

Zoomed Pham 331013

[illegible]

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 331013 Report

This analysis was run 09/05/26 on database version 662.

Pham number 331013 has 41 members, 10 are drafts.

Phages represented in each track:

- Track 1 : AbbyDaisy_17
- Track 2 : Raqqa_17
- Track 3 : Ichiang_18
- Track 4 : Zaheer_20
- Track 5 : Kihatsu_21
- Track 6 : DirtDigger_20
- Track 7 : Schism_20
- Track 8 : MillySue_20
- Track 9 : IsHungry_20
- Track 10 : Julie_20
- Track 11 : Halloweekend_18
- Track 12 : Popper_18
- Track 13 : Nandita_20, Guinevere_20
- Track 14 : Gusanita_18
- Track 15 : AllBusiness_19
- Track 16 : Yonex_20, Ryan_20
- Track 17 : Lenoxika_20
- Track 18 : Toodles_20
- Track 19 : Elesar_19
- Track 20 : QuinnAvery_20
- Track 21 : Saintcarr_19
- Track 22 : Cole_18
- Track 23 : GoodLuckBabe_20
- Track 24 : BigSherm_20
- Track 25 : Donatella_19
- Track 26 : ToastyOats_22
- Track 27 : Bauer_19
- Track 28 : BellaJr_19
- Track 29 : BlackSpider_17
- Track 30 : Cassini_17
- Track 31 : Zucker_18
- Track 32 : Merpity_18
- Track 33 : Skitty_16
- Track 34 : MrSmee_16
- Track 35 : Skyerus_16, Neroxid_16, Raya_16
- Track 36 : Cantare_24
- Track 37 : Samy_20

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

The start number called the most often in the published annotations is 3, it was called in 25 of the 31 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AbbyDaisy_17, AllBusiness_19, BellaJr_19, BigSherm_20, BlackSpider_17, Cassini_17, Cole_18, Dirdigger_20, Donatella_19, Elesar_19, GoodLuckBabe_20, Guinevere_20, Gusanita_18, Halloweekend_18, Ichiang_18, IsHungry_20, Julie_20, Kihatsu_21, Lenoxika_20, MillySue_20, Nandita_20, Popper_18, QuinnAvery_20, Raqqa_17, Ryan_20, Saintcarr_19, Schism_20, ToastyOats_22, Toodles_20, Yonex_20, Zaheer_20,

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

•

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

• Bauer_19, Cantare_24, Merpity_18, MrSmee_16, Neroxid_16, Raya_16, Samy_20, Skitty_16, Skyerus_16, Zucker_18,

Summary by start number:

Start 3:

• Found in 31 of 41 (75.6%) of genes in pham
• Manual Annotations of this start: 25 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbbyDaisy_17 (AY), AllBusiness_19 (FF), BellaJr_19 (FN), BigSherm_20 (FF), BlackSpider_17 (FN), Cassini_17 (FN), Cole_18 (FF), Dirdigger_20 (FF), Donatella_19 (FF), Elesar_19 (FF), GoodLuckBabe_20 (FF), Guinevere_20 (FF), Gusanita_18 (FF), Halloweekend_18 (FF), Ichiang_18 (FF), IsHungry_20 (FF), Julie_20 (FF), Kihatsu_21 (FF), Lenoxika_20 (FF), MillySue_20 (FF), Nandita_20 (FF), Popper_18 (FF), QuinnAvery_20 (FF), Raqqa_17 (AY), Ryan_20 (FF), Saintcarr_19 (FF), Schism_20 (FF), ToastyOats_22 (FF), Toodles_20 (FF), Yonex_20 (FF), Zaheer_20 (FF),

Start 9:

• Found in 1 of 41 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Samy_20 (singleton),

Start 25:

• Found in 1 of 41 (2.4%) of genes in pham
• Manual Annotations of this start: 1 of 31
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Cantare_24 (singleton),

Start 35:

• Found in 5 of 41 (12.2%) of genes in pham

- Manual Annotations of this start: 4 of 31
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Bauer_19 (FN), MrSmee_16 (FQ1), Skitty_16 (FQ1), Zucker_18 (FN),

Start 64:

- Found in 36 of 41 (87.8%) of genes in pham
- No Manual Annotations of this start.
- Called 2.8% of time when present
- Phage (with cluster) where this start called: Merpity_18 (FQ1),

Start 84:

- Found in 3 of 41 (7.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Neroxid_16 (FQ2), Raya_16 (FQ2), Skyerus_16 (FQ2),

Summary by clusters:

There are 6 clusters represented in this pham: singleton, AY, FF, FQ2, FQ1, FN,

Info for manual annotations of cluster AY:

- Start number 3 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster FF:

- Start number 3 was manually annotated 23 times for cluster FF.

Info for manual annotations of cluster FN:

- Start number 3 was manually annotated 1 time for cluster FN.
- Start number 35 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FQ1:

- Start number 35 was manually annotated 2 times for cluster FQ1.

Gene Information:

Gene: AbbyDaisy_17 Start: 9615, Stop: 14432, Start Num: 3

Candidate Starts for AbbyDaisy_17:

(Start: 3 @9615 has 25 MA's), (10, 9735), (29, 10071), (31, 10119), (36, 10179), (40, 10221), (41, 10233), (47, 10350), (58, 10425), (64, 10482), (66, 10506), (67, 10512), (73, 10602), (77, 10623), (83, 10683), (85, 10725), (92, 10758), (93, 10764), (97, 10854), (121, 11160), (129, 11193), (138, 11334), (143, 11385), (147, 11436), (148, 11445), (158, 11529), (160, 11550), (164, 11595), (169, 11628), (178, 11694), (181, 11709), (184, 11730), (185, 11739), (187, 11760), (188, 11769), (190, 11793), (196, 11883), (201, 11934), (205, 11964), (207, 11985), (208, 12012), (219, 12108), (226, 12162), (229, 12204), (230, 12213), (231, 12222), (236, 12306), (237, 12309), (239, 12330), (240, 12333), (246, 12372), (249, 12393), (265, 12477), (271, 12510), (275, 12561), (287, 12606), (291, 12630), (300, 12681), (305, 12714), (309, 12741), (317, 12804), (321, 12837), (327, 12882), (333, 12939), (334, 12951), (346, 13080), (352, 13137), (359, 13260), (361, 13272), (373, 13434), (374, 13437), (377, 13443), (378, 13461), (380, 13479), (382, 13515), (384, 13530), (387, 13545), (396, 13671),

(398, 13683), (400, 13707), (402, 13743), (406, 13821), (408, 13836), (418, 14013), (428, 14091),
(429, 14100), (431, 14127), (432, 14136), (435, 14196), (439, 14229), (450, 14355),

Gene: AllBusiness_19 Start: 11058, Stop: 15884, Start Num: 3

Candidate Starts for AllBusiness_19:

(Start: 3 @11058 has 25 MA's), (5, 11088), (10, 11178), (31, 11562), (36, 11622), (40, 11661), (41, 11673), (47, 11790), (50, 11799), (61, 11895), (64, 11922), (66, 11946), (68, 11970), (73, 12042), (77, 12063), (79, 12075), (83, 12123), (85, 12165), (92, 12198), (93, 12204), (103, 12369), (109, 12441), (121, 12600), (137, 12738), (143, 12825), (147, 12876), (148, 12885), (157, 12966), (158, 12969), (160, 12990), (164, 13035), (174, 13092), (179, 13137), (183, 13164), (184, 13170), (185, 13179), (188, 13209), (196, 13323), (197, 13326), (199, 13344), (207, 13425), (208, 13452), (219, 13548), (226, 13602), (229, 13644), (230, 13653), (237, 13749), (240, 13773), (246, 13812), (249, 13833), (265, 13917), (271, 13950), (281, 14028), (289, 14058), (290, 14061), (305, 14154), (306, 14157), (309, 14181), (310, 14199), (312, 14208), (314, 14220), (319, 14256), (322, 14280), (323, 14298), (327, 14322), (330, 14337), (332, 14355), (333, 14379), (348, 14550), (359, 14700), (367, 14790), (368, 14808), (369, 14814), (371, 14841), (374, 14886), (377, 14892), (378, 14910), (380, 14928), (382, 14964), (385, 14982), (389, 15012), (393, 15063), (396, 15120), (398, 15132), (402, 15192), (405, 15264), (406, 15270), (408, 15285), (418, 15462), (421, 15489), (425, 15528), (427, 15531), (428, 15540), (429, 15549), (433, 15633), (439, 15690), (451, 15822), (454, 15846),

Gene: Bauer_19 Start: 10992, Stop: 15116, Start Num: 35

Candidate Starts for Bauer_19:

(Start: 35 @10992 has 4 MA's), (37, 11016), (42, 11067), (44, 11112), (45, 11124), (46, 11160), (62, 11280), (64, 11298), (65, 11304), (66, 11322), (68, 11346), (73, 11415), (83, 11496), (85, 11538), (89, 11613), (90, 11622), (97, 11763), (98, 11772), (109, 11910), (117, 12015), (132, 12228), (137, 12303), (138, 12339), (143, 12390), (146, 12423), (149, 12453), (153, 12510), (154, 12513), (158, 12534), (160, 12555), (164, 12600), (169, 12633), (176, 12675), (178, 12699), (179, 12702), (182, 12726), (183, 12729), (184, 12735), (185, 12744), (188, 12774), (203, 12954), (206, 12987), (207, 12990), (208, 13017), (226, 13167), (231, 13227), (232, 13239), (234, 13269), (237, 13314), (246, 13377), (257, 13440), (260, 13455), (262, 13473), (265, 13482), (284, 13596), (285, 13599), (290, 13623), (297, 13659), (298, 13665), (304, 13698), (315, 13731), (344, 13809), (358, 13992), (359, 14016), (361, 14028), (364, 14064), (378, 14199), (391, 14289), (393, 14307), (399, 14397), (400, 14400), (402, 14436), (406, 14511), (411, 14553), (413, 14601), (420, 14709), (421, 14712), (436, 14874), (438, 14895), (444, 14955), (448, 15003), (456, 15081), (457, 15084), (458, 15093), (459, 15102), (460, 15105),

