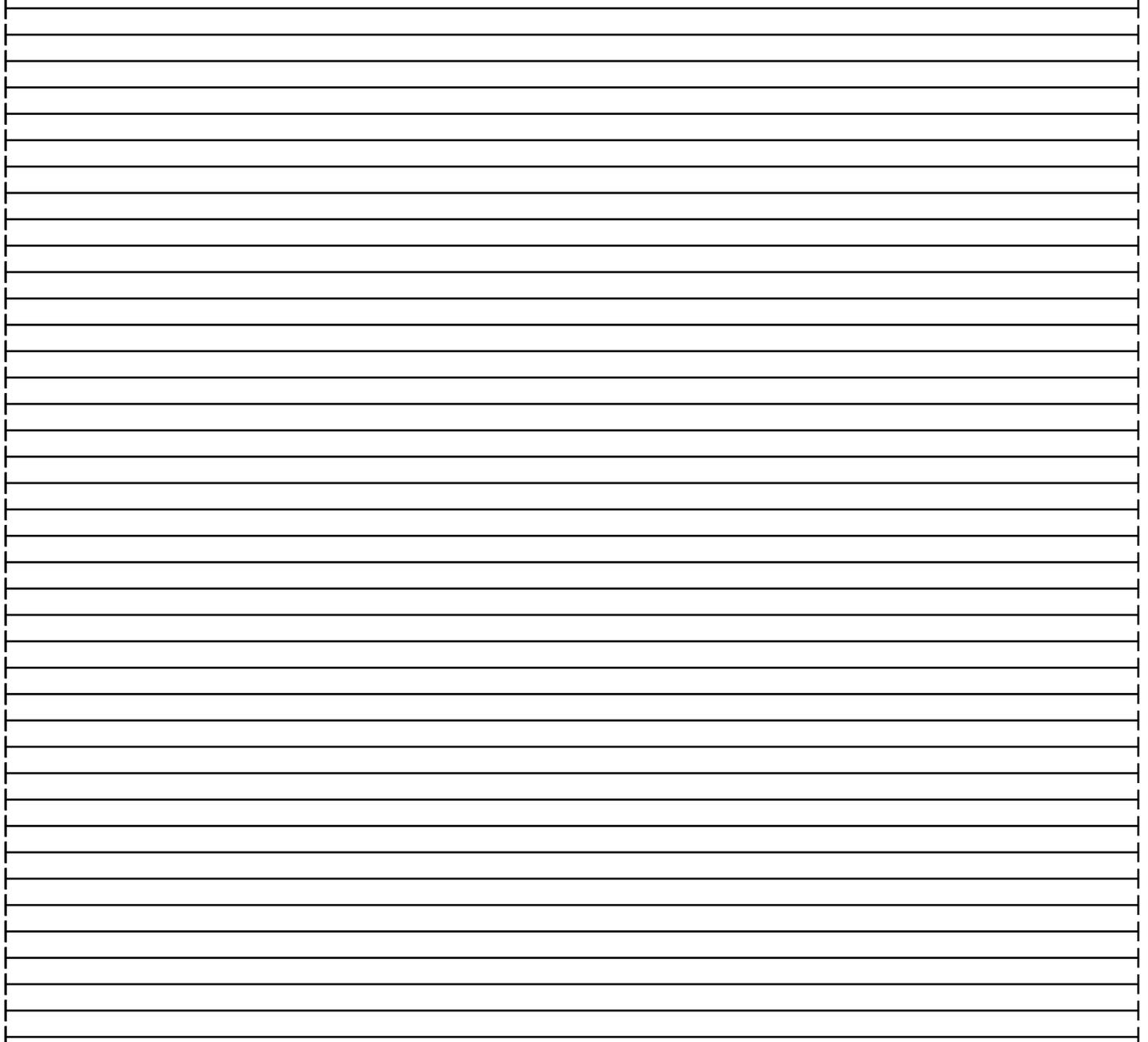
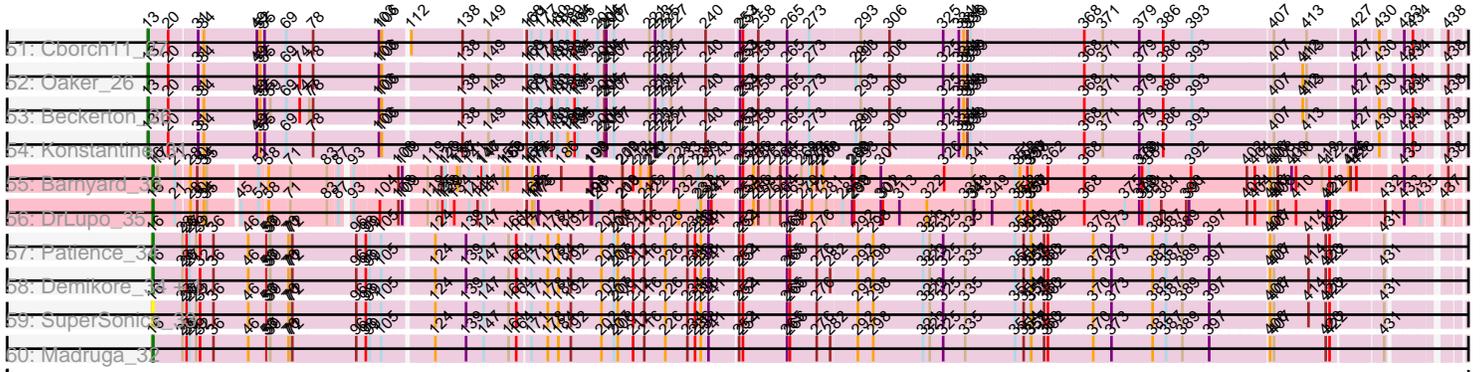


Zoomed Pham 291135



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 291135 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291135 has 70 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Madi_22, Sienna_22
- Track 2 : Beyoncage_22, Djokovic_22, Terapin_22, BiteSize_22
- Track 3 : Suzy_22
- Track 4 : LilyPad_23
- Track 5 : LittleFella_24
- Track 6 : LuckyLeo_26, Apeppi_24
- Track 7 : Gibbin_28
- Track 8 : Charminar_25
- Track 9 : DumpTruck_26
- Track 10 : Erutan_27
- Track 11 : GretelLyn_27, Sadboi_27
- Track 12 : Rukungu_27
- Track 13 : Zany_26
- Track 14 : Alyssamiracle_27
- Track 15 : MoiGyank_29
- Track 16 : Stormer_26
- Track 17 : Fulcrum_28, GOATification_28
- Track 18 : Avian_24
- Track 19 : ParvusTarda_27
- Track 20 : Wojtek_26
- Track 21 : Lila22_26
- Track 22 : Xenia2_27
- Track 23 : Astralis_24
- Track 24 : Genamy16_27
- Track 25 : Sampudon_27, Jalebi_26
- Track 26 : Yikes_28
- Track 27 : BirthdayBoy_28
- Track 28 : NovaSharks_26
- Track 29 : Rumi_26
- Track 30 : Patos_28, NorManre_28
- Track 31 : Jamemuya19_24
- Track 32 : Lambo_27
- Track 33 : OtterstedtS21_27
- Track 34 : Rota_26
- Track 35 : Ranch_27
- Track 36 : Alephilan_24
- Track 37 : RazorC_25

- Track 38 : Tillicus_26
- Track 39 : LavAbarElk_25
- Track 40 : Riduram_26
- Track 41 : Mima20_25
- Track 42 : DaviePasture_27
- Track 43 : DoobyDoo_26
- Track 44 : Predator_30
- Track 45 : Puissant_25
- Track 46 : Damien_26
- Track 47 : Megatron06_28
- Track 48 : BobtimousPrime_25
- Track 49 : Thumb_26
- Track 50 : Phreeze_26
- Track 51 : Cborch11_27
- Track 52 : Oaker_26
- Track 53 : Beckerton_26
- Track 54 : Konstantine_31
- Track 55 : Barnyard_33
- Track 56 : DrLupo_35
- Track 57 : Patience_34
- Track 58 : Demikore_34, Labelle_33
- Track 59 : SuperSonics_33
- Track 60 : Madruga_32

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

The start number called the most often in the published annotations is 2, it was called in 32 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alephilan_24, Apeppi_24, Astralis_24, BirthdayBoy_28, DaviePasture_27, DoobyDoo_26, DumpTruck_26, Erutan_27, Fulcrum_28, GOATification_28, Gibbin_28, Gretellyn_27, Jalebi_26, Jamemuya19_24, Lambo_27, LavAbarElk_25, Lila22_26, LuckyLeo_26, Mima20_25, MoiGyank_29, NorManre_28, NovaSharks_26, OtterstedtS21_27, ParvusTarda_27, Patos_28, Ranch_27, Rukungu_27, Rumi_26, Sadboi_27, Sampudon_27, Tillicus_26, Wojtek_26, Xenia2_27, Yikes_28,

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

- Charminar_25, Riduram_26, Stormer_26,

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

- Alyssmiracle_27, Avian_24, Barnyard_33, Beckerton_26, Beyoncage_22, BiteSize_22, BobtimousPrime_25, Cborch11_27, Damien_26, Demikore_34, Djokovic_22, DrLupo_35, Genamy16_27, Konstantine_31, Labelle_33, LilyPad_23, LittleFella_24, Madi_22, Madruga_32, Megatron06_28, Oaker_26, Patience_34, Phreeze_26, Predator_30, Puissant_25, RazorC_25, Rota_26, Sienna_22, SuperSonics_33, Suzy_22, Terapin_22, Thumb_26, Zany_26,

Summary by start number:

Start 2:

- Found in 37 of 70 (52.9%) of genes in pham
- Manual Annotations of this start: 32 of 60
- Called 91.9% of time when present
- Phage (with cluster) where this start called: Alephilan_24 (DV), Apeppi_24 (DV), Astralis_24 (DV), BirthdayBoy_28 (DV), DaviePasture_27 (DV), DoobyDoo_26 (DV), DumpTruck_26 (DV), Erutan_27 (DV), Fulcrum_28 (DV), GOATification_28 (DV), Gibbin_28 (DV), GretelLyn_27 (DV), Jalebi_26 (DV), Jamemuya19_24 (DV), Lambo_27 (DV), LavAbarElk_25 (DV), Lila22_26 (DV), LuckyLeo_26 (DV), Mima20_25 (DV), MoiGyank_29 (DV), NorManre_28 (DV), NovaSharks_26 (DV), OtterstedtS21_27 (DV), ParvusTarda_27 (DV), Patos_28 (DV), Ranch_27 (DV), Rukungu_27 (DV), Rumi_26 (DV), Sadboi_27 (DV), Sampudon_27 (DV), Tillicus_26 (DV), Wojtek_26 (DV), Xenia2_27 (DV), Yikes_28 (DV),

Start 3:

- Found in 6 of 70 (8.6%) of genes in pham
- Manual Annotations of this start: 5 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alyssamiracle_27 (DV), Avian_24 (DV), Genamy16_27 (DV), RazorC_25 (DV), Rota_26 (DV), Zany_26 (DV),

Start 11:

- Found in 38 of 70 (54.3%) of genes in pham
- No Manual Annotations of this start.
- Called 7.9% of time when present
- Phage (with cluster) where this start called: Charminar_25 (DV), Riduram_26 (DV), Stormer_26 (DV),

Start 13:

- Found in 11 of 70 (15.7%) of genes in pham
- Manual Annotations of this start: 9 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_26 (H1), BobtimousPrime_25 (H1), Cborch11_27 (H1), Damien_26 (H1), Konstantine_31 (H1), Megatron06_28 (H1), Oaker_26 (H1), Phreeze_26 (H1), Predator_30 (H1), Puissant_25 (H1), Thumb_26 (H1),

Start 16:

- Found in 47 of 70 (67.1%) of genes in pham
- Manual Annotations of this start: 5 of 60
- Called 14.9% of time when present
- Phage (with cluster) where this start called: Barnyard_33 (H2), Demikore_34 (U), DrLupo_35 (H2), Labelle_33 (U), Madruga_32 (U), Patience_34 (U), SuperSonics_33 (U),

Start 44:

- Found in 9 of 70 (12.9%) of genes in pham
- Manual Annotations of this start: 9 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beyoncage_22 (DG1), BiteSize_22 (DG1), Djokovic_22 (DG1), LilyPad_23 (DG1), LittleFella_24 (DG2), Madi_22 (DG1), Sienna_22 (DG1), Suzy_22 (DG1), Terapin_22 (DG1),

Summary by clusters:

There are 6 clusters represented in this pham: H2, H1, DG2, DG1, U, DV,

Info for manual annotations of cluster DG1:

- Start number 44 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 44 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 2 was manually annotated 32 times for cluster DV.
- Start number 3 was manually annotated 5 times for cluster DV.

Info for manual annotations of cluster H1:

- Start number 13 was manually annotated 9 times for cluster H1.

Info for manual annotations of cluster H2:

- Start number 16 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster U:

- Start number 16 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Alephilan_24 Start: 16739, Stop: 23944, Start Num: 2

Candidate Starts for Alephilan_24:

(1, 16718), (Start: 2 @16739 has 32 MA's), (9, 17000), (11, 17099), (14, 17135), (Start: 16 @17147 has 5 MA's), (24, 17246), (38, 17378), (41, 17405), (48, 17465), (50, 17474), (60, 17516), (64, 17528), (67, 17552), (68, 17558), (76, 17621), (81, 17675), (82, 17678), (101, 17831), (102, 17834), (113, 17936), (116, 17954), (120, 17981), (132, 18029), (133, 18038), (142, 18107), (148, 18143), (150, 18164), (151, 18176), (153, 18188), (156, 18203), (163, 18239), (176, 18314), (177, 18320), (193, 18419), (202, 18500), (204, 18509), (237, 18800), (242, 18842), (244, 18863), (245, 18872), (248, 18896), (249, 18902), (251, 18923), (268, 19103), (271, 19130), (275, 19163), (279, 19184), (292, 19286), (295, 19313), (302, 19364), (303, 19367), (307, 19391), (311, 19403), (315, 19418), (317, 19442), (324, 19520), (325, 19532), (338, 19607), (350, 19700), (353, 19757), (357, 19787), (371, 19976), (372, 19982), (377, 20054), (378, 20084), (382, 20129), (383, 20138), (388, 20180), (390, 20234), (395, 20276), (400, 20360), (406, 20483), (415, 20603), (421, 20654), (430, 20813), (446, 21104), (449, 21191), (460, 21332), (463, 21344), (471, 21428), (475, 21461), (487, 21590), (527, 22247), (529, 22280), (537, 22370), (557, 22658), (559, 22667), (561, 22676), (594, 23171), (604, 23243), (614, 23333), (616, 23351), (619, 23390), (622, 23432), (625, 23456), (630, 23486), (631, 23495), (636, 23525), (639, 23561), (644, 23579), (651, 23618), (654, 23642), (668, 23807), (669, 23831), (675, 23897), (677, 23909),

Gene: Alyssamiracle_27 Start: 15546, Stop: 22754, Start Num: 3

Candidate Starts for Alyssamiracle_27:

(Start: 3 @15546 has 5 MA's), (4, 15561), (6, 15693), (9, 15807), (11, 15906), (14, 15942), (Start: 16 @15954 has 5 MA's), (22, 16038), (24, 16053), (38, 16185), (41, 16212), (48, 16272), (50, 16281), (60, 16323), (64, 16335), (67, 16359), (68, 16365), (72, 16386), (76, 16428), (81, 16482), (82, 16485), (102, 16641), (113, 16743), (116, 16761), (120, 16788), (132, 16836), (133, 16845), (148, 16950), (150, 16971), (151, 16983), (153, 16995), (156, 17010), (163, 17046), (170, 17091), (176, 17121), (178,

17148), (193, 17226), (201, 17295), (202, 17307), (204, 17316), (235, 17595), (237, 17607), (242, 17649), (244, 17670), (245, 17679), (248, 17703), (249, 17709), (251, 17730), (261, 17814), (268, 17910), (271, 17937), (275, 17970), (286, 18063), (292, 18093), (302, 18171), (303, 18174), (307, 18198), (311, 18210), (315, 18225), (317, 18249), (324, 18327), (325, 18339), (338, 18414), (340, 18417), (353, 18564), (355, 18579), (357, 18594), (367, 18693), (369, 18741), (371, 18789), (372, 18795), (374, 18840), (377, 18867), (388, 18993), (390, 19047), (395, 19089), (400, 19173), (404, 19260), (406, 19296), (415, 19416), (421, 19467), (430, 19626), (435, 19740), (446, 19917), (449, 20004), (460, 20145), (463, 20157), (471, 20241), (527, 21060), (529, 21093), (531, 21105), (537, 21183), (556, 21459), (558, 21471), (573, 21714), (579, 21765), (584, 21807), (604, 22053), (616, 22161), (619, 22200), (620, 22203), (622, 22242), (625, 22266), (630, 22296), (631, 22305), (632, 22317), (642, 22380), (644, 22389), (651, 22428), (654, 22452), (668, 22617), (669, 22641), (675, 22707), (677, 22719),

Gene: Apeppi_24 Start: 16873, Stop: 24093, Start Num: 2

Candidate Starts for Apeppi_24:

(1, 16852), (Start: 2 @16873 has 32 MA's), (7, 17068), (10, 17143), (12, 17248), (14, 17269), (15, 17272), (18, 17302), (19, 17311), (22, 17365), (32, 17428), (33, 17434), (40, 17530), (47, 17581), (50, 17608), (64, 17662), (65, 17671), (67, 17686), (77, 17764), (80, 17800), (85, 17824), (107, 18019), (109, 18049), (127, 18154), (142, 18244), (145, 18268), (148, 18280), (150, 18301), (151, 18313), (156, 18340), (167, 18409), (174, 18445), (176, 18451), (179, 18481), (187, 18526), (191, 18547), (193, 18556), (196, 18580), (202, 18637), (214, 18757), (235, 18925), (242, 18979), (244, 19000), (246, 19018), (248, 19033), (251, 19060), (261, 19144), (271, 19267), (292, 19423), (295, 19450), (298, 19471), (302, 19501), (309, 19534), (315, 19555), (317, 19579), (318, 19582), (319, 19585), (321, 19606), (322, 19618), (324, 19657), (328, 19693), (338, 19744), (349, 19804), (350, 19837), (356, 19915), (357, 19924), (371, 20113), (372, 20119), (377, 20191), (378, 20221), (383, 20275), (388, 20317), (395, 20413), (400, 20497), (406, 20620), (415, 20740), (421, 20791), (446, 21244), (447, 21274), (449, 21331), (454, 21406), (460, 21472), (463, 21484), (471, 21568), (475, 21601), (478, 21622), (483, 21691), (527, 22387), (537, 22507), (538, 22510), (557, 22807), (561, 22825), (579, 23104), (583, 23131), (594, 23320), (604, 23392), (613, 23479), (616, 23500), (619, 23539), (622, 23581), (630, 23635), (631, 23644), (632, 23656), (642, 23719), (644, 23728), (651, 23767), (654, 23791), (659, 23893), (668, 23956), (669, 23980), (674, 24037), (675, 24046), (677, 24058),

Gene: Astralis_24 Start: 15136, Stop: 22344, Start Num: 2

Candidate Starts for Astralis_24:

