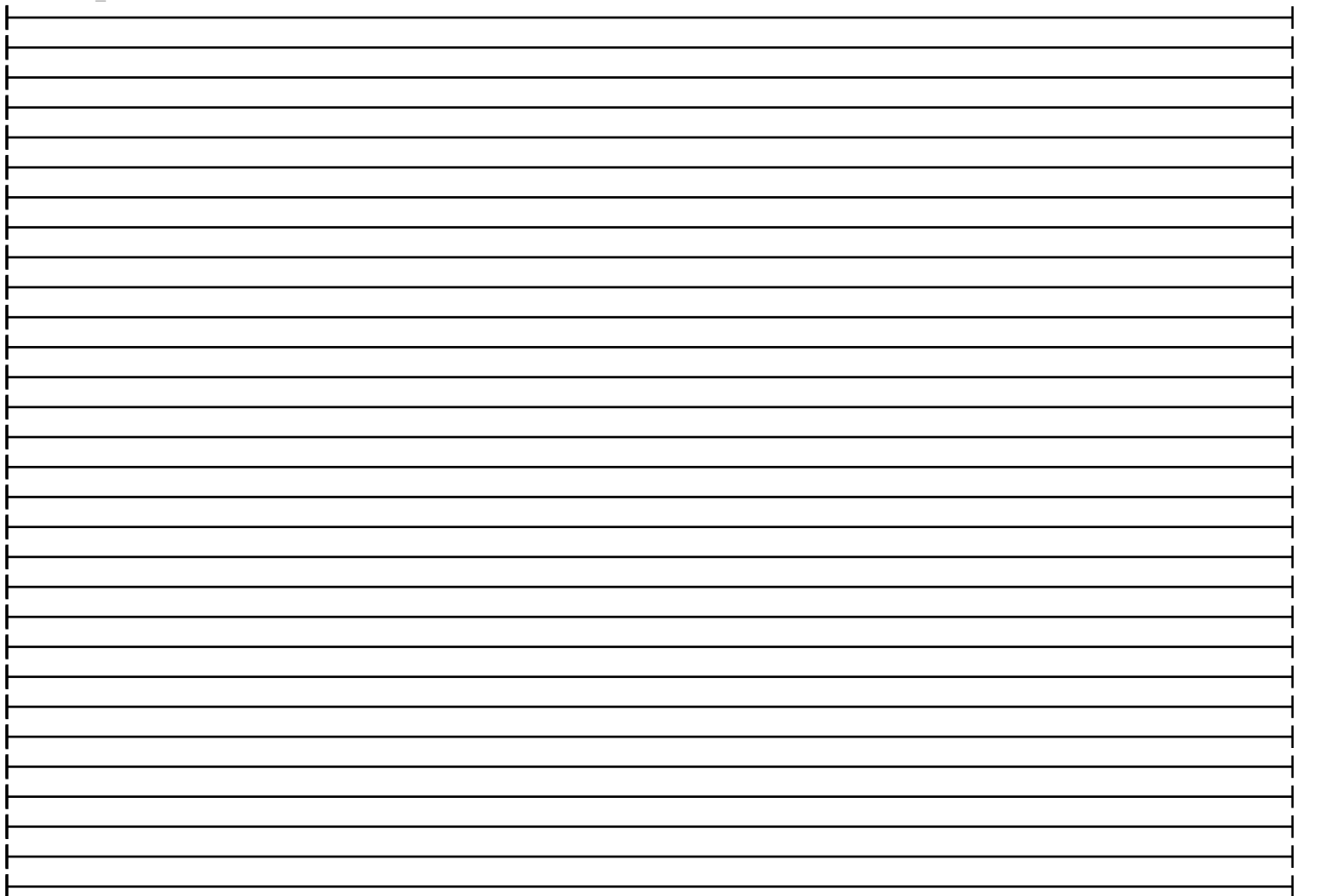
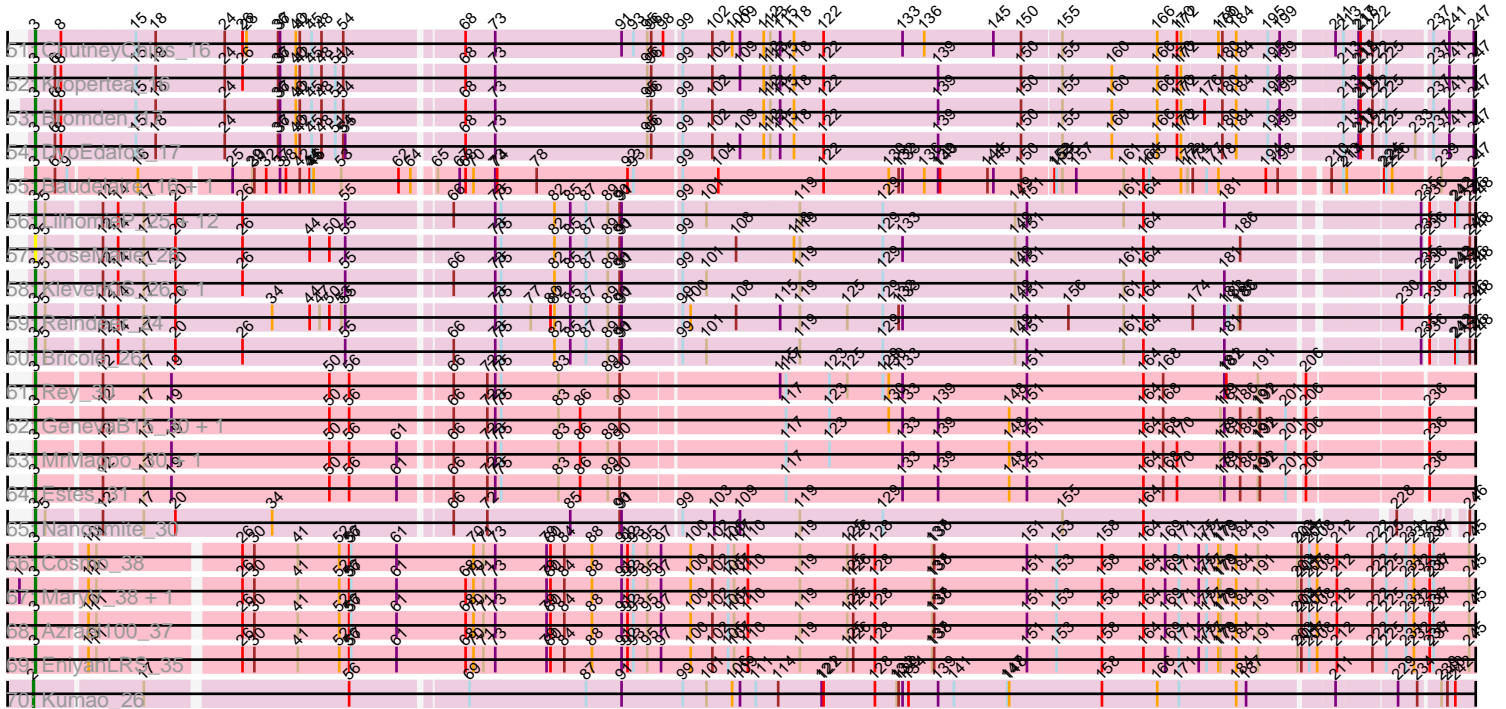


# Zoomed Pham 311356

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Zoomed Pham 311356



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 311356 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311356 has 130 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Zaria\_16, Calm\_16
- Track 2 : Appletree2\_16
- Track 3 : Silverleaf\_16, Rose5\_16, Wyatt2\_16, Halena\_16, MAckerman\_16, Acquire49\_16
- Track 4 : AvadaKedavra\_16
- Track 5 : JoeDirt\_16
- Track 6 : DirkDirk\_16
- Track 7 : Tyson\_16
- Track 8 : LeBron\_16
- Track 9 : UPIE\_16
- Track 10 : CicholasNage\_16, Wamburgrxpress\_16
- Track 11 : Enceladus\_16
- Track 12 : Poochiewood\_16
- Track 13 : OhShagHennessy\_16
- Track 14 : Loadrie\_16, OverPar\_16
- Track 15 : Underpass\_16, LilDestine\_16, Vetrix\_16, Nicholasp3\_16, Crossroads\_16, Gardann\_16, Rumpelstiltskin\_16
- Track 16 : DanBing\_15
- Track 17 : BigCheese\_16, Faith1\_16, Miley16\_16, BobsGarage\_16, DrSeegs\_16, SoJulia\_16, Itos\_16, Winky\_16, Breezona\_16, Netyap\_16
- Track 18 : MkaliMitinis3\_16
- Track 19 : Archie\_16
- Track 20 : Lewan\_16
- Track 21 : GuuelaD\_16
- Track 22 : Kahlid\_16, Wilder\_16
- Track 23 : Wigglewiggles\_16
- Track 24 : Zakai\_16
- Track 25 : Hafay\_16, Soap141\_16, Sarshaun\_16
- Track 26 : Tourach\_16
- Track 27 : Gabriela\_16
- Track 28 : Baoshan\_15
- Track 29 : Bazzle\_16
- Track 30 : Finemlucis\_16
- Track 31 : Rossetti\_16
- Track 32 : DHan\_16
- Track 33 : Lynnae\_16
- Track 34 : Claus\_16

- Track 35 : ZhongYanYuan\_15
- Track 36 : Jubie\_17, TriFive\_17, Snenia\_17, Nicholas\_17, Jobypre\_17, Kingsolomon\_17, Red305\_17, Lumos\_17
- Track 37 : Krypton555\_17
- Track 38 : Ellson\_17
- Track 39 : KirDoubleO7\_15, BourbonZero\_16, LiyuLake\_17
- Track 40 : Finnry\_17, Moostard\_17, Bellis\_17, Samty\_17
- Track 41 : DuncansLeg\_17
- Track 42 : MiniMac\_17
- Track 43 : MsGreen\_17, Clautastrophe\_17
- Track 44 : Lolly9\_17, MiniLon\_17
- Track 45 : Whirlwind\_18
- Track 46 : BrainDrainer\_17
- Track 47 : Douge\_16, Quby\_16
- Track 48 : Chaser\_16
- Track 49 : FarmResident\_16
- Track 50 : Douzhi\_16, Sheng711\_16, PYPDinur\_16
- Track 51 : ChutneyChips\_16
- Track 52 : Kropertea\_16
- Track 53 : Bromden\_17
- Track 54 : DyoEdafos\_17
- Track 55 : Baudelaire\_16, Aegeus\_16
- Track 56 : LilhomieP\_25, Izel\_27, Auspice\_26, TyDawg\_26, IPhane7\_26, Dulcita\_27, Glaske16\_27, Bongo\_26, Skinny\_27, PegLeg\_26, TpudiCK\_27, Diminimus\_27, FreakyGoo\_27
- Track 57 : RoseMarie\_26
- Track 58 : KleverKiS\_26, SlimJimmy\_25
- Track 59 : Reindeer\_24
- Track 60 : Bricole\_26
- Track 61 : Rey\_30
- Track 62 : GenevaB15\_30, Aziz\_30
- Track 63 : MrMagoo\_30, GardenSalsa\_30
- Track 64 : Estes\_31
- Track 65 : Nanosmite\_30
- Track 66 : Cosmo\_38
- Track 67 : MaryV\_38, Wildcat\_38
- Track 68 : Azrael100\_37
- Track 69 : EniyanLRS\_35
- Track 70 : Kumao\_26

***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 104 of the 106 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_16, Aegeus\_16, Appletree2\_16, Archie\_16, Auspice\_26, AvadaKedavra\_16, Aziz\_30, Azrael100\_37, Baoshan\_15, Baudelaire\_16, Bellis\_17, BigCheese\_16, BobsGarage\_16, Bongo\_26, BourbonZero\_16, BrainDrainer\_17, Breezona\_16, Bricole\_26, Bromden\_17, Calm\_16, Chaser\_16, ChutneyChips\_16,

CicholasNage\_16, Claus\_16, Clautastrophe\_17, Cosmo\_38, Crossroads\_16, DHan\_16, DanBing\_15, Diminimus\_27, DirkDirk\_16, Douge\_16, Douzhi\_16, DrSeegs\_16, Dulcita\_27, DuncansLeg\_17, DyoEdafos\_17, Ellson\_17, Enceladus\_16, EniyanLRS\_35, Estes\_31, Faith1\_16, FarmResident\_16, Finemlucis\_16, Finnry\_17, FreakyGoo\_27, Gabriela\_16, Gardann\_16, GardenSalsa\_30, GenevaB15\_30, Glaske16\_27, GuuelaD\_16, Hafay\_16, Halena\_16, IPhane7\_26, Itos\_16, Izel\_27, Jobypre\_17, JoeDirt\_16, Jubie\_17, Kahlid\_16, Kingsolomon\_17, KirDoubleO7\_15, KleverKiS\_26, Kropertea\_16, Krypton555\_17, LeBron\_16, Lewan\_16, LilDestine\_16, LilhomieP\_25, LiyuLake\_17, Loadrie\_16, Lolly9\_17, Lumos\_17, Lynnae\_16, MAckerman\_16, MaryV\_38, Miley16\_16, MiniLon\_17, MiniMac\_17, MkaliMitinis3\_16, Moostard\_17, MrMagoo\_30, MsGreen\_17, Nanosmite\_30, Netyap\_16, Nicholas\_17, Nicholasp3\_16, OhShagHennessy\_16, OverPar\_16, PYPDinur\_16, PegLeg\_26, Poochiewood\_16, Quby\_16, Red305\_17, Reindeer\_24, Rey\_30, Rose5\_16, RoseMarie\_26, Rossetti\_16, Rumpelstiltskin\_16, Samty\_17, Sarshaun\_16, Sheng711\_16, Silverleaf\_16, Skinny\_27, SlimJimmy\_25, Snenia\_17, SoJulia\_16, Soap141\_16, Tourach\_16, TpudiCK\_27, TriFive\_17, TyDawg\_26, Tyson\_16, UPIE\_16, Underpass\_16, Vetrix\_16, Wamburggrxpress\_16, Whirlwind\_18, Wigglewiggles\_16, Wildcat\_38, Wilder\_16, Winky\_16, Wyatt2\_16, Zakai\_16, Zaria\_16,

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

- Bazzle\_16, ZhongYanYuan\_15,

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

- Kumao\_26,

### Summary by start number:

Start 2:

- Found in 1 of 130 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumao\_26 (singleton),

Start 3:

- Found in 129 of 130 ( 99.2% ) of genes in pham
- Manual Annotations of this start: 104 of 106
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Acquire49\_16 (L1), Aegeus\_16 (L5), Appletree2\_16 (L1), Archie\_16 (L2), Auspice\_26 (M1), AvadaKedavra\_16 (L1), Aziz\_30 (M2), Azrael100\_37 (V), Baoshan\_15 (L2), Baudelaire\_16 (L5), Bellis\_17 (L3), BigCheese\_16 (L2), BobsGarage\_16 (L2), Bongo\_26 (M1), BourbonZero\_16 (L3), BrainDrainer\_17 (L4), Breezona\_16 (L2), Bricole\_26 (M1), Bromden\_17 (L4), Calm\_16 (L1), Chaser\_16 (L4), ChutneyChips\_16 (L4), CicholasNage\_16 (L1), Claus\_16 (L2), Clautastrophe\_17 (L3), Cosmo\_38 (V), Crossroads\_16 (L2), DHan\_16 (L2), DanBing\_15 (L2), Diminimus\_27 (M1), DirkDirk\_16 (L1), Douge\_16 (L4), Douzhi\_16 (L4), DrSeegs\_16 (L2), Dulcita\_27 (M1), DuncansLeg\_17 (L3), DyoEdafos\_17 (L4), Ellson\_17 (L3), Enceladus\_16 (L1), EniyanLRS\_35 (V), Estes\_31 (M2), Faith1\_16 (L2), FarmResident\_16 (L4), Finemlucis\_16 (L2), Finnry\_17 (L3), FreakyGoo\_27 (M1), Gabriela\_16 (L2), Gardann\_16 (L2), GardenSalsa\_30 (M2), GenevaB15\_30 (M2), Glaske16\_27 (M1), GuuelaD\_16 (L2), Hafay\_16 (L2), Halena\_16 (L1), IPhane7\_26 (M1), Itos\_16 (L2), Izel\_27 (M1), Jobypre\_17 (L3), JoeDirt\_16 (L1), Jubie\_17 (L3), Kahlid\_16 (L2), Kingsolomon\_17 (L3), KirDoubleO7\_15 (L3), KleverKiS\_26 (M1), Kropertea\_16 (L4), Krypton555\_17

(L3), LeBron\_16 (L1), Lewan\_16 (L2), LilDestine\_16 (L2), LilhomieP\_25 (M1), LiyuLake\_17 (L3), Loadrie\_16 (L2), Lolly9\_17 (L3), Lumos\_17 (L3), Lynnae\_16 (L2), MAckerman\_16 (L1), MaryV\_38 (V), Miley16\_16 (L2), MiniLon\_17 (L3), MiniMac\_17 (L3), MkaliMitinis3\_16 (L2), Moostard\_17 (L3), MrMagoo\_30 (M2), MsGreen\_17 (L3), Nanosmite\_30 (M3), Netyap\_16 (L2), Nicholas\_17 (L3), Nicholasp3\_16 (L2), OhShagHennessy\_16 (L1), OverPar\_16 (L2), PYPDinur\_16 (L4), PegLeg\_26 (M1), Poochiewood\_16 (L1), Quby\_16 (L4), Red305\_17 (L3), Reindeer\_24 (M1), Rey\_30 (M2), Rose5\_16 (L1), RoseMarie\_26 (M1), Rossetti\_16 (L2), Rumpelstiltskin\_16 (L2), Samty\_17 (L3), Sarshaun\_16 (L2), Sheng711\_16 (L4), Silverleaf\_16 (L1), Skinny\_27 (M1), SlimJimmy\_25 (M1), Snenia\_17 (L3), SoJulia\_16 (L2), Soap141\_16 (L2), Tourach\_16 (L2), TpudiCK\_27 (M1), TriFive\_17 (L3), TyDawg\_26 (M1), Tyson\_16 (L1), UPIE\_16 (L1), Underpass\_16 (L2), Vetrix\_16 (L2), Wamburggrxpress\_16 (L1), Whirlwind\_18 (L3), Wigglewiggles\_16 (L2), Wildcat\_38 (V), Wilder\_16 (L2), Winky\_16 (L2), Wyatt2\_16 (L1), Zakai\_16 (L2), Zaria\_16 (L1),

Start 7:

- Found in 60 of 130 ( 46.2% ) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 1.7% of time when present
- Phage (with cluster) where this start called: Bazzle\_16 (L2),

Start 13:

- Found in 41 of 130 ( 31.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.4% of time when present
- Phage (with cluster) where this start called: ZhongYanYuan\_15 (L2),

### Summary by clusters:

There are 10 clusters represented in this pham: singleton, V, L4, L5, M1, L3, M3, L1, L2, M2,

Info for manual annotations of cluster L1:

- Start number 3 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 3 was manually annotated 31 times for cluster L2.
- Start number 7 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L3:

- Start number 3 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 3 was manually annotated 6 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 3 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M1:

- Start number 3 was manually annotated 15 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 3 was manually annotated 6 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 3 was manually annotated 1 time for cluster M3.

Info for manual annotations of cluster V:

- Start number 3 was manually annotated 5 times for cluster V.

### **Gene Information:**

Gene: Acquire49\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for Acquire49\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: Aegeus\_16 Start: 10445, Stop: 15349, Start Num: 3

Candidate Starts for Aegeus\_16:

(Start: 3 @10445 has 104 MA's), (6, 10475), (9, 10493), (16, 10583), (25, 10712), (29, 10739), (30, 10742), (32, 10760), (37, 10781), (38, 10790), (42, 10811), (44, 10826), (45, 10829), (46, 10832), (53, 10874), (62, 10961), (64, 10979), (65, 11000), (67, 11033), (68, 11042), (70, 11054), (73, 11087), (74, 11090), (78, 11150), (92, 11288), (93, 11297), (99, 11360), (104, 11411), (122, 11570), (130, 11669), (132, 11684), (133, 11690), (136, 11723), (139, 11744), (140, 11747), (144, 11819), (145, 11828), (150, 11870), (152, 11915), (153, 11918), (155, 11927), (157, 11948), (161, 12020), (164, 12050), (165, 12059), (172, 12107), (173, 12113), (174, 12116), (177, 12137), (178, 12155), (194, 12227), (198, 12245), (210, 12302), (213, 12320), (214, 12323), (224, 12371), (225, 12374), (226, 12383), (239, 12446), (247, 12494), (253, 12515), (272, 12605), (274, 12614), (284, 12662), (316, 12848), (328, 12911), (330, 12914), (331, 12923), (339, 12977), (343, 12995), (345, 13007), (362, 13130), (377, 13220), (386, 13250), (393, 13283), (394, 13316), (395, 13319), (404, 13385), (405, 13388), (423, 13454), (484, 13532), (500, 13592), (516, 13664), (519, 13676), (525, 13703), (538, 13754), (556, 13790), (564, 13823), (572, 13874), (574, 13880), (580, 13910), (581, 13919), (585, 13958), (590, 13991), (597, 14012), (602, 14030), (614, 14072), (615, 14084), (617, 14102), (622, 14120), (627, 14150), (641, 14225), (650, 14282), (657, 14321), (665, 14372), (680, 14453), (682, 14456), (685, 14489), (688, 14501), (693, 14537), (698, 14561), (703, 14585), (721, 14660), (731, 14756), (734, 14786), (738, 14807), (742, 14828), (756, 14951), (761, 14996), (762, 15002), (770, 15107), (772, 15131), (773, 15140), (774, 15143), (777, 15155), (778, 15194), (779, 15197), (786, 15242), (787, 15245), (794, 15335), (796, 15341),

Gene: Appletree2\_16 Start: 10810, Stop: 15729, Start Num: 3

Candidate Starts for Appletree2\_16:

(Start: 3 @10810 has 104 MA's), (6, 10840), (Start: 7 @10846 has 1 MA's), (8, 10849), (15, 10957), (20, 11017), (22, 11038), (24, 11074), (27, 11101), (28, 11104), (31, 11125), (32, 11134), (35, 11149), (39, 11176), (42, 11185), (43, 11197), (45, 11203), (49, 11227), (51, 11239), (54, 11251), (55, 11254), (58, 11269), (59, 11311), (63, 11338), (64, 11353), (73, 11461), (80, 11545), (88, 11608), (90, 11650), (93, 11671), (99, 11734), (108, 11812), (113, 11863), (120, 11932), (131, 12055), (133, 12064), (135, 12088), (136, 12097), (139, 12118), (140, 12121), (146, 12211), (155, 12301), (157, 12322), (167, 12448), (170, 12475), (171, 12478), (172, 12481), (176, 12508), (179, 12532), (182, 12541), (184, 12556), (197, 12613), (202, 12634), (205, 12646), (221, 12736), (222, 12739), (237, 12814), (251, 12886), (253, 12895), (268, 12964), (275, 12997), (289, 13066), (292, 13084), (313, 13237), (322, 13285), (323, 13288), (326, 13309), (330, 13330), (335, 13354), (336, 13378), (341, 13405), (343, 13411), (348, 13444), (349, 13447), (356, 13489), (378, 13639), (392, 13690), (393, 13693), (396, 13735), (397, 13738), (399, 13756), (402, 13774), (419, 13870), (422, 13882), (424, 13885), (443, 13930), (485, 14035), (489, 14053), (506, 14110), (507, 14119), (508, 14125), (512, 14161), (516, 14179), (522, 14209), (548, 14320), (561, 14380), (565, 14395), (571, 14437), (573, 14440), (589, 14560), (623, 14686), (624, 14689), (634, 14722), (638, 14758), (642, 14791), (643, 14794), (645, 14809), (648, 14821), (656, 14860), (673, 14947), (693, 15070), (700, 15103), (705, 15118), (711, 15124), (733, 15151), (740, 15193), (768, 15445), (773, 15523), (775, 15529), (778, 15577), (779, 15580), (786, 15622), (787, 15625), (796, 15721),

Gene: Archie\_16 Start: 10805, Stop: 16201, Start Num: 3

Candidate Starts for Archie\_16:

(Start: 3 @10805 has 104 MA's), (Start: 7 @10841 has 1 MA's), (8, 10844), (13, 10907), (15, 10952), (16, 10955), (19, 11006), (26, 11093), (30, 11111), (31, 11120), (35, 11144), (38, 11159), (40, 11174), (42, 11180), (44, 11195), (45, 11198), (46, 11201), (48, 11213), (49, 11222), (60, 11309), (68, 11411), (73, 11456), (74, 11459), (75, 11465), (81, 11543), (90, 11645), (93, 11666), (98, 11708), (99, 11729), (100, 11738), (113, 11858), (118, 11894), (123, 11948), (129, 12029), (131, 12050), (135, 12083), (136, 12092), (139, 12113), (140, 12116), (143, 12164), (150, 12239), (163, 12410), (166, 12440), (170, 12470), (172, 12476), (176, 12503), (197, 12608), (200, 12620), (214, 12695), (215, 12701), (220, 12725), (222, 12734), (225, 12749), (227, 12761), (237, 12809), (241, 12833), (247, 12869), (260, 12938), (265, 12947), (275, 12995), (291, 13079), (310, 13208), (314, 13238), (319, 13271), (337, 13355), (338, 13358), (341, 13379), (363, 13532), (373, 13610), (376, 13625), (385, 13655), (388, 13661), (397, 13742), (402, 13778), (418, 13865), (430, 13922), (435, 13946), (441, 13970), (445, 13985), (448, 13991), (449, 13997), (460, 14084), (463, 14099), (470, 14132), (472, 14162), (478, 14207), (483, 14243), (487, 14267), (510, 14390), (517, 14444), (525, 14498), (528, 14525), (530, 14537), (541, 14579), (549, 14606), (554, 14636), (557, 14645), (560, 14657), (562, 14666), (568, 14708), (569, 14711), (585, 14825), (598, 14879), (614, 14930), (615, 14942), (617, 14960), (626, 15005), (627, 15008), (642, 15101), (685, 15350), (693, 15398), (698, 15422), (712, 15485), (718, 15509), (746, 15698), (759, 15830), (764, 15860), (773, 15995), (775, 16001), (778, 16049), (786, 16094), (796, 16193),