Gene: BellaJr_19 Start: 11008, Stop: 15927, Start Num: 3

Candidate Starts for BellaJr_19:

(Start: 3 @11008 has 25 MA's), (4, 11032), (5, 11038), (7, 11083), (10, 11128), (11, 11140), (15, 11206), (17, 11248), (19, 11281), (31, 11512), (32, 11521), (34, 11554), (36, 11572), (40, 11611), (41, 11623), (46, 11734), (61, 11845), (63, 11857), (64, 11872), (66, 11896), (67, 11902), (68, 11920), (73, 11992), (76, 12010), (77, 12013), (79, 12025), (85, 12115), (88, 12169), (92, 12244), (97, 12340), (98, 12349), (106, 12460), (109, 12487), (128, 12772), (133, 12826), (138, 12916), (143, 12967), (146, 13000), (147, 13018), (148, 13027), (149, 13030), (157, 13108), (158, 13111), (162, 13153), (164, 13177), (173, 13228), (174, 13234), (179, 13279), (184, 13312), (185, 13321), (190, 13375), (201, 13516), (207, 13567), (208, 13594), (217, 13672), (219, 13690), (226, 13744), (230, 13795), (231, 13804), (233, 13834), (242, 13921), (246, 13954), (256, 14014), (273, 14119), (277, 14152), (278, 14155), (288, 14194), (294, 14221), (297, 14236), (298, 14242), (304, 14275), (328, 14362), (341, 14494), (351, 14605), (359, 14731), (360, 14740), (363, 14767), (374, 14905), (377, 14911), (380, 14947), (382, 14983), (385, 15001), (390, 15034), (393, 15082), (394, 15085), (401, 15196), (402, 15211), (405, 15283), (407, 15295), (408, 15304), (418, 15481), (425, 15547), (428, 15559), (431, 15595), (432, 15604), (437, 15688), (448, 15814), (450, 15832), (455, 15871), (457, 15895), (458, 15904), (459, 15913), (460, 15916),

Gene: BigSherm_20 Start: 10998, Stop: 15812, Start Num: 3

Candidate Starts for BigSherm_20:

(Start: 3 @10998 has 25 MA's), (5, 11028), (10, 11118), (22, 11286), (24, 11370), (29, 11454), (31, 11502), (36, 11562), (40, 11601), (41, 11613), (47, 11730), (50, 11739), (62, 11844), (64, 11862), (66, 11886), (73, 11982), (77, 12003), (79, 12015), (83, 12063), (92, 12138), (93, 12144), (103, 12309), (109, 12381), (121, 12540), (136, 12660), (137, 12678), (143, 12765), (146, 12798), (147, 12816), (148, 12825), (155, 12894), (157, 12906), (158, 12909), (164, 12975), (174, 13032), (178, 13074), (179, 13077), (184, 13110), (185, 13119), (188, 13149), (197, 13266), (199, 13284), (201, 13314), (207, 13365), (208, 13392), (230, 13593), (240, 13713), (246, 13752), (249, 13773), (261, 13845), (265, 13857), (271, 13890), (289, 13998), (290, 14001), (305, 14094), (308, 14115), (313, 14151), (317, 14184), (321, 14217), (329, 14271), (334, 14331), (337, 14379), (348, 14490), (357, 14595), (358, 14616), (359, 14640), (361, 14652), (368, 14736), (371, 14769), (374, 14814), (377, 14820), (378, 14838), (380, 14856), (382, 14892), (384, 14907), (385, 14910), (389, 14940), (393, 14991), (396, 15048), (398, 15060), (401, 15105), (402, 15120), (405, 15192), (406, 15198), (407, 15204), (408, 15213), (418, 15390), (425, 15456), (427, 15459), (428, 15468), (433, 15561), (439, 15618), (454, 15774),

Gene: BlackSpider_17 Start: 10004, Stop: 14773, Start Num: 3

Candidate Starts for BlackSpider_17:

(Start: 3 @10004 has 25 MA's), (4, 10028), (5, 10034), (7, 10079), (10, 10124), (11, 10136), (15, 10202), (17, 10244), (19, 10277), (31, 10508), (32, 10517), (34, 10550), (36, 10568), (40, 10607), (41, 10619), (43, 10673), (46, 10730), (61, 10841), (63, 10853), (64, 10868), (66, 10892), (67, 10898), (68, 10916), (73, 10988), (76, 11006), (77, 11009), (79, 11021), (85, 11111), (92, 11240), (97, 11336), (98, 11345), (106, 11456), (109, 11483), (128, 11768), (133, 11822), (138, 11912), (143, 11963), (146, 11996), (147, 12014), (148, 12023), (149, 12026), (157, 12104), (158, 12107), (162, 12149), (164, 12173), (173, 12224), (174, 12230), (179, 12275), (184, 12308), (185, 12317), (190, 12371), (201, 12512), (207, 12563), (208, 12590), (217, 12668), (219, 12686), (226, 12740), (229, 12782), (230, 12791), (242, 12917), (249, 12971), (254, 12998), (257, 13013), (271, 13088), (275, 13139), (277, 13148), (304, 13250), (307, 13265), (331, 13349), (355, 13514), (359, 13568), (374, 13745), (377, 13751), (378, 13769), (380, 13787), (382, 13823), (385, 13841), (390, 13874), (393, 13922), (394, 13925), (401, 14036), (402, 14051), (405, 14123), (407, 14135), (408, 14144), (416, 14315), (418, 14321), (425, 14387), (428, 14399), (431, 14435), (432, 14444), (437, 14534), (445, 14618), (448, 14660), (450, 14678), (457, 14741), (458, 14750), (459, 14759), (460, 14762),

Gene: Cantare_24 Start: 20369, Stop: 24469, Start Num: 25

Candidate Starts for Cantare_24:

(Start: 25 @20369 has 1 MA's), (27, 20414), (28, 20417), (49, 20726), (52, 20744), (54, 20765), (59, 20804), (61, 20822), (71, 20945), (72, 20957), (74, 20969), (76, 20984), (78, 20993), (79, 20999), (95, 21173), (97, 21209), (99, 21251), (101, 21275), (102, 21281), (109, 21353), (111, 21389), (113, 21410), (114, 21431), (115, 21440), (118, 21473), (124, 21518), (139, 21677), (141, 21698), (158, 21860), (166, 21935), (167, 21947), (175, 21989), (178, 22022), (184, 22055), (186, 22064), (193, 22157), (198, 22208), (208, 22325), (211, 22358), (212, 22361), (234, 22559), (252, 22706), (253, 22712), (282, 22886), (295, 22946), (304, 23000), (319, 23078), (324, 23108), (345, 23297), (350, 23357), (353, 23375), (372, 23645), (375, 23678), (377, 23681), (381, 23729), (386, 23765), (400, 23918), (412, 24110), (414, 24194), (415, 24206), (417, 24212), (419, 24218), (426, 24275), (430, 24311), (434, 24374), (436, 24392),

Gene: Cassini_17 Start: 9972, Stop: 15008, Start Num: 3

Candidate Starts for Cassini_17:

(Start: 3 @9972 has 25 MA's), (4, 9996), (5, 10002), (7, 10047), (10, 10092), (11, 10104), (17, 10212), (22, 10260), (31, 10476), (34, 10518), (36, 10536), (40, 10575), (41, 10587), (43, 10641), (46, 10698), (51, 10725), (61, 10809), (64, 10836), (66, 10860), (67, 10866), (68, 10884), (73, 10956), (76, 10974),

(77, 10977), (79, 10989), (85, 11079), (89, 11154), (92, 11208), (97, 11304), (98, 11313), (105, 11421), (106, 11424), (109, 11451), (128, 11736), (138, 11880), (143, 11931), (147, 11982), (148, 11991), (155, 12060), (157, 12072), (158, 12075), (162, 12117), (164, 12141), (173, 12192), (174, 12198), (179, 12243), (184, 12276), (185, 12285), (207, 12531), (208, 12558), (219, 12654), (220, 12666), (226, 12708), (229, 12750), (230, 12759), (242, 12885), (246, 12918), (256, 12978), (270, 13053), (271, 13056), (274, 13104), (283, 13137), (289, 13164), (299, 13218), (303, 13245), (304, 13251), (309, 13287), (310, 13305), (314, 13326), (320, 13377), (326, 13425), (329, 13437), (330, 13443), (334, 13497), (335, 13518), (359, 13806), (360, 13815), (373, 13977), (374, 13980), (377, 13986), (378, 14004), (380, 14022), (382, 14058), (385, 14076), (390, 14109), (394, 14160), (398, 14226), (402, 14286), (405, 14358), (406, 14364), (408, 14379), (418, 14556), (425, 14622), (428, 14634), (431, 14670), (432, 14679), (448, 14895), (450, 14913), (455, 14952), (457, 14976), (458, 14985), (459, 14994), (460, 14997),

Gene: Cole_18 Start: 10660, Stop: 15474, Start Num: 3

Candidate Starts for Cole_18:

(Start: 3 @10660 has 25 MA's), (5, 10690), (10, 10780), (22, 10948), (24, 11032), (29, 11116), (31, 11164), (36, 11224), (40, 11263), (41, 11275), (47, 11392), (50, 11401), (62, 11506), (64, 11524), (66, 11548), (73, 11644), (77, 11665), (79, 11677), (83, 11725), (92, 11800), (93, 11806), (103, 11971), (109, 12043), (121, 12202), (136, 12322), (137, 12340), (143, 12427), (146, 12460), (147, 12478), (148, 12487), (155, 12556), (157, 12568), (158, 12571), (160, 12592), (164, 12637), (174, 12694), (178, 12736), (179, 12739), (184, 12772), (185, 12781), (188, 12811), (197, 12928), (199, 12946), (201, 12976), (207, 13027), (208, 13054), (219, 13150), (224, 13192), (230, 13255), (240, 13375), (246, 13414), (249, 13435), (261, 13507), (265, 13519), (271, 13552), (289, 13660), (290, 13663), (296, 13699), (305, 13756), (308, 13777), (313, 13813), (317, 13846), (319, 13858), (321, 13879), (329, 13933), (334, 13993), (337, 14041), (348, 14152), (357, 14257), (358, 14278), (359, 14302), (361, 14314), (368, 14398), (371, 14431), (374, 14476), (377, 14482), (378, 14500), (380, 14518), (382, 14554), (384, 14569), (385, 14572), (389, 14602), (393, 14653), (396, 14710), (398, 14722), (401, 14767), (402, 14782), (405, 14854), (407, 14866), (408, 14875), (418, 15052), (425, 15118), (427, 15121), (428, 15130), (432, 15175), (433, 15223), (439, 15280), (454, 15436),

Gene: Dirtddigger_20 Start: 10978, Stop: 15792, Start Num: 3

Candidate Starts for Dirtddigger_20:

(Start: 3 @10978 has 25 MA's), (5, 11008), (10, 11098), (11, 11110), (17, 11218), (23, 11281), (29, 11434), (31, 11482), (36, 11542), (40, 11581), (41, 11593), (47, 11710), (50, 11719), (61, 11815), (64, 11842), (66, 11866), (73, 11962), (77, 11983), (79, 11995), (83, 12043), (92, 12118), (93, 12124), (103, 12289), (109, 12361), (121, 12520), (137, 12658), (143, 12745), (144, 12751), (147, 12796), (148, 12805), (157, 12886), (158, 12889), (160, 12910), (164, 12955), (165, 12964), (174, 13012), (178, 13054), (179, 13057), (183, 13084), (184, 13090), (185, 13099), (188, 13129), (196, 13243), (197, 13246), (199, 13264), (201, 13294), (205, 13324), (207, 13345), (208, 13372), (219, 13468), (226, 13522), (229, 13564), (230, 13573), (234, 13624), (240, 13693), (249, 13753), (265, 13837), (269, 13858), (271, 13870), (281, 13948), (289, 13978), (290, 13981), (299, 14032), (300, 14041), (305, 14074), (306, 14077), (308, 14095), (309, 14101), (312, 14128), (317, 14164), (319, 14176), (321, 14197), (329, 14251), (334, 14311), (346, 14440), (359, 14620), (360, 14629), (361, 14632), (368, 14716), (371, 14749), (374, 14794), (377, 14800), (378, 14818), (380, 14836), (382, 14872), (385, 14890), (389, 14920), (393, 14971), (396, 15028), (398, 15040), (400, 15064), (402, 15100), (405, 15172), (408, 15193), (418, 15370), (425, 15436), (427, 15439), (429, 15457), (433, 15541), (439, 15598), (451, 15730), (454, 15754),

Gene: Donatella_19 Start: 11124, Stop: 15938, Start Num: 3

Candidate Starts for Donatella_19:

(Start: 3 @11124 has 25 MA's), (5, 11154), (10, 11244), (24, 11496), (29, 11580), (31, 11628), (36, 11688), (40, 11727), (41, 11739), (47, 11856), (50, 11865), (62, 11970), (64, 11988), (66, 12012), (73, 12108), (77, 12129), (79, 12141), (83, 12189), (85, 12231), (92, 12264), (93, 12270), (103, 12435),

(109, 12507), (121, 12666), (136, 12786), (137, 12804), (143, 12891), (146, 12924), (147, 12942), (148, 12951), (155, 13020), (157, 13032), (158, 13035), (160, 13056), (164, 13101), (174, 13158), (178, 13200), (179, 13203), (184, 13236), (185, 13245), (188, 13275), (197, 13392), (199, 13410), (201, 13440), (207, 13491), (208, 13518), (219, 13614), (224, 13656), (227, 13680), (230, 13719), (240, 13839), (246, 13878), (249, 13899), (261, 13971), (265, 13983), (271, 14016), (289, 14124), (290, 14127), (305, 14220), (308, 14241), (313, 14277), (317, 14310), (319, 14322), (321, 14343), (329, 14397), (333, 14445), (334, 14457), (337, 14505), (348, 14616), (357, 14721), (359, 14766), (361, 14778), (368, 14862), (371, 14895), (374, 14940), (377, 14946), (378, 14964), (380, 14982), (382, 15018), (384, 15033), (385, 15036), (389, 15066), (393, 15117), (396, 15174), (398, 15186), (401, 15231), (402, 15246), (405, 15318), (407, 15330), (408, 15339), (418, 15516), (427, 15585), (428, 15594), (433, 15687), (439, 15744), (440, 15747), (454, 15900),

Gene: Elesar_19 Start: 11042, Stop: 15865, Start Num: 3

Candidate Starts for Elesar_19:

(1, 10970), (2, 10994), (Start: 3 @11042 has 25 MA's), (6, 11093), (10, 11162), (16, 11261), (17, 11282), (31, 11546), (34, 11588), (36, 11606), (40, 11645), (41, 11657), (46, 11768), (53, 11798), (64, 11906), (70, 12005), (73, 12026), (76, 12044), (77, 12047), (83, 12107), (93, 12188), (100, 12323), (137, 12722), (143, 12809), (147, 12860), (158, 12953), (160, 12974), (164, 13019), (165, 13028), (172, 13067), (173, 13070), (179, 13121), (182, 13145), (184, 13154), (185, 13163), (194, 13277), (201, 13358), (207, 13409), (208, 13436), (217, 13514), (219, 13532), (226, 13586), (229, 13628), (242, 13763), (248, 13805), (249, 13817), (254, 13844), (271, 13934), (283, 14015), (290, 14045), (292, 14057), (299, 14096), (300, 14105), (304, 14129), (305, 14138), (306, 14141), (308, 14159), (309, 14165), (318, 14231), (319, 14240), (321, 14261), (322, 14264), (327, 14306), (329, 14315), (331, 14327), (334, 14375), (337, 14423), (340, 14444), (349, 14546), (358, 14660), (359, 14684), (368, 14780), (374, 14858), (377, 14864), (378, 14882), (380, 14900), (382, 14936), (389, 14984), (391, 15017), (393, 15035), (396, 15092), (402, 15164), (405, 15236), (407, 15248), (408, 15257), (422, 15470), (425, 15500), (428, 15512), (433, 15608), (440, 15680), (444, 15734), (451, 15803), (454, 15827),

Gene: GoodLuckBabe_20 Start: 10954, Stop: 15768, Start Num: 3

Candidate Starts for GoodLuckBabe_20:

(Start: 3 @10954 has 25 MA's), (5, 10984), (10, 11074), (22, 11242), (29, 11410), (31, 11458), (36, 11518), (40, 11557), (41, 11569), (47, 11686), (50, 11695), (61, 11791), (64, 11818), (73, 11938), (77, 11959), (79, 11971), (92, 12094), (93, 12100), (103, 12265), (109, 12337), (121, 12496), (136, 12616), (137, 12634), (143, 12721), (146, 12754), (147, 12772), (148, 12781), (155, 12850), (157, 12862), (158, 12865), (164, 12931), (174, 12988), (178, 13030), (179, 13033), (184, 13066), (185, 13075), (188, 13105), (197, 13222), (199, 13240), (201, 13270), (207, 13321), (208, 13348), (219, 13444), (227, 13510), (229, 13540), (230, 13549), (240, 13669), (246, 13708), (249, 13729), (254, 13756), (255, 13759), (265, 13813), (268, 13822), (271, 13846), (274, 13894), (278, 13909), (281, 13924), (289, 13954), (290, 13957), (305, 14050), (306, 14053), (308, 14071), (309, 14077), (313, 14107), (317, 14140), (319, 14152), (321, 14173), (329, 14227), (334, 14287), (337, 14335), (357, 14551), (359, 14596), (361, 14608), (368, 14692), (371, 14725), (374, 14770), (377, 14776), (378, 14794), (380, 14812), (382, 14848), (384, 14863), (385, 14866), (389, 14896), (393, 14947), (396, 15004), (398, 15016), (405, 15148), (407, 15160), (408, 15169), (418, 15346), (425, 15412), (427, 15415), (428, 15424), (432, 15469), (433, 15517), (439, 15574), (443, 15628), (451, 15706), (454, 15730),

Gene: Guinevere_20 Start: 10985, Stop: 15799, Start Num: 3

Candidate Starts for Guinevere_20:

(Start: 3 @10985 has 25 MA's), (5, 11015), (10, 11105), (22, 11273), (29, 11441), (31, 11489), (36, 11549), (40, 11588), (41, 11600), (47, 11717), (50, 11726), (61, 11822), (64, 11849), (73, 11969), (77, 11990), (79, 12002), (92, 12125), (93, 12131), (109, 12368), (121, 12527), (136, 12647), (137, 12665), (143, 12752), (146, 12785), (147, 12803), (148, 12812), (155, 12881), (157, 12893), (158, 12896), (164, 12962), (174, 13019), (179, 13064), (184, 13097), (185, 13106), (188, 13136), (197, 13253),

