (280, 10187), (290, 10235), (294, 10256), (298, 10274), (307, 10304), (316, 10343), (320, 10367), (326, 10424), (330, 10454), (334, 10487), (362, 10661), (364, 10679), (365, 10694), (370, 10721), (379, 10772), (390, 10868), (394, 10877), (397, 10889), (413, 11009), (414, 11012), (422, 11096), (436, 11189), (441, 11222), (446, 11291), (462, 11402), (463, 11405), (464, 11417), (469, 11456), (470, 11462), (472, 11474), (474, 11486), (481, 11531), (485, 11546), (487, 11555), (503, 11660), (513, 11711), (515, 11717), (522, 11768), (527, 11786), (539, 11861), (551, 11897), (553, 11909), (556, 11930), (568, 12035), (569, 12041), (589, 12191), (590, 12203), (591, 12212), (594, 12236), (616, 12353), (619, 12365), (646, 12392), (649, 12422), (652, 12458), (655, 12479), (663, 12593), (664, 12617), (670, 12725), (678, 12863), (682, 12893), (686, 12923), (688, 12983), (701, 13226), (710, 13316), (729, 13508), (737, 13598), (738, 13616), (757, 13784), (763, 13835), (773, 13889), (775, 13904), (783, 14000), (788, 14030), (793, 14069), (795, 14102), (796, 14123), (797, 14135), (798, 14138), (803, 14222), (805, 14234),

Gene: Pollux_18 Start: 11003, Stop: 16657, Start Num: 27
Candidate Starts for Pollux_18:
(Start: 27 @11003 has 17 MA's), (32, 11036), (52, 11216), (54, 11228), (60, 11267), (Start: 62 @11276 has 1 MA's), (65, 11300), (67, 11309), (72, 11384), (75, 11426), (103, 11615), (106, 11633), (109, 11657), (114, 11687), (124, 11780), (125, 11783), (134, 11828), (135, 11834), (141, 11876), (147, 11930), (155, 11981), (157, 11993), (162, 12035), (177, 12140), (181, 12167), (187, 12224), (195, 12299), (200, 12338), (203, 12359), (207, 12374), (214, 12407), (222, 12449), (238, 12521), (239, 12524), (240, 12533), (255, 12617), (260, 12650), (261, 12653), (262, 12659), (265, 12668), (266, 12671), (270, 12716), (271, 12734), (274, 12743), (287, 12824), (288, 12827), (289, 12836), (299, 12890), (304, 12911), (315, 12977), (326, 13061), (334, 13124), (337, 13136), (359, 13274), (362, 13298), (364, 13316), (365, 13331), (370, 13358), (379, 13409), (383, 13442), (384, 13451), (388, 13466), (398, 13532), (400, 13535), (406, 13589), (407, 13598), (410, 13628), (436, 13802), (437, 13811), (443, 13850), (458, 13991), (468, 14063), (470, 14075), (481, 14144), (485, 14159), (486, 14165), (492, 14213), (496, 14240), (500, 14249), (513, 14324), (515, 14330), (517, 14348), (521, 14375), (568, 14699), (577, 14792), (582, 14834), (585, 14852), (646, 15104), (652, 15170), (655, 15191), (656, 15200), (658, 15227), (663, 15305), (664, 15329), (669, 15422), (670, 15446), (671, 15470), (678, 15575), (682, 15605), (689, 15698), (692, 15752), (697, 15854), (704, 15953), (739, 16256), (755, 16403), (759, 16433), (766, 16469), (767, 16472), (778, 16547), (789, 16643),