Gene: Auspice\_26 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for Auspice\_26:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396), (369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284),

(510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: AvadaKedavra\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for AvadaKedavra\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (150, 12270), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: Aziz\_30 Start: 15222, Stop: 22046, Start Num: 3

Candidate Starts for Aziz\_30:

(Start: 3 @15222 has 104 MA's), (12, 15312), (17, 15372), (19, 15414), (50, 15654), (56, 15684), (66, 15822), (72, 15873), (73, 15885), (75, 15894), (83, 15981), (86, 16014), (90, 16074), (117, 16305), (123, 16371), (130, 16461), (133, 16482), (139, 16536), (148, 16644), (151, 16671), (164, 16848), (168, 16878), (179, 16965), (181, 16971), (186, 16995), (191, 17022), (192, 17025), (201, 17064), (206, 17082), (236, 17241), (250, 17316), (258, 17370), (281, 17478), (282, 17484), (324, 17766), (329, 17796), (332, 17811), (340, 17871), (358, 17985), (360, 18015), (369, 18093), (371, 18120), (400, 18297), (401, 18309), (408, 18348), (433, 18474), (440, 18504), (442, 18513), (459, 18618), (462, 18639), (488, 18822), (523, 19053), (524, 19056), (534, 19119), (551, 19194), (595, 19494), (636, 19731), (644, 19803), (647, 19815), (658, 19893), (675, 19980), (710, 20175), (726, 20250), (748, 20418), (751, 20430), (757, 20502), (758, 20511), (809, 21099), (814, 21189), (815, 21213), (818, 21282), (819, 21312), (823, 21384), (826, 21513), (830, 21594), (837, 21708), (838, 21720), (839, 21735), (847, 21843), (851, 21924), (857, 22020),

Gene: Azrael100\_37 Start: 17721, Stop: 23696, Start Num: 3

Candidate Starts for Azrael100\_37:

(Start: 3 @17721 has 104 MA's), (10, 17790), (11, 17802), (26, 18003), (30, 18021), (41, 18087), (52, 18150), (56, 18165), (57, 18168), (61, 18237), (68, 18342), (70, 18354), (71, 18369), (73, 18387), (79, 18465), (80, 18471), (84, 18492), (88, 18534), (91, 18579), (92, 18588), (93, 18597), (95, 18618), (97, 18639), (100, 18684), (102, 18717), (105, 18741), (107, 18750), (110, 18771), (119, 18849), (125, 18921), (126, 18930), (128, 18963), (137, 19044), (138, 19047), (151, 19188), (153, 19233), (158, 19302), (164, 19365), (169, 19398), (171, 19419), (175, 19449), (177, 19461), (178, 19479), (179, 19482), (184, 19506), (191, 19539), (203, 19599), (204, 19605), (207, 19617), (208, 19629), (212, 19659), (222, 19713), (225, 19734), (231, 19764), (232, 19776), (236, 19800), (237, 19806), (245,

19860), (249, 19872), (255, 19914), (257, 19929), (261, 19947), (266, 19965), (277, 20019), (278, 20028), (297, 20145), (298, 20148), (304, 20172), (317, 20337), (318, 20340), (320, 20352), (344, 20493), (351, 20562), (368, 20688), (370, 20730), (383, 20784), (384, 20787), (390, 20802), (392, 20838), (398, 20892), (402, 20922), (403, 20937), (410, 20970), (426, 21042), (431, 21066), (439, 21105), (449, 21141), (458, 21216), (505, 21516), (518, 21609), (520, 21636), (539, 21744), (544, 21765), (547, 21783), (555, 21822), (575, 21951), (577, 21966), (584, 22053), (586, 22062), (592, 22107), (600, 22149), (605, 22173), (609, 22191), (612, 22206), (625, 22317), (629, 22329), (633, 22353), (642, 22446), (643, 22449), (645, 22464), (651, 22500), (653, 22509), (654, 22521), (664, 22605), (666, 22611), (667, 22614), (671, 22641), (677, 22677), (679, 22698), (681, 22701), (684, 22734), (691, 22767), (695, 22791), (699, 22812), (701, 22827), (706, 22842), (708, 22851), (724, 22917), (734, 23040), (737, 23064), (744, 23109), (747, 23130), (752, 23175), (755, 23205), (767, 23316), (776, 23430), (778, 23481), (780, 23490), (788, 23535), (789, 23577), (791, 23583), (792, 23595), (799, 23649), (800, 23652),

Gene: Baoshan\_15 Start: 10684, Stop: 15810, Start Num: 3

Candidate Starts for Baoshan\_15:

(Start: 3 @10684 has 104 MA's), (4, 10696), (Start: 7 @10720 has 1 MA's), (8, 10723), (13, 10786), (15, 10831), (26, 10972), (30, 10990), (31, 10999), (37, 11029), (40, 11053), (42, 11059), (44, 11074), (45, 11077), (48, 11092), (49, 11101), (53, 11122), (60, 11188), (64, 11227), (68, 11290), (73, 11335), (74, 11338), (78, 11398), (81, 11422), (88, 11482), (90, 11524), (93, 11545), (99, 11608), (102, 11650), (105, 11674), (108, 11686), (109, 11692), (113, 11737), (118, 11773), (130, 11917), (131, 11929), (139, 11992), (140, 11995), (141, 12016), (150, 12118), (163, 12289), (166, 12319), (170, 12349), (172, 12355), (202, 12508), (214, 12574), (215, 12580), (219, 12598), (220, 12604), (227, 12640), (237, 12688), (238, 12691), (241, 12712), (242, 12721), (247, 12748), (251, 12760), (265, 12826), (275, 12874), (301, 13003), (319, 13150), (338, 13237), (341, 13258), (361, 13399), (363, 13411), (376, 13504), (388, 13540), (397, 13621), (402, 13657), (411, 13717), (419, 13744), (420, 13747), (421, 13753), (425, 13765), (456, 13846), (459, 13861), (462, 13879), (483, 13939), (504, 14035), (510, 14071), (525, 14161), (530, 14197), (533, 14212), (554, 14251), (560, 14272), (564, 14290), (568, 14323), (569, 14326), (600, 14503), (614, 14545), (615, 14557), (617, 14575), (627, 14623), (631, 14629), (642, 14716), (685, 14965), (698, 15037), (712, 15100), (713, 15106), (716, 15115), (718, 15124), (746, 15310), (756, 15409), (759, 15442), (760, 15451), (764, 15472), (773, 15604), (775, 15610), (778, 15658), (784, 15688), (786, 15703), (796, 15802),

Gene: Baudelaire\_16 Start: 10445, Stop: 15349, Start Num: 3

Candidate Starts for Baudelaire\_16:

(Start: 3 @10445 has 104 MA's), (6, 10475), (9, 10493), (16, 10583), (25, 10712), (29, 10739), (30, 10742), (32, 10760), (37, 10781), (38, 10790), (42, 10811), (44, 10826), (45, 10829), (46, 10832), (53, 10874), (62, 10961), (64, 10979), (65, 11000), (67, 11033), (68, 11042), (70, 11054), (73, 11087), (74, 11090), (78, 11150), (92, 11288), (93, 11297), (99, 11360), (104, 11411), (122, 11570), (130, 11669), (132, 11684), (133, 11690), (136, 11723), (139, 11744), (140, 11747), (144, 11819), (145, 11828), (150, 11870), (152, 11915), (153, 11918), (155, 11927), (157, 11948), (161, 12020), (164, 12050), (165, 12059), (172, 12107), (173, 12113), (174, 12116), (177, 12137), (178, 12155), (194, 12227), (198, 12245), (210, 12302), (213, 12320), (214, 12323), (224, 12371), (225, 12374), (226, 12383), (239, 12446), (247, 12494), (253, 12515), (272, 12605), (274, 12614), (284, 12662), (316, 12848), (328, 12911), (330, 12914), (331, 12923), (339, 12977), (343, 12995), (345, 13007), (362, 13130), (377, 13220), (386, 13250), (393, 13283), (394, 13316), (395, 13319), (404, 13385), (405, 13388), (423, 13454), (484, 13532), (500, 13592), (516, 13664), (519, 13676), (525, 13703), (538, 13754), (556, 13790), (564, 13823), (572, 13874), (574, 13880), (580, 13910), (581, 13919), (585, 13958), (590, 13991), (597, 14012), (602, 14030), (614, 14072), (615, 14084), (617, 14102), (622, 14120), (627, 14150), (641, 14225), (650, 14282), (657, 14321), (665, 14372), (680, 14453), (682, 14456), (685, 14489), (688, 14501), (693, 14537), (698, 14561), (703, 14585), (721, 14660), (731, 14756), (734, 14786), (738, 14807), (742, 14828), (756, 14951), (761, 14996), (762, 15002), (770, 15107), (772, 15131), (773, 15140), (774, 15143), (777, 15155), (778, 15194), (779, 15197), (786, 15242),

(787, 15245), (794, 15335), (796, 15341),

Gene: Bazzle\_16 Start: 10845, Stop: 15950, Start Num: 7

Candidate Starts for Bazzle\_16:

(Start: 3 @10809 has 104 MA's), (Start: 7 @10845 has 1 MA's), (8, 10848), (13, 10911), (15, 10956), (16, 10959), (30, 11094), (31, 11103), (35, 11127), (40, 11157), (44, 11178), (45, 11181), (46, 11184), (48, 11196), (49, 11205), (54, 11229), (58, 11247), (60, 11292), (64, 11331), (68, 11394), (73, 11439), (74, 11442), (76, 11460), (78, 11502), (88, 11586), (90, 11628), (91, 11631), (94, 11655), (98, 11691), (99, 11712), (106, 11784), (109, 11796), (113, 11841), (116, 11862), (118, 11877), (120, 11910), (131, 12033), (133, 12042), (139, 12096), (140, 12099), (141, 12120), (142, 12123), (143, 12147), (150, 12222), (163, 12393), (166, 12423), (170, 12453), (172, 12459), (178, 12507), (179, 12510), (187, 12549), (189, 12558), (197, 12591), (202, 12612), (214, 12678), (215, 12684), (219, 12702), (220, 12708), (222, 12717), (225, 12732), (227, 12744), (237, 12792), (241, 12816), (247, 12852), (265, 12930), (275, 12978), (310, 13191), (319, 13254), (338, 13341), (341, 13362), (361, 13503), (363, 13515), (376, 13608), (385, 13638), (388, 13644), (392, 13677), (397, 13725), (402, 13761), (449, 13920), (456, 13950), (479, 14007), (480, 14010), (499, 14115), (510, 14163), (516, 14214), (525, 14253), (541, 14331), (553, 14382), (560, 14409), (564, 14427), (568, 14460), (569, 14463), (598, 14628), (614, 14682), (615, 14694), (617, 14712), (626, 14757), (627, 14760), (642, 14853), (676, 15042), (685, 15102), (707, 15210), (712, 15237), (713, 15243), (716, 15252), (740, 15414), (746, 15447), (756, 15546), (759, 15579), (760, 15588), (764, 15609), (773, 15744), (775, 15750), (778, 15798), (784, 15828), (786, 15843), (796, 15942),

Gene: Bellis\_17 Start: 10971, Stop: 16403, Start Num: 3

Candidate Starts for Bellis\_17:

(Start: 3 @10971 has 104 MA's), (6, 11001), (8, 11010), (14, 11091), (15, 11118), (16, 11121), (23, 11220), (33, 11316), (37, 11331), (40, 11355), (45, 11379), (46, 11382), (48, 11394), (64, 11529), (68, 11592), (73, 11637), (74, 11640), (88, 11784), (93, 11847), (99, 11910), (109, 11994), (116, 12060), (134, 12249), (139, 12294), (140, 12297), (150, 12420), (151, 12429), (158, 12537), (159, 12546), (171, 12654), (172, 12657), (177, 12687), (178, 12705), (180, 12711), (184, 12732), (188, 12750), (200, 12801), (210, 12861), (213, 12879), (218, 12903), (237, 12996), (241, 13020), (244, 13041), (247, 13056), (253, 13077), (264, 13122), (269, 13137), (283, 13212), (307, 13350), (314, 13395), (339, 13521), (342, 13536), (346, 13560), (347, 13566), (348, 13572), (356, 13620), (378, 13776), (388, 13803), (392, 13830), (397, 13878), (401, 13911), (402, 13914), (411, 13971), (446, 14109), (447, 14112), (486, 14331), (490, 14349), (492, 14358), (503, 14433), (511, 14481), (514, 14508), (515, 14526), (545, 14682), (558, 14739), (563, 14775), (566, 14784), (570, 14820), (581, 14898), (583, 14919), (593, 15003), (599, 15030), (610, 15072), (611, 15078), (614, 15087), (619, 15132), (621, 15141), (628, 15186), (631, 15198), (661, 15423), (678, 15507), (693, 15609), (705, 15657), (707, 15669), (713, 15699), (714, 15705), (719, 15720), (727, 15774), (756, 16002), (759, 16035), (762, 16053), (765, 16071), (767, 16086), (769, 16146), (773, 16191), (778, 16251), (786, 16296), (787, 16299), (796, 16395),

Gene: BigCheese\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for BigCheese\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482,

14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: BobsGarage\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for BobsGarage\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Bongo\_26 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for Bongo\_26:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396), (369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284), (510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: BourbonZero\_16 Start: 10979, Stop: 16399, Start Num: 3

Candidate Starts for BourbonZero\_16:

(Start: 3 @10979 has 104 MA's), (6, 11009), (8, 11018), (14, 11099), (15, 11126), (16, 11129), (23, 11228), (33, 11324), (40, 11363), (45, 11387), (46, 11390), (48, 11402), (64, 11537), (68, 11600), (73, 11645), (74, 11648), (88, 11792), (91, 11837), (98, 11897), (99, 11918), (109, 12002), (113, 12047), (116, 12068), (136, 12281), (139, 12302), (140, 12305), (150, 12428), (151, 12437), (158, 12545), (159, 12554), (171, 12662), (172, 12665), (178, 12713), (180, 12719), (184, 12740), (188, 12758), (200, 12809), (210, 12869), (218, 12911), (237, 13004), (241, 13028), (244, 13049), (247, 13064), (253, 13085), (264, 13130), (269, 13145), (283, 13220), (307, 13358), (314, 13403), (339, 13529), (342, 13544), (346, 13568), (356, 13628), (378, 13784), (388, 13811), (392, 13838), (397, 13886),

(401, 13919), (411, 13979), (446, 14117), (447, 14120), (452, 14162), (486, 14336), (490, 14354), (492, 14363), (503, 14435), (511, 14483), (514, 14510), (515, 14528), (545, 14687), (558, 14744), (563, 14780), (566, 14789), (570, 14825), (581, 14903), (583, 14924), (599, 15035), (610, 15077), (611, 15083), (614, 15092), (619, 15137), (621, 15146), (628, 15191), (631, 15203), (661, 15428), (664, 15440), (678, 15512), (693, 15614), (705, 15662), (707, 15674), (713, 15704), (714, 15710), (719, 15725), (727, 15779), (759, 16031), (762, 16049), (765, 16067), (767, 16082), (769, 16142), (773, 16187), (775, 16193), (778, 16247), (779, 16250), (786, 16292), (787, 16295), (796, 16391),

Gene: BrainDrainer\_17 Start: 10651, Stop: 15741, Start Num: 3

Candidate Starts for BrainDrainer\_17:

(Start: 3 @10651 has 104 MA's), (6, 10681), (8, 10690), (15, 10798), (18, 10828), (24, 10930), (26, 10954), (36, 11008), (37, 11011), (40, 11035), (42, 11041), (45, 11059), (46, 11062), (48, 11074), (51, 11095), (68, 11272), (73, 11317), (88, 11464), (91, 11509), (93, 11527), (95, 11548), (96, 11554), (99, 11590), (102, 11632), (106, 11662), (109, 11674), (112, 11710), (113, 11719), (115, 11734), (118, 11755), (122, 11800), (136, 11953), (145, 12058), (150, 12100), (154, 12154), (155, 12157), (160, 12232), (162, 12268), (166, 12301), (170, 12331), (172, 12337), (180, 12391), (184, 12412), (188, 12430), (193, 12454), (194, 12457), (195, 12460), (199, 12478), (209, 12529), (210, 12541), (211, 12547), (213, 12559), (217, 12580), (218, 12583), (221, 12598), (222, 12601), (237, 12676), (241, 12700), (247, 12736), (260, 12805), (273, 12850), (275, 12859), (280, 12892), (285, 12916), (286, 12919), (291, 12943), (296, 12970), (298, 12979), (306, 13033), (317, 13129), (341, 13255), (350, 13309), (353, 13333), (362, 13399), (365, 13411), (366, 13420), (373, 13474), (375, 13486), (378, 13498), (388, 13525), (394, 13591), (395, 13594), (397, 13603), (402, 13639), (406, 13669), (419, 13711), (420, 13714), (480, 13873), (483, 13894), (494, 13951), (510, 14026), (516, 14077), (525, 14116), (529, 14140), (549, 14191), (553, 14215), (564, 14260), (585, 14392), (588, 14404), (614, 14506), (615, 14518), (627, 14584), (631, 14590), (632, 14593), (642, 14677), (650, 14716), (652, 14722), (685, 14926), (697, 14995), (700, 15007), (707, 15034), (709, 15037), (717, 15076), (740, 15205), (741, 15214), (743, 15220), (756, 15337), (762, 15388), (765, 15406), (767, 15421), (770, 15496), (771, 15511), (773, 15529), (775, 15535), (778, 15589), (779, 15592), (786, 15634), (796, 15733),

Gene: Breezona\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Breezona\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Bricole\_26 Start: 14622, Stop: 21443, Start Num: 3

Candidate Starts for Bricole\_26:

(Start: 3 @14622 has 104 MA's), (5, 14637), (12, 14712), (14, 14733), (17, 14772), (20, 14820), (26, 14922), (55, 15078), (66, 15222), (73, 15285), (75, 15294), (82, 15375), (85, 15399), (87, 15423), (89,

15456), (90, 15474), (91, 15477), (99, 15558), (101, 15591), (119, 15732), (129, 15858), (149, 16059), (151, 16077), (161, 16224), (164, 16254), (181, 16377), (235, 16632), (236, 16635), (242, 16668), (243, 16671), (246, 16689), (248, 16698), (252, 16713), (254, 16728), (256, 16737), (262, 16764), (279, 16842), (294, 16923), (312, 17043), (322, 17121), (334, 17184), (338, 17217), (352, 17316), (360, 17382), (369, 17457), (379, 17529), (406, 17706), (413, 17748), (432, 17835), (433, 17838), (444, 17889), (462, 17994), (466, 18012), (469, 18024), (476, 18096), (480, 18117), (495, 18234), (502, 18270), (510, 18315), (523, 18420), (540, 18498), (543, 18513), (590, 18825), (612, 18921), (618, 18969), (623, 19005), (630, 19038), (636, 19083), (637, 19101), (649, 19188), (653, 19209), (655, 19236), (692, 19458), (715, 19557), (720, 19566), (725, 19587), (728, 19641), (730, 19653), (754, 19821), (758, 19866), (781, 20124), (795, 20268), (797, 20277), (824, 20805), (826, 20922), (831, 20991), (833, 21009), (841, 21123), (843, 21153), (847, 21237), (849, 21285), (853, 21330), (857, 21417),

Gene: Bromden\_17 Start: 10976, Stop: 16069, Start Num: 3

Candidate Starts for Bromden\_17:

(Start: 3 @10976 has 104 MA's), (6, 11006), (8, 11015), (15, 11123), (18, 11153), (24, 11255), (36, 11333), (37, 11336), (40, 11360), (42, 11366), (45, 11384), (48, 11399), (51, 11420), (54, 11432), (68, 11597), (73, 11642), (95, 11873), (96, 11879), (99, 11915), (102, 11957), (112, 12035), (113, 12044), (115, 12059), (118, 12080), (122, 12125), (139, 12299), (150, 12425), (155, 12482), (160, 12557), (166, 12626), (170, 12656), (172, 12662), (176, 12689), (180, 12716), (184, 12737), (195, 12785), (199, 12803), (213, 12884), (217, 12905), (218, 12908), (222, 12926), (225, 12941), (237, 13001), (241, 13025), (247, 13061), (260, 13130), (271, 13157), (273, 13175), (275, 13184), (280, 13217), (285, 13241), (286, 13244), (291, 13268), (298, 13304), (317, 13454), (341, 13580), (353, 13658), (361, 13718), (362, 13724), (366, 13745), (373, 13799), (375, 13811), (378, 13823), (388, 13850), (394, 13916), (395, 13919), (397, 13928), (402, 13964), (406, 13994), (419, 14036), (420, 14039), (421, 14045), (429, 14072), (453, 14126), (479, 14192), (483, 14216), (510, 14348), (516, 14399), (525, 14438), (537, 14486), (549, 14513), (557, 14552), (562, 14573), (564, 14582), (588, 14732), (614, 14834), (615, 14846), (626, 14909), (627, 14912), (642, 15005), (652, 15050), (685, 15254), (700, 15335), (707, 15362), (709, 15365), (718, 15410), (738, 15521), (740, 15533), (741, 15542), (743, 15548), (756, 15665), (762, 15716), (765, 15734), (770, 15824), (771, 15839), (773, 15857), (775, 15863), (778, 15917), (779, 15920), (786, 15962),

Gene: Calm\_16 Start: 10837, Stop: 15789, Start Num: 3

Candidate Starts for Calm\_16:

(Start: 3 @10837 has 104 MA's), (6, 10867), (Start: 7 @10873 has 1 MA's), (8, 10876), (15, 10984), (20, 11044), (22, 11065), (24, 11101), (27, 11128), (28, 11131), (31, 11152), (32, 11161), (35, 11176), (39, 11203), (42, 11212), (43, 11224), (45, 11230), (49, 11254), (51, 11266), (54, 11278), (55, 11281), (58, 11296), (59, 11338), (63, 11365), (64, 11380), (73, 11488), (80, 11572), (88, 11635), (90, 11677), (93, 11698), (99, 11761), (108, 11839), (113, 11890), (120, 11959), (131, 12082), (133, 12091), (135, 12115), (136, 12124), (139, 12145), (140, 12148), (146, 12238), (150, 12271), (155, 12328), (167, 12475), (170, 12502), (171, 12505), (172, 12508), (176, 12535), (179, 12559), (182, 12568), (197, 12640), (202, 12661), (205, 12673), (221, 12763), (222, 12766), (237, 12841), (251, 12913), (253, 12922), (268, 12991), (275, 13024), (289, 13093), (292, 13111), (313, 13264), (322, 13312), (323, 13315), (326, 13336), (330, 13357), (335, 13381), (336, 13405), (341, 13432), (343, 13438), (348, 13471), (349, 13474), (354, 13507), (356, 13516), (378, 13666), (393, 13720), (396, 13762), (397, 13765), (399, 13783), (402, 13801), (412, 13864), (419, 13897), (422, 13909), (424, 13912), (438, 13948), (449, 13966), (481, 14053), (485, 14062), (489, 14080), (506, 14158), (507, 14167), (508, 14173), (512, 14209), (516, 14227), (522, 14257), (548, 14368), (561, 14428), (565, 14443), (571, 14485), (573, 14488), (589, 14608), (623, 14734), (624, 14737), (634, 14770), (638, 14806), (643, 14842), (645, 14857), (648, 14869), (656, 14908), (673, 14995), (693, 15118), (700, 15151), (733, 15211), (740, 15253), (768, 15505), (773, 15583), (775, 15589), (778, 15637), (779, 15640), (786, 15682), (787, 15685), (796, 15781),

Gene: Chaser\_16 Start: 10567, Stop: 15669, Start Num: 3

Candidate Starts for Chaser\_16:

(Start: 3 @10567 has 104 MA's), (6, 10597), (8, 10606), (15, 10714), (18, 10744), (24, 10846), (26, 10870), (36, 10924), (37, 10927), (40, 10951), (42, 10957), (45, 10975), (46, 10978), (48, 10990), (51, 11011), (54, 11023), (68, 11188), (73, 11233), (88, 11380), (91, 11425), (93, 11443), (95, 11464), (96, 11470), (99, 11506), (102, 11548), (109, 11590), (113, 11635), (115, 11650), (118, 11671), (122, 11716), (130, 11815), (133, 11836), (139, 11890), (140, 11893), (145, 11974), (150, 12016), (155, 12073), (160, 12148), (165, 12205), (166, 12217), (170, 12247), (176, 12280), (178, 12301), (184, 12328), (199, 12394), (213, 12475), (217, 12496), (218, 12499), (222, 12517), (237, 12592), (241, 12616), (247, 12652), (260, 12721), (273, 12766), (275, 12775), (280, 12808), (285, 12832), (286, 12835), (291, 12859), (296, 12886), (298, 12895), (331, 13105), (341, 13171), (353, 13249), (365, 13327), (366, 13336), (375, 13402), (378, 13414), (388, 13441), (394, 13507), (395, 13510), (397, 13519), (402, 13555), (407, 13588), (411, 13615), (480, 13801), (483, 13822), (510, 13954), (516, 14005), (529, 14068), (549, 14119), (553, 14143), (564, 14188), (568, 14221), (585, 14320), (588, 14332), (603, 14398), (614, 14434), (615, 14446), (627, 14512), (631, 14518), (632, 14521), (642, 14605), (650, 14644), (652, 14650), (657, 14683), (685, 14854), (697, 14923), (700, 14935), (707, 14962), (709, 14965), (729, 15070), (740, 15133), (741, 15142), (743, 15148), (756, 15265), (762, 15316), (765, 15334), (767, 15349), (770, 15424), (771, 15439), (773, 15457), (775, 15463), (778, 15517), (779, 15520), (786, 15562), (796, 15661),

Gene: ChutneyChips\_16 Start: 10555, Stop: 15663, Start Num: 3

Candidate Starts for ChutneyChips\_16:

(Start: 3 @10555 has 104 MA's), (8, 10594), (15, 10702), (18, 10732), (24, 10834), (26, 10858), (28, 10864), (36, 10912), (37, 10915), (40, 10939), (42, 10945), (45, 10963), (48, 10978), (54, 11011), (68, 11176), (73, 11221), (91, 11413), (93, 11431), (95, 11452), (96, 11458), (98, 11473), (99, 11494), (102, 11536), (106, 11566), (109, 11578), (112, 11614), (113, 11623), (115, 11638), (118, 11659), (122, 11704), (133, 11824), (136, 11857), (145, 11962), (150, 12004), (155, 12061), (166, 12205), (170, 12235), (172, 12241), (178, 12289), (180, 12295), (184, 12316), (195, 12364), (199, 12382), (211, 12451), (213, 12463), (217, 12484), (218, 12487), (222, 12505), (237, 12580), (241, 12604), (247, 12640), (260, 12709), (273, 12754), (275, 12763), (280, 12796), (285, 12820), (286, 12823), (291, 12847), (296, 12874), (298, 12883), (341, 13159), (353, 13237), (362, 13303), (365, 13315), (366, 13324), (373, 13378), (375, 13390), (378, 13402), (388, 13429), (394, 13495), (395, 13498), (397, 13507), (402, 13543), (407, 13576), (411, 13603), (419, 13630), (420, 13633), (480, 13789), (510, 13942), (516, 13993), (529, 14056), (537, 14080), (549, 14107), (553, 14131), (564, 14176), (568, 14209), (585, 14314), (588, 14326), (598, 14371), (614, 14428), (615, 14440), (626, 14503), (627, 14506), (631, 14512), (642, 14599), (650, 14638), (652, 14644), (685, 14848), (697, 14917), (700, 14929), (707, 14956), (709, 14959), (741, 15136), (743, 15142), (756, 15259), (762, 15310), (765, 15328), (767, 15343), (770, 15418), (771, 15433), (773, 15451), (775, 15457), (778, 15511), (779, 15514), (786, 15556), (796, 15655),

Gene: CicholasNage\_16 Start: 10837, Stop: 15777, Start Num: 3

Candidate Starts for CicholasNage\_16:

(Start: 3 @10837 has 104 MA's), (6, 10867), (Start: 7 @10873 has 1 MA's), (8, 10876), (15, 10984), (20, 11044), (22, 11065), (24, 11101), (27, 11128), (28, 11131), (31, 11152), (32, 11161), (35, 11176), (37, 11182), (39, 11203), (40, 11206), (42, 11212), (43, 11224), (45, 11230), (49, 11254), (51, 11266), (54, 11278), (55, 11281), (59, 11338), (63, 11365), (64, 11380), (73, 11488), (80, 11572), (88, 11635), (90, 11677), (93, 11698), (99, 11761), (108, 11839), (113, 11890), (120, 11959), (131, 12082), (133, 12091), (135, 12115), (136, 12124), (139, 12145), (140, 12148), (146, 12238), (155, 12328), (167, 12475), (170, 12502), (171, 12505), (172, 12508), (176, 12535), (179, 12559), (182, 12568), (197, 12640), (202, 12661), (205, 12673), (221, 12763), (222, 12766), (237, 12841), (251, 12913), (253, 12922), (268, 12991), (275, 13024), (289, 13093), (292, 13111), (313, 13264), (322, 13312), (323, 13315), (326, 13336), (330, 13357), (335, 13381), (336, 13405), (341, 13432), (343, 13438), (348, 13471), (349, 13474), (354, 13507), (356, 13516), (378, 13666), (393, 13720), (396, 13762), (397,

13765), (399, 13783), (402, 13801), (412, 13864), (419, 13897), (422, 13909), (424, 13912), (438, 13948), (449, 13966), (481, 14053), (485, 14062), (489, 14080), (506, 14146), (507, 14155), (508, 14161), (512, 14197), (516, 14215), (522, 14245), (548, 14356), (561, 14416), (565, 14431), (571, 14473), (573, 14476), (589, 14596), (623, 14722), (624, 14725), (634, 14758), (638, 14794), (643, 14830), (645, 14845), (648, 14857), (673, 14983), (693, 15106), (700, 15139), (733, 15199), (740, 15241), (768, 15493), (773, 15571), (775, 15577), (778, 15625), (779, 15628), (786, 15670), (787, 15673), (796, 15769),

Gene: Claus\_16 Start: 10864, Stop: 15966, Start Num: 3

Candidate Starts for Claus\_16:

(Start: 3 @10864 has 104 MA's), (4, 10876), (Start: 7 @10900 has 1 MA's), (8, 10903), (13, 10966), (15, 11011), (26, 11152), (30, 11170), (31, 11179), (37, 11209), (40, 11233), (42, 11239), (44, 11254), (45, 11257), (48, 11272), (49, 11281), (53, 11302), (60, 11368), (64, 11407), (68, 11470), (73, 11515), (74, 11518), (78, 11578), (81, 11602), (88, 11662), (90, 11704), (93, 11725), (99, 11788), (102, 11830), (105, 11854), (108, 11866), (109, 11872), (113, 11917), (118, 11953), (130, 12097), (131, 12109), (139, 12172), (140, 12175), (141, 12196), (150, 12298), (163, 12469), (166, 12499), (170, 12529), (172, 12535), (184, 12610), (202, 12688), (214, 12754), (215, 12760), (219, 12778), (220, 12784), (227, 12820), (237, 12868), (238, 12871), (241, 12892), (242, 12901), (247, 12928), (251, 12940), (265, 13006), (275, 13054), (319, 13330), (338, 13417), (341, 13438), (361, 13579), (363, 13591), (376, 13684), (388, 13720), (397, 13801), (402, 13837), (449, 13993), (475, 14074), (479, 14080), (480, 14083), (483, 14098), (510, 14230), (525, 14320), (530, 14356), (533, 14371), (554, 14410), (560, 14431), (564, 14449), (568, 14482), (569, 14485), (600, 14662), (614, 14704), (615, 14716), (617, 14734), (627, 14782), (631, 14788), (642, 14875), (685, 15124), (698, 15196), (712, 15259), (713, 15265), (716, 15274), (718, 15283), (746, 15466), (756, 15565), (759, 15598), (760, 15607), (764, 15628), (773, 15760), (775, 15766), (778, 15814), (784, 15844), (786, 15859), (796, 15958),

Gene: Clautastrophe\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for Clautastrophe\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736), (188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: Cosmo\_38 Start: 17728, Stop: 23703, Start Num: 3

Candidate Starts for Cosmo\_38:

(Start: 3 @17728 has 104 MA's), (10, 17797), (11, 17809), (26, 18010), (30, 18028), (41, 18094), (52, 18157), (56, 18172), (57, 18175), (61, 18244), (70, 18361), (71, 18376), (73, 18394), (79, 18472), (80, 18478), (84, 18499), (88, 18541), (91, 18586), (92, 18595), (93, 18604), (95, 18625), (97, 18646), (100, 18691), (102, 18724), (105, 18748), (107, 18757), (110, 18778), (119, 18856), (125, 18928), (126, 18937), (128, 18970), (137, 19051), (138, 19054), (151, 19195), (153, 19240), (158, 19309), (164, 19372), (169, 19405), (171, 19426), (175, 19456), (177, 19468), (178, 19486), (179, 19489), (184,

19513), (191, 19546), (203, 19606), (204, 19612), (207, 19624), (208, 19636), (212, 19666), (222, 19720), (225, 19741), (231, 19771), (232, 19783), (236, 19807), (237, 19813), (245, 19867), (249, 19879), (255, 19921), (257, 19936), (261, 19954), (266, 19972), (277, 20026), (278, 20035), (297, 20152), (298, 20155), (304, 20179), (317, 20344), (318, 20347), (320, 20359), (344, 20500), (351, 20569), (368, 20695), (370, 20737), (383, 20791), (384, 20794), (390, 20809), (392, 20845), (398, 20899), (402, 20929), (403, 20944), (410, 20977), (426, 21049), (431, 21073), (439, 21112), (449, 21148), (458, 21223), (505, 21523), (518, 21616), (520, 21643), (539, 21751), (544, 21772), (547, 21790), (555, 21829), (575, 21958), (577, 21973), (584, 22060), (586, 22069), (592, 22114), (600, 22156), (605, 22180), (609, 22198), (612, 22213), (625, 22324), (629, 22336), (633, 22360), (642, 22453), (643, 22456), (645, 22471), (651, 22507), (653, 22516), (654, 22528), (664, 22612), (666, 22618), (667, 22621), (671, 22648), (677, 22684), (679, 22705), (681, 22708), (684, 22741), (691, 22774), (695, 22798), (699, 22819), (701, 22834), (706, 22849), (708, 22858), (724, 22924), (734, 23047), (737, 23071), (744, 23116), (747, 23137), (752, 23182), (755, 23212), (767, 23323), (776, 23437), (778, 23488), (780, 23497), (788, 23542), (789, 23584), (791, 23590), (792, 23602), (799, 23656), (800, 23659),

Gene: Crossroads\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Crossroads\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (411, 13868), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (606, 14693), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (760, 15626), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: DHan\_16 Start: 10800, Stop: 15902, Start Num: 3

Candidate Starts for DHan\_16:

(Start: 3 @10800 has 104 MA's), (4, 10812), (Start: 7 @10836 has 1 MA's), (8, 10839), (13, 10902), (15, 10947), (26, 11088), (30, 11106), (31, 11115), (37, 11145), (40, 11169), (42, 11175), (44, 11190), (45, 11193), (48, 11208), (49, 11217), (53, 11238), (64, 11343), (68, 11406), (73, 11451), (74, 11454), (78, 11514), (81, 11538), (90, 11640), (93, 11661), (99, 11724), (102, 11766), (105, 11790), (108, 11802), (109, 11808), (113, 11853), (118, 11889), (131, 12045), (139, 12108), (140, 12111), (141, 12132), (150, 12234), (163, 12405), (166, 12435), (170, 12465), (172, 12471), (202, 12624), (214, 12690), (215, 12696), (219, 12714), (220, 12720), (227, 12756), (237, 12804), (241, 12828), (247, 12864), (251, 12876), (275, 12990), (319, 13266), (338, 13353), (341, 13374), (361, 13515), (363, 13527), (364, 13533), (376, 13620), (388, 13656), (397, 13737), (402, 13773), (411, 13833), (449, 13929), (475, 14010), (479, 14016), (480, 14019), (483, 14034), (510, 14166), (525, 14256), (530, 14292), (533, 14307), (553, 14340), (554, 14346), (560, 14367), (564, 14385), (568, 14418), (598, 14589), (600, 14598), (614, 14640), (615, 14652), (617, 14670), (627, 14718), (631, 14724), (642, 14811), (685, 15060), (698, 15132), (712, 15195), (713, 15201), (716, 15210), (718, 15219), (746, 15402), (756, 15501), (759, 15534), (760, 15543), (764, 15564), (773, 15696), (775, 15702), (778, 15750), (784, 15780), (786, 15795), (796, 15894),

Gene: DanBing\_15 Start: 10683, Stop: 15806, Start Num: 3

Candidate Starts for DanBing\_15:

(Start: 3 @10683 has 104 MA's), (4, 10695), (6, 10713), (Start: 7 @10719 has 1 MA's), (8, 10722), (13, 10785), (15, 10830), (26, 10971), (30, 10989), (31, 10998), (37, 11028), (40, 11052), (42, 11058), (44, 11073), (45, 11076), (48, 11091), (49, 11100), (53, 11121), (60, 11187), (64, 11226), (68, 11289), (73, 11334), (74, 11337), (78, 11397), (81, 11421), (88, 11481), (90, 11523), (93, 11544), (99, 11607), (102, 11649), (105, 11673), (108, 11685), (109, 11691), (113, 11736), (118, 11772), (130, 11916), (131, 11928), (139, 11991), (140, 11994), (141, 12015), (150, 12117), (163, 12288), (166, 12318), (170, 12348), (172, 12354), (184, 12429), (202, 12507), (214, 12573), (219, 12597), (220, 12603), (227, 12639), (237, 12687), (238, 12690), (241, 12711), (242, 12720), (247, 12747), (251, 12759), (265, 12825), (275, 12873), (319, 13149), (338, 13236), (341, 13257), (361, 13398), (363, 13410), (376, 13503), (388, 13539), (397, 13620), (402, 13656), (419, 13743), (420, 13746), (421, 13752), (425, 13764), (456, 13845), (459, 13860), (462, 13878), (483, 13938), (504, 14034), (510, 14070), (530, 14196), (533, 14211), (554, 14250), (560, 14271), (564, 14289), (568, 14322), (569, 14325), (600, 14502), (614, 14544), (615, 14556), (617, 14574), (627, 14622), (631, 14628), (642, 14715), (685, 14964), (698, 15036), (712, 15099), (713, 15105), (716, 15114), (718, 15123), (746, 15306), (756, 15405), (759, 15438), (760, 15447), (764, 15468), (773, 15600), (775, 15606), (778, 15654), (784, 15684), (786, 15699), (796, 15798),

Gene: Diminimus\_27 Start: 14635, Stop: 21456, Start Num: 3

Candidate Starts for Diminimus\_27:

(Start: 3 @14635 has 104 MA's), (5, 14650), (12, 14725), (14, 14746), (17, 14785), (20, 14833), (26, 14935), (55, 15091), (66, 15235), (73, 15298), (75, 15307), (82, 15388), (85, 15412), (87, 15436), (89, 15469), (90, 15487), (91, 15490), (99, 15571), (101, 15604), (119, 15745), (129, 15871), (149, 16072), (151, 16090), (161, 16237), (164, 16267), (181, 16390), (235, 16645), (236, 16648), (242, 16681), (243, 16684), (246, 16702), (248, 16711), (252, 16726), (254, 16741), (256, 16750), (262, 16777), (279, 16855), (294, 16936), (312, 17056), (334, 17197), (338, 17230), (352, 17329), (360, 17395), (369, 17470), (379, 17542), (406, 17719), (413, 17761), (432, 17848), (433, 17851), (444, 17902), (462, 18007), (466, 18025), (469, 18037), (476, 18109), (480, 18130), (495, 18247), (502, 18283), (510, 18328), (523, 18433), (540, 18511), (543, 18526), (590, 18838), (612, 18934), (618, 18982), (623, 19018), (630, 19051), (636, 19096), (637, 19114), (649, 19201), (653, 19222), (655, 19249), (692, 19471), (715, 19570), (720, 19579), (725, 19600), (728, 19654), (730, 19666), (745, 19762), (754, 19834), (758, 19879), (781, 20137), (795, 20281), (797, 20290), (824, 20818), (826, 20935), (831, 21004), (833, 21022), (841, 21136), (843, 21166), (847, 21250), (849, 21298), (853, 21343), (857, 21430),

Gene: DirkDirk\_16 Start: 10838, Stop: 15769, Start Num: 3

Candidate Starts for DirkDirk\_16:

(Start: 3 @10838 has 104 MA's), (6, 10868), (Start: 7 @10874 has 1 MA's), (8, 10877), (15, 10985), (20, 11045), (22, 11066), (24, 11102), (27, 11129), (28, 11132), (31, 11153), (32, 11162), (35, 11177), (39, 11204), (42, 11213), (43, 11225), (45, 11231), (49, 11255), (51, 11267), (54, 11279), (55, 11282), (58, 11297), (59, 11339), (63, 11366), (64, 11381), (73, 11489), (80, 11573), (88, 11636), (90, 11678), (93, 11699), (99, 11762), (108, 11840), (113, 11891), (120, 11960), (131, 12083), (133, 12092), (135, 12116), (136, 12125), (139, 12146), (140, 12149), (146, 12239), (155, 12329), (157, 12350), (167, 12476), (170, 12503), (171, 12506), (172, 12509), (176, 12536), (179, 12560), (182, 12569), (184, 12584), (197, 12641), (202, 12662), (205, 12674), (221, 12764), (222, 12767), (237, 12842), (251, 12914), (253, 12923), (268, 12992), (275, 13025), (289, 13094), (292, 13112), (313, 13265), (322, 13313), (323, 13316), (326, 13337), (330, 13358), (335, 13382), (336, 13406), (341, 13433), (343, 13439), (348, 13472), (349, 13475), (356, 13517), (378, 13667), (392, 13718), (393, 13721), (396, 13763), (397, 13766), (399, 13784), (402, 13802), (422, 13910), (424, 13913), (443, 13958), (485, 14063), (489, 14081), (506, 14150), (507, 14159), (508, 14165), (512, 14201), (516, 14219), (522, 14249), (525, 14258), (548, 14360), (561, 14420), (565, 14435), (571, 14477), (573, 14480), (589,

14600), (623, 14726), (624, 14729), (634, 14762), (638, 14798), (642, 14831), (643, 14834), (645, 14849), (648, 14861), (656, 14900), (673, 14987), (693, 15110), (700, 15143), (705, 15158), (711, 15164), (733, 15191), (740, 15233), (768, 15485), (773, 15563), (775, 15569), (778, 15617), (779, 15620), (786, 15662), (787, 15665), (796, 15761),

Gene: Douge\_16 Start: 10512, Stop: 15611, Start Num: 3

Candidate Starts for Douge\_16:

(Start: 3 @10512 has 104 MA's), (6, 10542), (8, 10551), (15, 10659), (18, 10689), (24, 10791), (26, 10815), (36, 10869), (37, 10872), (40, 10896), (42, 10902), (45, 10920), (48, 10935), (51, 10956), (54, 10968), (68, 11133), (73, 11178), (91, 11370), (93, 11388), (95, 11409), (96, 11415), (99, 11451), (102, 11493), (109, 11535), (112, 11571), (113, 11580), (115, 11595), (118, 11616), (122, 11661), (132, 11775), (139, 11835), (145, 11919), (150, 11961), (155, 12018), (160, 12093), (166, 12162), (170, 12192), (176, 12225), (184, 12273), (194, 12318), (195, 12321), (199, 12339), (213, 12420), (217, 12441), (218, 12444), (222, 12462), (237, 12537), (241, 12561), (247, 12597), (260, 12666), (273, 12711), (275, 12720), (280, 12753), (286, 12780), (291, 12804), (296, 12831), (298, 12840), (341, 13116), (350, 13170), (353, 13194), (362, 13260), (365, 13272), (366, 13281), (373, 13335), (375, 13347), (378, 13359), (388, 13386), (394, 13452), (395, 13455), (397, 13464), (402, 13500), (407, 13533), (411, 13560), (419, 13587), (420, 13590), (480, 13743), (483, 13764), (510, 13896), (516, 13947), (529, 14010), (549, 14061), (553, 14085), (564, 14130), (568, 14163), (585, 14262), (588, 14274), (614, 14376), (615, 14388), (627, 14454), (631, 14460), (632, 14463), (642, 14547), (650, 14586), (652, 14592), (657, 14625), (685, 14796), (697, 14865), (700, 14877), (707, 14904), (709, 14907), (740, 15075), (741, 15084), (743, 15090), (756, 15207), (762, 15258), (765, 15276), (767, 15291), (770, 15366), (771, 15381), (773, 15399), (775, 15405), (778, 15459), (779, 15462), (786, 15504), (796, 15603),

Gene: Douzhi\_16 Start: 10512, Stop: 15602, Start Num: 3

Candidate Starts for Douzhi\_16:

(Start: 3 @10512 has 104 MA's), (6, 10542), (8, 10551), (15, 10659), (18, 10689), (24, 10791), (26, 10815), (36, 10869), (37, 10872), (40, 10896), (42, 10902), (45, 10920), (46, 10923), (48, 10935), (51, 10956), (68, 11133), (73, 11178), (88, 11325), (91, 11370), (93, 11388), (95, 11409), (96, 11415), (99, 11451), (102, 11493), (106, 11523), (109, 11535), (112, 11571), (113, 11580), (115, 11595), (118, 11616), (122, 11661), (136, 11814), (145, 11919), (150, 11961), (154, 12015), (155, 12018), (160, 12093), (162, 12129), (166, 12162), (170, 12192), (172, 12198), (180, 12252), (184, 12273), (188, 12291), (193, 12315), (194, 12318), (195, 12321), (199, 12339), (209, 12390), (210, 12402), (211, 12408), (213, 12420), (217, 12441), (218, 12444), (221, 12459), (222, 12462), (237, 12537), (241, 12561), (247, 12597), (260, 12666), (273, 12711), (275, 12720), (280, 12753), (285, 12777), (286, 12780), (291, 12804), (296, 12831), (298, 12840), (306, 12894), (317, 12990), (341, 13116), (350, 13170), (353, 13194), (362, 13260), (365, 13272), (366, 13281), (373, 13335), (375, 13347), (378, 13359), (388, 13386), (394, 13452), (395, 13455), (397, 13464), (402, 13500), (406, 13530), (419, 13572), (420, 13575), (480, 13734), (483, 13755), (510, 13887), (516, 13938), (525, 13977), (529, 14001), (537, 14025), (549, 14052), (553, 14076), (564, 14121), (585, 14253), (588, 14265), (614, 14367), (615, 14379), (627, 14445), (631, 14451), (632, 14454), (642, 14538), (650, 14577), (652, 14583), (685, 14787), (697, 14856), (700, 14868), (707, 14895), (709, 14898), (740, 15066), (741, 15075), (743, 15081), (756, 15198), (762, 15249), (765, 15267), (767, 15282), (770, 15357), (771, 15372), (773, 15390), (775, 15396), (778, 15450), (779, 15453), (786, 15495), (796, 15594),

Gene: DrSeegs\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for DrSeegs\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142,

12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Dulcita\_27 Start: 14635, Stop: 21456, Start Num: 3

Candidate Starts for Dulcita\_27:

(Start: 3 @14635 has 104 MA's), (5, 14650), (12, 14725), (14, 14746), (17, 14785), (20, 14833), (26, 14935), (55, 15091), (66, 15235), (73, 15298), (75, 15307), (82, 15388), (85, 15412), (87, 15436), (89, 15469), (90, 15487), (91, 15490), (99, 15571), (101, 15604), (119, 15745), (129, 15871), (149, 16072), (151, 16090), (161, 16237), (164, 16267), (181, 16390), (235, 16645), (236, 16648), (242, 16681), (243, 16684), (246, 16702), (248, 16711), (252, 16726), (254, 16741), (256, 16750), (262, 16777), (279, 16855), (294, 16936), (312, 17056), (334, 17197), (338, 17230), (352, 17329), (360, 17395), (369, 17470), (379, 17542), (406, 17719), (413, 17761), (432, 17848), (433, 17851), (444, 17902), (462, 18007), (466, 18025), (469, 18037), (476, 18109), (480, 18130), (495, 18247), (502, 18283), (510, 18328), (523, 18433), (540, 18511), (543, 18526), (590, 18838), (612, 18934), (618, 18982), (623, 19018), (630, 19051), (636, 19096), (637, 19114), (649, 19201), (653, 19222), (655, 19249), (692, 19471), (715, 19570), (720, 19579), (725, 19600), (728, 19654), (730, 19666), (745, 19762), (754, 19834), (758, 19879), (781, 20137), (795, 20281), (797, 20290), (824, 20818), (826, 20935), (831, 21004), (833, 21022), (841, 21136), (843, 21166), (847, 21250), (849, 21298), (853, 21343), (857, 21430),

Gene: DuncansLeg\_17 Start: 10981, Stop: 16401, Start Num: 3

Candidate Starts for DuncansLeg\_17:

(Start: 3 @10981 has 104 MA's), (6, 11011), (8, 11020), (14, 11101), (15, 11128), (16, 11131), (23, 11230), (33, 11326), (40, 11365), (45, 11389), (46, 11392), (48, 11404), (64, 11539), (68, 11602), (73, 11647), (74, 11650), (88, 11794), (91, 11839), (98, 11899), (99, 11920), (102, 11962), (109, 12004), (113, 12049), (116, 12070), (139, 12304), (140, 12307), (150, 12430), (151, 12439), (158, 12547), (159, 12556), (171, 12664), (172, 12667), (178, 12715), (180, 12721), (184, 12742), (188, 12760), (200, 12811), (210, 12871), (218, 12913), (237, 13006), (241, 13030), (244, 13051), (247, 13066), (253, 13087), (264, 13132), (269, 13147), (283, 13222), (307, 13360), (314, 13405), (339, 13531), (342, 13546), (346, 13570), (356, 13630), (378, 13786), (388, 13813), (392, 13840), (397, 13888), (401, 13921), (411, 13981), (446, 14119), (447, 14122), (452, 14164), (486, 14338), (490, 14356), (492, 14365), (503, 14437), (511, 14485), (514, 14512), (515, 14530), (545, 14689), (558, 14746), (563, 14782), (566, 14791), (570, 14827), (581, 14905), (583, 14926), (599, 15037), (610, 15079), (611, 15085), (614, 15094), (619, 15139), (621, 15148), (628, 15193), (631, 15205), (661, 15430), (664, 15442), (678, 15514), (693, 15616), (707, 15676), (713, 15706), (714, 15712), (719, 15727), (727, 15781), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (775, 16195), (778, 16249), (779, 16252), (786, 16294), (787, 16297), (796, 16393),

Gene: DyoEdafos\_17 Start: 10725, Stop: 15818, Start Num: 3

Candidate Starts for DyoEdafos\_17:

(Start: 3 @10725 has 104 MA's), (6, 10755), (8, 10764), (15, 10872), (18, 10902), (24, 11004), (36, 11082), (37, 11085), (40, 11109), (42, 11115), (45, 11133), (48, 11148), (51, 11169), (54, 11181), (55, 11184), (68, 11346), (73, 11391), (95, 11622), (96, 11628), (99, 11664), (102, 11706), (109, 11748), (112, 11784), (113, 11793), (115, 11808), (118, 11829), (122, 11874), (139, 12048), (150, 12174),

(155, 12231), (160, 12306), (166, 12375), (170, 12405), (172, 12411), (180, 12465), (184, 12486), (195, 12534), (199, 12552), (213, 12633), (217, 12654), (218, 12657), (222, 12675), (225, 12690), (233, 12732), (237, 12750), (241, 12774), (247, 12810), (260, 12879), (271, 12906), (273, 12924), (275, 12933), (280, 12966), (285, 12990), (286, 12993), (291, 13017), (296, 13044), (298, 13053), (317, 13203), (333, 13272), (341, 13329), (353, 13407), (362, 13473), (366, 13494), (373, 13548), (375, 13560), (378, 13572), (388, 13599), (394, 13665), (395, 13668), (397, 13677), (402, 13713), (406, 13743), (419, 13785), (420, 13788), (421, 13794), (429, 13821), (479, 13941), (483, 13965), (510, 14097), (516, 14148), (549, 14262), (553, 14286), (557, 14301), (562, 14322), (564, 14331), (568, 14364), (585, 14463), (588, 14475), (614, 14577), (615, 14589), (626, 14652), (627, 14655), (642, 14748), (650, 14787), (652, 14793), (685, 14997), (700, 15078), (707, 15105), (709, 15108), (718, 15153), (741, 15285), (743, 15291), (756, 15408), (762, 15459), (765, 15477), (767, 15492), (770, 15573), (771, 15588), (773, 15606), (775, 15612), (778, 15666), (779, 15669), (786, 15711),