(1, 15115), (Start: 2 @15136 has 32 MA's), (6, 15283), (9, 15397), (11, 15496), (14, 15532), (Start: 16 @15544 has 5 MA's), (22, 15628), (24, 15643), (38, 15775), (41, 15802), (48, 15862), (50, 15871), (60, 15913), (64, 15925), (67, 15949), (68, 15955), (72, 15976), (76, 16018), (81, 16072), (82, 16075), (102, 16231), (113, 16333), (116, 16351), (120, 16378), (132, 16426), (133, 16435), (148, 16540), (150, 16561), (151, 16573), (153, 16585), (156, 16600), (163, 16636), (176, 16711), (178, 16738), (193, 16816), (201, 16885), (202, 16897), (204, 16906), (235, 17185), (237, 17197), (240, 17221), (242, 17239), (244, 17260), (245, 17269), (248, 17293), (249, 17299), (251, 17320), (261, 17404), (268, 17500), (271, 17527), (275, 17560), (286, 17653), (292, 17683), (302, 17761), (303, 17764), (307, 17788), (311, 17800), (315, 17815), (317, 17839), (324, 17917), (325, 17929), (338, 18004), (340, 18007), (353, 18154), (355, 18169), (357, 18184), (367, 18283), (369, 18331), (371, 18379), (372, 18385), (374, 18430), (377, 18457), (388, 18583), (390, 18637), (395, 18679), (400, 18763), (404, 18850), (406, 18886), (415, 19006), (421, 19057), (430, 19216), (435, 19330), (446, 19507), (449, 19594), (460, 19735), (463, 19747), (471, 19831), (527, 20650), (529, 20683), (531, 20695), (537, 20773), (556, 21049), (558, 21061), (579, 21355), (584, 21397), (604, 21643), (616, 21751), (619, 21790), (620, 21793), (622, 21832), (625, 21856), (630, 21886), (631, 21895), (632, 21907), (642, 21970), (644, 21979), (651, 22018), (654, 22042), (668, 22207), (669, 22231), (675, 22297), (677, 22309),

Gene: Avian_24 Start: 15528, Stop: 22736, Start Num: 3

Candidate Starts for Avian_24:

(Start: 3 @15528 has 5 MA's), (6, 15675), (9, 15789), (11, 15888), (14, 15924), (Start: 16 @15936 has 5 MA's), (22, 16020), (24, 16035), (38, 16167), (41, 16194), (48, 16254), (50, 16263), (60, 16305), (64, 16317), (67, 16341), (68, 16347), (72, 16368), (76, 16410), (81, 16464), (82, 16467), (102, 16623), (113, 16725), (116, 16743), (120, 16770), (132, 16818), (133, 16827), (148, 16932), (150, 16953), (151, 16965), (153, 16977), (156, 16992), (163, 17028), (170, 17073), (176, 17103), (178, 17130), (193, 17208), (201, 17277), (202, 17289), (204, 17298), (235, 17577), (237, 17589), (242, 17631), (244, 17652), (245, 17661), (248, 17685), (249, 17691), (251, 17712), (261, 17796), (268, 17892), (271, 17919), (275, 17952), (286, 18045), (292, 18075), (302, 18153), (303, 18156), (307, 18180), (311, 18192), (315, 18207), (317, 18231), (324, 18309), (325, 18321), (338, 18396), (340, 18399), (353, 18546), (355, 18561), (357, 18576), (367, 18675), (369, 18723), (371, 18771), (372, 18777), (374, 18822), (377, 18849), (388, 18975), (390, 19029), (395, 19071), (400, 19155), (404, 19242), (406, 19278), (415, 19398), (421, 19449), (430, 19608), (435, 19722), (446, 19899), (449, 19986), (460, 20127), (463, 20139), (471, 20223), (527, 21042), (529, 21075), (531, 21087), (537, 21165), (556, 21441), (558, 21453), (573, 21696), (579, 21747), (584, 21789), (604, 22035), (616, 22143), (619, 22182), (620, 22185), (622, 22224), (624, 22236), (630, 22278), (631, 22287), (632, 22299), (636, 22317), (644, 22371), (651, 22410), (654, 22434), (668, 22599), (669, 22623), (675, 22689), (677, 22701),

Gene: Barnyard_33 Start: 18111, Stop: 24254, Start Num: 16

Candidate Starts for Barnyard_33:

(Start: 16 @18111 has 5 MA's), (17, 18126), (21, 18180), (28, 18216), (30, 18237), (34, 18258), (35, 18267), (51, 18384), (58, 18405), (71, 18453), (83, 18555), (87, 18579), (93, 18600), (108, 18714), (109, 18723), (119, 18777), (126, 18807), (129, 18819), (136, 18843), (137, 18849), (141, 18870), (146, 18903), (147, 18909), (155, 18951), (159, 18963), (160, 18966), (168, 19005), (171, 19020), (172, 19023), (175, 19041), (186, 19113), (198, 19203), (199, 19206), (209, 19299), (210, 19302), (212, 19335), (214, 19356), (220, 19383), (222, 19389), (229, 19461), (233, 19491), (237, 19536), (239, 19551), (243, 19590), (253, 19653), (254, 19662), (256, 19692), (258, 19707), (263, 19743), (264, 19773), (265, 19794), (269, 19839), (273, 19863), (274, 19872), (276, 19887), (279, 19905), (280, 19908), (289, 19989), (290, 19995), (293, 20016), (301, 20076), (326, 20253), (341, 20328), (351, 20448), (352, 20463), (356, 20487), (357, 20496), (358, 20499), (362, 20550), (368, 20646), (379, 20814), (380, 20823), (381, 20844), (392, 20976), (402, 21150), (404, 21174), (406, 21210), (407, 21222), (408, 21234), (409, 21276), (410, 21285), (419, 21366), (422, 21387), (424, 21423), (426, 21429), (428, 21447), (433, 21549), (438, 21630), (441, 21681), (446, 21711), (452, 21804), (455, 21843), (473, 21984), (476, 22005), (484, 22095), (485, 22107), (490, 22188), (499, 22275), (503, 22302), (506, 22341), (510, 22359), (515, 22413), (516, 22425), (521, 22566), (523, 22614), (525, 22638), (532, 22728), (539, 22830), (546, 22944), (548, 22956), (551, 22989), (556, 23043), (561, 23073), (569, 23172), (570, 23184), (572, 23232), (585, 23337), (590, 23367), (591, 23388), (597, 23487), (606, 23565), (608, 23586), (609, 23592), (611, 23604), (613, 23637), (618, 23688), (619, 23697), (621, 23733), (622, 23739), (634, 23823), (635, 23826), (642, 23880), (644, 23889), (646, 23901), (649, 23922), (651, 23931), (655, 23988), (658, 24036), (659, 24057), (661, 24078), (667, 24114), (671, 24153), (675, 24204), (676, 24207), (677, 24216),

Gene: Beckerton_26 Start: 16772, Stop: 23095, Start Num: 13

Candidate Starts for Beckerton_26:

(Start: 13 @16772 has 9 MA's), (20, 16835), (31, 16916), (34, 16934), (49, 17081), (52, 17090), (55, 17102), (59, 17120), (69, 17165), (74, 17207), (77, 17237), (78, 17249), (103, 17435), (106, 17444), (138, 17654), (149, 17729), (168, 17831), (171, 17846), (177, 17876), (180, 17909), (183, 17927), (189, 17957), (194, 17981), (195, 17990), (201, 18053), (204, 18074), (205, 18080), (207, 18104), (221, 18215), (223, 18233), (225, 18254), (227, 18281), (240, 18389), (253, 18482), (254, 18491), (258, 18536), (265, 18623), (273, 18692), (293, 18845), (306, 18932), (325, 19079), (331, 19121), (334, 19130), (336, 19142), (339, 19151), (368, 19475), (371, 19532), (379, 19643), (386, 19718), (393, 19808), (407, 20051), (412, 20135), (413, 20147), (427, 20267), (430, 20327), (433, 20375),

(434, 20396), (438, 20456), (446, 20537), (457, 20687), (476, 20846), (480, 20867), (482, 20912), (489, 20966), (492, 21074), (507, 21170), (509, 21179), (512, 21209), (513, 21212), (528, 21527), (555, 21800), (556, 21809), (565, 21884), (567, 21917), (568, 21929), (569, 21938), (576, 22061), (588, 22181), (593, 22265), (599, 22331), (605, 22376), (607, 22403), (622, 22565), (623, 22568), (628, 22607), (630, 22619), (631, 22628), (655, 22835), (666, 22949), (671, 22994), (675, 23045), (676, 23048), (677, 23057), (678, 23072),

Gene: Beyoncage_22 Start: 12549, Stop: 19319, Start Num: 44

Candidate Starts for Beyoncage_22:

(Start: 44 @12549 has 9 MA's), (69, 12693), (77, 12765), (79, 12786), (91, 12885), (94, 12897), (96, 12903), (122, 13113), (124, 13122), (135, 13182), (143, 13239), (150, 13290), (163, 13365), (182, 13476), (185, 13494), (189, 13515), (218, 13758), (222, 13767), (224, 13800), (225, 13803), (227, 13830), (245, 13986), (260, 14097), (261, 14103), (267, 14190), (278, 14274), (283, 14307), (284, 14325), (290, 14370), (295, 14409), (297, 14421), (299, 14436), (302, 14457), (306, 14478), (308, 14487), (310, 14493), (314, 14502), (317, 14532), (333, 14676), (340, 14709), (345, 14724), (357, 14892), (362, 14937), (364, 14946), (366, 14967), (368, 15021), (382, 15231), (387, 15273), (391, 15345), (409, 15654), (414, 15702), (417, 15723), (425, 15831), (439, 16212), (443, 16287), (449, 16473), (464, 16704), (469, 16752), (474, 16803), (478, 16827), (479, 16836), (486, 16929), (498, 17094), (501, 17118), (502, 17133), (526, 17607), (533, 17685), (549, 17928), (550, 17964), (559, 18057), (571, 18216), (580, 18336), (582, 18351), (586, 18405), (593, 18519), (595, 18552), (596, 18561), (600, 18585), (604, 18609), (617, 18753), (618, 18759), (627, 18846), (631, 18873), (632, 18885), (636, 18903), (641, 18945), (648, 18978), (649, 18987), (651, 18996), (653, 19008), (658, 19104), (663, 19164), (664, 19167), (673, 19263), (674, 19266), (676, 19278), (677, 19287), (679, 19308),

Gene: BirthdayBoy_28 Start: 17583, Stop: 24797, Start Num: 2

Candidate Starts for BirthdayBoy_28:

(1, 17562), (Start: 2 @17583 has 32 MA's), (6, 17730), (9, 17844), (11, 17943), (14, 17979), (Start: 16 @17991 has 5 MA's), (24, 18090), (38, 18222), (50, 18318), (60, 18360), (64, 18372), (67, 18396), (68, 18402), (76, 18465), (81, 18519), (82, 18522), (101, 18675), (102, 18678), (113, 18780), (116, 18798), (120, 18825), (132, 18873), (133, 18882), (142, 18951), (148, 18987), (150, 19008), (151, 19020), (153, 19032), (156, 19047), (163, 19083), (176, 19158), (193, 19263), (201, 19332), (202, 19344), (204, 19353), (235, 19632), (237, 19644), (242, 19686), (244, 19707), (245, 19716), (248, 19740), (249, 19746), (251, 19767), (257, 19830), (261, 19851), (268, 19947), (271, 19974), (275, 20007), (302, 20208), (303, 20211), (307, 20235), (311, 20247), (315, 20262), (317, 20286), (324, 20364), (325, 20376), (338, 20451), (340, 20454), (353, 20601), (355, 20616), (357, 20631), (367, 20730), (369, 20778), (371, 20826), (372, 20832), (376, 20898), (377, 20904), (383, 20988), (388, 21030), (390, 21084), (395, 21126), (400, 21210), (406, 21333), (415, 21453), (421, 21504), (430, 21663), (435, 21777), (446, 21957), (448, 22017), (449, 22044), (454, 22119), (460, 22185), (463, 22197), (471, 22281), (475, 22314), (527, 23100), (529, 23133), (531, 23145), (537, 23223), (557, 23511), (561, 23529), (579, 23808), (604, 24096), (616, 24204), (619, 24243), (620, 24246), (622, 24285), (630, 24339), (631, 24348), (632, 24360), (636, 24378), (637, 24402), (644, 24432), (651, 24471), (654, 24495), (668, 24660), (669, 24684), (675, 24750), (677, 24762),

Gene: BiteSize_22 Start: 12549, Stop: 19319, Start Num: 44

Candidate Starts for BiteSize_22:

(Start: 44 @12549 has 9 MA's), (69, 12693), (77, 12765), (79, 12786), (91, 12885), (94, 12897), (96, 12903), (122, 13113), (124, 13122), (135, 13182), (143, 13239), (150, 13290), (163, 13365), (182, 13476), (185, 13494), (189, 13515), (218, 13758), (222, 13767), (224, 13800), (225, 13803), (227, 13830), (245, 13986), (260, 14097), (261, 14103), (267, 14190), (278, 14274), (283, 14307), (284, 14325), (290, 14370), (295, 14409), (297, 14421), (299, 14436), (302, 14457), (306, 14478), (308, 14487), (310, 14493), (314, 14502), (317, 14532), (333, 14676), (340, 14709), (345, 14724), (357, 14892), (362, 14937), (364, 14946), (366, 14967), (368, 15021), (382, 15231), (387, 15273), (391,

15345), (409, 15654), (414, 15702), (417, 15723), (425, 15831), (439, 16212), (443, 16287), (449, 16473), (464, 16704), (469, 16752), (474, 16803), (478, 16827), (479, 16836), (486, 16929), (498, 17094), (501, 17118), (502, 17133), (526, 17607), (533, 17685), (549, 17928), (550, 17964), (559, 18057), (571, 18216), (580, 18336), (582, 18351), (586, 18405), (593, 18519), (595, 18552), (596, 18561), (600, 18585), (604, 18609), (617, 18753), (618, 18759), (627, 18846), (631, 18873), (632, 18885), (636, 18903), (641, 18945), (648, 18978), (649, 18987), (651, 18996), (653, 19008), (658, 19104), (663, 19164), (664, 19167), (673, 19263), (674, 19266), (676, 19278), (677, 19287), (679, 19308),

Gene: BobtimousPrime_25 Start: 16692, Stop: 23015, Start Num: 13

Candidate Starts for BobtimousPrime_25:

(Start: 13 @16692 has 9 MA's), (20, 16755), (31, 16836), (34, 16854), (49, 17001), (52, 17010), (55, 17022), (69, 17085), (78, 17169), (103, 17355), (106, 17364), (138, 17574), (149, 17649), (168, 17751), (171, 17766), (177, 17796), (180, 17829), (183, 17847), (189, 17877), (194, 17901), (195, 17910), (201, 17973), (204, 17994), (205, 18000), (207, 18024), (221, 18135), (223, 18153), (225, 18174), (227, 18201), (240, 18309), (253, 18402), (254, 18411), (258, 18456), (265, 18543), (273, 18612), (291, 18750), (293, 18765), (306, 18852), (325, 18999), (329, 19029), (331, 19041), (334, 19050), (336, 19062), (339, 19071), (368, 19395), (371, 19452), (379, 19563), (386, 19638), (393, 19728), (407, 19971), (412, 20055), (413, 20067), (427, 20187), (430, 20247), (433, 20295), (434, 20316), (438, 20376), (446, 20457), (457, 20607), (476, 20766), (480, 20787), (482, 20832), (489, 20886), (492, 20994), (507, 21090), (509, 21099), (512, 21129), (513, 21132), (528, 21447), (555, 21720), (556, 21729), (562, 21786), (565, 21804), (567, 21837), (568, 21849), (569, 21858), (576, 21981), (588, 22101), (593, 22185), (599, 22251), (605, 22296), (607, 22323), (622, 22485), (623, 22488), (628, 22527), (630, 22539), (631, 22548), (655, 22755), (666, 22869), (671, 22914), (675, 22965), (676, 22968), (677, 22977), (678, 22992),

Gene: Cborch11_27 Start: 16234, Stop: 22557, Start Num: 13

Candidate Starts for Cborch11_27:

(Start: 13 @16234 has 9 MA's), (20, 16297), (31, 16378), (34, 16396), (49, 16543), (52, 16552), (55, 16564), (69, 16627), (78, 16711), (103, 16897), (106, 16906), (112, 16963), (138, 17116), (149, 17191), (168, 17293), (171, 17308), (177, 17338), (180, 17371), (183, 17389), (189, 17419), (194, 17443), (195, 17452), (201, 17515), (204, 17536), (205, 17542), (207, 17566), (221, 17677), (223, 17695), (225, 17716), (227, 17743), (240, 17851), (253, 17944), (254, 17953), (258, 17998), (265, 18085), (273, 18154), (293, 18307), (306, 18394), (325, 18541), (331, 18583), (334, 18592), (336, 18604), (339, 18613), (368, 18937), (371, 18994), (379, 19105), (386, 19180), (393, 19270), (407, 19513), (413, 19609), (427, 19729), (430, 19789), (433, 19837), (434, 19858), (438, 19918), (446, 19999), (457, 20149), (476, 20308), (480, 20329), (482, 20374), (489, 20428), (492, 20536), (507, 20632), (509, 20641), (512, 20671), (513, 20674), (528, 20989), (555, 21262), (556, 21271), (565, 21346), (567, 21379), (568, 21391), (569, 21400), (576, 21523), (588, 21643), (593, 21727), (599, 21793), (605, 21838), (607, 21865), (622, 22027), (623, 22030), (628, 22069), (630, 22081), (631, 22090), (655, 22297), (666, 22411), (671, 22456), (675, 22507), (676, 22510), (677, 22519), (678, 22534),

Gene: Charminar_25 Start: 15496, Stop: 22347, Start Num: 11

Candidate Starts for Charminar_25:

(1, 15115), (Start: 2 @15136 has 32 MA's), (6, 15283), (9, 15397), (11, 15496), (14, 15532), (Start: 16 @15544 has 5 MA's), (22, 15628), (24, 15643), (38, 15775), (41, 15802), (48, 15862), (50, 15871), (60, 15913), (64, 15925), (67, 15949), (68, 15955), (72, 15976), (76, 16018), (81, 16072), (82, 16075), (102, 16231), (113, 16333), (116, 16351), (120, 16378), (132, 16426), (133, 16435), (148, 16540), (150, 16561), (151, 16573), (153, 16585), (156, 16600), (163, 16636), (170, 16681), (176, 16711), (178, 16738), (193, 16816), (201, 16885), (202, 16897), (204, 16906), (235, 17185), (237, 17197), (242, 17239), (244, 17260), (245, 17269), (248, 17293), (249, 17299), (251, 17320), (261, 17404), (268, 17500), (271, 17527), (275, 17560), (286, 17653), (292, 17683), (302, 17761), (303, 17764), (307,

17788), (311, 17800), (315, 17815), (317, 17839), (324, 17917), (325, 17929), (338, 18004), (340, 18007), (353, 18154), (355, 18169), (357, 18184), (367, 18283), (369, 18331), (371, 18379), (372, 18385), (374, 18430), (377, 18457), (388, 18583), (390, 18637), (395, 18679), (400, 18763), (404, 18850), (406, 18886), (415, 19006), (421, 19057), (430, 19216), (435, 19330), (446, 19507), (449, 19594), (460, 19735), (463, 19747), (471, 19831), (527, 20650), (529, 20683), (531, 20695), (537, 20773), (557, 21061), (579, 21358), (584, 21400), (604, 21646), (616, 21754), (619, 21793), (620, 21796), (622, 21835), (625, 21859), (630, 21889), (631, 21898), (632, 21910), (642, 21973), (644, 21982), (651, 22021), (654, 22045), (668, 22210), (669, 22234), (675, 22300), (677, 22312),