(199, 13271), (201, 13301), (207, 13352), (208, 13379), (219, 13475), (229, 13571), (230, 13580), (240, 13700), (246, 13739), (249, 13760), (261, 13832), (265, 13844), (271, 13877), (278, 13940), (281, 13955), (289, 13985), (290, 13988), (305, 14081), (306, 14084), (309, 14108), (312, 14135), (319, 14183), (329, 14258), (334, 14318), (337, 14366), (357, 14582), (359, 14627), (361, 14639), (368, 14723), (371, 14756), (374, 14801), (377, 14807), (378, 14825), (380, 14843), (382, 14879), (384, 14894), (385, 14897), (389, 14927), (396, 15035), (398, 15047), (401, 15092), (405, 15179), (407, 15191), (408, 15200), (418, 15377), (425, 15443), (427, 15446), (428, 15455), (432, 15500), (433, 15548), (439, 15605), (443, 15659), (451, 15737), (454, 15761),

Gene: Gusanita_18 Start: 10874, Stop: 15688, Start Num: 3

Candidate Starts for Gusanita_18:

(Start: 3 @10874 has 25 MA's), (5, 10904), (10, 10994), (22, 11162), (24, 11246), (29, 11330), (31, 11378), (36, 11438), (40, 11477), (41, 11489), (47, 11606), (48, 11609), (50, 11615), (56, 11654), (62, 11720), (64, 11738), (66, 11762), (73, 11858), (77, 11879), (79, 11891), (83, 11939), (85, 11981), (92, 12014), (93, 12020), (103, 12185), (109, 12257), (121, 12416), (137, 12554), (143, 12641), (146, 12674), (147, 12692), (148, 12701), (155, 12770), (157, 12782), (158, 12785), (160, 12806), (164, 12851), (174, 12908), (177, 12929), (178, 12950), (179, 12953), (184, 12986), (185, 12995), (188, 13025), (189, 13046), (197, 13142), (199, 13160), (201, 13190), (207, 13241), (208, 13268), (217, 13346), (219, 13364), (229, 13460), (230, 13469), (240, 13589), (246, 13628), (249, 13649), (265, 13733), (271, 13766), (281, 13844), (289, 13874), (290, 13877), (305, 13970), (306, 13973), (309, 13997), (310, 14015), (312, 14024), (319, 14072), (327, 14138), (329, 14147), (332, 14171), (334, 14207), (340, 14276), (355, 14462), (358, 14492), (360, 14525), (361, 14528), (373, 14687), (374, 14690), (377, 14696), (378, 14714), (380, 14732), (382, 14768), (384, 14783), (385, 14786), (389, 14816), (393, 14867), (396, 14924), (398, 14936), (405, 15068), (407, 15080), (408, 15089), (418, 15266), (425, 15332), (428, 15344), (431, 15380), (433, 15437), (439, 15494), (454, 15650),

Gene: Halloweekend_18 Start: 10624, Stop: 15438, Start Num: 3

Candidate Starts for Halloweekend_18:

(Start: 3 @10624 has 25 MA's), (5, 10654), (10, 10744), (22, 10912), (24, 10996), (29, 11080), (31, 11128), (36, 11188), (40, 11227), (41, 11239), (47, 11356), (50, 11365), (62, 11470), (64, 11488), (66, 11512), (73, 11608), (77, 11629), (79, 11641), (83, 11689), (92, 11764), (93, 11770), (109, 12007), (121, 12166), (136, 12286), (137, 12304), (143, 12391), (146, 12424), (147, 12442), (148, 12451), (155, 12520), (157, 12532), (158, 12535), (164, 12601), (174, 12658), (178, 12700), (179, 12703), (184, 12736), (185, 12745), (188, 12775), (197, 12892), (199, 12910), (201, 12940), (207, 12991), (208, 13018), (230, 13219), (240, 13339), (246, 13378), (249, 13399), (261, 13471), (265, 13483), (271, 13516), (289, 13624), (290, 13627), (305, 13720), (308, 13741), (313, 13777), (317, 13810), (321, 13843), (329, 13897), (334, 13957), (337, 14005), (348, 14116), (357, 14221), (358, 14242), (359, 14266), (361, 14278), (368, 14362), (371, 14395), (374, 14440), (377, 14446), (378, 14464), (380, 14482), (382, 14518), (384, 14533), (385, 14536), (389, 14566), (393, 14617), (396, 14674), (398, 14686), (401, 14731), (402, 14746), (405, 14818), (406, 14824), (407, 14830), (408, 14839), (418, 15016), (425, 15082), (427, 15085), (428, 15094), (433, 15187), (439, 15244), (454, 15400),

Gene: Ichiang_18 Start: 10641, Stop: 15455, Start Num: 3

Candidate Starts for Ichiang_18:

(Start: 3 @10641 has 25 MA's), (5, 10671), (10, 10761), (22, 10929), (29, 11097), (31, 11145), (36, 11205), (40, 11244), (41, 11256), (47, 11373), (50, 11382), (61, 11478), (64, 11505), (66, 11529), (73, 11625), (77, 11646), (79, 11658), (83, 11706), (92, 11781), (93, 11787), (103, 11952), (109, 12024), (121, 12183), (136, 12303), (137, 12321), (143, 12408), (146, 12441), (147, 12459), (148, 12468), (155, 12537), (157, 12549), (158, 12552), (160, 12573), (164, 12618), (174, 12675), (178, 12717), (179, 12720), (184, 12753), (185, 12762), (188, 12792), (197, 12909), (199, 12927), (201, 12957), (207, 13008), (208, 13035), (219, 13131), (224, 13173), (227, 13197), (230, 13236), (240, 13356), (246, 13395), (249, 13416), (261, 13488), (265, 13500), (271, 13533), (289, 13641), (290, 13644), (305, 13737), (308, 13758), (313, 13794), (317, 13827), (319, 13839), (321, 13860), (329, 13914),

(333, 13962), (334, 13974), (337, 14022), (348, 14133), (357, 14238), (359, 14283), (361, 14295), (368, 14379), (371, 14412), (374, 14457), (377, 14463), (378, 14481), (380, 14499), (382, 14535), (384, 14550), (385, 14553), (389, 14583), (393, 14634), (396, 14691), (398, 14703), (401, 14748), (402, 14763), (405, 14835), (407, 14847), (408, 14856), (418, 15033), (427, 15102), (428, 15111), (433, 15204), (439, 15261), (440, 15264), (454, 15417),

Gene: IsHungry_20 Start: 10951, Stop: 15765, Start Num: 3

Candidate Starts for IsHungry_20:

(Start: 3 @10951 has 25 MA's), (5, 10981), (10, 11071), (11, 11083), (29, 11407), (31, 11455), (36, 11515), (40, 11554), (41, 11566), (47, 11683), (50, 11692), (64, 11815), (66, 11839), (69, 11875), (73, 11935), (77, 11956), (79, 11968), (85, 12058), (92, 12091), (93, 12097), (103, 12262), (109, 12334), (121, 12493), (137, 12631), (143, 12718), (147, 12769), (148, 12778), (153, 12838), (158, 12862), (160, 12883), (164, 12928), (165, 12937), (174, 12985), (178, 13027), (179, 13030), (184, 13063), (185, 13072), (188, 13102), (196, 13216), (199, 13237), (201, 13267), (207, 13318), (208, 13345), (219, 13441), (223, 13474), (229, 13537), (240, 13666), (246, 13705), (249, 13726), (255, 13756), (265, 13810), (271, 13843), (274, 13891), (278, 13906), (290, 13954), (299, 14005), (305, 14047), (306, 14050), (308, 14068), (309, 14074), (312, 14101), (317, 14137), (319, 14149), (321, 14170), (329, 14224), (333, 14272), (334, 14284), (346, 14413), (352, 14470), (358, 14569), (359, 14593), (361, 14605), (374, 14770), (377, 14776), (378, 14794), (380, 14812), (382, 14848), (384, 14863), (385, 14866), (396, 15004), (398, 15016), (405, 15148), (407, 15160), (408, 15169), (418, 15346), (421, 15373), (427, 15415), (428, 15424), (433, 15517), (439, 15574), (451, 15703), (454, 15727),

Gene: Julie_20 Start: 11214, Stop: 16028, Start Num: 3

Candidate Starts for Julie_20:

(Start: 3 @11214 has 25 MA's), (5, 11244), (8, 11310), (10, 11334), (11, 11346), (14, 11391), (29, 11670), (31, 11718), (36, 11778), (40, 11817), (41, 11829), (47, 11946), (50, 11955), (61, 12051), (64, 12078), (66, 12102), (73, 12198), (77, 12219), (79, 12231), (83, 12279), (92, 12354), (93, 12360), (109, 12597), (121, 12756), (137, 12894), (143, 12981), (144, 12987), (147, 13032), (148, 13041), (157, 13122), (158, 13125), (160, 13146), (164, 13191), (165, 13200), (174, 13248), (178, 13290), (179, 13293), (183, 13320), (184, 13326), (185, 13335), (188, 13365), (196, 13479), (197, 13482), (199, 13500), (207, 13581), (208, 13608), (217, 13686), (219, 13704), (229, 13800), (230, 13809), (240, 13929), (246, 13968), (249, 13989), (265, 14073), (269, 14094), (271, 14106), (281, 14184), (289, 14214), (290, 14217), (305, 14310), (306, 14313), (309, 14337), (310, 14355), (312, 14364), (327, 14478), (329, 14487), (332, 14511), (334, 14547), (340, 14616), (355, 14802), (358, 14832), (359, 14856), (360, 14865), (361, 14868), (368, 14952), (374, 15030), (377, 15036), (378, 15054), (380, 15072), (382, 15108), (384, 15123), (385, 15126), (389, 15156), (393, 15207), (396, 15264), (398, 15276), (402, 15336), (405, 15408), (408, 15429), (418, 15606), (425, 15672), (427, 15675), (428, 15684), (429, 15693), (433, 15777), (439, 15834), (451, 15966), (454, 15990),