Gene: Ellson\_17 Start: 10989, Stop: 16409, Start Num: 3

Candidate Starts for Ellson\_17:

(Start: 3 @10989 has 104 MA's), (6, 11019), (8, 11028), (14, 11109), (15, 11136), (16, 11139), (23, 11238), (33, 11334), (40, 11373), (45, 11397), (46, 11400), (48, 11412), (64, 11547), (68, 11610), (73, 11655), (74, 11658), (88, 11802), (91, 11847), (98, 11907), (99, 11928), (109, 12012), (113, 12057), (116, 12078), (122, 12138), (139, 12312), (140, 12315), (150, 12438), (151, 12447), (158, 12555), (159, 12564), (171, 12672), (172, 12675), (178, 12723), (180, 12729), (184, 12750), (188, 12768), (200, 12819), (210, 12879), (218, 12921), (237, 13014), (241, 13038), (244, 13059), (247, 13074), (253, 13095), (264, 13140), (269, 13155), (283, 13230), (307, 13368), (314, 13413), (339, 13539), (342, 13554), (346, 13578), (356, 13638), (378, 13794), (388, 13821), (392, 13848), (397, 13896), (401, 13929), (411, 13989), (446, 14127), (447, 14130), (452, 14172), (486, 14346), (490, 14364), (492, 14373), (503, 14445), (511, 14493), (514, 14520), (515, 14538), (545, 14697), (558, 14754), (563, 14790), (566, 14799), (570, 14835), (581, 14913), (583, 14934), (599, 15045), (610, 15087), (611, 15093), (614, 15102), (619, 15147), (621, 15156), (628, 15201), (631, 15213), (661, 15438), (664, 15450), (678, 15522), (693, 15624), (705, 15672), (707, 15684), (713, 15714), (714, 15720), (719, 15735), (727, 15789), (759, 16041), (762, 16059), (765, 16077), (767, 16092), (769, 16152), (773, 16197), (775, 16203), (778, 16257), (779, 16260), (786, 16302), (787, 16305), (796, 16401),

Gene: Enceladus\_16 Start: 10839, Stop: 15770, Start Num: 3

Candidate Starts for Enceladus\_16:

(Start: 3 @10839 has 104 MA's), (6, 10869), (Start: 7 @10875 has 1 MA's), (8, 10878), (15, 10986), (20, 11046), (22, 11067), (24, 11103), (27, 11130), (28, 11133), (31, 11154), (32, 11163), (35, 11178), (39, 11205), (42, 11214), (43, 11226), (45, 11232), (49, 11256), (51, 11268), (54, 11280), (55, 11283), (58, 11298), (59, 11340), (63, 11367), (64, 11382), (73, 11490), (80, 11574), (88, 11637), (90, 11679), (93, 11700), (99, 11763), (108, 11841), (113, 11892), (120, 11961), (131, 12084), (133, 12093), (135, 12117), (136, 12126), (139, 12147), (140, 12150), (146, 12240), (155, 12330), (157, 12351), (167, 12477), (170, 12504), (171, 12507), (172, 12510), (176, 12537), (179, 12561), (182, 12570), (184, 12585), (197, 12642), (202, 12663), (205, 12675), (221, 12765), (222, 12768), (237, 12843), (251, 12915), (253, 12924), (268, 12993), (275, 13026), (289, 13095), (292, 13113), (313, 13266), (322, 13314), (323, 13317), (326, 13338), (330, 13359), (335, 13383), (336, 13407), (341, 13434), (343, 13440), (348, 13473), (349, 13476), (356, 13518), (378, 13668), (392, 13719), (393, 13722), (396, 13764), (397, 13767), (399, 13785), (402, 13803), (419, 13899), (422, 13911), (424, 13914), (443, 13959), (485, 14064), (489, 14082), (506, 14151), (507, 14160), (508, 14166), (512, 14202), (516, 14220), (522, 14250), (525, 14259), (548, 14361), (561, 14421), (565, 14436), (571, 14478), (573, 14481), (589, 14601), (623, 14727), (624, 14730), (634, 14763), (638, 14799), (642, 14832), (643, 14835), (645, 14850), (648, 14862), (656, 14901), (673, 14988), (693, 15111), (700, 15144), (705, 15159), (711, 15165), (733, 15192), (740, 15234), (768, 15486), (773, 15564), (775, 15570), (778, 15618), (779, 15621), (786, 15663), (787, 15666), (796, 15762),

Gene: EniyanLRS\_35 Start: 17426, Stop: 23401, Start Num: 3

Candidate Starts for EniyanLRS\_35:

(Start: 3 @17426 has 104 MA's), (10, 17495), (11, 17507), (26, 17708), (30, 17726), (41, 17792), (52, 17855), (56, 17870), (57, 17873), (61, 17942), (68, 18047), (70, 18059), (71, 18074), (73, 18092), (79, 18170), (80, 18176), (84, 18197), (88, 18239), (91, 18284), (92, 18293), (93, 18302), (95, 18323), (97, 18344), (100, 18389), (102, 18422), (105, 18446), (107, 18455), (110, 18476), (119, 18554), (125, 18626), (126, 18635), (128, 18668), (137, 18749), (138, 18752), (151, 18893), (153, 18938), (158, 19007), (164, 19070), (169, 19103), (171, 19124), (175, 19154), (177, 19166), (178, 19184), (179, 19187), (184, 19211), (191, 19244), (203, 19304), (204, 19310), (207, 19322), (208, 19334), (212, 19364), (222, 19418), (225, 19439), (231, 19469), (232, 19481), (236, 19505), (237, 19511), (245, 19565), (249, 19577), (255, 19619), (257, 19634), (261, 19652), (266, 19670), (277, 19724), (278, 19733), (297, 19850), (298, 19853), (304, 19877), (307, 19943), (317, 20042), (318, 20045), (320, 20057), (344, 20198), (351, 20267), (368, 20393), (370, 20435), (383, 20489), (384, 20492), (390, 20507), (392, 20543), (398, 20597), (402, 20627), (403, 20642), (410, 20675), (426, 20747), (431, 20771), (439, 20810), (449, 20846), (458, 20921), (505, 21221), (518, 21314), (520, 21341), (539, 21449), (544, 21470), (547, 21488), (555, 21527), (575, 21656), (577, 21671), (584, 21758), (586, 21767), (592, 21812), (600, 21854), (605, 21878), (609, 21896), (612, 21911), (625, 22022), (629, 22034), (633, 22058), (642, 22151), (643, 22154), (645, 22169), (651, 22205), (653, 22214), (654, 22226), (664, 22310), (666, 22316), (667, 22319), (671, 22346), (677, 22382), (679, 22403), (681, 22406), (684, 22439), (691, 22472), (695, 22496), (699, 22517), (701, 22532), (706, 22547), (708, 22556), (724, 22622), (734, 22745), (737, 22769), (744, 22814), (747, 22835), (752, 22880), (755, 22910), (767, 23021), (776, 23135), (778, 23186), (780, 23195), (788, 23240), (789, 23282), (791, 23288), (792, 23300), (799, 23354), (800, 23357),

Gene: Estes\_31 Start: 15359, Stop: 22177, Start Num: 3

Candidate Starts for Estes\_31:

(Start: 3 @15359 has 104 MA's), (12, 15449), (17, 15509), (19, 15551), (50, 15791), (56, 15821), (61, 15893), (66, 15959), (72, 16010), (73, 16022), (75, 16031), (83, 16118), (86, 16151), (89, 16193), (90, 16211), (117, 16442), (133, 16619), (139, 16673), (148, 16781), (151, 16808), (164, 16985), (168, 17015), (170, 17036), (179, 17102), (181, 17108), (186, 17132), (191, 17159), (192, 17162), (201, 17201), (206, 17219), (236, 17378), (258, 17507), (281, 17615), (324, 17903), (329, 17933), (332, 17948), (340, 18008), (360, 18152), (369, 18230), (371, 18257), (400, 18434), (401, 18446), (408, 18485), (412, 18512), (433, 18611), (440, 18641), (442, 18650), (459, 18755), (462, 18776), (488, 18959), (523, 19190), (524, 19193), (534, 19256), (551, 19331), (553, 19346), (595, 19631), (607, 19676), (616, 19739), (636, 19862), (644, 19934), (647, 19946), (658, 20024), (675, 20111), (710, 20306), (726, 20381), (748, 20549), (751, 20561), (757, 20633), (758, 20642), (809, 21230), (814, 21320), (818, 21413), (819, 21443), (823, 21515), (826, 21644), (830, 21725), (837, 21839), (838, 21851), (847, 21974), (848, 22016), (851, 22055), (857, 22151),

Gene: Faith1\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Faith1\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627,

14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: FarmResident\_16 Start: 10556, Stop: 15655, Start Num: 3

Candidate Starts for FarmResident\_16:

(Start: 3 @10556 has 104 MA's), (6, 10586), (8, 10595), (15, 10703), (18, 10733), (24, 10835), (26, 10859), (36, 10913), (37, 10916), (40, 10940), (42, 10946), (45, 10964), (48, 10979), (51, 11000), (54, 11012), (68, 11177), (73, 11222), (91, 11414), (93, 11432), (95, 11453), (96, 11459), (99, 11495), (102, 11537), (109, 11579), (112, 11615), (113, 11624), (115, 11639), (118, 11660), (122, 11705), (145, 11963), (150, 12005), (155, 12062), (160, 12137), (166, 12206), (170, 12236), (180, 12296), (184, 12317), (188, 12335), (193, 12359), (194, 12362), (195, 12365), (199, 12383), (209, 12434), (210, 12446), (211, 12452), (213, 12464), (217, 12485), (218, 12488), (221, 12503), (222, 12506), (237, 12581), (241, 12605), (247, 12641), (260, 12710), (273, 12755), (275, 12764), (280, 12797), (285, 12821), (286, 12824), (291, 12848), (296, 12875), (298, 12884), (306, 12938), (341, 13160), (350, 13214), (353, 13238), (362, 13304), (365, 13316), (366, 13325), (373, 13379), (375, 13391), (378, 13403), (388, 13430), (394, 13496), (395, 13499), (397, 13508), (402, 13544), (407, 13577), (411, 13604), (419, 13631), (420, 13634), (480, 13787), (483, 13808), (510, 13940), (516, 13991), (529, 14054), (549, 14105), (553, 14129), (564, 14174), (568, 14207), (585, 14306), (588, 14318), (614, 14420), (615, 14432), (627, 14498), (631, 14504), (632, 14507), (642, 14591), (650, 14630), (652, 14636), (657, 14669), (685, 14840), (697, 14909), (700, 14921), (707, 14948), (709, 14951), (740, 15119), (741, 15128), (743, 15134), (756, 15251), (762, 15302), (765, 15320), (767, 15335), (770, 15410), (771, 15425), (773, 15443), (775, 15449), (778, 15503), (779, 15506), (786, 15548), (796, 15647),

Gene: Finemlucis\_16 Start: 10856, Stop: 15991, Start Num: 3

Candidate Starts for Finemlucis\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (94, 11702), (98, 11738), (99, 11759), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (265, 12977), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (411, 13868), (449, 13973), (479, 14060), (480, 14063), (482, 14078), (490, 14114), (510, 14210), (516, 14261), (525, 14300), (530, 14336), (532, 14345), (541, 14378), (549, 14405), (553, 14429), (554, 14435), (560, 14456), (562, 14465), (564, 14474), (568, 14507), (569, 14510), (598, 14675), (606, 14699), (614, 14729), (615, 14741), (617, 14759), (626, 14804), (627, 14807), (642, 14900), (685, 15149), (693, 15197), (707, 15257), (712, 15284), (713, 15290), (716, 15299), (718, 15308), (740, 15458), (746, 15491), (756, 15590), (759, 15623), (760, 15632), (764, 15653), (773, 15785), (775, 15791), (778, 15839), (784, 15869), (786, 15884), (796, 15983),

Gene: Finnry\_17 Start: 10973, Stop: 16405, Start Num: 3

Candidate Starts for Finnry\_17:

(Start: 3 @10973 has 104 MA's), (6, 11003), (8, 11012), (14, 11093), (15, 11120), (16, 11123), (23, 11222), (33, 11318), (37, 11333), (40, 11357), (45, 11381), (46, 11384), (48, 11396), (64, 11531), (68, 11594), (73, 11639), (74, 11642), (88, 11786), (93, 11849), (99, 11912), (109, 11996), (116, 12062), (134, 12251), (139, 12296), (140, 12299), (150, 12422), (151, 12431), (158, 12539), (159, 12548), (171, 12656), (172, 12659), (177, 12689), (178, 12707), (180, 12713), (184, 12734), (188, 12752), (200, 12803), (210, 12863), (213, 12881), (218, 12905), (237, 12998), (241, 13022), (244, 13043), (247, 13058), (253, 13079), (264, 13124), (269, 13139), (283, 13214), (307, 13352), (314, 13397),

(339, 13523), (342, 13538), (346, 13562), (347, 13568), (348, 13574), (356, 13622), (378, 13778), (388, 13805), (392, 13832), (397, 13880), (401, 13913), (402, 13916), (411, 13973), (446, 14111), (447, 14114), (486, 14333), (490, 14351), (492, 14360), (503, 14435), (511, 14483), (514, 14510), (515, 14528), (545, 14684), (558, 14741), (563, 14777), (566, 14786), (570, 14822), (581, 14900), (583, 14921), (593, 15005), (599, 15032), (610, 15074), (611, 15080), (614, 15089), (619, 15134), (621, 15143), (628, 15188), (631, 15200), (661, 15425), (678, 15509), (693, 15611), (705, 15659), (707, 15671), (713, 15701), (714, 15707), (719, 15722), (727, 15776), (756, 16004), (759, 16037), (762, 16055), (765, 16073), (767, 16088), (769, 16148), (773, 16193), (778, 16253), (786, 16298), (787, 16301), (796, 16397),

Gene: FreakyGoo\_27 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for FreakyGoo\_27:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396), (369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284), (510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: Gabriela\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Gabriela\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (606, 14693), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (760, 15626), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Gardann\_16 Start: 10855, Stop: 15990, Start Num: 3

Candidate Starts for Gardann\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113,

11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222, 12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (411, 13867), (449, 13972), (479, 14059), (480, 14062), (482, 14077), (490, 14113), (510, 14209), (516, 14260), (525, 14299), (530, 14335), (532, 14344), (541, 14377), (549, 14404), (553, 14428), (554, 14434), (560, 14455), (562, 14464), (564, 14473), (568, 14506), (569, 14509), (598, 14674), (606, 14698), (614, 14728), (615, 14740), (617, 14758), (626, 14803), (627, 14806), (642, 14899), (685, 15148), (693, 15196), (707, 15256), (712, 15283), (713, 15289), (716, 15298), (718, 15307), (740, 15457), (746, 15490), (756, 15589), (759, 15622), (760, 15631), (764, 15652), (773, 15784), (775, 15790), (778, 15838), (784, 15868), (786, 15883), (796, 15982),

Gene: GardenSalsa\_30 Start: 15195, Stop: 22001, Start Num: 3

Candidate Starts for GardenSalsa\_30:

(Start: 3 @15195 has 104 MA's), (12, 15285), (17, 15345), (19, 15387), (50, 15627), (56, 15657), (61, 15729), (66, 15795), (72, 15846), (73, 15858), (75, 15867), (83, 15954), (86, 15987), (89, 16029), (90, 16047), (117, 16278), (123, 16344), (133, 16455), (139, 16509), (148, 16617), (151, 16644), (164, 16821), (168, 16851), (170, 16872), (179, 16938), (181, 16944), (186, 16968), (191, 16995), (192, 16998), (201, 17037), (206, 17055), (236, 17214), (250, 17289), (258, 17343), (281, 17451), (324, 17739), (329, 17769), (332, 17784), (340, 17844), (355, 17940), (360, 17988), (369, 18066), (371, 18093), (373, 18105), (400, 18270), (401, 18282), (408, 18321), (412, 18348), (433, 18447), (440, 18477), (442, 18486), (459, 18591), (462, 18612), (488, 18795), (523, 19026), (524, 19029), (534, 19092), (551, 19167), (553, 19182), (595, 19467), (616, 19563), (636, 19686), (644, 19758), (647, 19770), (658, 19848), (675, 19935), (710, 20130), (713, 20142), (726, 20205), (748, 20373), (751, 20385), (757, 20457), (758, 20466), (809, 21054), (814, 21144), (818, 21237), (819, 21267), (823, 21339), (826, 21468), (830, 21549), (837, 21663), (838, 21675), (845, 21783), (847, 21798), (851, 21879), (857, 21975),

Gene: GenevaB15\_30 Start: 15222, Stop: 22046, Start Num: 3

Candidate Starts for GenevaB15\_30:

(Start: 3 @15222 has 104 MA's), (12, 15312), (17, 15372), (19, 15414), (50, 15654), (56, 15684), (66, 15822), (72, 15873), (73, 15885), (75, 15894), (83, 15981), (86, 16014), (90, 16074), (117, 16305), (123, 16371), (130, 16461), (133, 16482), (139, 16536), (148, 16644), (151, 16671), (164, 16848), (168, 16878), (179, 16965), (181, 16971), (186, 16995), (191, 17022), (192, 17025), (201, 17064), (206, 17082), (236, 17241), (250, 17316), (258, 17370), (281, 17478), (282, 17484), (324, 17766), (329, 17796), (332, 17811), (340, 17871), (358, 17985), (360, 18015), (369, 18093), (371, 18120), (400, 18297), (401, 18309), (408, 18348), (433, 18474), (440, 18504), (442, 18513), (459, 18618), (462, 18639), (488, 18822), (523, 19053), (524, 19056), (534, 19119), (551, 19194), (595, 19494), (636, 19731), (644, 19803), (647, 19815), (658, 19893), (675, 19980), (710, 20175), (726, 20250), (748, 20418), (751, 20430), (757, 20502), (758, 20511), (809, 21099), (814, 21189), (815, 21213), (818, 21282), (819, 21312), (823, 21384), (826, 21513), (830, 21594), (837, 21708), (838, 21720), (839, 21735), (847, 21843), (851, 21924), (857, 22020),

Gene: Glaske16\_27 Start: 14635, Stop: 21456, Start Num: 3

Candidate Starts for Glaske16\_27:

(Start: 3 @14635 has 104 MA's), (5, 14650), (12, 14725), (14, 14746), (17, 14785), (20, 14833), (26, 14935), (55, 15091), (66, 15235), (73, 15298), (75, 15307), (82, 15388), (85, 15412), (87, 15436), (89, 15469), (90, 15487), (91, 15490), (99, 15571), (101, 15604), (119, 15745), (129, 15871), (149, 16072), (151, 16090), (161, 16237), (164, 16267), (181, 16390), (235, 16645), (236, 16648), (242, 16681), (243, 16684), (246, 16702), (248, 16711), (252, 16726), (254, 16741), (256, 16750), (262, 16777), (279, 16855), (294, 16936), (312, 17056), (334, 17197), (338, 17230), (352, 17329), (360, 17395),

(369, 17470), (379, 17542), (406, 17719), (413, 17761), (432, 17848), (433, 17851), (444, 17902), (462, 18007), (466, 18025), (469, 18037), (476, 18109), (480, 18130), (495, 18247), (502, 18283), (510, 18328), (523, 18433), (540, 18511), (543, 18526), (590, 18838), (612, 18934), (618, 18982), (623, 19018), (630, 19051), (636, 19096), (637, 19114), (649, 19201), (653, 19222), (655, 19249), (692, 19471), (715, 19570), (720, 19579), (725, 19600), (728, 19654), (730, 19666), (745, 19762), (754, 19834), (758, 19879), (781, 20137), (795, 20281), (797, 20290), (824, 20818), (826, 20935), (831, 21004), (833, 21022), (841, 21136), (843, 21166), (847, 21250), (849, 21298), (853, 21343), (857, 21430),

Gene: GuuelaD\_16 Start: 10890, Stop: 16019, Start Num: 3

Candidate Starts for GuuelaD\_16:

(Start: 3 @10890 has 104 MA's), (Start: 7 @10926 has 1 MA's), (8, 10929), (13, 10992), (15, 11037), (19, 11091), (30, 11175), (31, 11184), (40, 11238), (44, 11259), (45, 11262), (46, 11265), (49, 11286), (51, 11298), (54, 11310), (58, 11328), (60, 11373), (64, 11412), (68, 11475), (73, 11520), (74, 11523), (76, 11541), (78, 11583), (90, 11709), (94, 11736), (98, 11772), (99, 11793), (104, 11844), (113, 11922), (118, 11958), (120, 11991), (131, 12114), (139, 12177), (140, 12180), (141, 12201), (147, 12282), (150, 12303), (154, 12357), (163, 12474), (166, 12504), (170, 12534), (172, 12540), (187, 12630), (189, 12639), (196, 12669), (197, 12672), (201, 12690), (202, 12693), (214, 12759), (215, 12765), (220, 12789), (222, 12798), (224, 12810), (227, 12825), (237, 12873), (241, 12897), (244, 12918), (247, 12933), (251, 12945), (265, 13011), (275, 13059), (315, 13314), (319, 13335), (338, 13422), (341, 13443), (345, 13461), (361, 13584), (363, 13596), (388, 13725), (397, 13806), (402, 13842), (449, 13998), (479, 14085), (482, 14103), (490, 14139), (510, 14235), (525, 14319), (528, 14346), (532, 14367), (541, 14400), (553, 14451), (554, 14457), (560, 14478), (564, 14496), (568, 14529), (569, 14532), (591, 14679), (598, 14700), (606, 14724), (614, 14754), (615, 14766), (617, 14784), (626, 14829), (627, 14832), (642, 14925), (676, 15114), (685, 15174), (707, 15282), (712, 15309), (713, 15315), (718, 15333), (746, 15516), (756, 15615), (759, 15648), (760, 15657), (764, 15678), (773, 15813), (775, 15819), (778, 15867), (779, 15870), (786, 15912), (796, 16011),

Gene: Hafay\_16 Start: 10889, Stop: 16018, Start Num: 3

Candidate Starts for Hafay\_16:

(Start: 3 @10889 has 104 MA's), (6, 10919), (Start: 7 @10925 has 1 MA's), (8, 10928), (13, 10991), (15, 11036), (16, 11039), (26, 11156), (31, 11183), (35, 11207), (40, 11237), (44, 11258), (46, 11264), (64, 11411), (68, 11474), (73, 11519), (74, 11522), (76, 11540), (78, 11582), (94, 11735), (98, 11771), (99, 11792), (105, 11858), (109, 11876), (113, 11921), (118, 11957), (127, 12077), (130, 12101), (139, 12176), (140, 12179), (141, 12200), (142, 12203), (143, 12227), (146, 12269), (150, 12302), (163, 12473), (166, 12503), (170, 12533), (187, 12629), (189, 12638), (195, 12662), (197, 12671), (202, 12692), (214, 12758), (220, 12788), (222, 12797), (225, 12812), (227, 12824), (237, 12872), (241, 12896), (247, 12932), (251, 12944), (265, 13010), (275, 13058), (319, 13334), (338, 13421), (341, 13442), (361, 13583), (363, 13595), (376, 13688), (385, 13718), (388, 13724), (397, 13805), (402, 13841), (449, 14000), (479, 14087), (480, 14090), (482, 14105), (490, 14141), (510, 14237), (516, 14288), (525, 14327), (530, 14363), (532, 14372), (541, 14405), (549, 14432), (553, 14456), (554, 14462), (560, 14483), (562, 14492), (564, 14501), (568, 14534), (569, 14537), (598, 14702), (606, 14726), (614, 14756), (615, 14768), (617, 14786), (626, 14831), (627, 14834), (642, 14927), (685, 15176), (693, 15224), (707, 15284), (712, 15311), (713, 15317), (716, 15326), (718, 15335), (740, 15485), (746, 15518), (756, 15617), (759, 15650), (760, 15659), (764, 15680), (773, 15812), (775, 15818), (778, 15866), (784, 15896), (786, 15911), (796, 16010),

Gene: Halena\_16 Start: 10837, Stop: 15777, Start Num: 3

Candidate Starts for Halena\_16:

(Start: 3 @10837 has 104 MA's), (6, 10867), (Start: 7 @10873 has 1 MA's), (8, 10876), (15, 10984), (20, 11044), (22, 11065), (24, 11101), (27, 11128), (28, 11131), (31, 11152), (32, 11161), (35, 11176), (37, 11182), (39, 11203), (40, 11206), (42, 11212), (43, 11224), (45, 11230), (49, 11254), (51, 11266), (54, 11278), (55, 11281), (59, 11338), (63, 11365), (64, 11380), (73, 11488), (80, 11572), (88, 11635),

(90, 11677), (93, 11698), (99, 11761), (108, 11839), (113, 11890), (120, 11959), (131, 12082), (133, 12091), (135, 12115), (136, 12124), (139, 12145), (140, 12148), (146, 12238), (155, 12328), (167, 12475), (170, 12502), (171, 12505), (172, 12508), (176, 12535), (179, 12559), (182, 12568), (197, 12640), (202, 12661), (205, 12673), (221, 12763), (222, 12766), (237, 12841), (251, 12913), (253, 12922), (268, 12991), (275, 13024), (289, 13093), (292, 13111), (313, 13264), (322, 13312), (323, 13315), (326, 13336), (330, 13357), (335, 13381), (341, 13432), (343, 13438), (348, 13471), (349, 13474), (354, 13507), (356, 13516), (378, 13666), (393, 13720), (396, 13762), (397, 13765), (399, 13783), (402, 13801), (412, 13864), (419, 13897), (422, 13909), (424, 13912), (438, 13948), (449, 13966), (481, 14053), (485, 14062), (489, 14080), (506, 14146), (507, 14155), (508, 14161), (512, 14197), (516, 14215), (522, 14245), (548, 14356), (561, 14416), (565, 14431), (571, 14473), (573, 14476), (589, 14596), (623, 14722), (624, 14725), (634, 14758), (638, 14794), (643, 14830), (645, 14845), (648, 14857), (673, 14983), (693, 15106), (700, 15139), (733, 15199), (740, 15241), (768, 15493), (773, 15571), (775, 15577), (778, 15625), (779, 15628), (786, 15670), (787, 15673), (796, 15769),