Gene: Posh_18 Start: 11000, Stop: 16621, Start Num: 27
Candidate Starts for Posh_18:
(20, 10904), (Start: 27 @11000 has 17 MA's), (32, 11033), (52, 11213), (54, 11225), (60, 11264), (Start: 62 @11273 has 1 MA's), (65, 11297), (67, 11306), (72, 11381), (75, 11423), (103, 11612), (106, 11630), (109, 11654), (114, 11684), (125, 11780), (135, 11831), (141, 11873), (147, 11927), (155, 11978), (157, 11990), (162, 12032), (177, 12137), (181, 12164), (187, 12221), (195, 12296), (200, 12335), (203, 12356), (207, 12371), (214, 12404), (222, 12446), (238, 12518), (239, 12521), (240, 12530), (246, 12563), (255, 12614), (260, 12647), (261, 12650), (262, 12656), (265, 12665), (266, 12668), (270, 12713), (271, 12731), (274, 12740), (287, 12821), (288, 12824), (289, 12833), (299, 12887), (304, 12908), (315, 12974), (326, 13058), (334, 13121), (337, 13133), (355, 13253), (362, 13295), (365, 13328), (370, 13355), (379, 13406), (383, 13439), (384, 13448), (388, 13463), (400, 13532), (406, 13586), (407, 13595), (410, 13625), (421, 13715), (436, 13799), (458, 13988), (462, 14012), (466, 14051), (468, 14060), (470, 14072), (486, 14162), (492, 14210), (503, 14270), (513, 14321), (515, 14327), (521, 14372), (535, 14435), (543, 14495), (544, 14501), (568, 14693), (586, 14828), (646, 15068), (652, 15134), (655, 15155), (656, 15164), (658, 15191), (663, 15269), (664, 15293), (669, 15386), (671, 15434), (678, 15539), (680, 15551), (682, 15569), (683, 15572), (689, 15662), (692, 15716), (694, 15740), (697, 15818), (704, 15917), (739, 16220), (743, 16241), (755, 16367), (759, 16397), (766, 16433), (767, 16436), (778, 16511), (789, 16607),

Gene: Pytheas_18 Start: 11131, Stop: 16767, Start Num: 27
Candidate Starts for Pytheas_18:
(Start: 27 @11131 has 17 MA's), (32, 11164), (52, 11344), (54, 11356), (60, 11395), (Start: 62 @11404 has 1 MA's), (65, 11428), (67, 11437), (72, 11512), (75, 11554), (103, 11743), (106, 11761), (109, 11785), (114, 11815), (119, 11857), (124, 11908), (125, 11911), (135, 11962), (141, 12004), (147, 12058), (155, 12109), (157, 12121), (162, 12163), (177, 12268), (181, 12295), (187, 12352), (195, 12427), (200, 12466), (203, 12487), (207, 12502), (214, 12535), (222, 12577), (238, 12649), (239, 12652), (240, 12661), (255, 12745), (260, 12778), (261, 12781), (262, 12787), (265, 12796), (266, 12799), (270, 12844), (271, 12862), (274, 12871), (288, 12955), (289, 12964), (299, 13018), (304, 13039), (308, 13069), (315, 13105), (326, 13189), (334, 13252), (337, 13264), (359, 13402), (362, 13426), (364, 13444), (365, 13459), (369, 13477), (370, 13486), (379, 13537), (383, 13570), (384, 13579), (388, 13594), (398, 13660), (400, 13663), (406, 13717), (407, 13726), (410, 13756), (421, 13846), (436, 13930), (440, 13960), (458, 14119), (462, 14143), (466, 14182), (468, 14191), (470, 14203), (486, 14293), (492, 14341), (500, 14377), (503, 14401), (513, 14452), (515, 14458), (521, 14503), (535, 14566), (568, 14827), (586, 14962), (646, 15202), (652, 15268), (655, 15289), (656, 15298), (658, 15325), (663, 15403), (664, 15427), (669, 15520), (671, 15568), (678, 15673), (680, 15685), (682, 15703), (689, 15796), (692, 15850), (694, 15874), (697, 15952), (704, 16051), (717, 16198), (743, 16387), (755, 16513), (759, 16543), (766, 16579), (767, 16582), (789, 16753),

Gene: REQ3_48 Start: 26599, Stop: 31356, Start Num: 1
Candidate Starts for REQ3_48:
(1, 26599), (4, 26686), (6, 26728), (17, 26878), (18, 26917), (19, 26950), (22, 26980), (30, 27073), (33, 27085), (34, 27094), (36, 27115), (40, 27148), (46, 27226), (47, 27232), (49, 27241), (61, 27328), (70, 27424), (75, 27490), (76, 27502), (83, 27535), (85, 27559), (96, 27643), (99, 27661), (102, 27679), (104, 27688), (107, 27706), (109, 27730), (122, 27835), (123, 27844), (124, 27859), (132, 27895), (134, 27910), (138, 27937), (140, 27949), (151, 28039), (153, 28054), (154, 28060), (166, 28138), (173, 28198), (185, 28297), (193, 28363), (231, 28594), (292, 28963), (297, 29011), (309, 29074), (346, 29332), (357, 29413), (367, 29491), (381, 29572), (395, 29668), (401, 29698), (423, 29902), (425, 29917), (452, 30151), (478, 30331), (512, 30523), (528, 30625), (530, 30649), (557, 30835), (559, 30853), (575, 30991), (579, 31078), (583, 31099), (585, 31108), (598, 31207), (601, 31225), (609, 31264),