Gene: Kihatsu_21 Start: 11307, Stop: 16121, Start Num: 3

Candidate Starts for Kihatsu_21:

(Start: 3 @11307 has 25 MA's), (5, 11337), (10, 11427), (22, 11595), (29, 11763), (31, 11811), (36, 11871), (40, 11910), (41, 11922), (47, 12039), (50, 12048), (61, 12144), (64, 12171), (73, 12291), (77, 12312), (79, 12324), (93, 12453), (103, 12618), (109, 12690), (121, 12849), (136, 12969), (137, 12987), (143, 13074), (146, 13107), (147, 13125), (148, 13134), (155, 13203), (157, 13215), (158, 13218), (164, 13284), (174, 13341), (179, 13386), (184, 13419), (185, 13428), (188, 13458), (197, 13575), (199, 13593), (201, 13623), (207, 13674), (208, 13701), (219, 13797), (229, 13893), (230, 13902), (240, 14022), (246, 14061), (249, 14082), (254, 14109), (255, 14112), (261, 14154), (265, 14166), (268, 14175), (271, 14199), (274, 14247), (278, 14262), (281, 14277), (289, 14307), (290, 14310), (305, 14403), (306, 14406), (308, 14424), (309, 14430), (317, 14493), (319, 14505), (321, 14526), (329, 14580), (334, 14640), (337, 14688), (338, 14700), (357, 14904), (359, 14949), (361, 14961), (368, 15045), (371, 15078), (374, 15123), (377, 15129), (378, 15147), (380, 15165), (382, 15201), (384, 15216), (385, 15219), (389, 15249), (393, 15300), (396, 15357), (398, 15369), (405,

15501), (407, 15513), (408, 15522), (418, 15699), (423, 15756), (427, 15768), (428, 15777), (432, 15822), (433, 15870), (439, 15927), (451, 16059), (454, 16083),

Gene: Lenoxika_20 Start: 10987, Stop: 15795, Start Num: 3

Candidate Starts for Lenoxika_20:

(Start: 3 @10987 has 25 MA's), (5, 11017), (10, 11107), (21, 11269), (22, 11275), (29, 11443), (31, 11491), (36, 11551), (40, 11590), (41, 11602), (47, 11719), (50, 11728), (62, 11833), (64, 11851), (66, 11875), (73, 11971), (75, 11977), (77, 11992), (79, 12004), (83, 12052), (92, 12127), (93, 12133), (121, 12529), (136, 12649), (137, 12667), (143, 12754), (146, 12787), (147, 12805), (148, 12814), (155, 12883), (157, 12895), (158, 12898), (164, 12964), (174, 13021), (179, 13066), (184, 13099), (185, 13108), (188, 13138), (197, 13255), (199, 13273), (201, 13303), (207, 13354), (208, 13381), (219, 13477), (229, 13573), (230, 13582), (240, 13702), (246, 13741), (249, 13762), (261, 13834), (265, 13846), (271, 13879), (278, 13942), (281, 13957), (289, 13987), (290, 13990), (305, 14083), (306, 14086), (309, 14110), (312, 14137), (319, 14185), (329, 14260), (334, 14320), (337, 14368), (357, 14584), (359, 14629), (361, 14641), (368, 14725), (371, 14758), (374, 14803), (377, 14809), (378, 14827), (380, 14845), (382, 14881), (384, 14896), (385, 14899), (389, 14929), (396, 15037), (398, 15049), (401, 15094), (405, 15181), (407, 15193), (408, 15202), (418, 15379), (425, 15445), (427, 15448), (428, 15457), (432, 15502), (433, 15544), (439, 15601), (440, 15604), (443, 15655), (451, 15733), (454, 15757),

Gene: Merpity_18 Start: 9052, Stop: 12855, Start Num: 64

Candidate Starts for Merpity_18:

(Start: 35 @8746 has 4 MA's), (38, 8776), (42, 8821), (44, 8866), (45, 8878), (55, 8965), (62, 9034), (64, 9052), (65, 9058), (73, 9169), (80, 9226), (88, 9346), (91, 9388), (92, 9421), (97, 9517), (98, 9526), (107, 9643), (108, 9652), (109, 9664), (126, 9907), (127, 9919), (130, 9958), (133, 10003), (137, 10057), (138, 10093), (143, 10144), (146, 10177), (147, 10195), (153, 10264), (154, 10267), (156, 10282), (157, 10285), (158, 10288), (159, 10297), (163, 10342), (164, 10354), (169, 10387), (171, 10399), (173, 10405), (179, 10456), (182, 10480), (184, 10489), (185, 10498), (202, 10702), (203, 10708), (204, 10711), (207, 10744), (208, 10771), (217, 10849), (219, 10867), (226, 10921), (230, 10972), (231, 10981), (237, 11068), (238, 11077), (242, 11098), (246, 11131), (247, 11134), (250, 11155), (254, 11179), (255, 11182), (264, 11233), (271, 11269), (272, 11290), (280, 11320), (284, 11329), (289, 11353), (297, 11392), (304, 11431), (307, 11446), (344, 11542), (358, 11725), (359, 11749), (360, 11758), (361, 11761), (378, 11932), (388, 11983), (389, 11995), (393, 12040), (396, 12097), (402, 12169), (406, 12244), (409, 12262), (411, 12286), (413, 12334), (421, 12445), (432, 12541), (444, 12691), (449, 12748), (452, 12769), (455, 12799), (457, 12823), (458, 12832), (459, 12841), (460, 12844),

Gene: MillySue_20 Start: 11000, Stop: 15814, Start Num: 3

Candidate Starts for MillySue_20:

(Start: 3 @11000 has 25 MA's), (5, 11030), (10, 11120), (29, 11456), (31, 11504), (36, 11564), (40, 11603), (41, 11615), (47, 11732), (50, 11741), (61, 11837), (64, 11864), (66, 11888), (68, 11912), (73, 11984), (75, 11990), (77, 12005), (79, 12017), (83, 12065), (92, 12140), (93, 12146), (94, 12182), (103, 12311), (109, 12383), (121, 12542), (137, 12680), (143, 12767), (146, 12800), (147, 12818), (148, 12827), (158, 12911), (160, 12932), (164, 12977), (165, 12986), (174, 13034), (178, 13076), (179, 13079), (184, 13112), (185, 13121), (188, 13151), (196, 13265), (199, 13286), (207, 13367), (208, 13394), (219, 13490), (226, 13544), (229, 13586), (230, 13595), (234, 13646), (240, 13715), (246, 13754), (249, 13775), (265, 13859), (271, 13892), (281, 13970), (289, 14000), (290, 14003), (305, 14096), (306, 14099), (309, 14123), (310, 14141), (312, 14150), (314, 14162), (319, 14198), (323, 14240), (327, 14264), (329, 14273), (332, 14297), (337, 14381), (340, 14402), (343, 14426), (355, 14588), (356, 14594), (359, 14642), (360, 14651), (361, 14654), (363, 14678), (368, 14738), (371, 14771), (374, 14816), (377, 14822), (378, 14840), (380, 14858), (382, 14894), (384, 14909), (385, 14912), (393, 14993), (396, 15050), (398, 15062), (402, 15122), (405, 15194), (407, 15206), (408, 15215), (418, 15392), (425, 15458), (427, 15461), (428, 15470), (429, 15479), (433, 15563), (439,

15620), (451, 15752), (454, 15776),

Gene: MrSmee_16 Start: 8746, Stop: 12855, Start Num: 35

Candidate Starts for MrSmee_16:

(Start: 35 @8746 has 4 MA's), (38, 8776), (42, 8821), (44, 8866), (45, 8878), (55, 8965), (62, 9034), (64, 9052), (65, 9058), (73, 9169), (80, 9226), (88, 9346), (91, 9388), (92, 9421), (97, 9517), (98, 9526), (107, 9643), (108, 9652), (109, 9664), (126, 9907), (127, 9919), (130, 9958), (133, 10003), (137, 10057), (138, 10093), (143, 10144), (146, 10177), (147, 10195), (153, 10264), (154, 10267), (156, 10282), (157, 10285), (158, 10288), (159, 10297), (163, 10342), (164, 10354), (169, 10387), (171, 10399), (173, 10405), (179, 10456), (182, 10480), (184, 10489), (185, 10498), (202, 10702), (203, 10708), (204, 10711), (207, 10744), (208, 10771), (217, 10849), (219, 10867), (226, 10921), (230, 10972), (231, 10981), (237, 11068), (238, 11077), (242, 11098), (246, 11131), (247, 11134), (250, 11155), (254, 11179), (255, 11182), (264, 11233), (271, 11269), (272, 11290), (280, 11320), (284, 11329), (289, 11353), (297, 11392), (304, 11431), (307, 11446), (344, 11542), (358, 11725), (359, 11749), (360, 11758), (361, 11761), (378, 11932), (388, 11983), (389, 11995), (393, 12040), (396, 12097), (402, 12169), (406, 12244), (409, 12262), (411, 12286), (413, 12334), (421, 12445), (432, 12541), (444, 12691), (449, 12748), (452, 12769), (455, 12799), (457, 12823), (458, 12832), (459, 12841), (460, 12844),

Gene: Nandita_20 Start: 10985, Stop: 15799, Start Num: 3

Candidate Starts for Nandita_20:

(Start: 3 @10985 has 25 MA's), (5, 11015), (10, 11105), (22, 11273), (29, 11441), (31, 11489), (36, 11549), (40, 11588), (41, 11600), (47, 11717), (50, 11726), (61, 11822), (64, 11849), (73, 11969), (77, 11990), (79, 12002), (92, 12125), (93, 12131), (109, 12368), (121, 12527), (136, 12647), (137, 12665), (143, 12752), (146, 12785), (147, 12803), (148, 12812), (155, 12881), (157, 12893), (158, 12896), (164, 12962), (174, 13019), (179, 13064), (184, 13097), (185, 13106), (188, 13136), (197, 13253), (199, 13271), (201, 13301), (207, 13352), (208, 13379), (219, 13475), (229, 13571), (230, 13580), (240, 13700), (246, 13739), (249, 13760), (261, 13832), (265, 13844), (271, 13877), (278, 13940), (281, 13955), (289, 13985), (290, 13988), (305, 14081), (306, 14084), (309, 14108), (312, 14135), (319, 14183), (329, 14258), (334, 14318), (337, 14366), (357, 14582), (359, 14627), (361, 14639), (368, 14723), (371, 14756), (374, 14801), (377, 14807), (378, 14825), (380, 14843), (382, 14879), (384, 14894), (385, 14897), (389, 14927), (396, 15035), (398, 15047), (401, 15092), (405, 15179), (407, 15191), (408, 15200), (418, 15377), (425, 15443), (427, 15446), (428, 15455), (432, 15500), (433, 15548), (439, 15605), (443, 15659), (451, 15737), (454, 15761),

Gene: Neroxid_16 Start: 8509, Stop: 12048, Start Num: 84

Candidate Starts for Neroxid_16:

(81, 8479), (82, 8488), (84, 8509), (87, 8536), (97, 8665), (104, 8773), (108, 8797), (110, 8836), (112, 8869), (116, 8905), (119, 8944), (122, 8965), (134, 9049), (140, 9154), (142, 9160), (147, 9232), (150, 9274), (151, 9280), (152, 9289), (161, 9355), (170, 9424), (171, 9433), (180, 9493), (189, 9562), (195, 9634), (209, 9793), (210, 9802), (213, 9814), (216, 9850), (218, 9862), (219, 9871), (228, 9946), (244, 10108), (245, 10111), (257, 10180), (258, 10183), (259, 10192), (263, 10213), (266, 10222), (269, 10237), (276, 10303), (279, 10318), (290, 10354), (293, 10369), (296, 10387), (311, 10486), (316, 10510), (317, 10519), (325, 10585), (333, 10654), (334, 10666), (349, 10834), (354, 10858), (359, 10972), (360, 10981), (366, 11041), (367, 11047), (376, 11137), (378, 11155), (389, 11218), (391, 11245), (392, 11254), (393, 11263), (396, 11320), (398, 11332), (402, 11392), (403, 11416), (406, 11470), (421, 11671), (436, 11833), (440, 11860), (441, 11890), (442, 11893), (444, 11917), (453, 11992),

Gene: Popper_18 Start: 10512, Stop: 15323, Start Num: 3

Candidate Starts for Popper_18:

(Start: 3 @10512 has 25 MA's), (5, 10542), (10, 10632), (11, 10644), (14, 10689), (21, 10794), (29, 10968), (31, 11016), (36, 11076), (40, 11118), (41, 11130), (47, 11247), (50, 11256), (61, 11352), (64,

11379), (73, 11499), (77, 11520), (79, 11532), (83, 11580), (92, 11655), (93, 11661), (97, 11751), (103, 11826), (109, 11898), (137, 12195), (143, 12282), (147, 12333), (148, 12342), (158, 12426), (159, 12435), (164, 12492), (174, 12549), (184, 12627), (185, 12636), (187, 12657), (188, 12666), (196, 12780), (199, 12801), (201, 12831), (207, 12882), (208, 12909), (219, 13005), (229, 13101), (230, 13110), (235, 13182), (237, 13206), (240, 13230), (242, 13236), (246, 13269), (249, 13290), (265, 13374), (269, 13395), (271, 13407), (286, 13497), (290, 13518), (300, 13578), (309, 13638), (310, 13656), (312, 13665), (314, 13677), (323, 13755), (327, 13779), (332, 13812), (334, 13848), (340, 13917), (342, 13938), (349, 14019), (359, 14157), (360, 14166), (361, 14169), (362, 14178), (368, 14253), (373, 14328), (374, 14331), (377, 14337), (378, 14355), (380, 14373), (382, 14409), (384, 14424), (385, 14427), (389, 14457), (396, 14565), (398, 14577), (400, 14601), (402, 14637), (405, 14709), (406, 14715), (407, 14721), (408, 14730), (418, 14907), (425, 14973), (427, 14976), (428, 14985), (432, 15030), (444, 15192), (446, 15222), (451, 15261), (454, 15285),

Gene: QuinnAvery_20 Start: 10998, Stop: 15812, Start Num: 3

Candidate Starts for QuinnAvery_20:

(Start: 3 @10998 has 25 MA's), (5, 11028), (10, 11118), (22, 11286), (24, 11370), (29, 11454), (31, 11502), (36, 11562), (40, 11601), (41, 11613), (47, 11730), (50, 11739), (62, 11844), (64, 11862), (66, 11886), (73, 11982), (77, 12003), (79, 12015), (83, 12063), (92, 12138), (93, 12144), (103, 12309), (109, 12381), (121, 12540), (136, 12660), (137, 12678), (143, 12765), (146, 12798), (147, 12816), (148, 12825), (155, 12894), (157, 12906), (158, 12909), (160, 12930), (164, 12975), (174, 13032), (178, 13074), (179, 13077), (184, 13110), (185, 13119), (188, 13149), (197, 13266), (199, 13284), (201, 13314), (207, 13365), (208, 13392), (219, 13488), (230, 13593), (246, 13752), (249, 13773), (261, 13845), (265, 13857), (271, 13890), (289, 13998), (290, 14001), (305, 14094), (308, 14115), (313, 14151), (317, 14184), (319, 14196), (321, 14217), (329, 14271), (334, 14331), (335, 14352), (337, 14379), (348, 14490), (357, 14595), (358, 14616), (359, 14640), (361, 14652), (368, 14736), (371, 14769), (374, 14814), (377, 14820), (378, 14838), (380, 14856), (382, 14892), (384, 14907), (385, 14910), (389, 14940), (393, 14991), (396, 15048), (398, 15060), (401, 15105), (402, 15120), (405, 15192), (406, 15198), (407, 15204), (408, 15213), (418, 15390), (425, 15456), (427, 15459), (428, 15468), (432, 15513), (433, 15561), (439, 15618), (454, 15774),

Gene: Raqqa_17 Start: 9916, Stop: 14730, Start Num: 3

Candidate Starts for Raqqa_17:

(Start: 3 @9916 has 25 MA's), (5, 9946), (10, 10036), (14, 10093), (29, 10372), (31, 10420), (36, 10480), (40, 10522), (41, 10534), (47, 10651), (64, 10783), (66, 10807), (67, 10813), (73, 10903), (77, 10924), (85, 11026), (92, 11059), (93, 11065), (97, 11155), (103, 11230), (109, 11302), (121, 11461), (136, 11581), (137, 11599), (143, 11686), (146, 11719), (147, 11737), (148, 11746), (155, 11815), (157, 11827), (158, 11830), (160, 11851), (164, 11896), (174, 11953), (178, 11995), (179, 11998), (184, 12031), (185, 12040), (188, 12070), (197, 12187), (199, 12205), (201, 12235), (207, 12286), (208, 12313), (214, 12355), (215, 12358), (219, 12409), (227, 12475), (229, 12505), (230, 12514), (234, 12565), (240, 12634), (246, 12673), (249, 12694), (261, 12766), (265, 12778), (271, 12811), (281, 12889), (289, 12919), (290, 12922), (305, 13015), (306, 13018), (309, 13042), (312, 13069), (319, 13117), (329, 13192), (334, 13252), (337, 13300), (357, 13516), (359, 13561), (361, 13573), (368, 13657), (371, 13690), (374, 13735), (377, 13741), (378, 13759), (380, 13777), (382, 13813), (384, 13828), (385, 13831), (389, 13861), (393, 13912), (396, 13969), (398, 13981), (401, 14026), (402, 14041), (405, 14113), (407, 14125), (408, 14134), (418, 14311), (425, 14377), (428, 14389), (432, 14434), (439, 14527), (450, 14653),

Gene: Raya_16 Start: 8509, Stop: 12048, Start Num: 84

Candidate Starts for Raya_16:

(81, 8479), (82, 8488), (84, 8509), (87, 8536), (97, 8665), (104, 8773), (108, 8797), (110, 8836), (112, 8869), (116, 8905), (119, 8944), (122, 8965), (134, 9049), (140, 9154), (142, 9160), (147, 9232), (150, 9274), (151, 9280), (152, 9289), (161, 9355), (170, 9424), (171, 9433), (180, 9493), (189, 9562), (195, 9634), (209, 9793), (210, 9802), (213, 9814), (216, 9850), (218, 9862), (219, 9871), (228, 9946), (244,

10108), (245, 10111), (257, 10180), (258, 10183), (259, 10192), (263, 10213), (266, 10222), (269, 10237), (276, 10303), (279, 10318), (290, 10354), (293, 10369), (296, 10387), (311, 10486), (316, 10510), (317, 10519), (325, 10585), (333, 10654), (334, 10666), (349, 10834), (354, 10858), (359, 10972), (360, 10981), (366, 11041), (367, 11047), (376, 11137), (378, 11155), (389, 11218), (391, 11245), (392, 11254), (393, 11263), (396, 11320), (398, 11332), (402, 11392), (403, 11416), (406, 11470), (421, 11671), (436, 11833), (440, 11860), (441, 11890), (442, 11893), (444, 11917), (453, 11992),