Gene: IPhane7\_26 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for IPhane7\_26:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396), (369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284), (510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: Itos\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Itos\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Izel\_27 Start: 14635, Stop: 21456, Start Num: 3

Candidate Starts for Izel\_27:

(Start: 3 @14635 has 104 MA's), (5, 14650), (12, 14725), (14, 14746), (17, 14785), (20, 14833), (26, 14935), (55, 15091), (66, 15235), (73, 15298), (75, 15307), (82, 15388), (85, 15412), (87, 15436), (89, 15469), (90, 15487), (91, 15490), (99, 15571), (101, 15604), (119, 15745), (129, 15871), (149, 16072), (151, 16090), (161, 16237), (164, 16267), (181, 16390), (235, 16645), (236, 16648), (242, 16681), (243, 16684), (246, 16702), (248, 16711), (252, 16726), (254, 16741), (256, 16750), (262, 16777), (279, 16855), (294, 16936), (312, 17056), (334, 17197), (338, 17230), (352, 17329), (360, 17395), (369, 17470), (379, 17542), (406, 17719), (413, 17761), (432, 17848), (433, 17851), (444, 17902), (462, 18007), (466, 18025), (469, 18037), (476, 18109), (480, 18130), (495, 18247), (502, 18283), (510, 18328), (523, 18433), (540, 18511), (543, 18526), (590, 18838), (612, 18934), (618, 18982), (623, 19018), (630, 19051), (636, 19096), (637, 19114), (649, 19201), (653, 19222), (655, 19249), (692, 19471), (715, 19570), (720, 19579), (725, 19600), (728, 19654), (730, 19666), (745, 19762), (754, 19834), (758, 19879), (781, 20137), (795, 20281), (797, 20290), (824, 20818), (826, 20935), (831, 21004), (833, 21022), (841, 21136), (843, 21166), (847, 21250), (849, 21298), (853, 21343), (857, 21430),

Gene: Jobypre\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for Jobypre\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736), (188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (509, 14464), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: JoeDirt\_16 Start: 10837, Stop: 15768, Start Num: 3

Candidate Starts for JoeDirt\_16:

(Start: 3 @10837 has 104 MA's), (6, 10867), (Start: 7 @10873 has 1 MA's), (8, 10876), (15, 10984), (20, 11044), (22, 11065), (24, 11101), (27, 11128), (28, 11131), (31, 11152), (32, 11161), (35, 11176), (37, 11182), (39, 11203), (40, 11206), (42, 11212), (43, 11224), (45, 11230), (49, 11254), (51, 11266), (54, 11278), (55, 11281), (59, 11338), (63, 11365), (64, 11380), (73, 11488), (80, 11572), (88, 11635), (90, 11677), (93, 11698), (99, 11761), (108, 11839), (113, 11890), (120, 11959), (131, 12082), (133, 12091), (135, 12115), (136, 12124), (139, 12145), (140, 12148), (146, 12238), (155, 12328), (167, 12475), (170, 12502), (171, 12505), (172, 12508), (176, 12535), (179, 12559), (182, 12568), (197, 12640), (202, 12661), (205, 12673), (221, 12763), (222, 12766), (237, 12841), (251, 12913), (253, 12922), (268, 12991), (275, 13024), (289, 13093), (292, 13111), (313, 13264), (322, 13312), (323, 13315), (326, 13336), (330, 13357), (335, 13381), (341, 13432), (343, 13438), (348, 13471), (349, 13474), (354, 13507), (356, 13516), (378, 13666), (393, 13720), (396, 13762), (397, 13765), (399, 13783), (402, 13801), (412, 13864), (419, 13897), (422, 13909), (424, 13912), (443, 13957), (485, 14062), (489, 14080), (506, 14149), (507, 14158), (508, 14164), (512, 14200), (516, 14218), (522, 14248), (548, 14359), (561, 14419), (565, 14434), (571, 14476), (573, 14479), (589, 14599), (623, 14725), (624, 14728), (634, 14761), (638, 14797), (642, 14830), (643, 14833), (645, 14848), (648, 14860), (656, 14899), (673, 14986), (693, 15109), (700, 15142), (705, 15157), (711, 15163), (733, 15190), (740, 15232), (768, 15484), (773, 15562), (775, 15568), (778, 15616), (779, 15619), (786,

15661), (787, 15664), (796, 15760),

Gene: Jubie\_17 Start: 10976, Stop: 16402, Start Num: 3

Candidate Starts for Jubie\_17:

(Start: 3 @10976 has 104 MA's), (6, 11006), (8, 11015), (14, 11096), (15, 11123), (16, 11126), (23, 11225), (33, 11321), (37, 11336), (40, 11360), (45, 11384), (46, 11387), (48, 11399), (64, 11534), (68, 11597), (73, 11642), (74, 11645), (88, 11789), (93, 11852), (98, 11894), (99, 11915), (109, 11999), (116, 12065), (134, 12254), (139, 12299), (140, 12302), (150, 12425), (151, 12434), (158, 12542), (159, 12551), (171, 12659), (172, 12662), (177, 12692), (178, 12710), (180, 12716), (184, 12737), (188, 12755), (200, 12806), (210, 12866), (213, 12884), (218, 12908), (237, 13001), (241, 13025), (244, 13046), (247, 13061), (253, 13082), (264, 13127), (269, 13142), (283, 13217), (307, 13355), (314, 13400), (339, 13526), (342, 13541), (346, 13565), (347, 13571), (348, 13577), (356, 13625), (378, 13781), (388, 13808), (392, 13835), (397, 13883), (401, 13916), (402, 13919), (407, 13949), (411, 13976), (446, 14114), (447, 14117), (452, 14153), (486, 14330), (490, 14348), (492, 14357), (498, 14399), (503, 14429), (509, 14465), (511, 14477), (514, 14504), (515, 14522), (545, 14681), (558, 14738), (563, 14774), (566, 14783), (570, 14819), (581, 14897), (583, 14918), (593, 15002), (599, 15029), (610, 15071), (611, 15077), (614, 15086), (619, 15131), (621, 15140), (628, 15185), (631, 15197), (661, 15422), (664, 15434), (678, 15506), (693, 15608), (707, 15668), (713, 15698), (714, 15704), (719, 15719), (727, 15773), (756, 16001), (759, 16034), (762, 16052), (765, 16070), (767, 16085), (769, 16145), (773, 16190), (778, 16250), (786, 16295), (787, 16298), (796, 16394),

Gene: Kahlid\_16 Start: 10855, Stop: 15990, Start Num: 3

Candidate Starts for Kahlid\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113, 11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222, 12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (265, 12976), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (411, 13867), (449, 13972), (479, 14059), (480, 14062), (482, 14077), (490, 14113), (510, 14209), (516, 14260), (525, 14299), (530, 14335), (532, 14344), (541, 14377), (549, 14404), (553, 14428), (554, 14434), (560, 14455), (562, 14464), (564, 14473), (568, 14506), (569, 14509), (598, 14674), (606, 14698), (614, 14728), (615, 14740), (617, 14758), (626, 14803), (627, 14806), (642, 14899), (685, 15148), (693, 15196), (707, 15256), (712, 15283), (713, 15289), (716, 15298), (718, 15307), (740, 15457), (746, 15490), (756, 15589), (759, 15622), (760, 15631), (764, 15652), (773, 15784), (775, 15790), (778, 15838), (784, 15868), (786, 15883), (796, 15982),

Gene: Kingsolomon\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for Kingsolomon\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736), (188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356),

(498, 14398), (503, 14428), (509, 14464), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: KirDoubleO7\_15 Start: 10990, Stop: 16410, Start Num: 3

Candidate Starts for KirDoubleO7\_15:

(Start: 3 @10990 has 104 MA's), (6, 11020), (8, 11029), (14, 11110), (15, 11137), (16, 11140), (23, 11239), (33, 11335), (40, 11374), (45, 11398), (46, 11401), (48, 11413), (64, 11548), (68, 11611), (73, 11656), (74, 11659), (88, 11803), (91, 11848), (98, 11908), (99, 11929), (109, 12013), (113, 12058), (116, 12079), (136, 12292), (139, 12313), (140, 12316), (150, 12439), (151, 12448), (158, 12556), (159, 12565), (171, 12673), (172, 12676), (178, 12724), (180, 12730), (184, 12751), (188, 12769), (200, 12820), (210, 12880), (218, 12922), (237, 13015), (241, 13039), (244, 13060), (247, 13075), (253, 13096), (264, 13141), (269, 13156), (283, 13231), (307, 13369), (314, 13414), (339, 13540), (342, 13555), (346, 13579), (356, 13639), (378, 13795), (388, 13822), (392, 13849), (397, 13897), (401, 13930), (411, 13990), (446, 14128), (447, 14131), (452, 14173), (486, 14347), (490, 14365), (492, 14374), (503, 14446), (511, 14494), (514, 14521), (515, 14539), (545, 14698), (558, 14755), (563, 14791), (566, 14800), (570, 14836), (581, 14914), (583, 14935), (599, 15046), (610, 15088), (611, 15094), (614, 15103), (619, 15148), (621, 15157), (628, 15202), (631, 15214), (661, 15439), (664, 15451), (678, 15523), (693, 15625), (705, 15673), (707, 15685), (713, 15715), (714, 15721), (719, 15736), (727, 15790), (759, 16042), (762, 16060), (765, 16078), (767, 16093), (769, 16153), (773, 16198), (775, 16204), (778, 16258), (779, 16261), (786, 16303), (787, 16306), (796, 16402),

Gene: KleverKiS\_26 Start: 14619, Stop: 21440, Start Num: 3

Candidate Starts for KleverKiS\_26:

(Start: 3 @14619 has 104 MA's), (5, 14634), (12, 14709), (14, 14730), (17, 14769), (20, 14817), (26, 14919), (55, 15075), (66, 15219), (73, 15282), (75, 15291), (82, 15372), (85, 15396), (87, 15420), (89, 15453), (90, 15471), (91, 15474), (99, 15555), (101, 15588), (119, 15729), (129, 15855), (149, 16056), (151, 16074), (161, 16221), (164, 16251), (181, 16374), (235, 16629), (236, 16632), (242, 16665), (243, 16668), (246, 16686), (248, 16695), (252, 16710), (254, 16725), (256, 16734), (262, 16761), (279, 16839), (294, 16920), (312, 17040), (334, 17181), (338, 17214), (352, 17313), (360, 17379), (369, 17454), (379, 17526), (406, 17703), (413, 17745), (432, 17832), (433, 17835), (444, 17886), (462, 17991), (466, 18009), (469, 18021), (476, 18093), (480, 18114), (495, 18231), (502, 18267), (510, 18312), (523, 18417), (540, 18495), (543, 18510), (590, 18822), (612, 18918), (618, 18966), (623, 19002), (630, 19035), (636, 19080), (637, 19098), (649, 19185), (653, 19206), (655, 19233), (692, 19455), (715, 19554), (720, 19563), (725, 19584), (728, 19638), (730, 19650), (754, 19818), (758, 19863), (781, 20121), (795, 20265), (797, 20274), (824, 20802), (826, 20919), (831, 20988), (833, 21006), (841, 21120), (843, 21150), (847, 21234), (849, 21282), (853, 21327), (857, 21414),

Gene: Kropertea\_16 Start: 10531, Stop: 15624, Start Num: 3

Candidate Starts for Kropertea\_16:

(Start: 3 @10531 has 104 MA's), (6, 10561), (8, 10570), (15, 10678), (18, 10708), (24, 10810), (26, 10834), (36, 10888), (37, 10891), (40, 10915), (42, 10921), (45, 10939), (48, 10954), (51, 10975), (54, 10987), (68, 11152), (73, 11197), (95, 11428), (96, 11434), (99, 11470), (102, 11512), (109, 11554), (112, 11590), (113, 11599), (115, 11614), (118, 11635), (122, 11680), (139, 11854), (150, 11980), (155, 12037), (160, 12112), (166, 12181), (170, 12211), (172, 12217), (180, 12271), (184, 12292), (195, 12340), (199, 12358), (213, 12439), (217, 12460), (218, 12463), (222, 12481), (225, 12496), (237, 12556), (241, 12580), (247, 12616), (260, 12685), (271, 12712), (273, 12730), (275, 12739), (280, 12772), (285, 12796), (286, 12799), (291, 12823), (298, 12859), (317, 13009), (333, 13078), (341, 13135), (353, 13213), (362, 13279), (366, 13300), (373, 13354), (375, 13366), (378, 13378), (388, 13405), (394, 13471), (395, 13474), (397, 13483), (402, 13519), (406, 13549), (419, 13591),

(420, 13594), (421, 13600), (429, 13627), (453, 13681), (479, 13747), (483, 13771), (510, 13903), (516, 13954), (525, 13993), (549, 14068), (553, 14092), (557, 14107), (562, 14128), (564, 14137), (568, 14170), (585, 14269), (588, 14281), (614, 14383), (615, 14395), (626, 14458), (627, 14461), (642, 14554), (650, 14593), (652, 14599), (685, 14803), (700, 14884), (707, 14911), (709, 14914), (718, 14959), (741, 15091), (743, 15097), (756, 15214), (759, 15247), (762, 15265), (765, 15283), (767, 15298), (770, 15379), (771, 15394), (773, 15412), (775, 15418), (778, 15472), (779, 15475), (786, 15517),

Gene: Krypton555\_17 Start: 10964, Stop: 16339, Start Num: 3

Candidate Starts for Krypton555\_17:

(Start: 3 @10964 has 104 MA's), (6, 10994), (8, 11003), (14, 11084), (15, 11111), (16, 11114), (23, 11213), (33, 11309), (37, 11324), (40, 11348), (45, 11372), (46, 11375), (48, 11387), (64, 11522), (68, 11585), (73, 11630), (74, 11633), (88, 11777), (98, 11882), (99, 11903), (109, 11987), (116, 12053), (139, 12287), (140, 12290), (150, 12413), (151, 12422), (158, 12530), (159, 12539), (171, 12647), (172, 12650), (177, 12680), (178, 12698), (180, 12704), (184, 12725), (188, 12743), (200, 12794), (210, 12854), (218, 12896), (237, 12989), (241, 13013), (244, 13034), (247, 13049), (253, 13070), (264, 13115), (269, 13130), (283, 13205), (307, 13343), (314, 13388), (339, 13514), (346, 13553), (348, 13565), (356, 13613), (380, 13781), (388, 13796), (392, 13823), (397, 13871), (401, 13904), (402, 13907), (407, 13937), (411, 13964), (452, 14147), (457, 14165), (486, 14324), (490, 14342), (492, 14351), (511, 14423), (514, 14450), (515, 14468), (545, 14627), (558, 14684), (561, 14711), (563, 14720), (566, 14729), (570, 14765), (581, 14843), (583, 14864), (599, 14975), (610, 15017), (611, 15023), (614, 15032), (619, 15077), (621, 15086), (628, 15131), (631, 15143), (661, 15368), (664, 15380), (678, 15452), (693, 15554), (707, 15614), (713, 15644), (714, 15650), (719, 15665), (727, 15719), (756, 15938), (759, 15971), (762, 15989), (765, 16007), (767, 16022), (769, 16082), (773, 16127), (778, 16187), (786, 16232), (787, 16235), (796, 16331),

Gene: Kumao\_26 Start: 14486, Stop: 20476, Start Num: 2

Candidate Starts for Kumao\_26:

(Start: 2 @14486 has 1 MA's), (17, 14636), (56, 14927), (69, 15089), (87, 15266), (91, 15320), (99, 15410), (101, 15443), (106, 15482), (109, 15494), (111, 15518), (114, 15551), (121, 15617), (122, 15620), (128, 15698), (131, 15731), (132, 15734), (133, 15740), (134, 15749), (139, 15794), (141, 15818), (147, 15899), (148, 15902), (158, 16043), (166, 16127), (171, 16160), (184, 16247), (187, 16262), (211, 16379), (229, 16463), (234, 16490), (239, 16517), (240, 16526), (242, 16538), (263, 16640), (267, 16658), (270, 16667), (276, 16700), (288, 16769), (290, 16772), (293, 16799), (302, 16829), (303, 16832), (305, 16856), (309, 16907), (311, 16922), (325, 17018), (334, 17060), (357, 17225), (382, 17399), (387, 17408), (389, 17411), (391, 17414), (393, 17444), (402, 17525), (409, 17567), (414, 17600), (415, 17603), (416, 17606), (437, 17702), (455, 17762), (462, 17798), (470, 17822), (473, 17843), (513, 18095), (527, 18194), (528, 18203), (532, 18227), (536, 18239), (539, 18251), (552, 18311), (555, 18332), (559, 18362), (567, 18413), (579, 18494), (589, 18587), (608, 18668), (614, 18689), (639, 18878), (641, 18887), (659, 19019), (662, 19049), (670, 19091), (672, 19100), (682, 19148), (687, 19187), (689, 19202), (690, 19205), (702, 19277), (704, 19283), (722, 19358), (723, 19361), (736, 19496), (737, 19505), (749, 19577), (753, 19613), (758, 19655), (763, 19697), (766, 19721), (769, 19784), (786, 19946), (801, 20066), (803, 20117), (804, 20153), (806, 20219), (807, 20234), (808, 20270), (809, 20282), (810, 20315), (812, 20351), (813, 20357), (816, 20429), (817, 20447),

Gene: LeBron\_16 Start: 10837, Stop: 15801, Start Num: 3

Candidate Starts for LeBron\_16:

(Start: 3 @10837 has 104 MA's), (6, 10867), (Start: 7 @10873 has 1 MA's), (8, 10876), (15, 10984), (20, 11044), (22, 11065), (24, 11101), (27, 11128), (28, 11131), (31, 11152), (32, 11161), (35, 11176), (37, 11182), (39, 11203), (40, 11206), (42, 11212), (43, 11224), (45, 11230), (49, 11254), (51, 11266), (54, 11278), (55, 11281), (58, 11296), (59, 11338), (63, 11365), (64, 11380), (73, 11488), (80, 11572), (88, 11635), (90, 11677), (93, 11698), (99, 11761), (108, 11839), (113, 11890), (120, 11959), (131,

12082), (133, 12091), (135, 12115), (136, 12124), (139, 12145), (140, 12148), (146, 12238), (150, 12271), (155, 12328), (167, 12475), (170, 12502), (171, 12505), (172, 12508), (176, 12535), (179, 12559), (182, 12568), (197, 12640), (202, 12661), (205, 12673), (221, 12763), (222, 12766), (237, 12841), (251, 12913), (253, 12922), (268, 12991), (275, 13024), (289, 13093), (292, 13111), (313, 13264), (322, 13312), (323, 13315), (326, 13336), (330, 13357), (335, 13381), (336, 13405), (341, 13432), (343, 13438), (348, 13471), (349, 13474), (354, 13507), (356, 13516), (378, 13666), (393, 13720), (396, 13762), (397, 13765), (399, 13783), (402, 13801), (412, 13864), (419, 13897), (422, 13909), (424, 13912), (438, 13948), (449, 13966), (481, 14053), (485, 14062), (489, 14080), (506, 14170), (507, 14179), (508, 14185), (512, 14221), (516, 14239), (522, 14269), (548, 14380), (561, 14440), (565, 14455), (571, 14497), (573, 14500), (589, 14620), (623, 14746), (624, 14749), (634, 14782), (638, 14818), (643, 14854), (645, 14869), (648, 14881), (673, 15007), (693, 15130), (700, 15163), (733, 15223), (740, 15265), (768, 15517), (773, 15595), (775, 15601), (778, 15649), (779, 15652), (786, 15694), (787, 15697), (796, 15793),

Gene: Lewan\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Lewan\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (265, 12977), (275, 13025), (310, 13238), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (606, 14693), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (760, 15626), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: LilDestine\_16 Start: 10855, Stop: 15984, Start Num: 3

Candidate Starts for LilDestine\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113, 11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222, 12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (411, 13867), (449, 13966), (479, 14053), (480, 14056), (482, 14071), (490, 14107), (510, 14203), (516, 14254), (525, 14293), (530, 14329), (532, 14338), (541, 14371), (549, 14398), (553, 14422), (554, 14428), (560, 14449), (562, 14458), (564, 14467), (568, 14500), (569, 14503), (598, 14668), (606, 14692), (614, 14722), (615, 14734), (617, 14752), (626, 14797), (627, 14800), (642, 14893), (685, 15142), (693, 15190), (707, 15250), (712, 15277), (713, 15283), (716, 15292), (718, 15301), (740, 15451), (746, 15484), (756, 15583), (759, 15616), (760, 15625), (764, 15646), (773, 15778), (775, 15784), (778, 15832), (784, 15862), (786, 15877), (796, 15976),

Gene: LilhomieP\_25 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for LilhomieP\_25:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396), (369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284), (510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: LiyuLake\_17 Start: 10981, Stop: 16401, Start Num: 3

Candidate Starts for LiyuLake\_17:

(Start: 3 @10981 has 104 MA's), (6, 11011), (8, 11020), (14, 11101), (15, 11128), (16, 11131), (23, 11230), (33, 11326), (40, 11365), (45, 11389), (46, 11392), (48, 11404), (64, 11539), (68, 11602), (73, 11647), (74, 11650), (88, 11794), (91, 11839), (98, 11899), (99, 11920), (109, 12004), (113, 12049), (116, 12070), (136, 12283), (139, 12304), (140, 12307), (150, 12430), (151, 12439), (158, 12547), (159, 12556), (171, 12664), (172, 12667), (178, 12715), (180, 12721), (184, 12742), (188, 12760), (200, 12811), (210, 12871), (218, 12913), (237, 13006), (241, 13030), (244, 13051), (247, 13066), (253, 13087), (264, 13132), (269, 13147), (283, 13222), (307, 13360), (314, 13405), (339, 13531), (342, 13546), (346, 13570), (356, 13630), (378, 13786), (388, 13813), (392, 13840), (397, 13888), (401, 13921), (411, 13981), (446, 14119), (447, 14122), (452, 14164), (486, 14338), (490, 14356), (492, 14365), (503, 14437), (511, 14485), (514, 14512), (515, 14530), (545, 14689), (558, 14746), (563, 14782), (566, 14791), (570, 14827), (581, 14905), (583, 14926), (599, 15037), (610, 15079), (611, 15085), (614, 15094), (619, 15139), (621, 15148), (628, 15193), (631, 15205), (661, 15430), (664, 15442), (678, 15514), (693, 15616), (705, 15664), (707, 15676), (713, 15706), (714, 15712), (719, 15727), (727, 15781), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (775, 16195), (778, 16249), (779, 16252), (786, 16294), (787, 16297), (796, 16393),

Gene: Loadrie\_16 Start: 10888, Stop: 16017, Start Num: 3

Candidate Starts for Loadrie\_16:

(Start: 3 @10888 has 104 MA's), (6, 10918), (Start: 7 @10924 has 1 MA's), (8, 10927), (13, 10990), (15, 11035), (16, 11038), (26, 11155), (31, 11182), (35, 11206), (37, 11212), (40, 11236), (44, 11257), (45, 11260), (46, 11263), (64, 11410), (68, 11473), (73, 11518), (74, 11521), (76, 11539), (78, 11581), (90, 11707), (94, 11734), (98, 11770), (99, 11791), (105, 11857), (109, 11875), (113, 11920), (118, 11956), (127, 12076), (130, 12100), (139, 12175), (140, 12178), (141, 12199), (142, 12202), (143, 12226), (146, 12268), (150, 12301), (163, 12472), (166, 12502), (170, 12532), (187, 12628), (189, 12637), (195, 12661), (197, 12670), (202, 12691), (214, 12757), (220, 12787), (222, 12796), (225, 12811), (227, 12823), (237, 12871), (241, 12895), (247, 12931), (265, 13009), (275, 13057), (319, 13333), (338, 13420), (341, 13441), (361, 13582), (363, 13594), (376, 13687), (385, 13717), (388, 13723), (397, 13804), (402, 13840), (449, 13999), (479, 14086), (480, 14089), (482, 14104), (490, 14140), (510, 14236), (516, 14287), (525, 14326), (530, 14362), (532, 14371), (541, 14404), (549, 14431), (553, 14455), (554, 14461), (557, 14470), (560, 14482), (562, 14491), (564, 14500), (568, 14533), (569, 14536), (598, 14701), (606, 14725), (614, 14755), (615, 14767), (617, 14785), (626, 14830), (627, 14833), (642, 14926), (685, 15175), (693, 15223), (707, 15283), (712, 15310), (713, 15316), (716, 15325), (718, 15334), (740, 15484), (746, 15517), (756, 15616), (759, 15649), (760, 15658), (764, 15679), (773, 15811), (775, 15817), (778, 15865), (784, 15895), (786, 15910), (796,

16009),

Gene: Lolly9\_17 Start: 10976, Stop: 16219, Start Num: 3

Candidate Starts for Lolly9\_17:

(Start: 3 @10976 has 104 MA's), (6, 11006), (8, 11015), (14, 11096), (15, 11123), (16, 11126), (23, 11225), (33, 11321), (45, 11384), (46, 11387), (48, 11399), (64, 11534), (68, 11597), (73, 11642), (74, 11645), (88, 11789), (91, 11834), (99, 11915), (109, 11999), (116, 12065), (136, 12278), (139, 12299), (140, 12302), (150, 12425), (151, 12434), (171, 12659), (172, 12662), (180, 12716), (184, 12737), (218, 12908), (221, 12923), (237, 13001), (244, 13046), (247, 13061), (264, 13127), (275, 13172), (307, 13355), (314, 13400), (339, 13529), (341, 13541), (348, 13580), (356, 13628), (372, 13754), (378, 13784), (388, 13811), (400, 13913), (407, 13961), (434, 14081), (436, 14087), (468, 14228), (471, 14246), (496, 14396), (531, 14576), (535, 14585), (544, 14618), (560, 14693), (562, 14702), (564, 14711), (588, 14873), (593, 14903), (601, 14927), (604, 14933), (614, 14969), (615, 14981), (617, 14999), (625, 15041), (627, 15047), (635, 15068), (642, 15140), (680, 15353), (688, 15401), (693, 15434), (694, 15437), (707, 15494), (713, 15524), (714, 15530), (719, 15545), (727, 15599), (732, 15650), (759, 15851), (762, 15869), (767, 15902), (769, 15962), (773, 16007), (775, 16013), (786, 16112), (796, 16211),