Gene: RayTheFireFly_17 Start: 10898, Stop: 16588, Start Num: 7

Candidate Starts for RayTheFireFly_17:
(Start: 7 @10898 has 4 MA's), (8, 10928), (16, 11033), (23, 11153), (25, 11189), (52, 11426), (54, 11438), (60, 11477), (Start: 62 @11486 has 1 MA's), (65, 11510), (72, 11594), (75, 11636), (109, 11867), (118, 11936), (125, 11993), (141, 12086), (147, 12140), (155, 12191), (157, 12203), (162, 12245), (181, 12377), (196, 12518), (207, 12584), (209, 12590), (216, 12626), (222, 12659), (223, 12662), (235, 12722), (239, 12734), (241, 12746), (245, 12755), (256, 12797), (265, 12827), (267, 12845), (271, 12860), (289, 12920), (305, 13004), (310, 13034), (314, 13055), (317, 13070), (323, 13103), (339, 13226), (340, 13235), (343, 13247), (365, 13400), (379, 13478), (384, 13520), (389, 13562), (390, 13574), (400, 13604), (403, 13619), (406, 13658), (410, 13697), (415, 13727), (421, 13787), (436, 13871), (440, 13901), (449, 13994), (454, 14039), (468, 14132), (475, 14177), (484, 14219), (488, 14240), (491, 14264), (496, 14297), (501, 14309), (514, 14375), (520, 14408), (550, 14552), (555, 14573), (564, 14672), (569, 14705), (588, 14852), (589, 14855), (590, 14867), (592, 14888), (598, 14915), (618, 15032), (650, 15110), (653, 15131), (654, 15134), (677, 15458), (682, 15503), (697, 15755), (698, 15773), (712, 15920), (718, 16013), (732, 16106), (745, 16214), (746, 16220), (752, 16322), (754, 16328), (759, 16361), (760, 16364), (763, 16385), (770, 16427), (772, 16430), (777, 16466), (785, 16541), (786, 16547), (787, 16550), (790, 16577), (791, 16580),

Gene: Ronaldo_54 Start: 22393, Stop: 27948, Start Num: 64
Candidate Starts for Ronaldo_54:
(Start: 64 @22393 has 6 MA's), (69, 22459), (71, 22471), (78, 22543), (90, 22612), (96, 22672), (98, 22687), (101, 22705), (104, 22717), (108, 22747), (115, 22780), (126, 22882), (127, 22885), (136, 22927), (139, 22951), (146, 23002), (163, 23122), (164, 23125), (167, 23143), (168, 23158), (180, 23242), (182, 23248), (190, 23329), (192, 23353), (197, 23401), (200, 23428), (205, 23455), (226, 23563), (237, 23608), (250, 23677), (252, 23689), (305, 24028), (310, 24058), (314, 24079), (315, 24085), (331, 24217), (344, 24298), (351, 24370), (358, 24400), (363, 24439), (364, 24442), (368, 24472), (376, 24514), (383, 24568), (389, 24619), (392, 24634), (394, 24640), (400, 24661), (406, 24715), (410, 24754), (415, 24784), (417, 24814), (420, 24838), (435, 24928), (436, 24937), (440, 24967), (442, 24979), (449, 25060), (458, 25126), (460, 25138), (482, 25291), (483, 25294), (490, 25339), (510, 25456), (527, 25546), (534, 25576), (537, 25615), (540, 25624), (545, 25639), (561, 25714), (603, 25993), (604, 25999), (646, 26131), (657, 26230), (663, 26326), (668, 26404), (678, 26611), (687, 26722), (696, 26887), (697, 26911), (700, 26968), (707, 27055), (718, 27193), (721, 27211), (724, 27232), (735, 27334), (740, 27379), (743, 27403), (756, 27553), (765, 27613), (768, 27643), (774, 27670), (776, 27685), (779, 27739), (781, 27754), (792, 27835), (793, 27850), (800, 27925),