Gene: Damien_26 Start: 16235, Stop: 22558, Start Num: 13

Candidate Starts for Damien_26:

(Start: 13 @16235 has 9 MA's), (20, 16298), (31, 16379), (34, 16397), (49, 16544), (52, 16553), (55, 16565), (69, 16628), (78, 16712), (103, 16898), (106, 16907), (138, 17117), (149, 17192), (168, 17294), (171, 17309), (177, 17339), (180, 17372), (183, 17390), (189, 17420), (194, 17444), (195, 17453), (201, 17516), (204, 17537), (205, 17543), (207, 17567), (221, 17678), (223, 17696), (225, 17717), (227, 17744), (240, 17852), (253, 17945), (254, 17954), (258, 17999), (265, 18086), (273, 18155), (291, 18293), (293, 18308), (306, 18395), (325, 18542), (331, 18584), (334, 18593), (336, 18605), (339, 18614), (368, 18938), (371, 18995), (379, 19106), (386, 19181), (393, 19271), (407, 19514), (412, 19598), (413, 19610), (427, 19730), (430, 19790), (433, 19838), (434, 19859), (438, 19919), (446, 20000), (457, 20150), (476, 20309), (480, 20330), (482, 20375), (489, 20429), (492, 20537), (507, 20633), (509, 20642), (512, 20672), (513, 20675), (528, 20990), (555, 21263), (556, 21272), (565, 21347), (567, 21380), (568, 21392), (569, 21401), (576, 21524), (588, 21644), (593, 21728), (599, 21794), (605, 21839), (607, 21866), (622, 22028), (623, 22031), (628, 22070), (630, 22082), (631, 22091), (655, 22298), (666, 22412), (671, 22457), (675, 22508), (676, 22511), (677, 22520), (678, 22535),

Gene: DaviePasture_27 Start: 17352, Stop: 24563, Start Num: 2

Candidate Starts for DaviePasture_27:

(1, 17331), (Start: 2 @17352 has 32 MA's), (6, 17499), (9, 17613), (11, 17712), (14, 17748), (Start: 16 @17760 has 5 MA's), (24, 17859), (38, 17991), (41, 18018), (42, 18021), (48, 18078), (50, 18087), (60, 18129), (64, 18141), (67, 18165), (68, 18171), (76, 18234), (81, 18288), (82, 18291), (101, 18444), (102, 18447), (113, 18549), (116, 18567), (120, 18594), (132, 18642), (133, 18651), (142, 18720), (148, 18756), (150, 18777), (151, 18789), (153, 18801), (156, 18816), (163, 18852), (170, 18897), (176, 18927), (193, 19032), (201, 19101), (202, 19113), (204, 19122), (237, 19413), (240, 19437), (242, 19455), (244, 19476), (245, 19485), (248, 19509), (249, 19515), (251, 19536), (261, 19620), (268, 19716), (271, 19743), (275, 19776), (279, 19797), (292, 19899), (302, 19977), (303, 19980), (307, 20004), (311, 20016), (315, 20031), (317, 20055), (324, 20133), (325, 20145), (338, 20220), (340, 20223), (353, 20370), (355, 20385), (357, 20400), (367, 20499), (369, 20547), (371, 20595), (372, 20601), (377, 20673), (383, 20757), (388, 20799), (390, 20853), (395, 20895), (400, 20979), (406, 21102), (415, 21222), (416, 21228), (421, 21273), (430, 21432), (435, 21546), (440, 21660), (446, 21714), (449, 21801), (450, 21810), (458, 21933), (460, 21942), (463, 21954), (471, 22038), (496, 22347), (527, 22857), (531, 22902), (537, 22977), (557, 23277), (561, 23295), (579, 23574), (584, 23616), (604, 23862), (616, 23970), (619, 24009), (620, 24012), (622, 24051), (630, 24105), (631, 24114), (632, 24126), (636, 24144), (637, 24168), (644, 24198), (651, 24237), (654, 24261), (668, 24426), (669, 24450), (675, 24516), (677, 24528),

Gene: Demikore_34 Start: 19565, Stop: 26212, Start Num: 16

Candidate Starts for Demikore_34:

(Start: 16 @19565 has 5 MA's), (23, 19658), (26, 19670), (27, 19679), (32, 19712), (36, 19754), (46, 19859), (56, 19916), (57, 19922), (59, 19928), (70, 19985), (71, 19991), (72, 19997), (96, 20195), (98, 20225), (99, 20237), (105, 20273), (124, 20414), (139, 20510), (147, 20558), (161, 20636), (164, 20660), (171, 20693), (178, 20744), (184, 20777), (192, 20816), (202, 20906), (207, 20945), (208, 20957), (212, 21005), (216, 21038), (226, 21104), (234, 21173), (236, 21197), (238, 21215), (241,

21239), (252, 21320), (254, 21332), (265, 21467), (266, 21476), (276, 21560), (282, 21602), (292, 21680), (298, 21725), (321, 21881), (323, 21902), (325, 21944), (335, 22007), (351, 22163), (354, 22190), (357, 22211), (358, 22214), (360, 22253), (362, 22265), (370, 22400), (373, 22457), (382, 22583), (387, 22625), (389, 22676), (397, 22760), (406, 22931), (407, 22943), (414, 23051), (420, 23105), (422, 23117), (431, 23255), (453, 23618), (466, 23753), (477, 23837), (504, 24167), (505, 24200), (508, 24209), (541, 24719), (543, 24746), (546, 24794), (553, 24851), (563, 24950), (573, 25136), (592, 25322), (610, 25532), (622, 25673), (626, 25703), (640, 25805), (644, 25844), (647, 25859), (658, 25991), (660, 26015), (662, 26039), (670, 26099), (672, 26117), (673, 26150), (675, 26162), (676, 26165), (678, 26189),

Gene: Djokovic_22 Start: 12549, Stop: 19319, Start Num: 44

Candidate Starts for Djokovic_22:

(Start: 44 @12549 has 9 MA's), (69, 12693), (77, 12765), (79, 12786), (91, 12885), (94, 12897), (96, 12903), (122, 13113), (124, 13122), (135, 13182), (143, 13239), (150, 13290), (163, 13365), (182, 13476), (185, 13494), (189, 13515), (218, 13758), (222, 13767), (224, 13800), (225, 13803), (227, 13830), (245, 13986), (260, 14097), (261, 14103), (267, 14190), (278, 14274), (283, 14307), (284, 14325), (290, 14370), (295, 14409), (297, 14421), (299, 14436), (302, 14457), (306, 14478), (308, 14487), (310, 14493), (314, 14502), (317, 14532), (333, 14676), (340, 14709), (345, 14724), (357, 14892), (362, 14937), (364, 14946), (366, 14967), (368, 15021), (382, 15231), (387, 15273), (391, 15345), (409, 15654), (414, 15702), (417, 15723), (425, 15831), (439, 16212), (443, 16287), (449, 16473), (464, 16704), (469, 16752), (474, 16803), (478, 16827), (479, 16836), (486, 16929), (498, 17094), (501, 17118), (502, 17133), (526, 17607), (533, 17685), (549, 17928), (550, 17964), (559, 18057), (571, 18216), (580, 18336), (582, 18351), (586, 18405), (593, 18519), (595, 18552), (596, 18561), (600, 18585), (604, 18609), (617, 18753), (618, 18759), (627, 18846), (631, 18873), (632, 18885), (636, 18903), (641, 18945), (648, 18978), (649, 18987), (651, 18996), (653, 19008), (658, 19104), (663, 19164), (664, 19167), (673, 19263), (674, 19266), (676, 19278), (677, 19287), (679, 19308),

Gene: DoobyDoo_26 Start: 16517, Stop: 23719, Start Num: 2

Candidate Starts for DoobyDoo_26:

(1, 16496), (Start: 2 @16517 has 32 MA's), (6, 16664), (9, 16778), (11, 16877), (14, 16913), (Start: 16 @16925 has 5 MA's), (24, 17024), (38, 17156), (41, 17183), (42, 17186), (50, 17252), (60, 17294), (64, 17306), (67, 17330), (68, 17336), (76, 17399), (81, 17453), (82, 17456), (101, 17609), (102, 17612), (113, 17714), (116, 17732), (120, 17759), (132, 17807), (133, 17816), (142, 17885), (148, 17921), (150, 17942), (151, 17954), (153, 17966), (156, 17981), (163, 18017), (176, 18092), (177, 18098), (193, 18197), (201, 18266), (202, 18278), (204, 18287), (237, 18578), (242, 18620), (244, 18641), (245, 18650), (248, 18674), (249, 18680), (251, 18701), (257, 18764), (261, 18785), (268, 18881), (271, 18908), (275, 18941), (302, 19142), (303, 19145), (307, 19169), (311, 19181), (315, 19196), (317, 19220), (324, 19298), (325, 19310), (340, 19388), (353, 19535), (355, 19550), (357, 19565), (367, 19664), (369, 19712), (371, 19760), (372, 19766), (374, 19811), (377, 19838), (383, 19922), (388, 19964), (390, 20018), (395, 20060), (400, 20144), (406, 20267), (415, 20387), (421, 20438), (430, 20597), (435, 20711), (446, 20879), (449, 20966), (450, 20975), (460, 21107), (463, 21119), (471, 21203), (475, 21236), (496, 21512), (527, 22022), (529, 22055), (531, 22067), (537, 22145), (557, 22433), (559, 22442), (561, 22451), (579, 22730), (584, 22772), (604, 23018), (616, 23126), (619, 23165), (620, 23168), (622, 23207), (630, 23261), (631, 23270), (632, 23282), (636, 23300), (637, 23324), (644, 23354), (651, 23393), (654, 23417), (668, 23582), (669, 23606), (675, 23672), (677, 23684),

Gene: DrLupo_35 Start: 18517, Stop: 24654, Start Num: 16

Candidate Starts for DrLupo_35:

(Start: 16 @18517 has 5 MA's), (21, 18586), (28, 18622), (30, 18643), (34, 18664), (35, 18673), (45, 18748), (51, 18790), (58, 18811), (71, 18859), (83, 18961), (87, 18985), (93, 19006), (104, 19078), (108, 19120), (109, 19129), (119, 19183), (125, 19204), (128, 19216), (129, 19225), (134, 19240),

(141, 19276), (144, 19297), (147, 19315), (168, 19411), (172, 19429), (173, 19435), (175, 19447), (198, 19609), (199, 19612), (201, 19630), (209, 19705), (210, 19708), (216, 19774), (222, 19795), (232, 19882), (237, 19942), (238, 19951), (241, 19975), (242, 19984), (253, 20059), (254, 20068), (256, 20098), (258, 20113), (263, 20149), (264, 20179), (265, 20200), (270, 20248), (274, 20278), (281, 20323), (285, 20365), (289, 20395), (290, 20401), (301, 20482), (302, 20488), (313, 20530), (322, 20605), (335, 20713), (341, 20734), (343, 20740), (349, 20782), (351, 20854), (352, 20869), (356, 20893), (357, 20902), (358, 20905), (368, 21052), (375, 21178), (379, 21220), (380, 21229), (381, 21250), (384, 21289), (390, 21367), (391, 21376), (402, 21556), (404, 21580), (406, 21616), (407, 21628), (408, 21640), (410, 21691), (421, 21787), (422, 21793), (432, 21925), (433, 21955), (435, 21997), (437, 22030), (446, 22117), (476, 22411), (482, 22477), (488, 22522), (493, 22642), (494, 22657), (511, 22762), (512, 22780), (515, 22813), (521, 22966), (525, 23038), (534, 23167), (542, 23272), (547, 23347), (548, 23356), (551, 23389), (552, 23401), (555, 23434), (556, 23443), (561, 23473), (567, 23551), (569, 23572), (570, 23584), (590, 23767), (601, 23917), (602, 23926), (606, 23965), (612, 24007), (613, 24037), (618, 24088), (619, 24097), (621, 24133), (622, 24139), (634, 24223), (644, 24289), (645, 24292), (646, 24301), (649, 24322), (655, 24388), (656, 24412), (658, 24436), (659, 24457), (661, 24478), (667, 24514), (672, 24559), (675, 24604), (676, 24607), (677, 24616),

Gene: DumpTruck_26 Start: 16770, Stop: 24029, Start Num: 2

Candidate Starts for DumpTruck_26:

(1, 16749), (Start: 2 @16770 has 32 MA's), (5, 16914), (6, 16917), (8, 16989), (14, 17166), (15, 17169), (Start: 16 @17178 has 5 MA's), (17, 17193), (18, 17199), (22, 17262), (23, 17271), (25, 17283), (32, 17325), (47, 17478), (48, 17496), (54, 17517), (60, 17547), (66, 17577), (67, 17583), (70, 17598), (75, 17640), (76, 17652), (77, 17661), (79, 17685), (81, 17706), (85, 17721), (86, 17739), (90, 17775), (95, 17802), (101, 17862), (110, 17964), (111, 17967), (113, 17988), (116, 18006), (118, 18021), (122, 18042), (123, 18051), (131, 18087), (133, 18099), (140, 18153), (145, 18192), (148, 18204), (150, 18225), (156, 18264), (157, 18267), (161, 18279), (162, 18297), (165, 18321), (176, 18375), (190, 18465), (193, 18480), (202, 18561), (211, 18636), (217, 18699), (235, 18849), (242, 18903), (244, 18924), (245, 18933), (250, 18972), (253, 18990), (261, 19065), (275, 19221), (276, 19224), (302, 19431), (317, 19509), (324, 19587), (330, 19641), (342, 19683), (349, 19734), (356, 19845), (357, 19854), (361, 19896), (365, 19929), (367, 19953), (371, 20043), (372, 20049), (377, 20121), (378, 20151), (388, 20247), (395, 20343), (399, 20415), (400, 20427), (406, 20550), (415, 20670), (450, 21288), (459, 21414), (461, 21423), (462, 21429), (463, 21432), (465, 21462), (467, 21486), (469, 21495), (471, 21516), (478, 21570), (481, 21612), (497, 21831), (499, 21849), (518, 22125), (520, 22173), (522, 22224), (527, 22335), (529, 22368), (531, 22380), (537, 22458), (560, 22758), (561, 22761), (587, 23145), (604, 23328), (614, 23418), (630, 23571), (642, 23655), (648, 23685), (668, 23892), (669, 23916), (674, 23973),

Gene: Erutan_27 Start: 17030, Stop: 24241, Start Num: 2

Candidate Starts for Erutan_27:

(1, 17009), (Start: 2 @17030 has 32 MA's), (6, 17177), (9, 17291), (11, 17390), (14, 17426), (Start: 16 @17438 has 5 MA's), (24, 17537), (38, 17669), (41, 17696), (48, 17756), (50, 17765), (60, 17807), (64, 17819), (67, 17843), (68, 17849), (76, 17912), (77, 17921), (81, 17966), (82, 17969), (101, 18122), (102, 18125), (113, 18227), (116, 18245), (120, 18272), (132, 18320), (133, 18329), (142, 18398), (148, 18434), (150, 18455), (151, 18467), (153, 18479), (156, 18494), (163, 18530), (176, 18605), (193, 18710), (201, 18779), (202, 18791), (204, 18800), (237, 19091), (242, 19133), (244, 19154), (245, 19163), (248, 19187), (249, 19193), (251, 19214), (257, 19277), (261, 19298), (268, 19394), (271, 19421), (275, 19454), (286, 19547), (292, 19577), (302, 19655), (303, 19658), (307, 19682), (311, 19694), (315, 19709), (317, 19733), (324, 19811), (325, 19823), (340, 19901), (353, 20048), (355, 20063), (357, 20078), (367, 20177), (369, 20225), (371, 20273), (372, 20279), (377, 20351), (383, 20435), (388, 20477), (390, 20531), (395, 20573), (400, 20657), (406, 20780), (415, 20900), (421, 20951), (430, 21110), (435, 21224), (446, 21404), (449, 21491), (454, 21566), (460, 21632), (463, 21644), (471, 21728), (475, 21761), (478, 21782), (527, 22547), (529, 22580), (531, 22592),

(537, 22670), (556, 22946), (558, 22958), (566, 23024), (583, 23279), (600, 23516), (604, 23540), (616, 23648), (619, 23687), (622, 23729), (629, 23774), (630, 23783), (631, 23792), (632, 23804), (642, 23867), (644, 23876), (651, 23915), (654, 23939), (668, 24104), (669, 24128), (674, 24185), (675, 24194), (677, 24206),

Gene: Fulcrum_28 Start: 17563, Stop: 24765, Start Num: 2

Candidate Starts for Fulcrum_28:

(1, 17542), (Start: 2 @17563 has 32 MA's), (6, 17710), (9, 17824), (11, 17923), (14, 17959), (Start: 16 @17971 has 5 MA's), (24, 18070), (38, 18202), (50, 18298), (60, 18340), (64, 18352), (67, 18376), (68, 18382), (76, 18445), (81, 18499), (82, 18502), (101, 18655), (102, 18658), (116, 18778), (120, 18805), (133, 18862), (142, 18931), (148, 18967), (150, 18988), (151, 19000), (153, 19012), (156, 19027), (163, 19063), (176, 19138), (177, 19144), (193, 19243), (201, 19312), (202, 19324), (204, 19333), (237, 19624), (242, 19666), (244, 19687), (245, 19696), (248, 19720), (249, 19726), (251, 19747), (257, 19810), (261, 19831), (268, 19927), (271, 19954), (275, 19987), (286, 20080), (292, 20110), (295, 20137), (302, 20188), (303, 20191), (304, 20197), (307, 20215), (311, 20227), (315, 20242), (317, 20266), (324, 20344), (325, 20356), (338, 20431), (340, 20434), (353, 20581), (355, 20596), (357, 20611), (367, 20710), (369, 20758), (371, 20806), (372, 20812), (377, 20884), (383, 20968), (388, 21010), (390, 21064), (395, 21106), (400, 21190), (406, 21313), (415, 21433), (421, 21484), (430, 21643), (435, 21757), (446, 21925), (448, 21985), (449, 22012), (450, 22021), (460, 22153), (463, 22165), (471, 22249), (496, 22558), (498, 22570), (527, 23068), (529, 23101), (531, 23113), (537, 23191), (557, 23479), (561, 23497), (579, 23776), (604, 24064), (616, 24172), (619, 24211), (620, 24214), (622, 24253), (630, 24307), (631, 24316), (632, 24328), (636, 24346), (637, 24370), (644, 24400), (651, 24439), (654, 24463), (668, 24628), (669, 24652), (675, 24718), (677, 24730),

Gene: GOATification_28 Start: 17563, Stop: 24765, Start Num: 2

Candidate Starts for GOATification_28:

(1, 17542), (Start: 2 @17563 has 32 MA's), (6, 17710), (9, 17824), (11, 17923), (14, 17959), (Start: 16 @17971 has 5 MA's), (24, 18070), (38, 18202), (50, 18298), (60, 18340), (64, 18352), (67, 18376), (68, 18382), (76, 18445), (81, 18499), (82, 18502), (101, 18655), (102, 18658), (116, 18778), (120, 18805), (133, 18862), (142, 18931), (148, 18967), (150, 18988), (151, 19000), (153, 19012), (156, 19027), (163, 19063), (176, 19138), (177, 19144), (193, 19243), (201, 19312), (202, 19324), (204, 19333), (237, 19624), (242, 19666), (244, 19687), (245, 19696), (248, 19720), (249, 19726), (251, 19747), (257, 19810), (261, 19831), (268, 19927), (271, 19954), (275, 19987), (286, 20080), (292, 20110), (295, 20137), (302, 20188), (303, 20191), (304, 20197), (307, 20215), (311, 20227), (315, 20242), (317, 20266), (324, 20344), (325, 20356), (338, 20431), (340, 20434), (353, 20581), (355, 20596), (357, 20611), (367, 20710), (369, 20758), (371, 20806), (372, 20812), (377, 20884), (383, 20968), (388, 21010), (390, 21064), (395, 21106), (400, 21190), (406, 21313), (415, 21433), (421, 21484), (430, 21643), (435, 21757), (446, 21925), (448, 21985), (449, 22012), (450, 22021), (460, 22153), (463, 22165), (471, 22249), (496, 22558), (498, 22570), (527, 23068), (529, 23101), (531, 23113), (537, 23191), (557, 23479), (561, 23497), (579, 23776), (604, 24064), (616, 24172), (619, 24211), (620, 24214), (622, 24253), (630, 24307), (631, 24316), (632, 24328), (636, 24346), (637, 24370), (644, 24400), (651, 24439), (654, 24463), (668, 24628), (669, 24652), (675, 24718), (677, 24730),

Gene: Genamy16_27 Start: 15546, Stop: 22754, Start Num: 3

Candidate Starts for Genamy16_27:

(Start: 3 @15546 has 5 MA's), (4, 15561), (6, 15693), (9, 15807), (11, 15906), (14, 15942), (Start: 16 @15954 has 5 MA's), (22, 16038), (24, 16053), (38, 16185), (41, 16212), (48, 16272), (50, 16281), (60, 16323), (64, 16335), (67, 16359), (68, 16365), (72, 16386), (76, 16428), (81, 16482), (82, 16485), (102, 16641), (113, 16743), (116, 16761), (120, 16788), (132, 16836), (133, 16845), (148, 16950), (150, 16971), (151, 16983), (153, 16995), (156, 17010), (163, 17046), (176, 17121), (178, 17148), (193, 17226), (201, 17295), (202, 17307), (204, 17316), (235, 17595), (237, 17607), (242, 17649), (244, 17670), (245, 17679), (248, 17703), (249, 17709), (251, 17730), (261, 17814), (268, 17910), (271, 17937), (275, 17970), (286, 18063), (292, 18093), (302, 18171), (303, 18174), (307, 18198), (311,

18210), (315, 18225), (317, 18249), (324, 18327), (325, 18339), (338, 18414), (340, 18417), (353, 18564), (355, 18579), (357, 18594), (367, 18693), (369, 18741), (371, 18789), (372, 18795), (374, 18840), (377, 18867), (388, 18993), (390, 19047), (395, 19089), (400, 19173), (404, 19260), (406, 19296), (415, 19416), (421, 19467), (430, 19626), (435, 19740), (446, 19917), (449, 20004), (460, 20145), (463, 20157), (471, 20241), (527, 21060), (529, 21093), (531, 21105), (537, 21183), (556, 21459), (558, 21471), (573, 21714), (579, 21765), (584, 21807), (604, 22053), (616, 22161), (619, 22200), (620, 22203), (622, 22242), (625, 22266), (630, 22296), (631, 22305), (632, 22317), (642, 22380), (644, 22389), (651, 22428), (654, 22452), (668, 22617), (669, 22641), (675, 22707), (677, 22719),

Gene: Gibbin_28 Start: 17635, Stop: 24846, Start Num: 2

Candidate Starts for Gibbin_28:

(1, 17614), (Start: 2 @17635 has 32 MA's), (6, 17782), (9, 17896), (11, 17995), (14, 18031), (Start: 16 @18043 has 5 MA's), (24, 18142), (38, 18274), (41, 18301), (42, 18304), (50, 18370), (60, 18412), (64, 18424), (67, 18448), (68, 18454), (76, 18517), (81, 18571), (82, 18574), (101, 18727), (102, 18730), (116, 18850), (120, 18877), (133, 18934), (142, 19003), (148, 19039), (150, 19060), (151, 19072), (153, 19084), (156, 19099), (163, 19135), (176, 19210), (193, 19315), (201, 19384), (202, 19396), (204, 19405), (237, 19696), (242, 19738), (244, 19759), (245, 19768), (248, 19792), (249, 19798), (251, 19819), (261, 19903), (268, 19999), (271, 20026), (275, 20059), (286, 20152), (292, 20182), (295, 20209), (302, 20260), (303, 20263), (307, 20287), (308, 20290), (311, 20299), (315, 20314), (317, 20338), (324, 20416), (325, 20428), (338, 20503), (340, 20506), (353, 20653), (355, 20668), (357, 20683), (367, 20782), (369, 20830), (371, 20878), (372, 20884), (377, 20956), (383, 21040), (388, 21082), (390, 21136), (395, 21178), (400, 21262), (406, 21385), (415, 21505), (421, 21556), (430, 21715), (435, 21829), (446, 21997), (449, 22084), (450, 22093), (460, 22225), (463, 22237), (471, 22321), (475, 22354), (496, 22630), (527, 23140), (531, 23185), (537, 23260), (557, 23560), (561, 23578), (579, 23857), (584, 23899), (604, 24145), (616, 24253), (619, 24292), (620, 24295), (622, 24334), (630, 24388), (631, 24397), (632, 24409), (636, 24427), (637, 24451), (642, 24472), (644, 24481), (651, 24520), (654, 24544), (668, 24709), (669, 24733), (675, 24799), (677, 24811),

Gene: Gretellyn_27 Start: 17897, Stop: 25108, Start Num: 2

Candidate Starts for Gretellyn_27:

(1, 17876), (Start: 2 @17897 has 32 MA's), (6, 18044), (9, 18158), (11, 18257), (14, 18293), (Start: 16 @18305 has 5 MA's), (24, 18404), (38, 18536), (41, 18563), (42, 18566), (50, 18632), (60, 18674), (64, 18686), (67, 18710), (68, 18716), (76, 18779), (81, 18833), (82, 18836), (101, 18989), (102, 18992), (113, 19094), (116, 19112), (120, 19139), (132, 19187), (133, 19196), (142, 19265), (148, 19301), (150, 19322), (151, 19334), (153, 19346), (156, 19361), (163, 19397), (167, 19430), (170, 19442), (176, 19472), (193, 19577), (201, 19646), (202, 19658), (204, 19667), (237, 19958), (240, 19982), (242, 20000), (244, 20021), (245, 20030), (248, 20054), (249, 20060), (251, 20081), (261, 20165), (268, 20261), (271, 20288), (275, 20321), (279, 20342), (286, 20414), (292, 20444), (295, 20471), (302, 20522), (303, 20525), (307, 20549), (311, 20561), (315, 20576), (317, 20600), (324, 20678), (325, 20690), (338, 20765), (340, 20768), (353, 20915), (355, 20930), (357, 20945), (367, 21044), (369, 21092), (371, 21140), (372, 21146), (377, 21218), (383, 21302), (388, 21344), (390, 21398), (395, 21440), (400, 21524), (406, 21647), (415, 21767), (421, 21818), (430, 21977), (435, 22091), (446, 22259), (449, 22346), (450, 22355), (460, 22487), (463, 22499), (471, 22583), (496, 22892), (527, 23402), (531, 23447), (537, 23522), (557, 23822), (561, 23840), (579, 24119), (604, 24407), (616, 24515), (619, 24554), (620, 24557), (622, 24596), (630, 24650), (631, 24659), (632, 24671), (636, 24689), (637, 24713), (644, 24743), (651, 24782), (654, 24806), (668, 24971), (669, 24995), (675, 25061), (677, 25073),

Gene: Jalebi_26 Start: 18073, Stop: 25275, Start Num: 2

Candidate Starts for Jalebi_26:

(1, 18052), (Start: 2 @18073 has 32 MA's), (6, 18220), (9, 18334), (11, 18433), (14, 18469), (Start: 16 @18481 has 5 MA's), (24, 18580), (38, 18712), (41, 18739), (42, 18742), (48, 18799), (50, 18808), (60,

18850), (64, 18862), (67, 18886), (68, 18892), (72, 18913), (76, 18955), (81, 19009), (82, 19012), (101, 19165), (102, 19168), (113, 19270), (116, 19288), (120, 19315), (132, 19363), (133, 19372), (142, 19441), (148, 19477), (150, 19498), (151, 19510), (153, 19522), (156, 19537), (163, 19573), (176, 19648), (193, 19753), (201, 19822), (202, 19834), (204, 19843), (237, 20134), (240, 20158), (242, 20176), (244, 20197), (245, 20206), (248, 20230), (249, 20236), (251, 20257), (261, 20341), (268, 20437), (271, 20464), (275, 20497), (286, 20590), (292, 20620), (295, 20647), (302, 20698), (303, 20701), (307, 20725), (311, 20737), (315, 20752), (317, 20776), (324, 20854), (325, 20866), (338, 20941), (340, 20944), (353, 21091), (355, 21106), (357, 21121), (367, 21220), (369, 21268), (371, 21316), (372, 21322), (377, 21394), (383, 21478), (388, 21520), (390, 21574), (395, 21616), (400, 21700), (406, 21823), (415, 21943), (421, 21994), (430, 22153), (435, 22267), (446, 22435), (449, 22522), (450, 22531), (460, 22663), (463, 22675), (471, 22759), (475, 22792), (496, 23068), (527, 23578), (529, 23611), (531, 23623), (537, 23701), (557, 23989), (561, 24007), (579, 24286), (584, 24328), (604, 24574), (616, 24682), (619, 24721), (620, 24724), (622, 24763), (630, 24817), (631, 24826), (632, 24838), (636, 24856), (637, 24880), (644, 24910), (651, 24949), (654, 24973), (668, 25138), (669, 25162), (675, 25228), (677, 25240),

Gene: Jamemuya19_24 Start: 15136, Stop: 22344, Start Num: 2

Candidate Starts for Jamemuya19_24:

(1, 15115), (Start: 2 @15136 has 32 MA's), (6, 15283), (9, 15397), (11, 15496), (14, 15532), (Start: 16 @15544 has 5 MA's), (22, 15628), (24, 15643), (38, 15775), (41, 15802), (48, 15862), (50, 15871), (60, 15913), (64, 15925), (67, 15949), (68, 15955), (72, 15976), (76, 16018), (81, 16072), (82, 16075), (102, 16231), (113, 16333), (116, 16351), (120, 16378), (132, 16426), (133, 16435), (148, 16540), (150, 16561), (151, 16573), (153, 16585), (156, 16600), (163, 16636), (170, 16681), (176, 16711), (178, 16738), (193, 16816), (201, 16885), (202, 16897), (204, 16906), (235, 17185), (237, 17197), (242, 17239), (244, 17260), (245, 17269), (248, 17293), (249, 17299), (251, 17320), (261, 17404), (268, 17500), (271, 17527), (275, 17560), (286, 17653), (292, 17683), (302, 17761), (303, 17764), (307, 17788), (311, 17800), (315, 17815), (317, 17839), (324, 17917), (325, 17929), (338, 18004), (340, 18007), (353, 18154), (355, 18169), (357, 18184), (367, 18283), (369, 18331), (371, 18379), (372, 18385), (374, 18430), (377, 18457), (388, 18583), (390, 18637), (395, 18679), (400, 18763), (404, 18850), (406, 18886), (415, 19006), (421, 19057), (430, 19216), (435, 19330), (446, 19507), (449, 19594), (460, 19735), (463, 19747), (471, 19831), (527, 20650), (529, 20683), (531, 20695), (537, 20773), (556, 21049), (558, 21061), (579, 21355), (584, 21397), (604, 21643), (616, 21751), (619, 21790), (620, 21793), (622, 21832), (625, 21856), (630, 21886), (631, 21895), (632, 21907), (642, 21970), (644, 21979), (651, 22018), (654, 22042), (668, 22207), (669, 22231), (675, 22297), (677, 22309),

Gene: Konstantine_31 Start: 17436, Stop: 23759, Start Num: 13

Candidate Starts for Konstantine_31:

(Start: 13 @17436 has 9 MA's), (20, 17499), (31, 17580), (34, 17598), (49, 17745), (52, 17754), (55, 17766), (69, 17829), (78, 17913), (103, 18099), (106, 18108), (138, 18318), (149, 18393), (168, 18495), (171, 18510), (177, 18540), (180, 18573), (183, 18591), (189, 18621), (190, 18624), (194, 18645), (195, 18654), (201, 18717), (204, 18738), (205, 18744), (207, 18768), (221, 18879), (223, 18897), (225, 18918), (227, 18945), (240, 19053), (253, 19146), (254, 19155), (258, 19200), (265, 19287), (273, 19356), (291, 19494), (293, 19509), (306, 19596), (325, 19743), (331, 19785), (334, 19794), (336, 19806), (339, 19815), (368, 20139), (371, 20196), (379, 20307), (386, 20382), (393, 20472), (407, 20715), (413, 20811), (427, 20931), (430, 20991), (433, 21039), (434, 21060), (438, 21120), (446, 21201), (457, 21351), (476, 21510), (480, 21531), (482, 21576), (489, 21630), (492, 21738), (507, 21834), (509, 21843), (512, 21873), (513, 21876), (528, 22191), (555, 22464), (556, 22473), (565, 22548), (567, 22581), (568, 22593), (569, 22602), (576, 22725), (588, 22845), (593, 22929), (599, 22995), (605, 23040), (607, 23067), (622, 23229), (623, 23232), (628, 23271), (630, 23283), (631, 23292), (655, 23499), (666, 23613), (671, 23658), (675, 23709), (676, 23712), (677, 23721), (678, 23736),

Gene: Labelle_33 Start: 19567, Stop: 26214, Start Num: 16

Candidate Starts for Labelle_33:

(Start: 16 @19567 has 5 MA's), (23, 19660), (26, 19672), (27, 19681), (32, 19714), (36, 19756), (46, 19861), (56, 19918), (57, 19924), (59, 19930), (70, 19987), (71, 19993), (72, 19999), (96, 20197), (98, 20227), (99, 20239), (105, 20275), (124, 20416), (139, 20512), (147, 20560), (161, 20638), (164, 20662), (171, 20695), (178, 20746), (184, 20779), (192, 20818), (202, 20908), (207, 20947), (208, 20959), (212, 21007), (216, 21040), (226, 21106), (234, 21175), (236, 21199), (238, 21217), (241, 21241), (252, 21322), (254, 21334), (265, 21469), (266, 21478), (276, 21562), (282, 21604), (292, 21682), (298, 21727), (321, 21883), (323, 21904), (325, 21946), (335, 22009), (351, 22165), (354, 22192), (357, 22213), (358, 22216), (360, 22255), (362, 22267), (370, 22402), (373, 22459), (382, 22585), (387, 22627), (389, 22678), (397, 22762), (406, 22933), (407, 22945), (414, 23053), (420, 23107), (422, 23119), (431, 23257), (453, 23620), (466, 23755), (477, 23839), (504, 24169), (505, 24202), (508, 24211), (541, 24721), (543, 24748), (546, 24796), (553, 24853), (563, 24952), (573, 25138), (592, 25324), (610, 25534), (622, 25675), (626, 25705), (640, 25807), (644, 25846), (647, 25861), (658, 25993), (660, 26017), (662, 26041), (670, 26101), (672, 26119), (673, 26152), (675, 26164), (676, 26167), (678, 26191),

Gene: Lambo_27 Start: 17575, Stop: 24783, Start Num: 2

Candidate Starts for Lambo_27:

(1, 17554), (Start: 2 @17575 has 32 MA's), (6, 17722), (9, 17836), (11, 17935), (14, 17971), (Start: 16 @17983 has 5 MA's), (24, 18082), (38, 18214), (48, 18301), (50, 18310), (60, 18352), (64, 18364), (67, 18388), (68, 18394), (76, 18457), (77, 18466), (81, 18511), (82, 18514), (101, 18667), (102, 18670), (113, 18772), (116, 18790), (120, 18817), (132, 18865), (133, 18874), (142, 18943), (148, 18979), (150, 19000), (151, 19012), (153, 19024), (156, 19039), (163, 19075), (176, 19150), (193, 19255), (201, 19324), (202, 19336), (204, 19345), (237, 19636), (242, 19678), (244, 19699), (245, 19708), (248, 19732), (249, 19738), (251, 19759), (261, 19843), (268, 19939), (271, 19966), (275, 19999), (286, 20092), (292, 20122), (295, 20149), (302, 20200), (303, 20203), (307, 20227), (311, 20239), (315, 20254), (317, 20278), (324, 20356), (325, 20368), (338, 20443), (353, 20593), (355, 20608), (357, 20623), (367, 20722), (369, 20770), (371, 20818), (372, 20824), (377, 20896), (383, 20980), (388, 21022), (390, 21076), (395, 21118), (400, 21202), (406, 21325), (415, 21445), (421, 21496), (435, 21769), (446, 21946), (449, 22033), (454, 22108), (460, 22174), (463, 22186), (471, 22270), (475, 22303), (478, 22324), (527, 23089), (529, 23122), (531, 23134), (537, 23212), (554, 23476), (556, 23488), (558, 23500), (584, 23836), (604, 24082), (613, 24169), (616, 24190), (619, 24229), (622, 24271), (629, 24316), (630, 24325), (631, 24334), (632, 24346), (642, 24409), (644, 24418), (651, 24457), (654, 24481), (668, 24646), (669, 24670), (674, 24727), (675, 24736), (677, 24748),

Gene: LavAbarElk_25 Start: 16012, Stop: 23214, Start Num: 2

Candidate Starts for LavAbarElk_25:

(1, 15991), (Start: 2 @16012 has 32 MA's), (6, 16159), (9, 16273), (11, 16372), (14, 16408), (Start: 16 @16420 has 5 MA's), (24, 16519), (38, 16651), (41, 16678), (42, 16681), (50, 16747), (60, 16789), (64, 16801), (67, 16825), (68, 16831), (76, 16894), (81, 16948), (82, 16951), (101, 17104), (102, 17107), (113, 17209), (116, 17227), (120, 17254), (132, 17302), (133, 17311), (142, 17380), (148, 17416), (150, 17437), (151, 17449), (153, 17461), (156, 17476), (163, 17512), (176, 17587), (177, 17593), (193, 17692), (201, 17761), (202, 17773), (204, 17782), (237, 18073), (242, 18115), (244, 18136), (245, 18145), (248, 18169), (249, 18175), (251, 18196), (261, 18280), (268, 18376), (271, 18403), (275, 18436), (286, 18529), (292, 18559), (295, 18586), (302, 18637), (303, 18640), (307, 18664), (311, 18676), (315, 18691), (317, 18715), (324, 18793), (325, 18805), (338, 18880), (340, 18883), (353, 19030), (355, 19045), (357, 19060), (367, 19159), (369, 19207), (371, 19255), (372, 19261), (377, 19333), (383, 19417), (388, 19459), (390, 19513), (395, 19555), (400, 19639), (406, 19762), (415, 19882), (421, 19933), (430, 20092), (435, 20206), (446, 20374), (448, 20434), (449, 20461), (450, 20470), (460, 20602), (463, 20614), (471, 20698), (475, 20731), (496, 21007), (527, 21517), (529, 21550), (531, 21562), (537, 21640), (557, 21928), (561, 21946), (579, 22225), (584, 22267), (604, 22513), (616, 22621), (619, 22660), (620, 22663), (622, 22702), (630, 22756), (631, 22765),