Gene: Lumos\_17 Start: 10975, Stop: 16398, Start Num: 3

Candidate Starts for Lumos\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736), (188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (509, 14464), (511, 14476), (514, 14503), (515, 14521), (545, 14677), (558, 14734), (563, 14770), (566, 14779), (570, 14815), (581, 14893), (583, 14914), (593, 14998), (599, 15025), (610, 15067), (611, 15073), (614, 15082), (619, 15127), (621, 15136), (628, 15181), (631, 15193), (661, 15418), (664, 15430), (678, 15502), (693, 15604), (707, 15664), (713, 15694), (714, 15700), (719, 15715), (727, 15769), (756, 15997), (759, 16030), (762, 16048), (765, 16066), (767, 16081), (769, 16141), (773, 16186), (778, 16246), (786, 16291), (787, 16294), (796, 16390),

Gene: Lynnae\_16 Start: 10856, Stop: 15973, Start Num: 3

Candidate Starts for Lynnae\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (411, 13868), (449, 13973), (479, 14060), (480, 14063), (482, 14078), (490, 14114), (510, 14210), (516, 14261), (525, 14300), (530, 14336), (532, 14345), (541, 14378), (549, 14405), (553, 14429), (554, 14435), (560, 14456), (562, 14465), (564, 14474), (568, 14507), (569, 14510), (598, 14675), (606, 14699), (614, 14729), (615, 14741), (617, 14759), (626, 14804), (627, 14807), (642, 14900), (685, 15149), (693, 15197), (707, 15257), (712, 15284), (718,

15290), (740, 15440), (746, 15473), (756, 15572), (759, 15605), (760, 15614), (764, 15635), (773, 15767), (775, 15773), (778, 15821), (784, 15851), (786, 15866), (796, 15965),

Gene: MAckerman\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for MAckerman\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: MaryV\_38 Start: 17698, Stop: 23649, Start Num: 3

Candidate Starts for MaryV\_38:

(1, 17674), (Start: 3 @17698 has 104 MA's), (10, 17767), (11, 17779), (26, 17980), (30, 17998), (41, 18064), (52, 18127), (56, 18142), (57, 18145), (61, 18214), (68, 18319), (70, 18331), (71, 18346), (73, 18364), (79, 18442), (80, 18448), (84, 18469), (88, 18511), (91, 18556), (92, 18565), (93, 18574), (95, 18595), (97, 18616), (100, 18661), (102, 18694), (105, 18718), (107, 18727), (110, 18748), (119, 18826), (125, 18898), (126, 18907), (128, 18940), (137, 19021), (138, 19024), (151, 19165), (153, 19210), (158, 19279), (164, 19342), (169, 19375), (171, 19396), (175, 19426), (177, 19438), (178, 19456), (179, 19459), (184, 19483), (191, 19516), (203, 19576), (204, 19582), (207, 19594), (208, 19606), (212, 19636), (222, 19690), (225, 19711), (231, 19741), (232, 19753), (236, 19777), (237, 19783), (245, 19837), (249, 19849), (255, 19891), (257, 19906), (261, 19924), (266, 19942), (277, 19996), (278, 20005), (297, 20122), (298, 20125), (304, 20149), (317, 20314), (318, 20317), (320, 20329), (344, 20470), (351, 20539), (368, 20665), (370, 20707), (383, 20761), (384, 20764), (390, 20779), (392, 20815), (398, 20869), (402, 20899), (403, 20914), (410, 20947), (426, 21019), (431, 21043), (439, 21082), (449, 21118), (458, 21193), (505, 21493), (518, 21586), (520, 21613), (539, 21721), (544, 21742), (547, 21760), (555, 21799), (575, 21928), (576, 21940), (577, 21943), (584, 22030), (586, 22039), (592, 22084), (600, 22126), (605, 22150), (609, 22168), (612, 22183), (625, 22294), (629, 22306), (633, 22330), (642, 22423), (643, 22426), (645, 22441), (651, 22477), (653, 22486), (654, 22498), (664, 22582), (666, 22588), (667, 22591), (671, 22618), (677, 22654), (679, 22675), (681, 22678), (684, 22711), (691, 22744), (695, 22768), (699, 22789), (701, 22804), (706, 22819), (708, 22828), (724, 22894), (734, 23017), (744, 23062), (747, 23083), (752, 23128), (755, 23158), (767, 23269), (776, 23383), (778, 23434), (780, 23443), (788, 23488), (789, 23530), (791, 23536), (792, 23548), (799, 23602), (800, 23605),

Gene: Miley16\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Miley16\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549),

(90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: MiniLon\_17 Start: 10976, Stop: 16219, Start Num: 3

Candidate Starts for MiniLon\_17:

(Start: 3 @10976 has 104 MA's), (6, 11006), (8, 11015), (14, 11096), (15, 11123), (16, 11126), (23, 11225), (33, 11321), (45, 11384), (46, 11387), (48, 11399), (64, 11534), (68, 11597), (73, 11642), (74, 11645), (88, 11789), (91, 11834), (99, 11915), (109, 11999), (116, 12065), (136, 12278), (139, 12299), (140, 12302), (150, 12425), (151, 12434), (171, 12659), (172, 12662), (180, 12716), (184, 12737), (218, 12908), (221, 12923), (237, 13001), (244, 13046), (247, 13061), (264, 13127), (275, 13172), (307, 13355), (314, 13400), (339, 13529), (341, 13541), (348, 13580), (356, 13628), (372, 13754), (378, 13784), (388, 13811), (400, 13913), (407, 13961), (434, 14081), (436, 14087), (468, 14228), (471, 14246), (496, 14396), (531, 14576), (535, 14585), (544, 14618), (560, 14693), (562, 14702), (564, 14711), (588, 14873), (593, 14903), (601, 14927), (604, 14933), (614, 14969), (615, 14981), (617, 14999), (625, 15041), (627, 15047), (635, 15068), (642, 15140), (680, 15353), (688, 15401), (693, 15434), (694, 15437), (707, 15494), (713, 15524), (714, 15530), (719, 15545), (727, 15599), (732, 15650), (759, 15851), (762, 15869), (767, 15902), (769, 15962), (773, 16007), (775, 16013), (786, 16112), (796, 16211),

Gene: MiniMac\_17 Start: 10977, Stop: 16220, Start Num: 3

Candidate Starts for MiniMac\_17:

(Start: 3 @10977 has 104 MA's), (6, 11007), (8, 11016), (14, 11097), (15, 11124), (16, 11127), (23, 11226), (33, 11322), (45, 11385), (46, 11388), (48, 11400), (64, 11535), (68, 11598), (73, 11643), (74, 11646), (88, 11790), (91, 11835), (99, 11916), (109, 12000), (116, 12066), (136, 12279), (139, 12300), (140, 12303), (150, 12426), (151, 12435), (171, 12660), (172, 12663), (180, 12717), (184, 12738), (218, 12909), (221, 12924), (237, 13002), (244, 13047), (247, 13062), (264, 13128), (275, 13173), (307, 13356), (314, 13401), (339, 13530), (341, 13542), (348, 13581), (356, 13629), (372, 13755), (378, 13785), (388, 13812), (400, 13914), (407, 13962), (434, 14082), (436, 14088), (468, 14229), (471, 14247), (496, 14397), (531, 14577), (535, 14586), (544, 14619), (560, 14694), (562, 14703), (564, 14712), (588, 14874), (593, 14904), (601, 14928), (604, 14934), (614, 14970), (615, 14982), (617, 15000), (625, 15042), (627, 15048), (635, 15069), (642, 15141), (680, 15354), (688, 15402), (693, 15435), (694, 15438), (707, 15495), (713, 15525), (714, 15531), (719, 15546), (727, 15600), (732, 15651), (759, 15852), (762, 15870), (767, 15903), (769, 15963), (773, 16008), (775, 16014), (778, 16068), (786, 16113), (796, 16212),

Gene: MkaliMitinis3\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for MkaliMitinis3\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143,

12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (265, 12977), (275, 13025), (310, 13238), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (606, 14693), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (760, 15626), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Moostard\_17 Start: 10972, Stop: 16404, Start Num: 3

Candidate Starts for Moostard\_17:

(Start: 3 @10972 has 104 MA's), (6, 11002), (8, 11011), (14, 11092), (15, 11119), (16, 11122), (23, 11221), (33, 11317), (37, 11332), (40, 11356), (45, 11380), (46, 11383), (48, 11395), (64, 11530), (68, 11593), (73, 11638), (74, 11641), (88, 11785), (93, 11848), (99, 11911), (109, 11995), (116, 12061), (134, 12250), (139, 12295), (140, 12298), (150, 12421), (151, 12430), (158, 12538), (159, 12547), (171, 12655), (172, 12658), (177, 12688), (178, 12706), (180, 12712), (184, 12733), (188, 12751), (200, 12802), (210, 12862), (213, 12880), (218, 12904), (237, 12997), (241, 13021), (244, 13042), (247, 13057), (253, 13078), (264, 13123), (269, 13138), (283, 13213), (307, 13351), (314, 13396), (339, 13522), (342, 13537), (346, 13561), (347, 13567), (348, 13573), (356, 13621), (378, 13777), (388, 13804), (392, 13831), (397, 13879), (401, 13912), (402, 13915), (411, 13972), (446, 14110), (447, 14113), (486, 14332), (490, 14350), (492, 14359), (503, 14434), (511, 14482), (514, 14509), (515, 14527), (545, 14683), (558, 14740), (563, 14776), (566, 14785), (570, 14821), (581, 14899), (583, 14920), (593, 15004), (599, 15031), (610, 15073), (611, 15079), (614, 15088), (619, 15133), (621, 15142), (628, 15187), (631, 15199), (661, 15424), (678, 15508), (693, 15610), (705, 15658), (707, 15670), (713, 15700), (714, 15706), (719, 15721), (727, 15775), (756, 16003), (759, 16036), (762, 16054), (765, 16072), (767, 16087), (769, 16147), (773, 16192), (778, 16252), (786, 16297), (787, 16300), (796, 16396),

Gene: MrMagoo\_30 Start: 15195, Stop: 22001, Start Num: 3

Candidate Starts for MrMagoo\_30:

(Start: 3 @15195 has 104 MA's), (12, 15285), (17, 15345), (19, 15387), (50, 15627), (56, 15657), (61, 15729), (66, 15795), (72, 15846), (73, 15858), (75, 15867), (83, 15954), (86, 15987), (89, 16029), (90, 16047), (117, 16278), (123, 16344), (133, 16455), (139, 16509), (148, 16617), (151, 16644), (164, 16821), (168, 16851), (170, 16872), (179, 16938), (181, 16944), (186, 16968), (191, 16995), (192, 16998), (201, 17037), (206, 17055), (236, 17214), (250, 17289), (258, 17343), (281, 17451), (324, 17739), (329, 17769), (332, 17784), (340, 17844), (355, 17940), (360, 17988), (369, 18066), (371, 18093), (373, 18105), (400, 18270), (401, 18282), (408, 18321), (412, 18348), (433, 18447), (440, 18477), (442, 18486), (459, 18591), (462, 18612), (488, 18795), (523, 19026), (524, 19029), (534, 19092), (551, 19167), (553, 19182), (595, 19467), (616, 19563), (636, 19686), (644, 19758), (647, 19770), (658, 19848), (675, 19935), (710, 20130), (713, 20142), (726, 20205), (748, 20373), (751, 20385), (757, 20457), (758, 20466), (809, 21054), (814, 21144), (818, 21237), (819, 21267), (823, 21339), (826, 21468), (830, 21549), (837, 21663), (838, 21675), (845, 21783), (847, 21798), (851, 21879), (857, 21975),

Gene: MsGreen\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for MsGreen\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998),

(116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736), (188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: Nanosmite\_30 Start: 15409, Stop: 21873, Start Num: 3

Candidate Starts for Nanosmite\_30:

(Start: 3 @15409 has 104 MA's), (5, 15424), (12, 15499), (17, 15559), (20, 15607), (34, 15754), (66, 16009), (72, 16060), (85, 16186), (90, 16261), (91, 16264), (99, 16345), (103, 16390), (109, 16429), (119, 16519), (129, 16645), (155, 16918), (164, 17041), (228, 17371), (246, 17410), (308, 17683), (327, 17791), (360, 17911), (374, 17989), (428, 18238), (461, 18394), (467, 18418), (469, 18427), (497, 18631), (521, 18799), (526, 18817), (542, 18901), (550, 18937), (554, 18964), (596, 19240), (612, 19306), (613, 19309), (623, 19390), (646, 19558), (653, 19591), (660, 19645), (674, 19699), (720, 19936), (750, 20149), (751, 20155), (754, 20182), (757, 20218), (783, 20497), (785, 20509), (793, 20617), (795, 20626), (798, 20638), (802, 20665), (811, 20929), (826, 21322), (827, 21340), (831, 21424), (833, 21442), (835, 21502), (838, 21532), (840, 21553), (842, 21559), (844, 21643), (846, 21664), (851, 21748), (852, 21757), (853, 21760), (855, 21826), (856, 21829), (857, 21847),

Gene: Netyap\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Netyap\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Nicholas\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for Nicholas\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736),

(188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (509, 14464), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: Nicholasp3\_16 Start: 10855, Stop: 15990, Start Num: 3

Candidate Starts for Nicholasp3\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113, 11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222, 12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (411, 13867), (449, 13972), (479, 14059), (480, 14062), (482, 14077), (490, 14113), (510, 14209), (516, 14260), (525, 14299), (530, 14335), (532, 14344), (541, 14377), (549, 14404), (553, 14428), (554, 14434), (560, 14455), (562, 14464), (564, 14473), (568, 14506), (569, 14509), (598, 14674), (606, 14698), (614, 14728), (615, 14740), (617, 14758), (626, 14803), (627, 14806), (642, 14899), (685, 15148), (693, 15196), (707, 15256), (712, 15283), (713, 15289), (716, 15298), (718, 15307), (740, 15457), (746, 15490), (756, 15589), (759, 15622), (760, 15631), (764, 15652), (773, 15784), (775, 15790), (778, 15838), (784, 15868), (786, 15883), (796, 15982),

Gene: OhShagHennessy\_16 Start: 10810, Stop: 15741, Start Num: 3

Candidate Starts for OhShagHennessy\_16:

(Start: 3 @10810 has 104 MA's), (6, 10840), (Start: 7 @10846 has 1 MA's), (8, 10849), (15, 10957), (20, 11017), (22, 11038), (24, 11074), (27, 11101), (28, 11104), (31, 11125), (32, 11134), (35, 11149), (39, 11176), (42, 11185), (43, 11197), (45, 11203), (49, 11227), (51, 11239), (54, 11251), (55, 11254), (58, 11269), (59, 11311), (63, 11338), (64, 11353), (73, 11461), (80, 11545), (88, 11608), (90, 11650), (93, 11671), (99, 11734), (108, 11812), (113, 11863), (120, 11932), (131, 12055), (133, 12064), (135, 12088), (136, 12097), (139, 12118), (140, 12121), (146, 12211), (155, 12301), (157, 12322), (167, 12448), (170, 12475), (171, 12478), (172, 12481), (176, 12508), (179, 12532), (182, 12541), (184, 12556), (197, 12613), (202, 12634), (205, 12646), (221, 12736), (222, 12739), (237, 12814), (251, 12886), (253, 12895), (268, 12964), (275, 12997), (289, 13066), (292, 13084), (313, 13237), (322, 13285), (323, 13288), (326, 13309), (330, 13330), (335, 13354), (336, 13378), (341, 13405), (343, 13411), (348, 13444), (349, 13447), (356, 13489), (378, 13639), (392, 13690), (393, 13693), (396, 13735), (397, 13738), (399, 13756), (402, 13774), (419, 13870), (422, 13882), (424, 13885), (443, 13930), (485, 14035), (489, 14053), (506, 14122), (508, 14137), (512, 14173), (516, 14191), (522, 14221), (548, 14332), (561, 14392), (565, 14407), (571, 14449), (573, 14452), (589, 14572), (623, 14698), (624, 14701), (634, 14734), (638, 14770), (642, 14803), (643, 14806), (645, 14821), (648, 14833), (673, 14959), (693, 15082), (700, 15115), (705, 15130), (711, 15136), (733, 15163), (740, 15205), (768, 15457), (773, 15535), (775, 15541), (778, 15589), (779, 15592), (786, 15634), (787, 15637), (796, 15733),

Gene: OverPar\_16 Start: 10888, Stop: 16017, Start Num: 3

Candidate Starts for OverPar\_16:

(Start: 3 @10888 has 104 MA's), (6, 10918), (Start: 7 @10924 has 1 MA's), (8, 10927), (13, 10990), (15, 11035), (16, 11038), (26, 11155), (31, 11182), (35, 11206), (37, 11212), (40, 11236), (44, 11257), (45, 11260), (46, 11263), (64, 11410), (68, 11473), (73, 11518), (74, 11521), (76, 11539), (78, 11581), (90, 11707), (94, 11734), (98, 11770), (99, 11791), (105, 11857), (109, 11875), (113, 11920), (118, 11956), (127, 12076), (130, 12100), (139, 12175), (140, 12178), (141, 12199), (142, 12202), (143, 12226), (146, 12268), (150, 12301), (163, 12472), (166, 12502), (170, 12532), (187, 12628), (189, 12637), (195, 12661), (197, 12670), (202, 12691), (214, 12757), (220, 12787), (222, 12796), (225, 12811), (227, 12823), (237, 12871), (241, 12895), (247, 12931), (265, 13009), (275, 13057), (319, 13333), (338, 13420), (341, 13441), (361, 13582), (363, 13594), (376, 13687), (385, 13717), (388, 13723), (397, 13804), (402, 13840), (449, 13999), (479, 14086), (480, 14089), (482, 14104), (490, 14140), (510, 14236), (516, 14287), (525, 14326), (530, 14362), (532, 14371), (541, 14404), (549, 14431), (553, 14455), (554, 14461), (557, 14470), (560, 14482), (562, 14491), (564, 14500), (568, 14533), (569, 14536), (598, 14701), (606, 14725), (614, 14755), (615, 14767), (617, 14785), (626, 14830), (627, 14833), (642, 14926), (685, 15175), (693, 15223), (707, 15283), (712, 15310), (713, 15316), (716, 15325), (718, 15334), (740, 15484), (746, 15517), (756, 15616), (759, 15649), (760, 15658), (764, 15679), (773, 15811), (775, 15817), (778, 15865), (784, 15895), (786, 15910), (796, 16009),

Gene: PYPDinur\_16 Start: 10512, Stop: 15602, Start Num: 3

Candidate Starts for PYPDinur\_16:

(Start: 3 @10512 has 104 MA's), (6, 10542), (8, 10551), (15, 10659), (18, 10689), (24, 10791), (26, 10815), (36, 10869), (37, 10872), (40, 10896), (42, 10902), (45, 10920), (46, 10923), (48, 10935), (51, 10956), (68, 11133), (73, 11178), (88, 11325), (91, 11370), (93, 11388), (95, 11409), (96, 11415), (99, 11451), (102, 11493), (106, 11523), (109, 11535), (112, 11571), (113, 11580), (115, 11595), (118, 11616), (122, 11661), (136, 11814), (145, 11919), (150, 11961), (154, 12015), (155, 12018), (160, 12093), (162, 12129), (166, 12162), (170, 12192), (172, 12198), (180, 12252), (184, 12273), (188, 12291), (193, 12315), (194, 12318), (195, 12321), (199, 12339), (209, 12390), (210, 12402), (211, 12408), (213, 12420), (217, 12441), (218, 12444), (221, 12459), (222, 12462), (237, 12537), (241, 12561), (247, 12597), (260, 12666), (273, 12711), (275, 12720), (280, 12753), (285, 12777), (286, 12780), (291, 12804), (296, 12831), (298, 12840), (306, 12894), (317, 12990), (341, 13116), (350, 13170), (353, 13194), (362, 13260), (365, 13272), (366, 13281), (373, 13335), (375, 13347), (378, 13359), (388, 13386), (394, 13452), (395, 13455), (397, 13464), (402, 13500), (406, 13530), (419, 13572), (420, 13575), (480, 13734), (483, 13755), (510, 13887), (516, 13938), (525, 13977), (529, 14001), (537, 14025), (549, 14052), (553, 14076), (564, 14121), (585, 14253), (588, 14265), (614, 14367), (615, 14379), (627, 14445), (631, 14451), (632, 14454), (642, 14538), (650, 14577), (652, 14583), (685, 14787), (697, 14856), (700, 14868), (707, 14895), (709, 14898), (740, 15066), (741, 15075), (743, 15081), (756, 15198), (762, 15249), (765, 15267), (767, 15282), (770, 15357), (771, 15372), (773, 15390), (775, 15396), (778, 15450), (779, 15453), (786, 15495), (796, 15594),

Gene: PegLeg\_26 Start: 14635, Stop: 21456, Start Num: 3

Candidate Starts for PegLeg\_26:

(Start: 3 @14635 has 104 MA's), (5, 14650), (12, 14725), (14, 14746), (17, 14785), (20, 14833), (26, 14935), (55, 15091), (66, 15235), (73, 15298), (75, 15307), (82, 15388), (85, 15412), (87, 15436), (89, 15469), (90, 15487), (91, 15490), (99, 15571), (101, 15604), (119, 15745), (129, 15871), (149, 16072), (151, 16090), (161, 16237), (164, 16267), (181, 16390), (235, 16645), (236, 16648), (242, 16681), (243, 16684), (246, 16702), (248, 16711), (252, 16726), (254, 16741), (256, 16750), (262, 16777), (279, 16855), (294, 16936), (312, 17056), (334, 17197), (338, 17230), (352, 17329), (360, 17395), (369, 17470), (379, 17542), (406, 17719), (413, 17761), (432, 17848), (433, 17851), (444, 17902), (462, 18007), (466, 18025), (469, 18037), (476, 18109), (480, 18130), (495, 18247), (502, 18283), (510, 18328), (523, 18433), (540, 18511), (543, 18526), (590, 18838), (612, 18934), (618, 18982), (623, 19018), (630, 19051), (636, 19096), (637, 19114), (649, 19201), (653, 19222), (655, 19249),

(692, 19471), (715, 19570), (720, 19579), (725, 19600), (728, 19654), (730, 19666), (745, 19762), (754, 19834), (758, 19879), (781, 20137), (795, 20281), (797, 20290), (824, 20818), (826, 20935), (831, 21004), (833, 21022), (841, 21136), (843, 21166), (847, 21250), (849, 21298), (853, 21343), (857, 21430),

Gene: Poochiewood\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for Poochiewood\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (100, 11769), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: Quby\_16 Start: 10511, Stop: 15610, Start Num: 3

Candidate Starts for Quby\_16:

(Start: 3 @10511 has 104 MA's), (6, 10541), (8, 10550), (15, 10658), (18, 10688), (24, 10790), (26, 10814), (36, 10868), (37, 10871), (40, 10895), (42, 10901), (45, 10919), (48, 10934), (51, 10955), (54, 10967), (68, 11132), (73, 11177), (91, 11369), (93, 11387), (95, 11408), (96, 11414), (99, 11450), (102, 11492), (109, 11534), (112, 11570), (113, 11579), (115, 11594), (118, 11615), (122, 11660), (132, 11774), (139, 11834), (145, 11918), (150, 11960), (155, 12017), (160, 12092), (166, 12161), (170, 12191), (176, 12224), (184, 12272), (194, 12317), (195, 12320), (199, 12338), (213, 12419), (217, 12440), (218, 12443), (222, 12461), (237, 12536), (241, 12560), (247, 12596), (260, 12665), (273, 12710), (275, 12719), (280, 12752), (286, 12779), (291, 12803), (296, 12830), (298, 12839), (341, 13115), (350, 13169), (353, 13193), (362, 13259), (365, 13271), (366, 13280), (373, 13334), (375, 13346), (378, 13358), (388, 13385), (394, 13451), (395, 13454), (397, 13463), (402, 13499), (407, 13532), (411, 13559), (419, 13586), (420, 13589), (480, 13742), (483, 13763), (510, 13895), (516, 13946), (529, 14009), (549, 14060), (553, 14084), (564, 14129), (568, 14162), (585, 14261), (588, 14273), (614, 14375), (615, 14387), (627, 14453), (631, 14459), (632, 14462), (642, 14546), (650, 14585), (652, 14591), (657, 14624), (685, 14795), (697, 14864), (700, 14876), (707, 14903), (709, 14906), (740, 15074), (741, 15083), (743, 15089), (756, 15206), (762, 15257), (765, 15275), (767, 15290), (770, 15365), (771, 15380), (773, 15398), (775, 15404), (778, 15458), (779, 15461), (786, 15503), (796, 15602),

Gene: Red305\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for Red305\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736),

(188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (509, 14464), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: Reindeer\_24 Start: 14476, Stop: 21279, Start Num: 3

Candidate Starts for Reindeer\_24:

(Start: 3 @14476 has 104 MA's), (5, 14491), (12, 14566), (14, 14587), (17, 14626), (20, 14674), (34, 14821), (44, 14878), (47, 14893), (50, 14908), (53, 14926), (55, 14932), (73, 15139), (75, 15148), (77, 15193), (80, 15223), (82, 15229), (85, 15253), (87, 15277), (89, 15310), (90, 15328), (91, 15331), (99, 15412), (100, 15421), (108, 15490), (115, 15556), (119, 15586), (125, 15658), (129, 15712), (132, 15736), (133, 15742), (149, 15913), (151, 15931), (156, 15994), (161, 16078), (164, 16108), (174, 16183), (181, 16231), (183, 16237), (185, 16252), (186, 16255), (230, 16459), (236, 16489), (246, 16543), (248, 16552), (252, 16567), (259, 16612), (279, 16690), (282, 16714), (283, 16717), (287, 16741), (294, 16768), (312, 16879), (334, 17020), (338, 17053), (360, 17215), (369, 17290), (373, 17329), (379, 17362), (381, 17371), (406, 17539), (413, 17581), (432, 17668), (433, 17671), (442, 17710), (454, 17776), (459, 17806), (464, 17836), (465, 17839), (469, 17857), (480, 17950), (488, 18013), (495, 18067), (501, 18100), (502, 18103), (523, 18253), (540, 18331), (546, 18361), (578, 18553), (587, 18625), (623, 18835), (649, 19021), (653, 19042), (655, 19069), (663, 19126), (668, 19144), (669, 19153), (679, 19210), (683, 19222), (692, 19285), (715, 19384), (720, 19393), (725, 19414), (730, 19480), (742, 19558), (745, 19576), (754, 19648), (781, 19945), (782, 19954), (785, 19972), (790, 20035), (793, 20080), (805, 20248), (811, 20392), (820, 20587), (822, 20605), (824, 20635), (825, 20647), (828, 20773), (831, 20827), (832, 20830), (833, 20845), (834, 20872), (836, 20914), (843, 20989), (844, 21049), (847, 21073), (848, 21115), (852, 21163), (853, 21166), (854, 21175), (855, 21232), (857, 21253),