Gene: Typha_22 Start: 14030, Stop: 18613, Start Num: 2
Candidate Starts for Typha_22:
(Start: 2 @14030 has 6 MA's), (3, 14057), (5, 14081), (10, 14165), (11, 14177), (14, 14219), (24, 14378), (28, 14438), (29, 14441), (36, 14471), (39, 14495), (42, 14513), (51, 14612), (52, 14618), (54, 14630), (57, 14648), (60, 14669), (Start: 62 @14678 has 1 MA's), (65, 14702), (72, 14786), (73, 14789), (75, 14828), (79, 14849), (91, 14927), (92, 14930), (95, 14960), (101, 15008), (106, 15035), (109, 15059), (110, 15071), (111, 15077), (112, 15080), (121, 15140), (125, 15185), (131, 15215), (132, 15218), (141, 15281), (144, 15308), (145, 15317), (149, 15347), (155, 15386), (160, 15425), (162, 15440), (165, 15461), (169, 15512), (170, 15515), (181, 15560), (188, 15623), (191, 15650), (204, 15752), (207, 15764), (214, 15797), (223, 15842), (229, 15881), (230, 15884), (244, 15941), (247, 15968), (251, 16001), (253, 16007), (258, 16022), (268, 16106), (273, 16139), (275, 16145), (281, 16193), (313, 16394), (319, 16436), (327, 16490), (328, 16505), (345, 16610), (356, 16682), (361, 16712), (380, 16838), (386, 16880), (391, 16925), (403, 16973), (404, 16976), (412, 17045), (414, 17051), (416, 17066), (426, 17159), (431, 17177), (436, 17225), (439, 17249), (440, 17255), (445, 17321), (455, 17405), (457, 17414), (459, 17432), (465, 17477), (471, 17525), (476, 17552), (491, 17639), (494, 17669), (509, 17747), (542, 17948), (548, 17987), (566, 18155), (567, 18158), (574, 18185), (593, 18374), (600, 18407), (602, 18416), (608, 18449), (621, 18545), (624, 18569), (626, 18590), (627, 18599),

Gene: Volt_53 Start: 22393, Stop: 27948, Start Num: 64
Candidate Starts for Volt_53:
(Start: 64 @22393 has 6 MA's), (69, 22459), (71, 22471), (78, 22543), (90, 22612), (96, 22672), (98, 22687), (101, 22705), (104, 22717), (108, 22747), (115, 22780), (126, 22882), (127, 22885), (136, 22927), (139, 22951), (146, 23002), (163, 23122), (164, 23125), (167, 23143), (168, 23158), (180, 23242), (182, 23248), (190, 23329), (192, 23353), (197, 23401), (200, 23428), (205, 23455), (226, 23563), (237, 23608), (250, 23677), (252, 23689), (305, 24028), (310, 24058), (314, 24079), (315, 24085), (331, 24217), (344, 24298), (351, 24370), (358, 24400), (363, 24439), (364, 24442), (368, 24472), (376, 24514), (383, 24568), (389, 24619), (392, 24634), (394, 24640), (400, 24661), (406, 24715), (410, 24754), (415, 24784), (417, 24814), (420, 24838), (435, 24928), (436, 24937), (440, 24967), (442, 24979), (449, 25060), (458, 25126), (460, 25138), (482, 25291), (483, 25294), (490, 25339), (510, 25456), (527, 25546), (534, 25576), (537, 25615), (540, 25624), (545, 25639), (561, 25714), (603, 25993), (604, 25999), (646, 26131), (657, 26230), (663, 26326), (668, 26404), (678, 26611), (687, 26722), (696, 26887), (697, 26911), (700, 26968), (707, 27055), (718, 27193), (721, 27211), (724, 27232), (735, 27334), (740, 27379), (743, 27403), (756, 27553), (765, 27613), (768, 27643), (774, 27670), (776, 27685), (779, 27739), (781, 27754), (792, 27835), (793, 27850), (800, 27925),

Gene: Vordorf_20 Start: 11980, Stop: 17523, Start Num: 38
Candidate Starts for Vordorf_20:
(Start: 38 @11980 has 5 MA's), (44, 12058), (58, 12160), (59, 12163), (65, 12205), (72, 12289), (74, 12319), (75, 12331), (100, 12499), (108, 12556), (113, 12589), (125, 12688), (147, 12835), (155, 12886), (161, 12937), (167, 12970), (183, 13096), (198, 13222), (212, 13300), (223, 13354), (243, 13447), (249, 13480), (256, 13507), (264, 13543), (269, 13585), (271, 13606), (276, 13630), (282, 13669), (283, 13675), (308, 13816), (320, 13879), (336, 14002), (341, 14023), (360, 14143), (371, 14227), (396, 14383), (400, 14401), (408, 14473), (411, 14506), (444, 14779), (459, 14890), (467, 14941), (468, 14950), (469, 14956), (473, 14977), (489, 15073), (497, 15121), (504, 15151), (506, 15157), (527, 15277), (558, 15454), (563, 15520), (570, 15559), (574, 15568), (581, 15655), (587, 15694), (596, 15763), (598, 15769), (599, 15778), (600, 15781), (617, 15892), (620, 15913), (644, 15925), (645, 15928), (647, 15946), (673, 16327), (674, 16372), (679, 16408), (690, 16540), (699, 16723), (702, 16756), (703, 16759), (711, 16840), (714, 16864), (720, 16948), (722, 16954), (731, 17029), (733, 17047), (741, 17125), (744, 17146), (747, 17170), (750, 17233), (751, 17269), (758, 17284), (764, 17335),