Gene: Ryan_20 Start: 11131, Stop: 15945, Start Num: 3

Candidate Starts for Ryan_20:

(Start: 3 @11131 has 25 MA's), (5, 11161), (10, 11251), (22, 11419), (29, 11587), (31, 11635), (36, 11695), (40, 11734), (41, 11746), (47, 11863), (50, 11872), (64, 11995), (66, 12019), (73, 12115), (77, 12136), (79, 12148), (83, 12196), (85, 12238), (92, 12271), (93, 12277), (109, 12514), (121, 12673), (129, 12706), (136, 12793), (137, 12811), (143, 12898), (146, 12931), (147, 12949), (148, 12958), (155, 13027), (157, 13039), (158, 13042), (164, 13108), (174, 13165), (177, 13186), (178, 13207), (179, 13210), (184, 13243), (188, 13282), (197, 13399), (199, 13417), (201, 13447), (207, 13498), (208, 13525), (219, 13621), (227, 13687), (229, 13717), (230, 13726), (240, 13846), (246, 13885), (249, 13906), (254, 13933), (255, 13936), (265, 13990), (268, 13999), (271, 14023), (274, 14071), (278, 14086), (281, 14101), (289, 14131), (290, 14134), (305, 14227), (306, 14230), (308, 14248), (309, 14254), (313, 14284), (317, 14317), (319, 14329), (321, 14350), (329, 14404), (334, 14464), (337, 14512), (349, 14635), (359, 14773), (361, 14785), (368, 14869), (374, 14947), (377, 14953), (378, 14971), (380, 14989), (382, 15025), (384, 15040), (385, 15043), (389, 15073), (393, 15124), (396, 15181), (398, 15193), (405, 15325), (407, 15337), (408, 15346), (418, 15523), (425, 15589), (427, 15592), (428, 15601), (432, 15646), (433, 15694), (439, 15751), (443, 15805), (451, 15883), (454, 15907),

Gene: Saintcarr_19 Start: 11008, Stop: 15822, Start Num: 3

Candidate Starts for Saintcarr_19:

(Start: 3 @11008 has 25 MA's), (5, 11038), (10, 11128), (21, 11290), (22, 11296), (29, 11464), (31, 11512), (36, 11572), (40, 11611), (41, 11623), (47, 11740), (50, 11749), (64, 11872), (66, 11896), (73, 11992), (77, 12013), (79, 12025), (83, 12073), (92, 12148), (93, 12154), (103, 12319), (109, 12391), (121, 12550), (136, 12670), (137, 12688), (143, 12775), (146, 12808), (147, 12826), (148, 12835), (155, 12904), (158, 12919), (164, 12985), (174, 13042), (178, 13084), (179, 13087), (184, 13120), (185, 13129), (188, 13159), (197, 13276), (199, 13294), (201, 13324), (207, 13375), (208, 13402), (219, 13498), (223, 13531), (227, 13564), (229, 13594), (230, 13603), (240, 13723), (246, 13762), (249, 13783), (261, 13855), (265, 13867), (271, 13900), (281, 13978), (305, 14104), (306, 14107), (309, 14131), (312, 14158), (319, 14206), (329, 14281), (334, 14341), (337, 14389), (357, 14605), (359, 14650), (361, 14662), (368, 14746), (374, 14824), (377, 14830), (378, 14848), (380, 14866), (382, 14902), (384, 14917), (385, 14920), (389, 14950), (393, 15001), (396, 15058), (398, 15070), (401, 15115), (402, 15130), (405, 15202), (407, 15214), (408, 15223), (418, 15400), (425, 15466), (427, 15469), (428, 15478), (432, 15523), (433, 15571), (439, 15628), (440, 15631), (454, 15784),

Gene: Samy_20 Start: 11377, Stop: 16083, Start Num: 9

Candidate Starts for Samy_20:

(Start: 9 @11377 has 1 MA's), (12, 11407), (13, 11413), (18, 11521), (20, 11539), (26, 11653), (30, 11737), (33, 11779), (39, 11851), (57, 12037), (70, 12211), (75, 12238), (83, 12313), (86, 12358), (120, 12829), (123, 12853), (125, 12871), (131, 12928), (135, 12979), (145, 13126), (159, 13243), (168, 13321), (188, 13444), (191, 13477), (192, 13498), (200, 13588), (221, 13792), (222, 13798), (225, 13822), (241, 13984), (243, 14002), (251, 14047), (254, 14068), (267, 14125), (293, 14275), (297, 14296), (301, 14317), (302, 14320), (309, 14374), (333, 14551), (339, 14626), (347, 14704), (365, 14938), (370, 14992), (373, 15052), (379, 15088), (383, 15142), (389, 15184), (395, 15250), (397, 15304), (404, 15409), (410, 15484), (424, 15694), (447, 15976),

Gene: Schism_20 Start: 10985, Stop: 15799, Start Num: 3

Candidate Starts for Schism_20:

(Start: 3 @10985 has 25 MA's), (5, 11015), (10, 11105), (22, 11273), (29, 11441), (31, 11489), (36, 11549), (40, 11588), (41, 11600), (47, 11717), (50, 11726), (61, 11822), (64, 11849), (73, 11969), (77, 11990), (79, 12002), (92, 12125), (93, 12131), (109, 12368), (121, 12527), (136, 12647), (137, 12665), (143, 12752), (146, 12785), (147, 12803), (148, 12812), (155, 12881), (157, 12893), (158, 12896), (164, 12962), (174, 13019), (179, 13064), (184, 13097), (185, 13106), (188, 13136), (197, 13253), (199, 13271), (201, 13301), (207, 13352), (208, 13379), (219, 13475), (229, 13571), (230, 13580), (240, 13700), (246, 13739), (249, 13760), (261, 13832), (265, 13844), (271, 13877), (278, 13940), (281, 13955), (289, 13985), (290, 13988), (305, 14081), (306, 14084), (309, 14108), (312, 14135), (329, 14258), (334, 14318), (337, 14366), (357, 14582), (359, 14627), (361, 14639), (368, 14723), (371, 14756), (374, 14801), (377, 14807), (378, 14825), (380, 14843), (382, 14879), (384, 14894), (385, 14897), (389, 14927), (396, 15035), (398, 15047), (401, 15092), (405, 15179), (407, 15191), (408, 15200), (418, 15377), (425, 15443), (427, 15446), (428, 15455), (432, 15500), (433, 15548), (439, 15605), (443, 15659), (451, 15737), (454, 15761),

Gene: Skitty_16 Start: 8746, Stop: 12855, Start Num: 35

Candidate Starts for Skitty_16:

(Start: 35 @8746 has 4 MA's), (38, 8776), (42, 8821), (44, 8866), (45, 8878), (55, 8965), (62, 9034), (64, 9052), (65, 9058), (73, 9169), (80, 9226), (88, 9346), (89, 9367), (91, 9388), (92, 9421), (97, 9517), (98, 9526), (107, 9643), (108, 9652), (109, 9664), (126, 9907), (127, 9919), (130, 9958), (133, 10003), (137, 10057), (138, 10093), (143, 10144), (146, 10177), (147, 10195), (153, 10264), (154, 10267), (156, 10282), (157, 10285), (158, 10288), (159, 10297), (163, 10342), (164, 10354), (169, 10387), (171, 10399), (173, 10405), (179, 10456), (182, 10480), (184, 10489), (185, 10498), (202, 10702), (203, 10708), (204, 10711), (207, 10744), (208, 10771), (217, 10849), (219, 10867), (226, 10921), (230, 10972), (231, 10981), (237, 11068), (238, 11077), (242, 11098), (246, 11131), (247, 11134), (250, 11155), (254, 11179), (255, 11182), (264, 11233), (271, 11269), (272, 11290), (280, 11320), (284, 11329), (289, 11353), (297, 11392), (304, 11431), (307, 11446), (344, 11542), (358, 11725), (359, 11749), (360, 11758), (361, 11761), (378, 11932), (388, 11983), (389, 11995), (393, 12040), (396, 12097), (402, 12169), (406, 12244), (409, 12262), (411, 12286), (413, 12334), (421, 12445), (432, 12541), (444, 12691), (449, 12748), (452, 12769), (455, 12799), (457, 12823), (458, 12832), (459, 12841), (460, 12844),

Gene: Skyerus_16 Start: 8509, Stop: 12048, Start Num: 84

Candidate Starts for Skyerus_16:

(81, 8479), (82, 8488), (84, 8509), (87, 8536), (97, 8665), (104, 8773), (108, 8797), (110, 8836), (112, 8869), (116, 8905), (119, 8944), (122, 8965), (134, 9049), (140, 9154), (142, 9160), (147, 9232), (150, 9274), (151, 9280), (152, 9289), (161, 9355), (170, 9424), (171, 9433), (180, 9493), (189, 9562), (195, 9634), (209, 9793), (210, 9802), (213, 9814), (216, 9850), (218, 9862), (219, 9871), (228, 9946), (244, 10108), (245, 10111), (257, 10180), (258, 10183), (259, 10192), (263, 10213), (266, 10222), (269, 10237), (276, 10303), (279, 10318), (290, 10354), (293, 10369), (296, 10387), (311, 10486), (316, 10510), (317, 10519), (325, 10585), (333, 10654), (334, 10666), (349, 10834), (354, 10858), (359, 10972), (360, 10981), (366, 11041), (367, 11047), (376, 11137), (378, 11155), (389, 11218), (391, 11245), (392, 11254), (393, 11263), (396, 11320), (398, 11332), (402, 11392), (403, 11416), (406, 11470), (421, 11671), (436, 11833), (440, 11860), (441, 11890), (442, 11893), (444, 11917), (453, 11992),