Gene: Rey\_30 Start: 15430, Stop: 22233, Start Num: 3

Candidate Starts for Rey\_30:

(Start: 3 @15430 has 104 MA's), (12, 15520), (17, 15580), (19, 15622), (50, 15862), (56, 15892), (66, 16030), (72, 16081), (73, 16093), (75, 16102), (83, 16189), (89, 16264), (90, 16282), (115, 16504), (117, 16513), (123, 16579), (125, 16606), (129, 16660), (130, 16669), (133, 16690), (151, 16879), (164, 17056), (168, 17086), (181, 17179), (182, 17182), (191, 17230), (206, 17290), (250, 17524), (258, 17578), (295, 17758), (300, 17773), (338, 18061), (359, 18217), (360, 18226), (369, 18304), (371, 18331), (401, 18520), (408, 18559), (459, 18829), (462, 18850), (474, 18928), (488, 19033), (491, 19048), (493, 19063), (524, 19267), (534, 19330), (551, 19405), (607, 19747), (616, 19810), (636, 19933), (640, 19972), (653, 20029), (658, 20077), (675, 20164), (710, 20359), (726, 20434), (748, 20602), (751, 20614), (757, 20686), (758, 20695), (782, 20965), (809, 21289), (823, 21574), (826, 21703), (834, 21847), (837, 21898), (838, 21910), (847, 22033), (850, 22102), (851, 22114), (857, 22210),

Gene: Rose5\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for Rose5\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634),

(90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: RoseMarie\_26 Start: 14865, Stop: 21674, Start Num: 3

Candidate Starts for RoseMarie\_26:

(Start: 3 @14865 has 104 MA's), (5, 14880), (12, 14955), (14, 14976), (17, 15015), (20, 15063), (26, 15165), (44, 15267), (50, 15297), (55, 15321), (73, 15528), (75, 15537), (82, 15618), (85, 15642), (87, 15666), (89, 15699), (90, 15717), (91, 15720), (99, 15801), (108, 15879), (118, 15966), (119, 15975), (129, 16101), (133, 16131), (149, 16302), (151, 16320), (164, 16497), (186, 16644), (235, 16875), (236, 16878), (246, 16932), (248, 16941), (252, 16956), (254, 16971), (256, 16980), (262, 17007), (279, 17085), (282, 17109), (294, 17163), (299, 17181), (312, 17283), (321, 17355), (338, 17457), (360, 17622), (369, 17697), (373, 17736), (379, 17769), (406, 17946), (413, 17988), (427, 18042), (432, 18075), (433, 18078), (444, 18129), (450, 18150), (462, 18228), (469, 18258), (477, 18333), (488, 18414), (495, 18468), (510, 18549), (523, 18654), (540, 18732), (546, 18762), (582, 18981), (587, 19026), (612, 19152), (613, 19155), (620, 19206), (623, 19236), (642, 19380), (649, 19419), (653, 19440), (655, 19467), (668, 19545), (669, 19554), (675, 19578), (679, 19611), (683, 19623), (692, 19686), (696, 19713), (715, 19785), (720, 19794), (725, 19815), (730, 19881), (750, 20007), (754, 20049), (758, 20091), (781, 20349), (782, 20358), (785, 20376), (790, 20439), (811, 20796), (821, 20988), (824, 21033), (825, 21045), (826, 21153), (829, 21174), (831, 21222), (833, 21240), (841, 21354), (843, 21384), (844, 21444), (847, 21468), (852, 21558), (853, 21561), (854, 21570), (855, 21627), (857, 21648),

Gene: Rossetti\_16 Start: 10855, Stop: 16005, Start Num: 3

Candidate Starts for Rossetti\_16:

(Start: 3 @10855 has 104 MA's), (13, 10957), (15, 11002), (21, 11080), (22, 11083), (30, 11161), (40, 11224), (42, 11230), (44, 11245), (48, 11263), (60, 11359), (68, 11461), (73, 11506), (74, 11509), (78, 11569), (88, 11653), (90, 11695), (93, 11716), (98, 11758), (99, 11779), (106, 11851), (109, 11863), (113, 11908), (118, 11944), (123, 11998), (124, 12022), (139, 12163), (140, 12166), (141, 12187), (145, 12247), (150, 12289), (163, 12460), (170, 12520), (172, 12526), (184, 12601), (190, 12628), (202, 12679), (214, 12745), (215, 12751), (220, 12775), (223, 12793), (227, 12811), (237, 12859), (241, 12883), (247, 12919), (275, 13045), (315, 13300), (319, 13321), (338, 13408), (341, 13429), (363, 13582), (376, 13675), (388, 13711), (397, 13792), (402, 13828), (449, 13987), (456, 14017), (479, 14074), (480, 14077), (482, 14092), (490, 14128), (510, 14224), (514, 14257), (516, 14275), (525, 14314), (530, 14347), (541, 14389), (553, 14440), (560, 14467), (562, 14476), (564, 14485), (568, 14518), (569, 14521), (598, 14689), (606, 14713), (614, 14743), (615, 14755), (617, 14773), (626, 14818), (627, 14821), (642, 14914), (685, 15163), (686, 15166), (698, 15235), (707, 15271), (712, 15298), (713, 15304), (716, 15313), (746, 15505), (756, 15604), (759, 15637), (760, 15646), (764, 15667), (773, 15799), (775, 15805), (778, 15853), (779, 15856), (786, 15898), (796, 15997),

Gene: Rumpelstiltskin\_16 Start: 10856, Stop: 15991, Start Num: 3

Candidate Starts for Rumpelstiltskin\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (411, 13868), (449, 13973), (479, 14060), (480, 14063), (482, 14078), (490, 14114), (510, 14210), (516, 14261), (525, 14300), (530, 14336), (532, 14345), (541, 14378), (549, 14405), (553, 14429), (554, 14435), (560, 14456), (562, 14465), (564, 14474), (568, 14507), (569, 14510), (598, 14675), (606, 14699), (614, 14729), (615, 14741), (617, 14759), (626, 14804), (627, 14807), (642, 14900), (685, 15149), (693, 15197), (707, 15257), (712, 15284), (713, 15290), (716, 15299), (718, 15308), (740, 15458), (746, 15491), (756, 15590), (759, 15623), (760, 15632), (764, 15653), (773, 15785), (775, 15791), (778, 15839), (784, 15869), (786, 15884), (796, 15983),

Gene: Samty\_17 Start: 10972, Stop: 16404, Start Num: 3

Candidate Starts for Samty\_17:

(Start: 3 @10972 has 104 MA's), (6, 11002), (8, 11011), (14, 11092), (15, 11119), (16, 11122), (23, 11221), (33, 11317), (37, 11332), (40, 11356), (45, 11380), (46, 11383), (48, 11395), (64, 11530), (68, 11593), (73, 11638), (74, 11641), (88, 11785), (93, 11848), (99, 11911), (109, 11995), (116, 12061), (134, 12250), (139, 12295), (140, 12298), (150, 12421), (151, 12430), (158, 12538), (159, 12547), (171, 12655), (172, 12658), (177, 12688), (178, 12706), (180, 12712), (184, 12733), (188, 12751), (200, 12802), (210, 12862), (213, 12880), (218, 12904), (237, 12997), (241, 13021), (244, 13042), (247, 13057), (253, 13078), (264, 13123), (269, 13138), (283, 13213), (307, 13351), (314, 13396), (339, 13522), (342, 13537), (346, 13561), (347, 13567), (348, 13573), (356, 13621), (378, 13777), (388, 13804), (392, 13831), (397, 13879), (401, 13912), (402, 13915), (411, 13972), (446, 14110), (447, 14113), (486, 14332), (490, 14350), (492, 14359), (503, 14434), (511, 14482), (514, 14509), (515, 14527), (545, 14683), (558, 14740), (563, 14776), (566, 14785), (570, 14821), (581, 14899), (583, 14920), (593, 15004), (599, 15031), (610, 15073), (611, 15079), (614, 15088), (619, 15133), (621, 15142), (628, 15187), (631, 15199), (661, 15424), (678, 15508), (693, 15610), (705, 15658), (707, 15670), (713, 15700), (714, 15706), (719, 15721), (727, 15775), (756, 16003), (759, 16036), (762, 16054), (765, 16072), (767, 16087), (769, 16147), (773, 16192), (778, 16252), (786, 16297), (787, 16300), (796, 16396),

Gene: Sarshaun\_16 Start: 10889, Stop: 16018, Start Num: 3

Candidate Starts for Sarshaun\_16:

(Start: 3 @10889 has 104 MA's), (6, 10919), (Start: 7 @10925 has 1 MA's), (8, 10928), (13, 10991), (15, 11036), (16, 11039), (26, 11156), (31, 11183), (35, 11207), (40, 11237), (44, 11258), (46, 11264), (64, 11411), (68, 11474), (73, 11519), (74, 11522), (76, 11540), (78, 11582), (94, 11735), (98, 11771), (99, 11792), (105, 11858), (109, 11876), (113, 11921), (118, 11957), (127, 12077), (130, 12101), (139, 12176), (140, 12179), (141, 12200), (142, 12203), (143, 12227), (146, 12269), (150, 12302), (163, 12473), (166, 12503), (170, 12533), (187, 12629), (189, 12638), (195, 12662), (197, 12671), (202, 12692), (214, 12758), (220, 12788), (222, 12797), (225, 12812), (227, 12824), (237, 12872), (241, 12896), (247, 12932), (251, 12944), (265, 13010), (275, 13058), (319, 13334), (338, 13421), (341, 13442), (361, 13583), (363, 13595), (376, 13688), (385, 13718), (388, 13724), (397, 13805), (402, 13841), (449, 14000), (479, 14087), (480, 14090), (482, 14105), (490, 14141), (510, 14237), (516, 14288), (525, 14327), (530, 14363), (532, 14372), (541, 14405), (549, 14432), (553, 14456), (554, 14462), (560, 14483), (562, 14492), (564, 14501), (568, 14534), (569, 14537), (598, 14702), (606, 14726), (614, 14756), (615, 14768), (617, 14786), (626, 14831), (627, 14834), (642, 14927), (685, 15176), (693, 15224), (707, 15284), (712, 15311), (713, 15317), (716, 15326), (718, 15335), (740,

15485), (746, 15518), (756, 15617), (759, 15650), (760, 15659), (764, 15680), (773, 15812), (775, 15818), (778, 15866), (784, 15896), (786, 15911), (796, 16010),

Gene: Sheng711\_16 Start: 10512, Stop: 15602, Start Num: 3

Candidate Starts for Sheng711\_16:

(Start: 3 @10512 has 104 MA's), (6, 10542), (8, 10551), (15, 10659), (18, 10689), (24, 10791), (26, 10815), (36, 10869), (37, 10872), (40, 10896), (42, 10902), (45, 10920), (46, 10923), (48, 10935), (51, 10956), (68, 11133), (73, 11178), (88, 11325), (91, 11370), (93, 11388), (95, 11409), (96, 11415), (99, 11451), (102, 11493), (106, 11523), (109, 11535), (112, 11571), (113, 11580), (115, 11595), (118, 11616), (122, 11661), (136, 11814), (145, 11919), (150, 11961), (154, 12015), (155, 12018), (160, 12093), (162, 12129), (166, 12162), (170, 12192), (172, 12198), (180, 12252), (184, 12273), (188, 12291), (193, 12315), (194, 12318), (195, 12321), (199, 12339), (209, 12390), (210, 12402), (211, 12408), (213, 12420), (217, 12441), (218, 12444), (221, 12459), (222, 12462), (237, 12537), (241, 12561), (247, 12597), (260, 12666), (273, 12711), (275, 12720), (280, 12753), (285, 12777), (286, 12780), (291, 12804), (296, 12831), (298, 12840), (306, 12894), (317, 12990), (341, 13116), (350, 13170), (353, 13194), (362, 13260), (365, 13272), (366, 13281), (373, 13335), (375, 13347), (378, 13359), (388, 13386), (394, 13452), (395, 13455), (397, 13464), (402, 13500), (406, 13530), (419, 13572), (420, 13575), (480, 13734), (483, 13755), (510, 13887), (516, 13938), (525, 13977), (529, 14001), (537, 14025), (549, 14052), (553, 14076), (564, 14121), (585, 14253), (588, 14265), (614, 14367), (615, 14379), (627, 14445), (631, 14451), (632, 14454), (642, 14538), (650, 14577), (652, 14583), (685, 14787), (697, 14856), (700, 14868), (707, 14895), (709, 14898), (740, 15066), (741, 15075), (743, 15081), (756, 15198), (762, 15249), (765, 15267), (767, 15282), (770, 15357), (771, 15372), (773, 15390), (775, 15396), (778, 15450), (779, 15453), (786, 15495), (796, 15594),

Gene: Silverleaf\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for Silverleaf\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: Skinny\_27 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for Skinny\_27:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396),

(369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284), (510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: SlimJimmy\_25 Start: 14622, Stop: 21443, Start Num: 3

Candidate Starts for SlimJimmy\_25:

(Start: 3 @14622 has 104 MA's), (5, 14637), (12, 14712), (14, 14733), (17, 14772), (20, 14820), (26, 14922), (55, 15078), (66, 15222), (73, 15285), (75, 15294), (82, 15375), (85, 15399), (87, 15423), (89, 15456), (90, 15474), (91, 15477), (99, 15558), (101, 15591), (119, 15732), (129, 15858), (149, 16059), (151, 16077), (161, 16224), (164, 16254), (181, 16377), (235, 16632), (236, 16635), (242, 16668), (243, 16671), (246, 16689), (248, 16698), (252, 16713), (254, 16728), (256, 16737), (262, 16764), (279, 16842), (294, 16923), (312, 17043), (334, 17184), (338, 17217), (352, 17316), (360, 17382), (369, 17457), (379, 17529), (406, 17706), (413, 17748), (432, 17835), (433, 17838), (444, 17889), (462, 17994), (466, 18012), (469, 18024), (476, 18096), (480, 18117), (495, 18234), (502, 18270), (510, 18315), (523, 18420), (540, 18498), (543, 18513), (590, 18825), (612, 18921), (618, 18969), (623, 19005), (630, 19038), (636, 19083), (637, 19101), (649, 19188), (653, 19209), (655, 19236), (692, 19458), (715, 19557), (720, 19566), (725, 19587), (728, 19641), (730, 19653), (754, 19821), (758, 19866), (781, 20124), (795, 20268), (797, 20277), (824, 20805), (826, 20922), (831, 20991), (833, 21009), (841, 21123), (843, 21153), (847, 21237), (849, 21285), (853, 21330), (857, 21417),

Gene: Snenia\_17 Start: 10976, Stop: 16402, Start Num: 3

Candidate Starts for Snenia\_17:

(Start: 3 @10976 has 104 MA's), (6, 11006), (8, 11015), (14, 11096), (15, 11123), (16, 11126), (23, 11225), (33, 11321), (37, 11336), (40, 11360), (45, 11384), (46, 11387), (48, 11399), (64, 11534), (68, 11597), (73, 11642), (74, 11645), (88, 11789), (93, 11852), (98, 11894), (99, 11915), (109, 11999), (116, 12065), (134, 12254), (139, 12299), (140, 12302), (150, 12425), (151, 12434), (158, 12542), (159, 12551), (171, 12659), (172, 12662), (177, 12692), (178, 12710), (180, 12716), (184, 12737), (188, 12755), (200, 12806), (210, 12866), (213, 12884), (218, 12908), (237, 13001), (241, 13025), (244, 13046), (247, 13061), (253, 13082), (264, 13127), (269, 13142), (283, 13217), (307, 13355), (314, 13400), (339, 13526), (342, 13541), (346, 13565), (347, 13571), (348, 13577), (356, 13625), (378, 13781), (388, 13808), (392, 13835), (397, 13883), (401, 13916), (402, 13919), (407, 13949), (411, 13976), (446, 14114), (447, 14117), (452, 14153), (486, 14330), (490, 14348), (492, 14357), (498, 14399), (503, 14429), (509, 14465), (511, 14477), (514, 14504), (515, 14522), (545, 14681), (558, 14738), (563, 14774), (566, 14783), (570, 14819), (581, 14897), (583, 14918), (593, 15002), (599, 15029), (610, 15071), (611, 15077), (614, 15086), (619, 15131), (621, 15140), (628, 15185), (631, 15197), (661, 15422), (664, 15434), (678, 15506), (693, 15608), (707, 15668), (713, 15698), (714, 15704), (719, 15719), (727, 15773), (756, 16001), (759, 16034), (762, 16052), (765, 16070), (767, 16085), (769, 16145), (773, 16190), (778, 16250), (786, 16295), (787, 16298), (796, 16394),

Gene: SoJulia\_16 Start: 10855, Stop: 15984, Start Num: 3

Candidate Starts for SoJulia\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113, 11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222,

12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (449, 13966), (479, 14053), (480, 14056), (482, 14071), (490, 14107), (510, 14203), (516, 14254), (525, 14293), (530, 14329), (532, 14338), (541, 14371), (549, 14398), (553, 14422), (554, 14428), (560, 14449), (562, 14458), (564, 14467), (568, 14500), (569, 14503), (598, 14668), (614, 14722), (615, 14734), (617, 14752), (626, 14797), (627, 14800), (642, 14893), (685, 15142), (693, 15190), (707, 15250), (712, 15277), (713, 15283), (716, 15292), (718, 15301), (740, 15451), (746, 15484), (756, 15583), (759, 15616), (764, 15646), (773, 15778), (775, 15784), (778, 15832), (784, 15862), (786, 15877), (796, 15976),

Gene: Soap141\_16 Start: 10889, Stop: 16018, Start Num: 3

Candidate Starts for Soap141\_16:

(Start: 3 @10889 has 104 MA's), (6, 10919), (Start: 7 @10925 has 1 MA's), (8, 10928), (13, 10991), (15, 11036), (16, 11039), (26, 11156), (31, 11183), (35, 11207), (40, 11237), (44, 11258), (46, 11264), (64, 11411), (68, 11474), (73, 11519), (74, 11522), (76, 11540), (78, 11582), (94, 11735), (98, 11771), (99, 11792), (105, 11858), (109, 11876), (113, 11921), (118, 11957), (127, 12077), (130, 12101), (139, 12176), (140, 12179), (141, 12200), (142, 12203), (143, 12227), (146, 12269), (150, 12302), (163, 12473), (166, 12503), (170, 12533), (187, 12629), (189, 12638), (195, 12662), (197, 12671), (202, 12692), (214, 12758), (220, 12788), (222, 12797), (225, 12812), (227, 12824), (237, 12872), (241, 12896), (247, 12932), (251, 12944), (265, 13010), (275, 13058), (319, 13334), (338, 13421), (341, 13442), (361, 13583), (363, 13595), (376, 13688), (385, 13718), (388, 13724), (397, 13805), (402, 13841), (449, 14000), (479, 14087), (480, 14090), (482, 14105), (490, 14141), (510, 14237), (516, 14288), (525, 14327), (530, 14363), (532, 14372), (541, 14405), (549, 14432), (553, 14456), (554, 14462), (560, 14483), (562, 14492), (564, 14501), (568, 14534), (569, 14537), (598, 14702), (606, 14726), (614, 14756), (615, 14768), (617, 14786), (626, 14831), (627, 14834), (642, 14927), (685, 15176), (693, 15224), (707, 15284), (712, 15311), (713, 15317), (716, 15326), (718, 15335), (740, 15485), (746, 15518), (756, 15617), (759, 15650), (760, 15659), (764, 15680), (773, 15812), (775, 15818), (778, 15866), (784, 15896), (786, 15911), (796, 16010),

Gene: Tourach\_16 Start: 10871, Stop: 15982, Start Num: 3

Candidate Starts for Tourach\_16:

(Start: 3 @10871 has 104 MA's), (Start: 7 @10907 has 1 MA's), (8, 10910), (13, 10973), (15, 11018), (26, 11159), (30, 11177), (31, 11186), (35, 11210), (37, 11216), (40, 11240), (42, 11246), (44, 11261), (45, 11264), (48, 11279), (49, 11288), (53, 11309), (64, 11414), (68, 11477), (73, 11522), (74, 11525), (78, 11585), (81, 11609), (88, 11669), (90, 11711), (91, 11714), (93, 11732), (99, 11795), (105, 11861), (106, 11867), (109, 11879), (113, 11924), (118, 11960), (123, 12014), (128, 12083), (130, 12104), (131, 12116), (139, 12179), (140, 12182), (141, 12203), (150, 12305), (163, 12476), (166, 12506), (170, 12536), (172, 12542), (184, 12617), (195, 12665), (202, 12695), (214, 12761), (215, 12767), (220, 12791), (222, 12800), (227, 12827), (237, 12875), (239, 12887), (241, 12899), (247, 12935), (275, 13061), (319, 13337), (338, 13424), (341, 13445), (363, 13598), (376, 13691), (385, 13721), (388, 13727), (392, 13760), (397, 13808), (402, 13844), (411, 13904), (449, 14003), (479, 14090), (480, 14093), (483, 14114), (484, 14123), (510, 14246), (516, 14297), (525, 14336), (530, 14372), (533, 14387), (553, 14420), (560, 14447), (564, 14465), (569, 14501), (614, 14720), (615, 14732), (617, 14750), (627, 14798), (631, 14804), (642, 14891), (685, 15140), (698, 15212), (709, 15251), (712, 15275), (713, 15281), (716, 15290), (718, 15299), (746, 15482), (756, 15581), (759, 15614), (760, 15623), (764, 15644), (773, 15776), (775, 15782), (778, 15830), (784, 15860), (786, 15875), (796, 15974),

Gene: TpudiCK\_27 Start: 14635, Stop: 21456, Start Num: 3

Candidate Starts for TpudiCK\_27:

(Start: 3 @14635 has 104 MA's), (5, 14650), (12, 14725), (14, 14746), (17, 14785), (20, 14833), (26, 14935), (55, 15091), (66, 15235), (73, 15298), (75, 15307), (82, 15388), (85, 15412), (87, 15436), (89, 15469), (90, 15487), (91, 15490), (99, 15571), (101, 15604), (119, 15745), (129, 15871), (149, 16072),

(151, 16090), (161, 16237), (164, 16267), (181, 16390), (235, 16645), (236, 16648), (242, 16681), (243, 16684), (246, 16702), (248, 16711), (252, 16726), (254, 16741), (256, 16750), (262, 16777), (279, 16855), (294, 16936), (312, 17056), (334, 17197), (338, 17230), (352, 17329), (360, 17395), (369, 17470), (379, 17542), (406, 17719), (413, 17761), (432, 17848), (433, 17851), (444, 17902), (462, 18007), (466, 18025), (469, 18037), (476, 18109), (480, 18130), (495, 18247), (502, 18283), (510, 18328), (523, 18433), (540, 18511), (543, 18526), (590, 18838), (612, 18934), (618, 18982), (623, 19018), (630, 19051), (636, 19096), (637, 19114), (649, 19201), (653, 19222), (655, 19249), (692, 19471), (715, 19570), (720, 19579), (725, 19600), (728, 19654), (730, 19666), (745, 19762), (754, 19834), (758, 19879), (781, 20137), (795, 20281), (797, 20290), (824, 20818), (826, 20935), (831, 21004), (833, 21022), (841, 21136), (843, 21166), (847, 21250), (849, 21298), (853, 21343), (857, 21430),

Gene: TriFive\_17 Start: 10975, Stop: 16401, Start Num: 3

Candidate Starts for TriFive\_17:

(Start: 3 @10975 has 104 MA's), (6, 11005), (8, 11014), (14, 11095), (15, 11122), (16, 11125), (23, 11224), (33, 11320), (37, 11335), (40, 11359), (45, 11383), (46, 11386), (48, 11398), (64, 11533), (68, 11596), (73, 11641), (74, 11644), (88, 11788), (93, 11851), (98, 11893), (99, 11914), (109, 11998), (116, 12064), (134, 12253), (139, 12298), (140, 12301), (150, 12424), (151, 12433), (158, 12541), (159, 12550), (171, 12658), (172, 12661), (177, 12691), (178, 12709), (180, 12715), (184, 12736), (188, 12754), (200, 12805), (210, 12865), (213, 12883), (218, 12907), (237, 13000), (241, 13024), (244, 13045), (247, 13060), (253, 13081), (264, 13126), (269, 13141), (283, 13216), (307, 13354), (314, 13399), (339, 13525), (342, 13540), (346, 13564), (347, 13570), (348, 13576), (356, 13624), (378, 13780), (388, 13807), (392, 13834), (397, 13882), (401, 13915), (402, 13918), (407, 13948), (411, 13975), (446, 14113), (447, 14116), (452, 14152), (486, 14329), (490, 14347), (492, 14356), (498, 14398), (503, 14428), (509, 14464), (511, 14476), (514, 14503), (515, 14521), (545, 14680), (558, 14737), (563, 14773), (566, 14782), (570, 14818), (581, 14896), (583, 14917), (593, 15001), (599, 15028), (610, 15070), (611, 15076), (614, 15085), (619, 15130), (621, 15139), (628, 15184), (631, 15196), (661, 15421), (664, 15433), (678, 15505), (693, 15607), (707, 15667), (713, 15697), (714, 15703), (719, 15718), (727, 15772), (756, 16000), (759, 16033), (762, 16051), (765, 16069), (767, 16084), (769, 16144), (773, 16189), (778, 16249), (786, 16294), (787, 16297), (796, 16393),