(632, 22777), (636, 22795), (637, 22819), (644, 22849), (651, 22888), (654, 22912), (668, 23077), (669, 23101), (675, 23167), (677, 23179),

Gene: Lila22_26 Start: 17521, Stop: 24735, Start Num: 2

Candidate Starts for Lila22_26:

(1, 17500), (Start: 2 @17521 has 32 MA's), (6, 17668), (9, 17782), (11, 17881), (14, 17917), (Start: 16 @17929 has 5 MA's), (24, 18028), (38, 18160), (50, 18256), (60, 18298), (64, 18310), (67, 18334), (68, 18340), (76, 18403), (81, 18457), (82, 18460), (101, 18613), (102, 18616), (113, 18718), (116, 18736), (120, 18763), (132, 18811), (133, 18820), (142, 18889), (148, 18925), (150, 18946), (151, 18958), (153, 18970), (156, 18985), (163, 19021), (176, 19096), (193, 19201), (201, 19270), (202, 19282), (204, 19291), (237, 19582), (242, 19624), (244, 19645), (245, 19654), (248, 19678), (249, 19684), (251, 19705), (261, 19789), (268, 19885), (271, 19912), (275, 19945), (279, 19966), (292, 20068), (302, 20146), (303, 20149), (307, 20173), (311, 20185), (315, 20200), (317, 20224), (324, 20302), (325, 20314), (340, 20392), (353, 20539), (355, 20554), (357, 20569), (367, 20668), (369, 20716), (371, 20764), (372, 20770), (377, 20842), (383, 20926), (388, 20968), (390, 21022), (395, 21064), (400, 21148), (406, 21271), (415, 21391), (421, 21442), (430, 21601), (435, 21715), (446, 21895), (449, 21982), (450, 21991), (460, 22123), (463, 22135), (471, 22219), (475, 22252), (496, 22528), (527, 23038), (529, 23071), (531, 23083), (537, 23161), (557, 23449), (561, 23467), (579, 23746), (584, 23788), (604, 24034), (616, 24142), (619, 24181), (620, 24184), (622, 24223), (630, 24277), (631, 24286), (632, 24298), (636, 24316), (637, 24340), (644, 24370), (651, 24409), (654, 24433), (665, 24583), (668, 24598), (669, 24622), (675, 24688), (677, 24700),

Gene: LilyPad_23 Start: 13210, Stop: 19905, Start Num: 44

Candidate Starts for LilyPad_23:

(39, 13186), (Start: 44 @13210 has 9 MA's), (53, 13279), (63, 13321), (69, 13354), (73, 13384), (77, 13426), (92, 13552), (94, 13558), (99, 13606), (117, 13744), (121, 13771), (122, 13777), (149, 13945), (150, 13954), (157, 13996), (163, 14029), (174, 14086), (182, 14140), (203, 14281), (213, 14386), (227, 14494), (228, 14497), (231, 14512), (239, 14593), (244, 14641), (246, 14659), (252, 14692), (256, 14734), (261, 14767), (267, 14854), (271, 14890), (272, 14893), (278, 14938), (279, 14944), (284, 14989), (294, 15061), (300, 15112), (302, 15121), (305, 15139), (308, 15151), (310, 15157), (317, 15196), (320, 15220), (327, 15295), (332, 15337), (333, 15340), (340, 15373), (345, 15388), (346, 15415), (347, 15424), (357, 15556), (359, 15577), (362, 15601), (366, 15631), (368, 15691), (369, 15700), (385, 15931), (387, 15943), (389, 15994), (390, 16006), (391, 16015), (401, 16186), (405, 16237), (407, 16258), (411, 16330), (412, 16342), (439, 16846), (448, 17026), (468, 17326), (471, 17350), (475, 17383), (478, 17404), (481, 17446), (486, 17506), (498, 17671), (501, 17695), (526, 18184), (530, 18226), (531, 18235), (533, 18262), (549, 18505), (550, 18541), (559, 18634), (575, 18874), (580, 18919), (582, 18934), (586, 18988), (595, 19135), (596, 19144), (600, 19168), (604, 19192), (618, 19342), (623, 19396), (631, 19456), (632, 19468), (636, 19486), (641, 19528), (644, 19540), (649, 19570), (651, 19579), (653, 19591), (658, 19687), (664, 19750), (673, 19846), (674, 19849), (676, 19861), (679, 19891),

Gene: LittleFella_24 Start: 15083, Stop: 21778, Start Num: 44

Candidate Starts for LittleFella_24:

(Start: 44 @15083 has 9 MA's), (61, 15185), (63, 15194), (69, 15227), (77, 15299), (79, 15320), (88, 15404), (91, 15419), (94, 15431), (96, 15437), (107, 15548), (114, 15602), (122, 15647), (124, 15656), (134, 15710), (135, 15716), (140, 15752), (144, 15782), (150, 15824), (152, 15845), (158, 15869), (161, 15878), (169, 15929), (181, 16004), (182, 16010), (185, 16028), (191, 16058), (227, 16364), (241, 16481), (247, 16538), (260, 16631), (267, 16724), (271, 16760), (276, 16796), (277, 16805), (278, 16808), (279, 16814), (281, 16826), (284, 16859), (288, 16895), (302, 16991), (305, 17009), (306, 17012), (310, 17027), (312, 17033), (314, 17036), (317, 17066), (327, 17165), (332, 17207), (333, 17210), (345, 17258), (346, 17285), (347, 17294), (348, 17303), (357, 17426), (362, 17471), (366, 17501), (368, 17558), (379, 17726), (387, 17810), (389, 17861), (391, 17882), (396, 17924), (403, 18062), (418, 18260), (429, 18386), (436, 18596), (438, 18662), (444, 18824), (451, 18989),

(469, 19229), (470, 19238), (472, 19262), (478, 19304), (479, 19313), (486, 19406), (497, 19565), (498, 19571), (500, 19589), (501, 19595), (526, 20078), (533, 20156), (549, 20399), (559, 20528), (580, 20804), (582, 20819), (595, 21011), (596, 21020), (600, 21044), (604, 21068), (617, 21212), (618, 21218), (623, 21272), (632, 21344), (636, 21362), (641, 21404), (649, 21446), (651, 21455), (658, 21563), (663, 21623), (673, 21722), (674, 21725), (676, 21737), (679, 21767),

Gene: LuckyLeo_26 Start: 16873, Stop: 24093, Start Num: 2

Candidate Starts for LuckyLeo_26:

(1, 16852), (Start: 2 @16873 has 32 MA's), (7, 17068), (10, 17143), (12, 17248), (14, 17269), (15, 17272), (18, 17302), (19, 17311), (22, 17365), (32, 17428), (33, 17434), (40, 17530), (47, 17581), (50, 17608), (64, 17662), (65, 17671), (67, 17686), (77, 17764), (80, 17800), (85, 17824), (107, 18019), (109, 18049), (127, 18154), (142, 18244), (145, 18268), (148, 18280), (150, 18301), (151, 18313), (156, 18340), (167, 18409), (174, 18445), (176, 18451), (179, 18481), (187, 18526), (191, 18547), (193, 18556), (196, 18580), (202, 18637), (214, 18757), (235, 18925), (242, 18979), (244, 19000), (246, 19018), (248, 19033), (251, 19060), (261, 19144), (271, 19267), (292, 19423), (295, 19450), (298, 19471), (302, 19501), (309, 19534), (315, 19555), (317, 19579), (318, 19582), (319, 19585), (321, 19606), (322, 19618), (324, 19657), (328, 19693), (338, 19744), (349, 19804), (350, 19837), (356, 19915), (357, 19924), (371, 20113), (372, 20119), (377, 20191), (378, 20221), (383, 20275), (388, 20317), (395, 20413), (400, 20497), (406, 20620), (415, 20740), (421, 20791), (446, 21244), (447, 21274), (449, 21331), (454, 21406), (460, 21472), (463, 21484), (471, 21568), (475, 21601), (478, 21622), (483, 21691), (527, 22387), (537, 22507), (538, 22510), (557, 22807), (561, 22825), (579, 23104), (583, 23131), (594, 23320), (604, 23392), (613, 23479), (616, 23500), (619, 23539), (622, 23581), (630, 23635), (631, 23644), (632, 23656), (642, 23719), (644, 23728), (651, 23767), (654, 23791), (659, 23893), (668, 23956), (669, 23980), (674, 24037), (675, 24046), (677, 24058),

Gene: Madi_22 Start: 12549, Stop: 19319, Start Num: 44

Candidate Starts for Madi_22:

(Start: 44 @12549 has 9 MA's), (69, 12693), (77, 12765), (79, 12786), (91, 12885), (94, 12897), (96, 12903), (117, 13080), (122, 13113), (124, 13122), (135, 13182), (143, 13239), (150, 13290), (163, 13365), (182, 13476), (185, 13494), (189, 13515), (218, 13758), (222, 13767), (224, 13800), (225, 13803), (227, 13830), (245, 13986), (260, 14097), (261, 14103), (267, 14190), (278, 14274), (283, 14307), (284, 14325), (290, 14370), (295, 14409), (297, 14421), (299, 14436), (302, 14457), (306, 14478), (308, 14487), (310, 14493), (314, 14502), (317, 14532), (333, 14676), (340, 14709), (345, 14724), (357, 14892), (362, 14937), (364, 14946), (366, 14967), (368, 15021), (382, 15231), (387, 15273), (391, 15345), (409, 15654), (414, 15702), (417, 15723), (425, 15831), (439, 16212), (443, 16287), (449, 16473), (464, 16704), (469, 16752), (474, 16803), (478, 16827), (479, 16836), (486, 16929), (498, 17094), (501, 17118), (502, 17133), (526, 17607), (530, 17649), (533, 17685), (549, 17928), (550, 17964), (559, 18057), (571, 18216), (580, 18336), (582, 18351), (586, 18405), (593, 18519), (595, 18552), (596, 18561), (600, 18585), (604, 18609), (617, 18753), (618, 18759), (627, 18846), (631, 18873), (632, 18885), (636, 18903), (641, 18945), (648, 18978), (649, 18987), (651, 18996), (653, 19008), (658, 19104), (663, 19164), (664, 19167), (673, 19263), (674, 19266), (676, 19278), (677, 19287), (679, 19308),

Gene: Madruga_32 Start: 19236, Stop: 25883, Start Num: 16

Candidate Starts for Madruga_32:

(Start: 16 @19236 has 5 MA's), (23, 19329), (26, 19341), (27, 19350), (29, 19371), (32, 19383), (36, 19425), (46, 19530), (56, 19587), (57, 19593), (59, 19599), (70, 19656), (71, 19662), (72, 19668), (96, 19866), (98, 19896), (99, 19908), (105, 19944), (124, 20085), (139, 20181), (147, 20229), (161, 20307), (164, 20331), (171, 20364), (178, 20415), (184, 20448), (192, 20487), (202, 20577), (207, 20616), (208, 20628), (212, 20676), (216, 20709), (226, 20775), (234, 20844), (236, 20868), (238, 20886), (241, 20910), (252, 20991), (254, 21003), (265, 21138), (266, 21147), (276, 21231), (282, 21273), (292, 21351), (298, 21396), (321, 21552), (323, 21573), (325, 21615), (335, 21678), (351, 21834), (354, 21861), (357, 21882), (358, 21885), (360, 21924), (362, 21936), (370, 22071), (373,

22128), (382, 22254), (387, 22296), (389, 22347), (397, 22431), (406, 22602), (407, 22614), (420, 22776), (422, 22788), (431, 22926), (453, 23289), (466, 23424), (477, 23508), (504, 23838), (505, 23871), (508, 23880), (514, 23934), (541, 24390), (543, 24417), (546, 24465), (553, 24522), (563, 24621), (573, 24807), (592, 24993), (610, 25203), (622, 25344), (626, 25374), (640, 25476), (644, 25515), (647, 25530), (658, 25662), (660, 25686), (662, 25710), (670, 25770), (672, 25788), (673, 25821), (675, 25833), (676, 25836), (678, 25860),

Gene: Megatron06_28 Start: 16768, Stop: 23091, Start Num: 13

Candidate Starts for Megatron06_28:

(Start: 13 @16768 has 9 MA's), (20, 16831), (31, 16912), (34, 16930), (49, 17077), (52, 17086), (55, 17098), (69, 17161), (78, 17245), (103, 17431), (106, 17440), (112, 17497), (138, 17650), (149, 17725), (168, 17827), (171, 17842), (177, 17872), (180, 17905), (183, 17923), (189, 17953), (194, 17977), (195, 17986), (201, 18049), (204, 18070), (205, 18076), (207, 18100), (221, 18211), (223, 18229), (225, 18250), (227, 18277), (240, 18385), (253, 18478), (254, 18487), (258, 18532), (265, 18619), (273, 18688), (293, 18841), (306, 18928), (325, 19075), (331, 19117), (334, 19126), (336, 19138), (339, 19147), (368, 19471), (371, 19528), (386, 19714), (393, 19804), (407, 20047), (412, 20131), (413, 20143), (427, 20263), (430, 20323), (433, 20371), (434, 20392), (438, 20452), (446, 20533), (457, 20683), (465, 20761), (476, 20842), (480, 20863), (482, 20908), (489, 20962), (492, 21070), (507, 21166), (509, 21175), (512, 21205), (513, 21208), (528, 21523), (555, 21796), (556, 21805), (565, 21880), (567, 21913), (568, 21925), (569, 21934), (576, 22057), (588, 22177), (593, 22261), (599, 22327), (605, 22372), (607, 22399), (622, 22561), (623, 22564), (628, 22603), (630, 22615), (631, 22624), (655, 22831), (666, 22945), (671, 22990), (675, 23041), (676, 23044), (677, 23053), (678, 23068),

Gene: Mima20_25 Start: 17262, Stop: 24464, Start Num: 2

Candidate Starts for Mima20_25:

(1, 17241), (Start: 2 @17262 has 32 MA's), (6, 17409), (9, 17523), (11, 17622), (14, 17658), (Start: 16 @17670 has 5 MA's), (24, 17769), (38, 17901), (41, 17928), (42, 17931), (50, 17997), (60, 18039), (64, 18051), (67, 18075), (68, 18081), (76, 18144), (81, 18198), (82, 18201), (101, 18354), (102, 18357), (113, 18459), (116, 18477), (120, 18504), (133, 18561), (142, 18630), (148, 18666), (150, 18687), (151, 18699), (153, 18711), (156, 18726), (163, 18762), (176, 18837), (193, 18942), (201, 19011), (202, 19023), (204, 19032), (237, 19323), (242, 19365), (244, 19386), (245, 19395), (248, 19419), (249, 19425), (251, 19446), (261, 19530), (268, 19626), (271, 19653), (275, 19686), (286, 19779), (292, 19809), (295, 19836), (302, 19887), (303, 19890), (307, 19914), (311, 19926), (315, 19941), (317, 19965), (324, 20043), (325, 20055), (340, 20133), (353, 20280), (355, 20295), (357, 20310), (367, 20409), (369, 20457), (371, 20505), (372, 20511), (374, 20556), (377, 20583), (383, 20667), (388, 20709), (390, 20763), (395, 20805), (400, 20889), (406, 21012), (415, 21132), (421, 21183), (430, 21342), (435, 21456), (446, 21624), (449, 21711), (460, 21852), (463, 21864), (471, 21948), (475, 21981), (496, 22257), (527, 22767), (529, 22800), (531, 22812), (537, 22890), (557, 23178), (561, 23196), (579, 23475), (584, 23517), (604, 23763), (616, 23871), (619, 23910), (620, 23913), (622, 23952), (630, 24006), (631, 24015), (632, 24027), (636, 24045), (637, 24069), (651, 24138), (654, 24162), (668, 24327), (669, 24351), (675, 24417), (677, 24429),

Gene: MoiGyank_29 Start: 17934, Stop: 25145, Start Num: 2

Candidate Starts for MoiGyank_29:

(1, 17913), (Start: 2 @17934 has 32 MA's), (6, 18081), (9, 18195), (11, 18294), (14, 18330), (Start: 16 @18342 has 5 MA's), (24, 18441), (38, 18573), (41, 18600), (42, 18603), (50, 18669), (60, 18711), (64, 18723), (67, 18747), (68, 18753), (76, 18816), (81, 18870), (82, 18873), (101, 19026), (102, 19029), (116, 19149), (120, 19176), (133, 19233), (142, 19302), (148, 19338), (150, 19359), (151, 19371), (153, 19383), (156, 19398), (163, 19434), (176, 19509), (193, 19614), (201, 19683), (202, 19695), (204, 19704), (237, 19995), (242, 20037), (244, 20058), (245, 20067), (248, 20091), (249, 20097), (251, 20118), (261, 20202), (268, 20298), (271, 20325), (275, 20358), (286, 20451), (292, 20481), (295, 20508), (302, 20559), (303, 20562), (307, 20586), (311, 20598), (315, 20613), (317, 20637),

(324, 20715), (325, 20727), (338, 20802), (340, 20805), (353, 20952), (355, 20967), (357, 20982), (367, 21081), (369, 21129), (371, 21177), (372, 21183), (377, 21255), (383, 21339), (388, 21381), (390, 21435), (395, 21477), (400, 21561), (406, 21684), (415, 21804), (421, 21855), (430, 22014), (435, 22128), (446, 22296), (449, 22383), (450, 22392), (458, 22515), (460, 22524), (463, 22536), (471, 22620), (496, 22929), (527, 23439), (531, 23484), (537, 23559), (557, 23859), (561, 23877), (579, 24156), (584, 24198), (604, 24444), (616, 24552), (619, 24591), (620, 24594), (622, 24633), (630, 24687), (631, 24696), (632, 24708), (636, 24726), (637, 24750), (642, 24771), (644, 24780), (651, 24819), (654, 24843), (668, 25008), (669, 25032), (675, 25098), (677, 25110),

Gene: NorManre_28 Start: 17141, Stop: 24352, Start Num: 2

Candidate Starts for NorManre_28:

(1, 17120), (Start: 2 @17141 has 32 MA's), (6, 17288), (9, 17402), (11, 17501), (14, 17537), (Start: 16 @17549 has 5 MA's), (22, 17633), (24, 17648), (38, 17780), (41, 17807), (42, 17810), (50, 17876), (60, 17918), (64, 17930), (67, 17954), (68, 17960), (76, 18023), (81, 18077), (82, 18080), (101, 18233), (102, 18236), (116, 18356), (120, 18383), (132, 18431), (133, 18440), (142, 18509), (148, 18545), (150, 18566), (151, 18578), (153, 18590), (156, 18605), (163, 18641), (167, 18674), (170, 18686), (176, 18716), (193, 18821), (201, 18890), (202, 18902), (204, 18911), (216, 19034), (237, 19202), (240, 19226), (242, 19244), (244, 19265), (245, 19274), (248, 19298), (249, 19304), (251, 19325), (261, 19409), (268, 19505), (271, 19532), (275, 19565), (286, 19658), (292, 19688), (295, 19715), (302, 19766), (303, 19769), (307, 19793), (311, 19805), (315, 19820), (317, 19844), (324, 19922), (325, 19934), (338, 20009), (340, 20012), (353, 20159), (355, 20174), (357, 20189), (367, 20288), (369, 20336), (371, 20384), (372, 20390), (377, 20462), (383, 20546), (388, 20588), (390, 20642), (395, 20684), (400, 20768), (406, 20891), (415, 21011), (421, 21062), (430, 21221), (435, 21335), (446, 21503), (449, 21590), (450, 21599), (460, 21731), (463, 21743), (471, 21827), (475, 21860), (496, 22136), (527, 22646), (531, 22691), (537, 22766), (557, 23066), (561, 23084), (579, 23363), (584, 23405), (604, 23651), (616, 23759), (619, 23798), (620, 23801), (622, 23840), (630, 23894), (631, 23903), (632, 23915), (636, 23933), (637, 23957), (644, 23987), (651, 24026), (654, 24050), (668, 24215), (669, 24239), (675, 24305), (677, 24317),

Gene: NovaSharks_26 Start: 15136, Stop: 22344, Start Num: 2

Candidate Starts for NovaSharks_26:

(1, 15115), (Start: 2 @15136 has 32 MA's), (6, 15283), (9, 15397), (11, 15496), (14, 15532), (Start: 16 @15544 has 5 MA's), (22, 15628), (24, 15643), (38, 15775), (41, 15802), (48, 15862), (50, 15871), (60, 15913), (64, 15925), (67, 15949), (68, 15955), (72, 15976), (76, 16018), (81, 16072), (82, 16075), (102, 16231), (113, 16333), (116, 16351), (120, 16378), (132, 16426), (133, 16435), (148, 16540), (150, 16561), (151, 16573), (153, 16585), (156, 16600), (163, 16636), (170, 16681), (176, 16711), (178, 16738), (193, 16816), (201, 16885), (202, 16897), (204, 16906), (235, 17185), (237, 17197), (242, 17239), (244, 17260), (245, 17269), (248, 17293), (249, 17299), (251, 17320), (261, 17404), (268, 17500), (271, 17527), (275, 17560), (286, 17653), (292, 17683), (302, 17761), (303, 17764), (307, 17788), (311, 17800), (315, 17815), (317, 17839), (324, 17917), (325, 17929), (338, 18004), (340, 18007), (353, 18154), (355, 18169), (357, 18184), (367, 18283), (369, 18331), (371, 18379), (372, 18385), (374, 18430), (377, 18457), (388, 18583), (390, 18637), (395, 18679), (400, 18763), (404, 18850), (406, 18886), (415, 19006), (421, 19057), (430, 19216), (435, 19330), (446, 19507), (449, 19594), (460, 19735), (463, 19747), (471, 19831), (527, 20650), (529, 20683), (531, 20695), (537, 20773), (556, 21049), (558, 21061), (573, 21304), (579, 21355), (584, 21397), (604, 21643), (616, 21751), (619, 21790), (620, 21793), (622, 21832), (625, 21856), (630, 21886), (631, 21895), (632, 21907), (642, 21970), (644, 21979), (651, 22018), (654, 22042), (668, 22207), (669, 22231), (675, 22297), (677, 22309),

Gene: Oaker_26 Start: 16492, Stop: 22815, Start Num: 13

Candidate Starts for Oaker_26:

(Start: 13 @16492 has 9 MA's), (20, 16555), (31, 16636), (34, 16654), (49, 16801), (52, 16810), (55, 16822), (69, 16885), (74, 16927), (78, 16969), (103, 17155), (106, 17164), (138, 17374), (149, 17449),

(168, 17551), (171, 17566), (177, 17596), (180, 17629), (183, 17647), (189, 17677), (194, 17701), (195, 17710), (201, 17773), (204, 17794), (205, 17800), (207, 17824), (221, 17935), (223, 17953), (225, 17974), (227, 18001), (240, 18109), (253, 18202), (254, 18211), (258, 18256), (265, 18343), (273, 18412), (291, 18550), (293, 18565), (306, 18652), (325, 18799), (331, 18841), (334, 18850), (336, 18862), (339, 18871), (368, 19195), (371, 19252), (379, 19363), (386, 19438), (393, 19528), (407, 19771), (412, 19855), (413, 19867), (427, 19987), (430, 20047), (433, 20095), (434, 20116), (438, 20176), (446, 20257), (457, 20407), (476, 20566), (480, 20587), (482, 20632), (489, 20686), (492, 20794), (507, 20890), (509, 20899), (512, 20929), (513, 20932), (528, 21247), (555, 21520), (556, 21529), (565, 21604), (567, 21637), (568, 21649), (569, 21658), (576, 21781), (588, 21901), (593, 21985), (599, 22051), (605, 22096), (607, 22123), (622, 22285), (623, 22288), (628, 22327), (630, 22339), (631, 22348), (655, 22555), (666, 22669), (671, 22714), (675, 22765), (676, 22768), (677, 22777), (678, 22792),

Gene: OtterstedtS21_27 Start: 17219, Stop: 24430, Start Num: 2

Candidate Starts for OtterstedtS21_27:

(1, 17198), (Start: 2 @17219 has 32 MA's), (6, 17366), (9, 17480), (11, 17579), (14, 17615), (Start: 16 @17627 has 5 MA's), (24, 17726), (38, 17858), (41, 17885), (42, 17888), (50, 17954), (60, 17996), (64, 18008), (67, 18032), (68, 18038), (76, 18101), (81, 18155), (82, 18158), (101, 18311), (102, 18314), (113, 18416), (116, 18434), (120, 18461), (132, 18509), (133, 18518), (142, 18587), (148, 18623), (150, 18644), (151, 18656), (153, 18668), (156, 18683), (163, 18719), (176, 18794), (193, 18899), (201, 18968), (202, 18980), (204, 18989), (237, 19280), (242, 19322), (244, 19343), (245, 19352), (248, 19376), (249, 19382), (251, 19403), (261, 19487), (268, 19583), (271, 19610), (275, 19643), (279, 19664), (286, 19736), (292, 19766), (295, 19793), (302, 19844), (303, 19847), (307, 19871), (311, 19883), (315, 19898), (317, 19922), (324, 20000), (325, 20012), (353, 20237), (355, 20252), (357, 20267), (367, 20366), (369, 20414), (371, 20462), (372, 20468), (377, 20540), (383, 20624), (388, 20666), (390, 20720), (395, 20762), (400, 20846), (406, 20969), (415, 21089), (421, 21140), (430, 21299), (435, 21413), (446, 21581), (449, 21668), (450, 21677), (458, 21800), (460, 21809), (463, 21821), (471, 21905), (496, 22214), (527, 22724), (531, 22769), (537, 22844), (557, 23144), (561, 23162), (579, 23441), (584, 23483), (604, 23729), (616, 23837), (619, 23876), (620, 23879), (622, 23918), (630, 23972), (631, 23981), (632, 23993), (636, 24011), (637, 24035), (642, 24056), (644, 24065), (651, 24104), (654, 24128), (668, 24293), (669, 24317), (675, 24383), (677, 24395),

Gene: ParvusTarda_27 Start: 16701, Stop: 23912, Start Num: 2

Candidate Starts for ParvusTarda_27:

(1, 16680), (Start: 2 @16701 has 32 MA's), (6, 16848), (9, 16962), (11, 17061), (14, 17097), (Start: 16 @17109 has 5 MA's), (24, 17208), (38, 17340), (41, 17367), (48, 17427), (50, 17436), (60, 17478), (64, 17490), (67, 17514), (68, 17520), (76, 17583), (77, 17592), (81, 17637), (82, 17640), (101, 17793), (102, 17796), (116, 17916), (120, 17943), (133, 18000), (142, 18069), (148, 18105), (150, 18126), (151, 18138), (153, 18150), (156, 18165), (163, 18201), (176, 18276), (193, 18381), (201, 18450), (202, 18462), (204, 18471), (237, 18762), (242, 18804), (244, 18825), (245, 18834), (248, 18858), (249, 18864), (251, 18885), (257, 18948), (261, 18969), (268, 19065), (271, 19092), (275, 19125), (286, 19218), (292, 19248), (295, 19275), (302, 19326), (303, 19329), (304, 19335), (307, 19353), (311, 19365), (315, 19380), (317, 19404), (324, 19482), (325, 19494), (338, 19569), (340, 19572), (353, 19719), (355, 19734), (357, 19749), (367, 19848), (369, 19896), (371, 19944), (372, 19950), (377, 20022), (383, 20106), (388, 20148), (390, 20202), (395, 20244), (400, 20328), (406, 20451), (415, 20571), (421, 20622), (430, 20781), (435, 20895), (446, 21072), (449, 21159), (454, 21234), (460, 21300), (463, 21312), (471, 21396), (475, 21429), (478, 21450), (527, 22215), (529, 22248), (531, 22260), (537, 22338), (557, 22626), (561, 22644), (584, 22965), (604, 23211), (613, 23298), (616, 23319), (619, 23358), (622, 23400), (629, 23445), (630, 23454), (631, 23463), (632, 23475), (642, 23538), (644, 23547), (651, 23586), (654, 23610), (668, 23775), (669, 23799), (675, 23865), (677, 23877),

Gene: Patience_34 Start: 20117, Stop: 26764, Start Num: 16

Candidate Starts for Patience_34:

(Start: 16 @20117 has 5 MA's), (23, 20210), (26, 20222), (27, 20231), (29, 20252), (32, 20264), (36, 20306), (46, 20411), (56, 20468), (57, 20474), (59, 20480), (70, 20537), (71, 20543), (72, 20549), (96, 20747), (98, 20777), (99, 20789), (105, 20825), (124, 20966), (139, 21062), (147, 21110), (161, 21188), (164, 21212), (171, 21245), (178, 21296), (184, 21329), (192, 21368), (202, 21458), (207, 21497), (208, 21509), (212, 21557), (216, 21590), (226, 21656), (234, 21725), (236, 21749), (238, 21767), (241, 21791), (252, 21872), (254, 21884), (265, 22019), (266, 22028), (276, 22112), (292, 22232), (298, 22277), (321, 22433), (323, 22454), (325, 22496), (335, 22559), (351, 22715), (354, 22742), (357, 22763), (358, 22766), (360, 22805), (362, 22817), (370, 22952), (373, 23009), (382, 23135), (387, 23177), (389, 23228), (397, 23312), (406, 23483), (407, 23495), (414, 23603), (420, 23657), (422, 23669), (431, 23807), (453, 24170), (466, 24305), (477, 24389), (504, 24719), (505, 24752), (508, 24761), (514, 24815), (541, 25271), (543, 25298), (546, 25346), (553, 25403), (563, 25502), (573, 25688), (592, 25874), (610, 26084), (622, 26225), (626, 26255), (640, 26357), (647, 26411), (658, 26543), (660, 26567), (662, 26591), (670, 26651), (672, 26669), (673, 26702), (675, 26714), (676, 26717), (678, 26741),

Gene: Patos_28 Start: 17141, Stop: 24352, Start Num: 2

Candidate Starts for Patos_28:

(1, 17120), (Start: 2 @17141 has 32 MA's), (6, 17288), (9, 17402), (11, 17501), (14, 17537), (Start: 16 @17549 has 5 MA's), (22, 17633), (24, 17648), (38, 17780), (41, 17807), (42, 17810), (50, 17876), (60, 17918), (64, 17930), (67, 17954), (68, 17960), (76, 18023), (81, 18077), (82, 18080), (101, 18233), (102, 18236), (116, 18356), (120, 18383), (132, 18431), (133, 18440), (142, 18509), (148, 18545), (150, 18566), (151, 18578), (153, 18590), (156, 18605), (163, 18641), (167, 18674), (170, 18686), (176, 18716), (193, 18821), (201, 18890), (202, 18902), (204, 18911), (216, 19034), (237, 19202), (240, 19226), (242, 19244), (244, 19265), (245, 19274), (248, 19298), (249, 19304), (251, 19325), (261, 19409), (268, 19505), (271, 19532), (275, 19565), (286, 19658), (292, 19688), (295, 19715), (302, 19766), (303, 19769), (307, 19793), (311, 19805), (315, 19820), (317, 19844), (324, 19922), (325, 19934), (338, 20009), (340, 20012), (353, 20159), (355, 20174), (357, 20189), (367, 20288), (369, 20336), (371, 20384), (372, 20390), (377, 20462), (383, 20546), (388, 20588), (390, 20642), (395, 20684), (400, 20768), (406, 20891), (415, 21011), (421, 21062), (430, 21221), (435, 21335), (446, 21503), (449, 21590), (450, 21599), (460, 21731), (463, 21743), (471, 21827), (475, 21860), (496, 22136), (527, 22646), (531, 22691), (537, 22766), (557, 23066), (561, 23084), (579, 23363), (584, 23405), (604, 23651), (616, 23759), (619, 23798), (620, 23801), (622, 23840), (630, 23894), (631, 23903), (632, 23915), (636, 23933), (637, 23957), (644, 23987), (651, 24026), (654, 24050), (668, 24215), (669, 24239), (675, 24305), (677, 24317),

Gene: Phreeze_26 Start: 16235, Stop: 22558, Start Num: 13

Candidate Starts for Phreeze_26:

(Start: 13 @16235 has 9 MA's), (20, 16298), (31, 16379), (34, 16397), (49, 16544), (52, 16553), (55, 16565), (69, 16628), (78, 16712), (103, 16898), (106, 16907), (138, 17117), (149, 17192), (168, 17294), (171, 17309), (177, 17339), (180, 17372), (183, 17390), (189, 17420), (194, 17444), (195, 17453), (201, 17516), (204, 17537), (205, 17543), (207, 17567), (221, 17678), (223, 17696), (225, 17717), (227, 17744), (240, 17852), (253, 17945), (254, 17954), (258, 17999), (265, 18086), (273, 18155), (291, 18293), (293, 18308), (302, 18374), (306, 18395), (313, 18416), (325, 18542), (331, 18584), (334, 18593), (336, 18605), (339, 18614), (368, 18938), (371, 18995), (379, 19106), (386, 19181), (392, 19268), (393, 19271), (394, 19286), (407, 19514), (408, 19526), (413, 19610), (423, 19679), (427, 19730), (430, 19790), (433, 19838), (434, 19859), (438, 19919), (446, 20000), (457, 20150), (465, 20228), (476, 20309), (480, 20330), (482, 20375), (489, 20429), (492, 20537), (507, 20633), (509, 20642), (512, 20672), (513, 20675), (528, 20990), (555, 21263), (556, 21272), (562, 21329), (565, 21347), (567, 21380), (568, 21392), (569, 21401), (576, 21524), (588, 21644), (593, 21728), (599, 21794), (605, 21839), (607, 21866), (622, 22028), (623, 22031), (628, 22070), (631, 22091), (655, 22298), (666, 22412), (671, 22457), (675, 22508), (676, 22511), (677, 22520), (678, 22535),

Gene: Predator_30 Start: 17750, Stop: 24115, Start Num: 13

Candidate Starts for Predator_30:

(Start: 13 @17750 has 9 MA's), (35, 17921), (43, 18005), (48, 18053), (69, 18143), (74, 18185), (76, 18206), (78, 18227), (84, 18266), (89, 18317), (97, 18374), (98, 18377), (100, 18389), (103, 18410), (130, 18581), (148, 18692), (149, 18704), (150, 18713), (157, 18755), (158, 18758), (177, 18851), (180, 18884), (197, 18989), (200, 19019), (206, 19073), (209, 19103), (210, 19106), (215, 19163), (219, 19187), (223, 19208), (225, 19229), (230, 19271), (237, 19340), (240, 19364), (244, 19403), (253, 19457), (254, 19466), (263, 19547), (265, 19598), (273, 19667), (282, 19733), (287, 19784), (293, 19820), (296, 19841), (306, 19907), (308, 19916), (316, 19946), (320, 19988), (329, 20084), (337, 20123), (343, 20135), (344, 20138), (375, 20591), (379, 20636), (390, 20783), (393, 20801), (398, 20876), (407, 21044), (408, 21056), (413, 21140), (437, 21443), (465, 21779), (473, 21839), (476, 21860), (480, 21881), (482, 21926), (483, 21929), (489, 21980), (491, 22067), (492, 22088), (495, 22109), (507, 22184), (509, 22193), (510, 22202), (511, 22205), (519, 22370), (524, 22463), (525, 22472), (535, 22592), (536, 22613), (540, 22658), (544, 22691), (545, 22721), (556, 22826), (561, 22856), (568, 22946), (569, 22955), (577, 23099), (588, 23198), (589, 23201), (591, 23231), (593, 23282), (598, 23345), (605, 23393), (607, 23420), (620, 23543), (622, 23582), (628, 23624), (655, 23852), (656, 23873), (658, 23897), (666, 23966), (671, 24014), (672, 24020), (675, 24065), (676, 24068), (677, 24077), (678, 24092),

Gene: Puissant_25 Start: 16698, Stop: 23021, Start Num: 13

Candidate Starts for Puissant_25:

(Start: 13 @16698 has 9 MA's), (22, 16797), (34, 16860), (43, 16953), (52, 17016), (55, 17028), (59, 17046), (62, 17058), (69, 17091), (74, 17133), (78, 17175), (103, 17361), (115, 17448), (121, 17484), (146, 17634), (154, 17694), (168, 17757), (171, 17772), (172, 17775), (177, 17802), (180, 17835), (188, 17877), (189, 17883), (194, 17907), (195, 17916), (197, 17940), (201, 17979), (204, 18000), (207, 18030), (221, 18141), (223, 18159), (225, 18180), (227, 18207), (240, 18315), (253, 18408), (254, 18417), (258, 18462), (265, 18549), (273, 18618), (277, 18651), (287, 18735), (293, 18771), (297, 18801), (306, 18858), (325, 19005), (329, 19035), (331, 19047), (334, 19056), (336, 19068), (339, 19077), (363, 19314), (368, 19401), (371, 19458), (379, 19569), (386, 19644), (393, 19734), (403, 19914), (407, 19977), (408, 19989), (413, 20073), (423, 20142), (427, 20193), (430, 20253), (433, 20301), (434, 20322), (438, 20382), (446, 20463), (465, 20691), (476, 20772), (480, 20793), (482, 20838), (489, 20892), (492, 21000), (507, 21096), (509, 21105), (528, 21453), (552, 21693), (555, 21726), (556, 21735), (561, 21765), (567, 21843), (569, 21864), (576, 21987), (578, 22014), (581, 22032), (585, 22056), (588, 22107), (591, 22140), (593, 22191), (605, 22302), (607, 22329), (622, 22491), (631, 22554), (633, 22578), (671, 22920), (672, 22926), (675, 22971), (676, 22974), (677, 22983), (678, 22998),

Gene: Ranch_27 Start: 16067, Stop: 23266, Start Num: 2

Candidate Starts for Ranch_27:

(1, 16046), (Start: 2 @16067 has 32 MA's), (6, 16214), (9, 16328), (11, 16427), (14, 16463), (Start: 16 @16475 has 5 MA's), (24, 16574), (48, 16793), (50, 16802), (60, 16844), (64, 16856), (67, 16880), (68, 16886), (76, 16949), (81, 17003), (82, 17006), (102, 17162), (113, 17264), (116, 17282), (120, 17309), (132, 17357), (133, 17366), (148, 17471), (150, 17492), (151, 17504), (153, 17516), (156, 17531), (163, 17567), (176, 17642), (177, 17648), (193, 17747), (201, 17816), (202, 17828), (204, 17837), (235, 18116), (237, 18128), (242, 18170), (244, 18191), (245, 18200), (248, 18224), (249, 18230), (251, 18251), (261, 18335), (268, 18431), (271, 18458), (275, 18491), (279, 18512), (302, 18692), (303, 18695), (307, 18719), (311, 18731), (315, 18746), (317, 18770), (324, 18848), (325, 18860), (338, 18935), (340, 18938), (353, 19085), (355, 19100), (357, 19115), (367, 19214), (369, 19262), (371, 19310), (372, 19316), (377, 19388), (383, 19472), (388, 19514), (390, 19568), (395, 19610), (400, 19694), (406, 19817), (415, 19937), (421, 19988), (430, 20147), (435, 20261), (446, 20429), (449, 20516), (460, 20657), (463, 20669), (471, 20753), (475, 20786), (499, 21086), (527, 21572), (529, 21605), (531, 21617), (537, 21695), (556, 21971), (558, 21983), (579, 22277), (584, 22319),

(604, 22565), (616, 22673), (619, 22712), (620, 22715), (622, 22754), (624, 22766), (630, 22808), (631, 22817), (632, 22829), (636, 22847), (637, 22871), (644, 22901), (651, 22940), (654, 22964), (668, 23129), (669, 23153), (675, 23219), (677, 23231),

Gene: RazorC_25 Start: 15528, Stop: 22736, Start Num: 3

Candidate Starts for RazorC_25:

(Start: 3 @15528 has 5 MA's), (6, 15675), (9, 15789), (11, 15888), (14, 15924), (Start: 16 @15936 has 5 MA's), (22, 16020), (24, 16035), (38, 16167), (41, 16194), (48, 16254), (50, 16263), (60, 16305), (64, 16317), (67, 16341), (68, 16347), (72, 16368), (76, 16410), (81, 16464), (82, 16467), (102, 16623), (113, 16725), (116, 16743), (120, 16770), (132, 16818), (133, 16827), (148, 16932), (150, 16953), (151, 16965), (153, 16977), (156, 16992), (163, 17028), (170, 17073), (176, 17103), (178, 17130), (193, 17208), (201, 17277), (202, 17289), (204, 17298), (235, 17577), (237, 17589), (242, 17631), (244, 17652), (245, 17661), (248, 17685), (249, 17691), (251, 17712), (261, 17796), (268, 17892), (271, 17919), (275, 17952), (286, 18045), (292, 18075), (302, 18153), (303, 18156), (307, 18180), (311, 18192), (315, 18207), (317, 18231), (324, 18309), (325, 18321), (338, 18396), (340, 18399), (353, 18546), (355, 18561), (357, 18576), (367, 18675), (369, 18723), (371, 18771), (372, 18777), (374, 18822), (377, 18849), (388, 18975), (390, 19029), (395, 19071), (400, 19155), (404, 19242), (406, 19278), (415, 19398), (421, 19449), (430, 19608), (435, 19722), (446, 19899), (449, 19986), (460, 20127), (463, 20139), (471, 20223), (527, 21042), (529, 21075), (531, 21087), (537, 21165), (556, 21441), (558, 21453), (573, 21696), (579, 21747), (584, 21789), (604, 22035), (616, 22143), (619, 22182), (620, 22185), (622, 22224), (625, 22248), (630, 22278), (631, 22287), (632, 22299), (642, 22362), (644, 22371), (651, 22410), (654, 22434), (668, 22599), (669, 22623), (675, 22689), (677, 22701),

Gene: Riduram_26 Start: 15466, Stop: 22314, Start Num: 11

Candidate Starts for Riduram_26:

(1, 15085), (Start: 2 @15106 has 32 MA's), (6, 15253), (9, 15367), (11, 15466), (14, 15502), (Start: 16 @15514 has 5 MA's), (22, 15598), (24, 15613), (38, 15745), (41, 15772), (48, 15832), (50, 15841), (60, 15883), (64, 15895), (67, 15919), (68, 15925), (72, 15946), (76, 15988), (81, 16042), (82, 16045), (102, 16201), (113, 16303), (116, 16321), (120, 16348), (132, 16396), (133, 16405), (148, 16510), (150, 16531), (151, 16543), (153, 16555), (156, 16570), (163, 16606), (170, 16651), (176, 16681), (178, 16708), (193, 16786), (201, 16855), (202, 16867), (204, 16876), (235, 17155), (237, 17167), (242, 17209), (244, 17230), (245, 17239), (248, 17263), (249, 17269), (251, 17290), (261, 17374), (268, 17470), (271, 17497), (275, 17530), (286, 17623), (292, 17653), (302, 17731), (303, 17734), (307, 17758), (311, 17770), (315, 17785), (317, 17809), (324, 17887), (325, 17899), (338, 17974), (340, 17977), (353, 18124), (355, 18139), (357, 18154), (367, 18253), (369, 18301), (371, 18349), (372, 18355), (374, 18400), (377, 18427), (388, 18553), (390, 18607), (395, 18649), (400, 18733), (404, 18820), (406, 18856), (415, 18976), (421, 19027), (430, 19186), (435, 19300), (446, 19477), (449, 19564), (460, 19705), (463, 19717), (471, 19801), (527, 20620), (529, 20653), (531, 20665), (537, 20743), (556, 21019), (558, 21031), (573, 21274), (579, 21325), (584, 21367), (604, 21613), (616, 21721), (619, 21760), (620, 21763), (622, 21802), (625, 21826), (630, 21856), (631, 21865), (632, 21877), (642, 21940), (644, 21949), (651, 21988), (654, 22012), (668, 22177), (669, 22201), (675, 22267), (677, 22279),

Gene: Rota_26 Start: 17417, Stop: 24619, Start Num: 3

Candidate Starts for Rota_26:

(Start: 3 @17417 has 5 MA's), (6, 17564), (9, 17678), (11, 17777), (14, 17813), (Start: 16 @17825 has 5 MA's), (24, 17924), (38, 18056), (41, 18083), (42, 18086), (48, 18143), (50, 18152), (60, 18194), (64, 18206), (67, 18230), (68, 18236), (76, 18299), (81, 18353), (82, 18356), (101, 18509), (102, 18512), (113, 18614), (116, 18632), (120, 18659), (132, 18707), (133, 18716), (142, 18785), (148, 18821), (150, 18842), (151, 18854), (153, 18866), (156, 18881), (163, 18917), (176, 18992), (177, 18998), (193, 19097), (201, 19166), (202, 19178), (204, 19187), (235, 19466), (237, 19478), (242, 19520), (244, 19541), (245, 19550), (248, 19574), (249, 19580), (251, 19601), (257, 19664), (261, 19685),

(268, 19781), (271, 19808), (275, 19841), (286, 19934), (292, 19964), (295, 19991), (302, 20042), (303, 20045), (307, 20069), (311, 20081), (315, 20096), (317, 20120), (324, 20198), (325, 20210), (338, 20285), (340, 20288), (353, 20435), (355, 20450), (357, 20465), (367, 20564), (369, 20612), (371, 20660), (372, 20666), (377, 20738), (383, 20822), (388, 20864), (390, 20918), (395, 20960), (400, 21044), (401, 21107), (406, 21167), (415, 21287), (421, 21338), (430, 21497), (435, 21611), (446, 21779), (449, 21866), (450, 21875), (460, 22007), (463, 22019), (471, 22103), (475, 22136), (483, 22226), (527, 22922), (529, 22955), (531, 22967), (537, 23045), (557, 23333), (559, 23342), (561, 23351), (579, 23630), (584, 23672), (604, 23918), (613, 24005), (616, 24026), (619, 24065), (622, 24107), (629, 24152), (630, 24161), (631, 24170), (632, 24182), (642, 24245), (644, 24254), (651, 24293), (654, 24317), (668, 24482), (669, 24506), (675, 24572), (677, 24584),

Gene: Rukungu_27 Start: 17766, Stop: 24968, Start Num: 2

Candidate Starts for Rukungu_27:

(1, 17745), (Start: 2 @17766 has 32 MA's), (6, 17913), (9, 18027), (11, 18126), (14, 18162), (Start: 16 @18174 has 5 MA's), (24, 18273), (38, 18405), (41, 18432), (42, 18435), (50, 18501), (60, 18543), (64, 18555), (67, 18579), (68, 18585), (76, 18648), (81, 18702), (82, 18705), (101, 18858), (102, 18861), (116, 18981), (120, 19008), (132, 19056), (133, 19065), (142, 19134), (148, 19170), (150, 19191), (151, 19203), (153, 19215), (156, 19230), (163, 19266), (176, 19341), (193, 19446), (201, 19515), (202, 19527), (204, 19536), (237, 19827), (240, 19851), (242, 19869), (244, 19890), (245, 19899), (248, 19923), (249, 19929), (251, 19950), (261, 20034), (268, 20130), (271, 20157), (275, 20190), (279, 20211), (292, 20313), (302, 20391), (303, 20394), (307, 20418), (311, 20430), (315, 20445), (317, 20469), (324, 20547), (325, 20559), (338, 20634), (340, 20637), (353, 20784), (355, 20799), (357, 20814), (367, 20913), (369, 20961), (371, 21009), (372, 21015), (377, 21087), (383, 21171), (388, 21213), (390, 21267), (395, 21309), (400, 21393), (406, 21516), (415, 21636), (421, 21687), (430, 21846), (435, 21960), (446, 22128), (448, 22188), (449, 22215), (450, 22224), (460, 22356), (463, 22368), (471, 22452), (496, 22761), (498, 22773), (527, 23271), (529, 23304), (531, 23316), (537, 23394), (557, 23682), (561, 23700), (579, 23979), (604, 24267), (616, 24375), (619, 24414), (620, 24417), (622, 24456), (630, 24510), (631, 24519), (632, 24531), (636, 24549), (637, 24573), (644, 24603), (651, 24642), (654, 24666), (668, 24831), (669, 24855), (675, 24921), (677, 24933),

Gene: Rumi_26 Start: 15136, Stop: 22347, Start Num: 2

Candidate Starts for Rumi_26:

(1, 15115), (Start: 2 @15136 has 32 MA's), (6, 15283), (9, 15397), (11, 15496), (14, 15532), (Start: 16 @15544 has 5 MA's), (22, 15628), (24, 15643), (38, 15775), (41, 15802), (48, 15862), (50, 15871), (60, 15913), (64, 15925), (67, 15949), (68, 15955), (72, 15976), (76, 16018), (81, 16072), (82, 16075), (102, 16231), (113, 16333), (116, 16351), (120, 16378), (132, 16426), (133, 16435), (148, 16540), (150, 16561), (151, 16573), (153, 16585), (156, 16600), (163, 16636), (170, 16681), (176, 16711), (178, 16738), (193, 16816), (201, 16885), (202, 16897), (204, 16906), (235, 17185), (237, 17197), (242, 17239), (244, 17260), (245, 17269), (248, 17293), (249, 17299), (251, 17320), (261, 17404), (268, 17500), (271, 17527), (275, 17560), (286, 17653), (292, 17683), (302, 17761), (303, 17764), (307, 17788), (311, 17800), (315, 17815), (317, 17839), (324, 17917), (325, 17929), (338, 18004), (340, 18007), (353, 18154), (355, 18169), (357, 18184), (367, 18283), (369, 18331), (371, 18379), (372, 18385), (374, 18430), (377, 18457), (388, 18583), (390, 18637), (395, 18679), (400, 18763), (404, 18850), (406, 18886), (415, 19006), (421, 19057), (430, 19216), (435, 19330), (446, 19507), (449, 19594), (460, 19735), (463, 19747), (471, 19831), (527, 20650), (529, 20683), (531, 20695), (537, 20773), (557, 21061), (573, 21307), (579, 21358), (584, 21400), (604, 21646), (616, 21754), (619, 21793), (620, 21796), (622, 21835), (624, 21847), (630, 21889), (631, 21898), (632, 21910), (636, 21928), (644, 21982), (651, 22021), (654, 22045), (668, 22210), (669, 22234), (675, 22300), (677, 22312),

Gene: Sadboi_27 Start: 17897, Stop: 25108, Start Num: 2

Candidate Starts for Sadboi_27:

(1, 17876), (Start: 2 @17897 has 32 MA's), (6, 18044), (9, 18158), (11, 18257), (14, 18293), (Start: 16 @18305 has 5 MA's), (24, 18404), (38, 18536), (41, 18563), (42, 18566), (50, 18632), (60, 18674), (64, 18686), (67, 18710), (68, 18716), (76, 18779), (81, 18833), (82, 18836), (101, 18989), (102, 18992), (113, 19094), (116, 19112), (120, 19139), (132, 19187), (133, 19196), (142, 19265), (148, 19301), (150, 19322), (151, 19334), (153, 19346), (156, 19361), (163, 19397), (167, 19430), (170, 19442), (176, 19472), (193, 19577), (201, 19646), (202, 19658), (204, 19667), (237, 19958), (240, 19982), (242, 20000), (244, 20021), (245, 20030), (248, 20054), (249, 20060), (251, 20081), (261, 20165), (268, 20261), (271, 20288), (275, 20321), (279, 20342), (286, 20414), (292, 20444), (295, 20471), (302, 20522), (303, 20525), (307, 20549), (311, 20561), (315, 20576), (317, 20600), (324, 20678), (325, 20690), (338, 20765), (340, 20768), (353, 20915), (355, 20930), (357, 20945), (367, 21044), (369, 21092), (371, 21140), (372, 21146), (377, 21218), (383, 21302), (388, 21344), (390, 21398), (395, 21440), (400, 21524), (406, 21647), (415, 21767), (421, 21818), (430, 21977), (435, 22091), (446, 22259), (449, 22346), (450, 22355), (460, 22487), (463, 22499), (471, 22583), (496, 22892), (527, 23402), (531, 23447), (537, 23522), (557, 23822), (561, 23840), (579, 24119), (604, 24407), (616, 24515), (619, 24554), (620, 24557), (622, 24596), (630, 24650), (631, 24659), (632, 24671), (636, 24689), (637, 24713), (644, 24743), (651, 24782), (654, 24806), (668, 24971), (669, 24995), (675, 25061), (677, 25073),

Gene: Sampudon_27 Start: 18073, Stop: 25275, Start Num: 2

Candidate Starts for Sampudon_27:

(1, 18052), (Start: 2 @18073 has 32 MA's), (6, 18220), (9, 18334), (11, 18433), (14, 18469), (Start: 16 @18481 has 5 MA's), (24, 18580), (38, 18712), (41, 18739), (42, 18742), (48, 18799), (50, 18808), (60, 18850), (64, 18862), (67, 18886), (68, 18892), (72, 18913), (76, 18955), (81, 19009), (82, 19012), (101, 19165), (102, 19168), (113, 19270), (116, 19288), (120, 19315), (132, 19363), (133, 19372), (142, 19441), (148, 19477), (150, 19498), (151, 19510), (153, 19522), (156, 19537), (163, 19573), (176, 19648), (193, 19753), (201, 19822), (202, 19834), (204, 19843), (237, 20134), (240, 20158), (242, 20176), (244, 20197), (245, 20206), (248, 20230), (249, 20236), (251, 20257), (261, 20341), (268, 20437), (271, 20464), (275, 20497), (286, 20590), (292, 20620), (295, 20647), (302, 20698), (303, 20701), (307, 20725), (311, 20737), (315, 20752), (317, 20776), (324, 20854), (325, 20866), (338, 20941), (340, 20944), (353, 21091), (355, 21106), (357, 21121), (367, 21220), (369, 21268), (371, 21316), (372, 21322), (377, 21394), (383, 21478), (388, 21520), (390, 21574), (395, 21616), (400, 21700), (406, 21823), (415, 21943), (421, 21994), (430, 22153), (435, 22267), (446, 22435), (449, 22522), (450, 22531), (460, 22663), (463, 22675), (471, 22759), (475, 22792), (496, 23068), (527, 23578), (529, 23611), (531, 23623), (537, 23701), (557, 23989), (561, 24007), (579, 24286), (584, 24328), (604, 24574), (616, 24682), (619, 24721), (620, 24724), (622, 24763), (630, 24817), (631, 24826), (632, 24838), (636, 24856), (637, 24880), (644, 24910), (651, 24949), (654, 24973), (668, 25138), (669, 25162), (675, 25228), (677, 25240),

Gene: Sienna_22 Start: 12549, Stop: 19319, Start Num: 44

Candidate Starts for Sienna_22:

(Start: 44 @12549 has 9 MA's), (69, 12693), (77, 12765), (79, 12786), (91, 12885), (94, 12897), (96, 12903), (117, 13080), (122, 13113), (124, 13122), (135, 13182), (143, 13239), (150, 13290), (163, 13365), (182, 13476), (185, 13494), (189, 13515), (218, 13758), (222, 13767), (224, 13800), (225, 13803), (227, 13830), (245, 13986), (260, 14097), (261, 14103), (267, 14190), (278, 14274), (283, 14307), (284, 14325), (290, 14370), (295, 14409), (297, 14421), (299, 14436), (302, 14457), (306, 14478), (308, 14487), (310, 14493), (314, 14502), (317, 14532), (333, 14676), (340, 14709), (345, 14724), (357, 14892), (362, 14937), (364, 14946), (366, 14967), (368, 15021), (382, 15231), (387, 15273), (391, 15345), (409, 15654), (414, 15702), (417, 15723), (425, 15831), (439, 16212), (443, 16287), (449, 16473), (464, 16704), (469, 16752), (474, 16803), (478, 16827), (479, 16836), (486, 16929), (498, 17094), (501, 17118), (502, 17133), (526, 17607), (530, 17649), (533, 17685), (549, 17928), (550, 17964), (559, 18057), (571, 18216), (580, 18336), (582, 18351), (586, 18405), (593, 18519), (595, 18552), (596, 18561), (600, 18585), (604, 18609), (617, 18753), (618, 18759), (627, 18846), (631, 18873), (632, 18885), (636, 18903), (641, 18945), (648, 18978), (649, 18987), (651,

18996), (653, 19008), (658, 19104), (663, 19164), (664, 19167), (673, 19263), (674, 19266), (676, 19278), (677, 19287), (679, 19308),

Gene: Stormer_26 Start: 15496, Stop: 22347, Start Num: 11

Candidate Starts for Stormer_26:

(1, 15115), (Start: 2 @15136 has 32 MA's), (6, 15283), (9, 15397), (11, 15496), (14, 15532), (Start: 16 @15544 has 5 MA's), (22, 15628), (24, 15643), (38, 15775), (41, 15802), (48, 15862), (50, 15871), (60, 15913), (64, 15925), (67, 15949), (68, 15955), (72, 15976), (76, 16018), (81, 16072), (82, 16075), (102, 16231), (113, 16333), (116, 16351), (120, 16378), (132, 16426), (133, 16435), (148, 16540), (150, 16561), (151, 16573), (153, 16585), (156, 16600), (163, 16636), (170, 16681), (176, 16711), (178, 16738), (193, 16816), (201, 16885), (202, 16897), (204, 16906), (235, 17185), (237, 17197), (242, 17239), (244, 17260), (245, 17269), (248, 17293), (249, 17299), (251, 17320), (261, 17404), (268, 17500), (271, 17527), (275, 17560), (286, 17653), (292, 17683), (302, 17761), (303, 17764), (307, 17788), (311, 17800), (315, 17815), (317, 17839), (324, 17917), (325, 17929), (338, 18004), (340, 18007), (353, 18154), (355, 18169), (357, 18184), (367, 18283), (369, 18331), (371, 18379), (372, 18385), (374, 18430), (377, 18457), (388, 18583), (390, 18637), (395, 18679), (400, 18763), (404, 18850), (406, 18886), (415, 19006), (421, 19057), (430, 19216), (435, 19330), (446, 19507), (449, 19594), (460, 19735), (463, 19747), (471, 19831), (527, 20650), (529, 20683), (531, 20695), (537, 20773), (557, 21061), (573, 21307), (579, 21358), (584, 21400), (604, 21646), (616, 21754), (619, 21793), (620, 21796), (622, 21835), (624, 21847), (630, 21889), (631, 21898), (632, 21910), (636, 21928), (644, 21982), (651, 22021), (654, 22045), (668, 22210), (669, 22234), (675, 22300), (677, 22312),

Gene: SuperSonics_33 Start: 19293, Stop: 25940, Start Num: 16

Candidate Starts for SuperSonics_33:

(Start: 16 @19293 has 5 MA's), (23, 19386), (26, 19398), (27, 19407), (29, 19428), (32, 19440), (36, 19482), (46, 19587), (56, 19644), (57, 19650), (59, 19656), (70, 19713), (71, 19719), (72, 19725), (96, 19923), (98, 19953), (99, 19965), (105, 20001), (124, 20142), (139, 20238), (147, 20286), (161, 20364), (164, 20388), (171, 20421), (178, 20472), (184, 20505), (192, 20544), (202, 20634), (207, 20673), (208, 20685), (212, 20733), (216, 20766), (226, 20832), (234, 20901), (236, 20925), (238, 20943), (241, 20967), (252, 21048), (254, 21060), (265, 21195), (266, 21204), (276, 21288), (292, 21408), (298, 21453), (321, 21609), (323, 21630), (325, 21672), (335, 21735), (351, 21891), (354, 21918), (357, 21939), (358, 21942), (360, 21981), (362, 21993), (370, 22128), (373, 22185), (382, 22311), (387, 22353), (389, 22404), (397, 22488), (406, 22659), (407, 22671), (414, 22779), (420, 22833), (422, 22845), (431, 22983), (453, 23346), (466, 23481), (477, 23565), (504, 23895), (505, 23928), (508, 23937), (541, 24447), (543, 24474), (546, 24522), (553, 24579), (563, 24678), (573, 24864), (592, 25050), (610, 25260), (622, 25401), (626, 25431), (640, 25533), (644, 25572), (647, 25587), (658, 25719), (660, 25743), (662, 25767), (670, 25827), (672, 25845), (673, 25878), (675, 25890), (676, 25893), (678, 25917),

Gene: Suzy_22 Start: 13782, Stop: 20483, Start Num: 44

Candidate Starts for Suzy_22:

(37, 13731), (Start: 44 @13782 has 9 MA's), (69, 13926), (77, 13998), (79, 14019), (91, 14118), (94, 14130), (96, 14136), (122, 14346), (124, 14355), (135, 14415), (143, 14472), (150, 14523), (151, 14535), (163, 14598), (182, 14709), (185, 14727), (218, 14991), (224, 15033), (225, 15036), (227, 15063), (231, 15081), (239, 15162), (257, 15315), (259, 15324), (260, 15330), (262, 15345), (267, 15423), (283, 15540), (284, 15558), (290, 15603), (295, 15642), (297, 15654), (299, 15669), (302, 15690), (306, 15711), (308, 15720), (310, 15726), (314, 15735), (317, 15765), (323, 15813), (332, 15906), (333, 15909), (340, 15942), (345, 15957), (357, 16125), (362, 16170), (364, 16179), (366, 16200), (368, 16254), (382, 16464), (387, 16506), (391, 16578), (409, 16887), (414, 16935), (417, 16956), (425, 17064), (445, 17511), (449, 17631), (456, 17769), (469, 17910), (474, 17961), (478, 17985), (479, 17994), (486, 18087), (498, 18252), (501, 18276), (502, 18291), (517, 18513), (526, 18771), (530, 18813), (531, 18822), (533, 18849), (549, 19092), (550, 19128), (564, 19266), (566,

19281), (571, 19377), (574, 19455), (580, 19497), (582, 19512), (586, 19566), (593, 19680), (595, 19713), (596, 19722), (600, 19746), (603, 19767), (604, 19770), (615, 19878), (617, 19914), (618, 19920), (625, 19995), (631, 20034), (638, 20097), (648, 20139), (649, 20148), (651, 20157), (652, 20160), (653, 20169), (657, 20262), (658, 20265), (664, 20328), (673, 20424), (674, 20427), (676, 20439), (677, 20448), (679, 20469),

Gene: Terapin_22 Start: 12549, Stop: 19319, Start Num: 44

Candidate Starts for Terapin_22:

(Start: 44 @12549 has 9 MA's), (69, 12693), (77, 12765), (79, 12786), (91, 12885), (94, 12897), (96, 12903), (122, 13113), (124, 13122), (135, 13182), (143, 13239), (150, 13290), (163, 13365), (182, 13476), (185, 13494), (189, 13515), (218, 13758), (222, 13767), (224, 13800), (225, 13803), (227, 13830), (245, 13986), (260, 14097), (261, 14103), (267, 14190), (278, 14274), (283, 14307), (284, 14325), (290, 14370), (295, 14409), (297, 14421), (299, 14436), (302, 14457), (306, 14478), (308, 14487), (310, 14493), (314, 14502), (317, 14532), (333, 14676), (340, 14709), (345, 14724), (357, 14892), (362, 14937), (364, 14946), (366, 14967), (368, 15021), (382, 15231), (387, 15273), (391, 15345), (409, 15654), (414, 15702), (417, 15723), (425, 15831), (439, 16212), (443, 16287), (449, 16473), (464, 16704), (469, 16752), (474, 16803), (478, 16827), (479, 16836), (486, 16929), (498, 17094), (501, 17118), (502, 17133), (526, 17607), (533, 17685), (549, 17928), (550, 17964), (559, 18057), (571, 18216), (580, 18336), (582, 18351), (586, 18405), (593, 18519), (595, 18552), (596, 18561), (600, 18585), (604, 18609), (617, 18753), (618, 18759), (627, 18846), (631, 18873), (632, 18885), (636, 18903), (641, 18945), (648, 18978), (649, 18987), (651, 18996), (653, 19008), (658, 19104), (663, 19164), (664, 19167), (673, 19263), (674, 19266), (676, 19278), (677, 19287), (679, 19308),

Gene: Thumb_26 Start: 16235, Stop: 22558, Start Num: 13

Candidate Starts for Thumb_26:

(Start: 13 @16235 has 9 MA's), (20, 16298), (31, 16379), (34, 16397), (49, 16544), (52, 16553), (55, 16565), (59, 16583), (69, 16628), (74, 16670), (77, 16700), (78, 16712), (103, 16898), (106, 16907), (138, 17117), (149, 17192), (168, 17294), (171, 17309), (177, 17339), (180, 17372), (183, 17390), (189, 17420), (194, 17444), (195, 17453), (197, 17477), (201, 17516), (204, 17537), (205, 17543), (207, 17567), (221, 17678), (223, 17696), (225, 17717), (227, 17744), (240, 17852), (253, 17945), (254, 17954), (255, 17966), (258, 17999), (265, 18086), (273, 18155), (291, 18293), (293, 18308), (302, 18374), (306, 18395), (313, 18416), (325, 18542), (331, 18584), (334, 18593), (336, 18605), (339, 18614), (368, 18938), (371, 18995), (379, 19106), (386, 19181), (392, 19268), (393, 19271), (394, 19286), (407, 19514), (408, 19526), (413, 19610), (423, 19679), (427, 19730), (430, 19790), (433, 19838), (434, 19859), (438, 19919), (446, 20000), (457, 20150), (465, 20228), (476, 20309), (480, 20330), (482, 20375), (489, 20429), (492, 20537), (507, 20633), (509, 20642), (512, 20672), (513, 20675), (528, 20990), (555, 21263), (556, 21272), (561, 21302), (565, 21347), (567, 21380), (568, 21392), (569, 21401), (576, 21524), (588, 21644), (591, 21677), (593, 21728), (599, 21794), (602, 21815), (605, 21839), (607, 21866), (622, 22028), (623, 22031), (628, 22070), (631, 22091), (655, 22298), (666, 22412), (671, 22457), (675, 22508), (676, 22511), (677, 22520), (678, 22535),

Gene: Tillicus_26 Start: 16467, Stop: 23687, Start Num: 2

Candidate Starts for Tillicus_26:

(1, 16446), (Start: 2 @16467 has 32 MA's), (7, 16662), (10, 16737), (12, 16842), (14, 16863), (15, 16866), (18, 16896), (19, 16905), (22, 16959), (32, 17022), (33, 17028), (40, 17124), (47, 17175), (50, 17202), (64, 17256), (65, 17265), (67, 17280), (77, 17358), (80, 17394), (85, 17418), (107, 17613), (109, 17643), (127, 17748), (142, 17838), (145, 17862), (148, 17874), (150, 17895), (156, 17934), (166, 18000), (167, 18003), (174, 18039), (176, 18045), (177, 18051), (179, 18075), (187, 18120), (193, 18150), (194, 18156), (196, 18174), (202, 18231), (214, 18351), (235, 18519), (242, 18573), (244, 18594), (246, 18612), (248, 18627), (251, 18654), (261, 18738), (271, 18861), (292, 19017), (295, 19044), (298, 19065), (302, 19095), (309, 19128), (315, 19149), (317, 19173), (318, 19176), (319, 19179), (321, 19200), (322, 19212), (324, 19251), (328, 19287), (338, 19338), (349, 19398),

(350, 19431), (356, 19509), (357, 19518), (371, 19707), (372, 19713), (377, 19785), (378, 19815), (383, 19869), (388, 19911), (395, 20007), (400, 20091), (406, 20214), (415, 20334), (421, 20385), (446, 20838), (447, 20868), (449, 20925), (454, 21000), (460, 21066), (463, 21078), (471, 21162), (475, 21195), (478, 21216), (483, 21285), (527, 21981), (531, 22026), (537, 22101), (557, 22401), (561, 22419), (583, 22725), (594, 22914), (604, 22986), (613, 23073), (616, 23094), (619, 23133), (622, 23175), (629, 23220), (630, 23229), (631, 23238), (632, 23250), (636, 23268), (643, 23319), (650, 23355), (651, 23361), (654, 23385), (659, 23487), (665, 23535), (668, 23550), (669, 23574), (674, 23631), (675, 23640), (677, 23652),

Gene: Wojtek_26 Start: 16774, Stop: 23985, Start Num: 2

Candidate Starts for Wojtek_26:

(1, 16753), (Start: 2 @16774 has 32 MA's), (6, 16921), (9, 17035), (11, 17134), (14, 17170), (Start: 16 @17182 has 5 MA's), (24, 17281), (38, 17413), (48, 17500), (50, 17509), (60, 17551), (64, 17563), (67, 17587), (68, 17593), (76, 17656), (81, 17710), (82, 17713), (101, 17866), (102, 17869), (113, 17971), (116, 17989), (120, 18016), (132, 18064), (133, 18073), (142, 18142), (148, 18178), (150, 18199), (151, 18211), (153, 18223), (156, 18238), (176, 18349), (193, 18454), (201, 18523), (202, 18535), (204, 18544), (237, 18835), (242, 18877), (244, 18898), (245, 18907), (248, 18931), (249, 18937), (251, 18958), (257, 19021), (261, 19042), (268, 19138), (271, 19165), (275, 19198), (292, 19321), (295, 19348), (302, 19399), (303, 19402), (307, 19426), (311, 19438), (315, 19453), (317, 19477), (324, 19555), (325, 19567), (338, 19642), (340, 19645), (353, 19792), (355, 19807), (357, 19822), (367, 19921), (369, 19969), (371, 20017), (372, 20023), (374, 20068), (377, 20095), (383, 20179), (388, 20221), (390, 20275), (395, 20317), (400, 20401), (406, 20524), (415, 20644), (421, 20695), (430, 20854), (446, 21148), (447, 21178), (449, 21235), (454, 21310), (460, 21376), (463, 21388), (471, 21472), (475, 21505), (478, 21526), (527, 22291), (529, 22324), (531, 22336), (537, 22414), (556, 22690), (558, 22702), (579, 22996), (584, 23038), (604, 23284), (613, 23371), (616, 23392), (619, 23431), (622, 23473), (629, 23518), (630, 23527), (631, 23536), (632, 23548), (642, 23611), (644, 23620), (651, 23659), (654, 23683), (668, 23848), (669, 23872), (674, 23929), (675, 23938), (677, 23950),

Gene: Xenia2_27 Start: 16812, Stop: 24071, Start Num: 2

Candidate Starts for Xenia2_27:

(1, 16791), (Start: 2 @16812 has 32 MA's), (5, 16956), (6, 16959), (8, 17031), (14, 17208), (15, 17211), (Start: 16 @17220 has 5 MA's), (17, 17235), (18, 17241), (22, 17304), (23, 17313), (25, 17325), (32, 17367), (47, 17520), (48, 17538), (54, 17559), (60, 17589), (66, 17619), (67, 17625), (70, 17640), (75, 17682), (76, 17694), (77, 17703), (79, 17727), (81, 17748), (85, 17763), (86, 17781), (90, 17817), (95, 17844), (101, 17904), (110, 18006), (111, 18009), (113, 18030), (116, 18048), (118, 18063), (122, 18084), (123, 18093), (131, 18129), (133, 18141), (140, 18195), (145, 18234), (148, 18246), (150, 18267), (157, 18309), (161, 18321), (162, 18339), (165, 18363), (176, 18417), (190, 18507), (193, 18522), (202, 18603), (211, 18678), (217, 18741), (235, 18891), (242, 18945), (244, 18966), (245, 18975), (250, 19014), (253, 19032), (261, 19107), (275, 19263), (276, 19266), (302, 19473), (317, 19551), (324, 19629), (330, 19683), (342, 19725), (349, 19776), (356, 19887), (357, 19896), (361, 19938), (365, 19971), (367, 19995), (371, 20085), (372, 20091), (377, 20163), (378, 20193), (388, 20289), (395, 20385), (399, 20457), (400, 20469), (406, 20592), (415, 20712), (442, 21183), (450, 21330), (459, 21456), (461, 21465), (462, 21471), (463, 21474), (465, 21504), (467, 21528), (469, 21537), (471, 21558), (478, 21612), (481, 21654), (497, 21873), (499, 21891), (518, 22167), (522, 22266), (527, 22377), (529, 22410), (531, 22422), (537, 22500), (560, 22800), (561, 22803), (587, 23187), (604, 23370), (630, 23613), (642, 23697), (648, 23727), (668, 23934), (669, 23958), (674, 24015),

Gene: Yikes_28 Start: 18158, Stop: 25360, Start Num: 2

Candidate Starts for Yikes_28:

(1, 18137), (Start: 2 @18158 has 32 MA's), (6, 18305), (9, 18419), (11, 18518), (14, 18554), (Start: 16 @18566 has 5 MA's), (24, 18665), (38, 18797), (41, 18824), (42, 18827), (50, 18893), (60, 18935), (64,

18947), (67, 18971), (68, 18977), (76, 19040), (81, 19094), (82, 19097), (101, 19250), (102, 19253), (113, 19355), (116, 19373), (120, 19400), (132, 19448), (133, 19457), (142, 19526), (148, 19562), (150, 19583), (151, 19595), (153, 19607), (156, 19622), (163, 19658), (176, 19733), (193, 19838), (201, 19907), (202, 19919), (204, 19928), (237, 20219), (242, 20261), (244, 20282), (245, 20291), (248, 20315), (249, 20321), (251, 20342), (261, 20426), (268, 20522), (271, 20549), (275, 20582), (286, 20675), (292, 20705), (295, 20732), (302, 20783), (303, 20786), (307, 20810), (311, 20822), (315, 20837), (317, 20861), (324, 20939), (325, 20951), (340, 21029), (353, 21176), (355, 21191), (357, 21206), (367, 21305), (369, 21353), (371, 21401), (372, 21407), (377, 21479), (383, 21563), (388, 21605), (390, 21659), (395, 21701), (400, 21785), (406, 21908), (415, 22028), (421, 22079), (430, 22238), (435, 22352), (446, 22520), (449, 22607), (450, 22616), (458, 22739), (460, 22748), (463, 22760), (471, 22844), (496, 23153), (527, 23663), (529, 23696), (531, 23708), (537, 23786), (557, 24074), (561, 24092), (579, 24371), (584, 24413), (604, 24659), (616, 24767), (619, 24806), (620, 24809), (622, 24848), (630, 24902), (631, 24911), (632, 24923), (636, 24941), (637, 24965), (644, 24995), (651, 25034), (654, 25058), (668, 25223), (669, 25247), (675, 25313), (677, 25325),

Gene: Zany_26 Start: 17679, Stop: 24881, Start Num: 3

Candidate Starts for Zany_26:

(Start: 3 @17679 has 5 MA's), (6, 17826), (9, 17940), (11, 18039), (14, 18075), (Start: 16 @18087 has 5 MA's), (24, 18186), (38, 18318), (50, 18414), (60, 18456), (64, 18468), (67, 18492), (68, 18498), (76, 18561), (81, 18615), (82, 18618), (101, 18771), (102, 18774), (113, 18876), (116, 18894), (120, 18921), (132, 18969), (133, 18978), (142, 19047), (148, 19083), (150, 19104), (151, 19116), (153, 19128), (156, 19143), (163, 19179), (176, 19254), (193, 19359), (201, 19428), (202, 19440), (204, 19449), (237, 19740), (242, 19782), (244, 19803), (245, 19812), (248, 19836), (249, 19842), (251, 19863), (261, 19947), (268, 20043), (271, 20070), (275, 20103), (286, 20196), (292, 20226), (295, 20253), (302, 20304), (303, 20307), (307, 20331), (311, 20343), (315, 20358), (317, 20382), (324, 20460), (325, 20472), (338, 20547), (340, 20550), (353, 20697), (355, 20712), (357, 20727), (367, 20826), (369, 20874), (371, 20922), (372, 20928), (377, 21000), (383, 21084), (388, 21126), (390, 21180), (395, 21222), (400, 21306), (406, 21429), (415, 21549), (421, 21600), (430, 21759), (435, 21873), (446, 22041), (448, 22101), (449, 22128), (450, 22137), (460, 22269), (463, 22281), (471, 22365), (496, 22674), (498, 22686), (527, 23184), (529, 23217), (531, 23229), (537, 23307), (557, 23595), (561, 23613), (579, 23892), (604, 24180), (616, 24288), (619, 24327), (620, 24330), (622, 24369), (630, 24423), (631, 24432), (632, 24444), (636, 24462), (637, 24486), (642, 24507), (644, 24516), (651, 24555), (654, 24579), (668, 24744), (669, 24768), (675, 24834), (677, 24846),