Gene: Wrigley_18 Start: 10897, Stop: 16518, Start Num: 27
Candidate Starts for Wrigley_18:
(Start: 27 @10897 has 17 MA's), (32, 10930), (52, 11110), (54, 11122), (60, 11161), (Start: 62 @11170 has 1 MA's), (65, 11194), (67, 11203), (72, 11278), (75, 11320), (103, 11509), (106, 11527), (109, 11551), (114, 11581), (119, 11623), (125, 11677), (135, 11728), (141, 11770), (147, 11824), (155, 11875), (157, 11887), (162, 11929), (177, 12034), (181, 12061), (187, 12118), (195, 12193), (200, 12232), (203, 12253), (207, 12268), (214, 12301), (222, 12343), (238, 12415), (239, 12418), (240, 12427), (246, 12460), (255, 12511), (260, 12544), (261, 12547), (262, 12553), (265, 12562), (266, 12565), (270, 12610), (271, 12628), (274, 12637), (287, 12718), (288, 12721), (289, 12730), (299, 12784), (304, 12805), (315, 12871), (326, 12955), (334, 13018), (337, 13030), (355, 13150), (362, 13192), (365, 13225), (370, 13252), (379, 13303), (383, 13336), (384, 13345), (388, 13360), (400, 13429), (406, 13483), (407, 13492), (410, 13522), (421, 13612), (436, 13696), (458, 13885), (462, 13909), (466, 13948), (468, 13957), (470, 13969), (486, 14059), (492, 14107), (503, 14167), (513, 14218), (515, 14224), (521, 14269), (535, 14332), (543, 14392), (544, 14398), (568, 14590), (586, 14725), (646, 14965), (652, 15031), (655, 15052), (656, 15061), (658, 15088), (663, 15166), (664, 15190), (669, 15283), (671, 15331), (678, 15436), (680, 15448), (682, 15466), (689, 15559), (692, 15613), (694, 15637), (697, 15715), (704, 15814), (755, 16264), (759, 16294), (766, 16330), (767, 16333), (778, 16408), (789, 16504),

Gene: Ziko_54 Start: 22333, Stop: 27888, Start Num: 64
Candidate Starts for Ziko_54:
(Start: 64 @22333 has 6 MA's), (69, 22399), (71, 22411), (78, 22483), (90, 22552), (96, 22612), (98, 22627), (101, 22645), (104, 22657), (108, 22687), (115, 22720), (126, 22822), (127, 22825), (136, 22867), (139, 22891), (146, 22942), (163, 23062), (164, 23065), (167, 23083), (168, 23098), (180, 23182), (182, 23188), (190, 23269), (192, 23293), (197, 23341), (200, 23368), (205, 23395), (226, 23503), (237, 23548), (250, 23617), (252, 23629), (305, 23968), (310, 23998), (314, 24019), (315, 24025), (331, 24157), (344, 24238), (351, 24310), (358, 24340), (363, 24379), (364, 24382), (368, 24412), (376, 24454), (383, 24508), (389, 24559), (392, 24574), (394, 24580), (400, 24601), (406, 24655), (410, 24694), (415, 24724), (417, 24754), (420, 24778), (435, 24868), (436, 24877), (440, 24907), (442, 24919), (449, 25000), (458, 25066), (460, 25078), (482, 25231), (483, 25234), (490, 25279), (510, 25396), (527, 25486), (534, 25516), (537, 25555), (540, 25564), (545, 25579), (561, 25654), (603, 25933), (604, 25939), (646, 26071), (657, 26170), (663, 26266), (668, 26344), (678, 26551), (687, 26662), (696, 26827), (697, 26851), (700, 26908), (707, 26995), (718, 27133), (721, 27151), (724, 27172), (735, 27274), (740, 27319), (743, 27343), (756, 27493), (765, 27553), (768, 27583), (774, 27610), (776, 27625), (779, 27679), (781, 27694), (792, 27775), (793, 27790), (800, 27865),