Gene: TyDawg\_26 Start: 14636, Stop: 21457, Start Num: 3

Candidate Starts for TyDawg\_26:

(Start: 3 @14636 has 104 MA's), (5, 14651), (12, 14726), (14, 14747), (17, 14786), (20, 14834), (26, 14936), (55, 15092), (66, 15236), (73, 15299), (75, 15308), (82, 15389), (85, 15413), (87, 15437), (89, 15470), (90, 15488), (91, 15491), (99, 15572), (101, 15605), (119, 15746), (129, 15872), (149, 16073), (151, 16091), (161, 16238), (164, 16268), (181, 16391), (235, 16646), (236, 16649), (242, 16682), (243, 16685), (246, 16703), (248, 16712), (252, 16727), (254, 16742), (256, 16751), (262, 16778), (279, 16856), (294, 16937), (312, 17057), (334, 17198), (338, 17231), (352, 17330), (360, 17396), (369, 17471), (379, 17543), (406, 17720), (413, 17762), (432, 17849), (433, 17852), (444, 17903), (462, 18008), (466, 18026), (469, 18038), (476, 18110), (480, 18131), (495, 18248), (502, 18284), (510, 18329), (523, 18434), (540, 18512), (543, 18527), (590, 18839), (612, 18935), (618, 18983), (623, 19019), (630, 19052), (636, 19097), (637, 19115), (649, 19202), (653, 19223), (655, 19250), (692, 19472), (715, 19571), (720, 19580), (725, 19601), (728, 19655), (730, 19667), (745, 19763), (754, 19835), (758, 19880), (781, 20138), (795, 20282), (797, 20291), (824, 20819), (826, 20936), (831, 21005), (833, 21023), (841, 21137), (843, 21167), (847, 21251), (849, 21299), (853, 21344), (857, 21431),

Gene: Tyson\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for Tyson\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265),

(54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (656, 14895), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: UPIE\_16 Start: 10834, Stop: 15774, Start Num: 3

Candidate Starts for UPIE\_16:

(Start: 3 @10834 has 104 MA's), (6, 10864), (Start: 7 @10870 has 1 MA's), (8, 10873), (15, 10981), (20, 11041), (22, 11062), (24, 11098), (27, 11125), (28, 11128), (31, 11149), (32, 11158), (35, 11173), (37, 11179), (39, 11200), (40, 11203), (42, 11209), (43, 11221), (45, 11227), (49, 11251), (51, 11263), (54, 11275), (55, 11278), (59, 11335), (63, 11362), (64, 11377), (73, 11485), (80, 11569), (88, 11632), (90, 11674), (93, 11695), (99, 11758), (108, 11836), (113, 11887), (120, 11956), (131, 12079), (133, 12088), (135, 12112), (136, 12121), (139, 12142), (140, 12145), (146, 12235), (155, 12325), (167, 12472), (170, 12499), (171, 12502), (172, 12505), (176, 12532), (179, 12556), (182, 12565), (197, 12637), (202, 12658), (205, 12670), (221, 12760), (222, 12763), (237, 12838), (251, 12910), (253, 12919), (268, 12988), (275, 13021), (289, 13090), (292, 13108), (313, 13261), (322, 13309), (323, 13312), (326, 13333), (330, 13354), (335, 13378), (336, 13402), (341, 13429), (343, 13435), (348, 13468), (349, 13471), (356, 13513), (378, 13663), (393, 13717), (396, 13759), (397, 13762), (399, 13780), (402, 13798), (412, 13861), (419, 13894), (422, 13906), (424, 13909), (438, 13945), (449, 13963), (481, 14050), (485, 14059), (489, 14077), (506, 14143), (507, 14152), (508, 14158), (512, 14194), (516, 14212), (522, 14242), (548, 14353), (561, 14413), (565, 14428), (571, 14470), (573, 14473), (589, 14593), (623, 14719), (624, 14722), (634, 14755), (638, 14791), (643, 14827), (645, 14842), (648, 14854), (673, 14980), (693, 15103), (700, 15136), (733, 15196), (740, 15238), (768, 15490), (773, 15568), (775, 15574), (778, 15622), (779, 15625), (786, 15667), (787, 15670), (796, 15766),

Gene: Underpass\_16 Start: 10855, Stop: 15990, Start Num: 3

Candidate Starts for Underpass\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113, 11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222, 12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (411, 13867), (449, 13972), (479, 14059), (480, 14062), (482, 14077), (490, 14113), (510, 14209), (516, 14260), (525, 14299), (530, 14335), (532, 14344), (541, 14377), (549, 14404), (553, 14428), (554, 14434), (560, 14455), (562, 14464), (564, 14473), (568, 14506), (569, 14509), (598, 14674), (606, 14698), (614, 14728), (615, 14740), (617, 14758), (626, 14803), (627, 14806), (642, 14899), (685, 15148), (693, 15196), (707, 15256), (712,

15283), (713, 15289), (716, 15298), (718, 15307), (740, 15457), (746, 15490), (756, 15589), (759, 15622), (760, 15631), (764, 15652), (773, 15784), (775, 15790), (778, 15838), (784, 15868), (786, 15883), (796, 15982),

Gene: Vetric\_16 Start: 10856, Stop: 15991, Start Num: 3

Candidate Starts for Vetric\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (411, 13868), (449, 13973), (479, 14060), (480, 14063), (482, 14078), (490, 14114), (510, 14210), (516, 14261), (525, 14300), (530, 14336), (532, 14345), (541, 14378), (549, 14405), (553, 14429), (554, 14435), (560, 14456), (562, 14465), (564, 14474), (568, 14507), (569, 14510), (598, 14675), (606, 14699), (614, 14729), (615, 14741), (617, 14759), (626, 14804), (627, 14807), (642, 14900), (685, 15149), (693, 15197), (707, 15257), (712, 15284), (713, 15290), (716, 15299), (718, 15308), (740, 15458), (746, 15491), (756, 15590), (759, 15623), (760, 15632), (764, 15653), (773, 15785), (775, 15791), (778, 15839), (784, 15869), (786, 15884), (796, 15983),

Gene: Wamburgxpress\_16 Start: 10836, Stop: 15788, Start Num: 3

Candidate Starts for Wamburgxpress\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (336, 13404), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449, 13965), (481, 14052), (485, 14061), (489, 14079), (506, 14157), (507, 14166), (508, 14172), (512, 14208), (516, 14226), (522, 14256), (548, 14367), (561, 14427), (565, 14442), (571, 14484), (573, 14487), (589, 14607), (623, 14733), (624, 14736), (634, 14769), (638, 14805), (643, 14841), (645, 14856), (648, 14868), (673, 14994), (693, 15117), (700, 15150), (733, 15210), (740, 15252), (768, 15504), (773, 15582), (775, 15588), (778, 15636), (779, 15639), (786, 15681), (787, 15684), (796, 15780),

Gene: Whirlwind\_18 Start: 10963, Stop: 16158, Start Num: 3

Candidate Starts for Whirlwind\_18:

(Start: 3 @10963 has 104 MA's), (6, 10993), (8, 11002), (14, 11083), (15, 11110), (16, 11113), (33, 11308), (44, 11368), (45, 11371), (46, 11374), (48, 11386), (64, 11521), (68, 11584), (73, 11629), (74, 11632), (88, 11776), (91, 11821), (99, 11902), (102, 11944), (104, 11953), (109, 11986), (113, 12031), (116, 12052), (139, 12286), (140, 12289), (150, 12412), (151, 12421), (171, 12646), (178, 12697), (180, 12703), (184, 12724), (189, 12748), (209, 12841), (216, 12889), (218, 12895), (221, 12910), (233, 12970), (237, 12988), (244, 13033), (247, 13048), (264, 13114), (275, 13159), (307, 13330),

(312, 13351), (314, 13375), (341, 13513), (348, 13552), (356, 13600), (367, 13678), (372, 13726), (378, 13756), (388, 13783), (400, 13885), (407, 13933), (417, 13987), (434, 14065), (451, 14131), (496, 14374), (535, 14563), (560, 14623), (562, 14632), (564, 14641), (588, 14800), (593, 14830), (594, 14836), (601, 14854), (604, 14860), (614, 14896), (615, 14908), (617, 14926), (625, 14968), (627, 14974), (635, 14995), (642, 15067), (680, 15280), (688, 15328), (693, 15361), (694, 15364), (707, 15421), (714, 15457), (719, 15472), (727, 15526), (735, 15601), (739, 15622), (743, 15640), (759, 15790), (762, 15808), (765, 15826), (767, 15841), (769, 15901), (773, 15946), (775, 15952), (786, 16051), (796, 16150),

Gene: Wigglewiggle\_16 Start: 10888, Stop: 16017, Start Num: 3

Candidate Starts for Wigglewiggle\_16:

(Start: 3 @10888 has 104 MA's), (6, 10918), (Start: 7 @10924 has 1 MA's), (8, 10927), (13, 10990), (15, 11035), (16, 11038), (26, 11155), (31, 11182), (35, 11206), (37, 11212), (40, 11236), (44, 11257), (45, 11260), (46, 11263), (64, 11410), (68, 11473), (73, 11518), (74, 11521), (76, 11539), (78, 11581), (90, 11707), (94, 11734), (98, 11770), (99, 11791), (100, 11800), (105, 11857), (109, 11875), (113, 11920), (118, 11956), (127, 12076), (130, 12100), (139, 12175), (140, 12178), (141, 12199), (142, 12202), (143, 12226), (146, 12268), (150, 12301), (163, 12472), (166, 12502), (170, 12532), (187, 12628), (189, 12637), (195, 12661), (197, 12670), (202, 12691), (214, 12757), (220, 12787), (222, 12796), (225, 12811), (227, 12823), (237, 12871), (241, 12895), (247, 12931), (251, 12943), (275, 13057), (319, 13333), (338, 13420), (341, 13441), (361, 13582), (363, 13594), (376, 13687), (385, 13717), (388, 13723), (397, 13804), (402, 13840), (449, 13999), (479, 14086), (480, 14089), (482, 14104), (490, 14140), (510, 14236), (516, 14287), (525, 14326), (530, 14362), (532, 14371), (541, 14404), (549, 14431), (553, 14455), (554, 14461), (557, 14470), (560, 14482), (562, 14491), (564, 14500), (568, 14533), (569, 14536), (598, 14701), (606, 14725), (614, 14755), (615, 14767), (617, 14785), (626, 14830), (627, 14833), (642, 14926), (685, 15175), (693, 15223), (707, 15283), (712, 15310), (713, 15316), (716, 15325), (718, 15334), (740, 15484), (746, 15517), (756, 15616), (759, 15649), (760, 15658), (764, 15679), (773, 15811), (775, 15817), (778, 15865), (784, 15895), (786, 15910), (796, 16009),

Gene: Wildcat\_38 Start: 17708, Stop: 23659, Start Num: 3

Candidate Starts for Wildcat\_38:

(1, 17684), (Start: 3 @17708 has 104 MA's), (10, 17777), (11, 17789), (26, 17990), (30, 18008), (41, 18074), (52, 18137), (56, 18152), (57, 18155), (61, 18224), (68, 18329), (70, 18341), (71, 18356), (73, 18374), (79, 18452), (80, 18458), (84, 18479), (88, 18521), (91, 18566), (92, 18575), (93, 18584), (95, 18605), (97, 18626), (100, 18671), (102, 18704), (105, 18728), (107, 18737), (110, 18758), (119, 18836), (125, 18908), (126, 18917), (128, 18950), (137, 19031), (138, 19034), (151, 19175), (153, 19220), (158, 19289), (164, 19352), (169, 19385), (171, 19406), (175, 19436), (177, 19448), (178, 19466), (179, 19469), (184, 19493), (191, 19526), (203, 19586), (204, 19592), (207, 19604), (208, 19616), (212, 19646), (222, 19700), (225, 19721), (231, 19751), (232, 19763), (236, 19787), (237, 19793), (245, 19847), (249, 19859), (255, 19901), (257, 19916), (261, 19934), (266, 19952), (277, 20006), (278, 20015), (297, 20132), (298, 20135), (304, 20159), (317, 20324), (318, 20327), (320, 20339), (344, 20480), (351, 20549), (368, 20675), (370, 20717), (383, 20771), (384, 20774), (390, 20789), (392, 20825), (398, 20879), (402, 20909), (403, 20924), (410, 20957), (426, 21029), (431, 21053), (439, 21092), (449, 21128), (458, 21203), (505, 21503), (518, 21596), (520, 21623), (539, 21731), (544, 21752), (547, 21770), (555, 21809), (575, 21938), (576, 21950), (577, 21953), (584, 22040), (586, 22049), (592, 22094), (600, 22136), (605, 22160), (609, 22178), (612, 22193), (625, 22304), (629, 22316), (633, 22340), (642, 22433), (643, 22436), (645, 22451), (651, 22487), (653, 22496), (654, 22508), (664, 22592), (666, 22598), (667, 22601), (671, 22628), (677, 22664), (679, 22685), (681, 22688), (684, 22721), (691, 22754), (695, 22778), (699, 22799), (701, 22814), (706, 22829), (708, 22838), (724, 22904), (734, 23027), (744, 23072), (747, 23093), (752, 23138), (755, 23168), (767, 23279), (776, 23393), (778, 23444), (780, 23453), (788, 23498), (789, 23540), (791, 23546), (792, 23558), (799, 23612), (800, 23615),

Gene: Wilder\_16 Start: 10855, Stop: 15990, Start Num: 3

Candidate Starts for Wilder\_16:

(Start: 3 @10855 has 104 MA's), (6, 10885), (Start: 7 @10891 has 1 MA's), (8, 10894), (13, 10957), (15, 11002), (16, 11005), (26, 11122), (31, 11149), (35, 11173), (37, 11179), (40, 11203), (44, 11224), (45, 11227), (46, 11230), (64, 11377), (68, 11440), (73, 11485), (74, 11488), (76, 11506), (78, 11548), (90, 11674), (94, 11701), (98, 11737), (99, 11758), (100, 11767), (105, 11824), (109, 11842), (113, 11887), (118, 11923), (127, 12043), (130, 12067), (139, 12142), (140, 12145), (141, 12166), (142, 12169), (143, 12193), (146, 12235), (150, 12268), (163, 12439), (166, 12469), (170, 12499), (187, 12595), (189, 12604), (195, 12628), (197, 12637), (202, 12658), (214, 12724), (220, 12754), (222, 12763), (225, 12778), (227, 12790), (237, 12838), (241, 12862), (247, 12898), (251, 12910), (265, 12976), (275, 13024), (319, 13300), (338, 13387), (341, 13408), (361, 13549), (363, 13561), (376, 13654), (385, 13684), (388, 13690), (397, 13771), (402, 13807), (411, 13867), (449, 13972), (479, 14059), (480, 14062), (482, 14077), (490, 14113), (510, 14209), (516, 14260), (525, 14299), (530, 14335), (532, 14344), (541, 14377), (549, 14404), (553, 14428), (554, 14434), (560, 14455), (562, 14464), (564, 14473), (568, 14506), (569, 14509), (598, 14674), (606, 14698), (614, 14728), (615, 14740), (617, 14758), (626, 14803), (627, 14806), (642, 14899), (685, 15148), (693, 15196), (707, 15256), (712, 15283), (713, 15289), (716, 15298), (718, 15307), (740, 15457), (746, 15490), (756, 15589), (759, 15622), (760, 15631), (764, 15652), (773, 15784), (775, 15790), (778, 15838), (784, 15868), (786, 15883), (796, 15982),

Gene: Winky\_16 Start: 10856, Stop: 15985, Start Num: 3

Candidate Starts for Winky\_16:

(Start: 3 @10856 has 104 MA's), (6, 10886), (Start: 7 @10892 has 1 MA's), (8, 10895), (13, 10958), (15, 11003), (16, 11006), (26, 11123), (31, 11150), (35, 11174), (37, 11180), (40, 11204), (44, 11225), (45, 11228), (46, 11231), (64, 11378), (68, 11441), (73, 11486), (74, 11489), (76, 11507), (78, 11549), (90, 11675), (94, 11702), (98, 11738), (99, 11759), (100, 11768), (105, 11825), (109, 11843), (113, 11888), (118, 11924), (127, 12044), (130, 12068), (139, 12143), (140, 12146), (141, 12167), (142, 12170), (143, 12194), (146, 12236), (150, 12269), (163, 12440), (166, 12470), (170, 12500), (187, 12596), (189, 12605), (195, 12629), (197, 12638), (202, 12659), (214, 12725), (220, 12755), (222, 12764), (225, 12779), (227, 12791), (237, 12839), (241, 12863), (247, 12899), (251, 12911), (275, 13025), (319, 13301), (338, 13388), (341, 13409), (361, 13550), (363, 13562), (376, 13655), (385, 13685), (388, 13691), (397, 13772), (402, 13808), (449, 13967), (479, 14054), (480, 14057), (482, 14072), (490, 14108), (510, 14204), (516, 14255), (525, 14294), (530, 14330), (532, 14339), (541, 14372), (549, 14399), (553, 14423), (554, 14429), (560, 14450), (562, 14459), (564, 14468), (568, 14501), (569, 14504), (598, 14669), (614, 14723), (615, 14735), (617, 14753), (626, 14798), (627, 14801), (642, 14894), (685, 15143), (693, 15191), (707, 15251), (712, 15278), (713, 15284), (716, 15293), (718, 15302), (740, 15452), (746, 15485), (756, 15584), (759, 15617), (764, 15647), (773, 15779), (775, 15785), (778, 15833), (784, 15863), (786, 15878), (796, 15977),

Gene: Wyatt2\_16 Start: 10836, Stop: 15776, Start Num: 3

Candidate Starts for Wyatt2\_16:

(Start: 3 @10836 has 104 MA's), (6, 10866), (Start: 7 @10872 has 1 MA's), (8, 10875), (15, 10983), (20, 11043), (22, 11064), (24, 11100), (27, 11127), (28, 11130), (31, 11151), (32, 11160), (35, 11175), (37, 11181), (39, 11202), (40, 11205), (42, 11211), (43, 11223), (45, 11229), (49, 11253), (51, 11265), (54, 11277), (55, 11280), (59, 11337), (63, 11364), (64, 11379), (73, 11487), (80, 11571), (88, 11634), (90, 11676), (93, 11697), (99, 11760), (108, 11838), (113, 11889), (120, 11958), (131, 12081), (133, 12090), (135, 12114), (136, 12123), (139, 12144), (140, 12147), (146, 12237), (155, 12327), (167, 12474), (170, 12501), (171, 12504), (172, 12507), (176, 12534), (179, 12558), (182, 12567), (197, 12639), (202, 12660), (205, 12672), (221, 12762), (222, 12765), (237, 12840), (251, 12912), (253, 12921), (268, 12990), (275, 13023), (289, 13092), (292, 13110), (313, 13263), (322, 13311), (323, 13314), (326, 13335), (330, 13356), (335, 13380), (341, 13431), (343, 13437), (348, 13470), (349, 13473), (354, 13506), (356, 13515), (378, 13665), (393, 13719), (396, 13761), (397, 13764), (399, 13782), (402, 13800), (412, 13863), (419, 13896), (422, 13908), (424, 13911), (438, 13947), (449,

13965), (481, 14052), (485, 14061), (489, 14079), (506, 14145), (507, 14154), (508, 14160), (512, 14196), (516, 14214), (522, 14244), (548, 14355), (561, 14415), (565, 14430), (571, 14472), (573, 14475), (589, 14595), (623, 14721), (624, 14724), (634, 14757), (638, 14793), (643, 14829), (645, 14844), (648, 14856), (673, 14982), (693, 15105), (700, 15138), (733, 15198), (740, 15240), (768, 15492), (773, 15570), (775, 15576), (778, 15624), (779, 15627), (786, 15669), (787, 15672), (796, 15768),

Gene: Zakai\_16 Start: 10844, Stop: 15979, Start Num: 3

Candidate Starts for Zakai\_16:

(Start: 3 @10844 has 104 MA's), (6, 10874), (Start: 7 @10880 has 1 MA's), (8, 10883), (13, 10946), (15, 10991), (16, 10994), (26, 11111), (31, 11138), (35, 11162), (37, 11168), (40, 11192), (44, 11213), (45, 11216), (46, 11219), (64, 11366), (68, 11429), (73, 11474), (74, 11477), (76, 11495), (78, 11537), (90, 11663), (94, 11690), (98, 11726), (99, 11747), (100, 11756), (105, 11813), (109, 11831), (113, 11876), (118, 11912), (127, 12032), (130, 12056), (139, 12131), (140, 12134), (141, 12155), (142, 12158), (143, 12182), (146, 12224), (150, 12257), (163, 12428), (166, 12458), (170, 12488), (187, 12584), (189, 12593), (195, 12617), (197, 12626), (202, 12647), (214, 12713), (220, 12743), (222, 12752), (225, 12767), (227, 12779), (237, 12827), (241, 12851), (247, 12887), (265, 12965), (275, 13013), (319, 13289), (338, 13376), (341, 13397), (361, 13538), (363, 13550), (376, 13643), (385, 13673), (388, 13679), (397, 13760), (402, 13796), (411, 13856), (449, 13961), (479, 14048), (480, 14051), (482, 14066), (490, 14102), (510, 14198), (516, 14249), (525, 14288), (530, 14324), (532, 14333), (541, 14366), (549, 14393), (553, 14417), (554, 14423), (560, 14444), (562, 14453), (564, 14462), (568, 14495), (569, 14498), (598, 14663), (606, 14687), (614, 14717), (615, 14729), (617, 14747), (626, 14792), (627, 14795), (642, 14888), (685, 15137), (693, 15185), (707, 15245), (712, 15272), (713, 15278), (716, 15287), (718, 15296), (740, 15446), (746, 15479), (756, 15578), (759, 15611), (760, 15620), (764, 15641), (773, 15773), (775, 15779), (778, 15827), (784, 15857), (786, 15872), (796, 15971),

Gene: Zaria\_16 Start: 10837, Stop: 15789, Start Num: 3

Candidate Starts for Zaria\_16:

(Start: 3 @10837 has 104 MA's), (6, 10867), (Start: 7 @10873 has 1 MA's), (8, 10876), (15, 10984), (20, 11044), (22, 11065), (24, 11101), (27, 11128), (28, 11131), (31, 11152), (32, 11161), (35, 11176), (39, 11203), (42, 11212), (43, 11224), (45, 11230), (49, 11254), (51, 11266), (54, 11278), (55, 11281), (58, 11296), (59, 11338), (63, 11365), (64, 11380), (73, 11488), (80, 11572), (88, 11635), (90, 11677), (93, 11698), (99, 11761), (108, 11839), (113, 11890), (120, 11959), (131, 12082), (133, 12091), (135, 12115), (136, 12124), (139, 12145), (140, 12148), (146, 12238), (150, 12271), (155, 12328), (167, 12475), (170, 12502), (171, 12505), (172, 12508), (176, 12535), (179, 12559), (182, 12568), (197, 12640), (202, 12661), (205, 12673), (221, 12763), (222, 12766), (237, 12841), (251, 12913), (253, 12922), (268, 12991), (275, 13024), (289, 13093), (292, 13111), (313, 13264), (322, 13312), (323, 13315), (326, 13336), (330, 13357), (335, 13381), (336, 13405), (341, 13432), (343, 13438), (348, 13471), (349, 13474), (354, 13507), (356, 13516), (378, 13666), (393, 13720), (396, 13762), (397, 13765), (399, 13783), (402, 13801), (412, 13864), (419, 13897), (422, 13909), (424, 13912), (438, 13948), (449, 13966), (481, 14053), (485, 14062), (489, 14080), (506, 14158), (507, 14167), (508, 14173), (512, 14209), (516, 14227), (522, 14257), (548, 14368), (561, 14428), (565, 14443), (571, 14485), (573, 14488), (589, 14608), (623, 14734), (624, 14737), (634, 14770), (638, 14806), (643, 14842), (645, 14857), (648, 14869), (656, 14908), (673, 14995), (693, 15118), (700, 15151), (733, 15211), (740, 15253), (768, 15505), (773, 15583), (775, 15589), (778, 15637), (779, 15640), (786, 15682), (787, 15685), (796, 15781),

Gene: ZhongYanYuan\_15 Start: 10786, Stop: 15810, Start Num: 13

Candidate Starts for ZhongYanYuan\_15:

(Start: 3 @10684 has 104 MA's), (4, 10696), (Start: 7 @10720 has 1 MA's), (8, 10723), (13, 10786), (15, 10831), (26, 10972), (30, 10990), (31, 10999), (37, 11029), (40, 11053), (42, 11059), (44, 11074), (45, 11077), (48, 11092), (49, 11101), (53, 11122), (60, 11188), (64, 11227), (68, 11290), (73, 11335),

(74, 11338), (78, 11398), (81, 11422), (88, 11482), (90, 11524), (93, 11545), (99, 11608), (102, 11650),  
(105, 11674), (108, 11686), (109, 11692), (113, 11737), (118, 11773), (130, 11917), (131, 11929),  
(139, 11992), (140, 11995), (141, 12016), (150, 12118), (163, 12289), (166, 12319), (170, 12349),  
(172, 12355), (202, 12508), (214, 12574), (215, 12580), (219, 12598), (220, 12604), (227, 12640),  
(237, 12688), (238, 12691), (241, 12712), (242, 12721), (247, 12748), (251, 12760), (265, 12826),  
(275, 12874), (301, 13003), (319, 13150), (338, 13237), (341, 13258), (361, 13399), (363, 13411),  
(376, 13504), (388, 13540), (397, 13621), (402, 13657), (411, 13717), (419, 13744), (420, 13747),  
(421, 13753), (425, 13765), (456, 13846), (459, 13861), (462, 13879), (483, 13939), (510, 14071),  
(525, 14161), (530, 14197), (533, 14212), (554, 14251), (560, 14272), (564, 14290), (568, 14323),  
(569, 14326), (600, 14503), (614, 14545), (615, 14557), (617, 14575), (627, 14623), (631, 14629),  
(642, 14716), (685, 14965), (698, 15037), (712, 15100), (713, 15106), (716, 15115), (718, 15124),  
(746, 15310), (756, 15409), (759, 15442), (760, 15451), (764, 15472), (773, 15604), (775, 15610),  
(778, 15658), (784, 15688), (786, 15703), (796, 15802),