Gene: ToastyOats_22 Start: 11463, Stop: 16277, Start Num: 3

Candidate Starts for ToastyOats_22:

(Start: 3 @11463 has 25 MA's), (5, 11493), (10, 11583), (22, 11751), (29, 11919), (31, 11967), (36, 12027), (40, 12066), (41, 12078), (47, 12195), (50, 12204), (62, 12309), (64, 12327), (66, 12351), (73, 12447), (77, 12468), (79, 12480), (83, 12528), (85, 12570), (92, 12603), (93, 12609), (103, 12774), (109, 12846), (121, 13005), (136, 13125), (137, 13143), (143, 13230), (146, 13263), (147, 13281),

(148, 13290), (155, 13359), (157, 13371), (158, 13374), (164, 13440), (174, 13497), (178, 13539), (179, 13542), (184, 13575), (185, 13584), (188, 13614), (197, 13731), (199, 13749), (201, 13779), (206, 13827), (207, 13830), (208, 13857), (215, 13902), (219, 13953), (227, 14019), (229, 14049), (230, 14058), (234, 14109), (240, 14178), (246, 14217), (249, 14238), (261, 14310), (265, 14322), (271, 14355), (281, 14433), (289, 14463), (290, 14466), (305, 14559), (306, 14562), (309, 14586), (312, 14613), (319, 14661), (321, 14682), (329, 14736), (334, 14796), (337, 14844), (359, 15105), (361, 15117), (368, 15201), (371, 15234), (374, 15279), (377, 15285), (378, 15303), (380, 15321), (382, 15357), (384, 15372), (385, 15375), (389, 15405), (393, 15456), (396, 15513), (398, 15525), (405, 15657), (407, 15669), (408, 15678), (418, 15855), (425, 15921), (427, 15924), (428, 15933), (432, 15978), (433, 16026), (439, 16083), (440, 16086), (454, 16239),

Gene: Toodles_20 Start: 11209, Stop: 16023, Start Num: 3

Candidate Starts for Toodles_20:

(Start: 3 @11209 has 25 MA's), (5, 11239), (8, 11305), (10, 11329), (11, 11341), (22, 11497), (29, 11665), (31, 11713), (36, 11773), (40, 11812), (41, 11824), (47, 11941), (50, 11950), (61, 12046), (64, 12073), (66, 12097), (68, 12121), (73, 12193), (77, 12214), (79, 12226), (92, 12349), (93, 12355), (103, 12520), (109, 12592), (121, 12751), (137, 12889), (143, 12976), (147, 13027), (148, 13036), (157, 13117), (158, 13120), (164, 13186), (174, 13243), (178, 13285), (179, 13288), (184, 13321), (185, 13330), (188, 13360), (196, 13474), (199, 13495), (207, 13576), (208, 13603), (226, 13753), (229, 13795), (230, 13804), (237, 13900), (240, 13924), (246, 13963), (249, 13984), (256, 14023), (265, 14068), (269, 14089), (271, 14101), (281, 14179), (289, 14209), (290, 14212), (305, 14305), (309, 14332), (310, 14350), (312, 14359), (314, 14371), (319, 14407), (323, 14449), (327, 14473), (329, 14482), (332, 14506), (337, 14590), (340, 14611), (343, 14635), (355, 14797), (356, 14803), (359, 14851), (360, 14860), (361, 14863), (363, 14887), (368, 14947), (371, 14980), (374, 15025), (377, 15031), (378, 15049), (380, 15067), (382, 15103), (385, 15121), (389, 15151), (393, 15202), (396, 15259), (398, 15271), (402, 15331), (405, 15403), (406, 15409), (407, 15415), (408, 15424), (418, 15601), (421, 15628), (425, 15667), (427, 15670), (428, 15679), (429, 15688), (433, 15772), (439, 15829), (451, 15961), (454, 15985),

Gene: Yonex_20 Start: 11131, Stop: 15945, Start Num: 3

Candidate Starts for Yonex_20:

(Start: 3 @11131 has 25 MA's), (5, 11161), (10, 11251), (22, 11419), (29, 11587), (31, 11635), (36, 11695), (40, 11734), (41, 11746), (47, 11863), (50, 11872), (64, 11995), (66, 12019), (73, 12115), (77, 12136), (79, 12148), (83, 12196), (85, 12238), (92, 12271), (93, 12277), (109, 12514), (121, 12673), (129, 12706), (136, 12793), (137, 12811), (143, 12898), (146, 12931), (147, 12949), (148, 12958), (155, 13027), (157, 13039), (158, 13042), (164, 13108), (174, 13165), (177, 13186), (178, 13207), (179, 13210), (184, 13243), (188, 13282), (197, 13399), (199, 13417), (201, 13447), (207, 13498), (208, 13525), (219, 13621), (227, 13687), (229, 13717), (230, 13726), (240, 13846), (246, 13885), (249, 13906), (254, 13933), (255, 13936), (265, 13990), (268, 13999), (271, 14023), (274, 14071), (278, 14086), (281, 14101), (289, 14131), (290, 14134), (305, 14227), (306, 14230), (308, 14248), (309, 14254), (313, 14284), (317, 14317), (319, 14329), (321, 14350), (329, 14404), (334, 14464), (337, 14512), (349, 14635), (359, 14773), (361, 14785), (368, 14869), (374, 14947), (377, 14953), (378, 14971), (380, 14989), (382, 15025), (384, 15040), (385, 15043), (389, 15073), (393, 15124), (396, 15181), (398, 15193), (405, 15325), (407, 15337), (408, 15346), (418, 15523), (425, 15589), (427, 15592), (428, 15601), (432, 15646), (433, 15694), (439, 15751), (443, 15805), (451, 15883), (454, 15907),

Gene: Zaheer_20 Start: 11220, Stop: 16034, Start Num: 3

Candidate Starts for Zaheer_20:

(Start: 3 @11220 has 25 MA's), (5, 11250), (10, 11340), (13, 11364), (22, 11508), (29, 11676), (31, 11724), (36, 11784), (40, 11823), (41, 11835), (47, 11952), (50, 11961), (60, 12039), (61, 12057), (62, 12066), (64, 12084), (66, 12108), (73, 12204), (77, 12225), (79, 12237), (83, 12285), (92, 12360), (93, 12366), (103, 12531), (109, 12603), (121, 12762), (136, 12882), (137, 12900), (143, 12987), (146,

13020), (147, 13038), (148, 13047), (155, 13116), (157, 13128), (158, 13131), (160, 13152), (164, 13197), (174, 13254), (177, 13275), (178, 13296), (179, 13299), (184, 13332), (185, 13341), (188, 13371), (197, 13488), (199, 13506), (201, 13536), (207, 13587), (208, 13614), (219, 13710), (229, 13806), (230, 13815), (240, 13935), (246, 13974), (249, 13995), (254, 14022), (255, 14025), (261, 14067), (265, 14079), (268, 14088), (271, 14112), (274, 14160), (278, 14175), (281, 14190), (289, 14220), (290, 14223), (305, 14316), (306, 14319), (308, 14337), (309, 14343), (313, 14373), (317, 14406), (319, 14418), (321, 14439), (329, 14493), (334, 14553), (337, 14601), (357, 14817), (359, 14862), (361, 14874), (368, 14958), (371, 14991), (374, 15036), (377, 15042), (378, 15060), (380, 15078), (382, 15114), (384, 15129), (385, 15132), (389, 15162), (396, 15270), (398, 15282), (405, 15414), (407, 15426), (408, 15435), (418, 15612), (425, 15678), (427, 15681), (428, 15690), (432, 15735), (433, 15783), (439, 15840), (443, 15894), (451, 15972), (454, 15996),

Gene: Zucker_18 Start: 10305, Stop: 14429, Start Num: 35

Candidate Starts for Zucker_18:

(Start: 35 @10305 has 4 MA's), (37, 10329), (42, 10380), (44, 10425), (45, 10437), (46, 10473), (61, 10584), (62, 10593), (64, 10611), (65, 10617), (66, 10635), (68, 10659), (73, 10728), (77, 10749), (83, 10809), (85, 10851), (89, 10926), (90, 10935), (96, 11046), (97, 11076), (98, 11085), (109, 11223), (117, 11328), (132, 11541), (137, 11616), (138, 11652), (143, 11703), (146, 11736), (149, 11766), (153, 11823), (154, 11826), (158, 11847), (160, 11868), (164, 11913), (169, 11946), (174, 11970), (176, 11988), (178, 12012), (179, 12015), (182, 12039), (183, 12042), (184, 12048), (185, 12057), (188, 12087), (203, 12267), (206, 12300), (207, 12303), (208, 12330), (226, 12480), (231, 12540), (232, 12552), (234, 12582), (237, 12627), (246, 12690), (257, 12753), (260, 12768), (262, 12786), (265, 12795), (284, 12909), (285, 12912), (290, 12936), (297, 12972), (298, 12978), (304, 13011), (315, 13044), (336, 13101), (354, 13215), (358, 13305), (359, 13329), (361, 13341), (364, 13377), (378, 13512), (391, 13602), (393, 13620), (399, 13710), (400, 13713), (402, 13749), (406, 13824), (411, 13866), (413, 13914), (420, 14022), (421, 14025), (436, 14187), (438, 14208), (444, 14268), (448, 14316), (456, 14394), (457, 14397), (458, 14406), (459, 14415), (460, 14418),