

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 169852 Report

This analysis was run 07/09/24 on database version 566.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 169852 has 109 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Bovely_18, Esperer_18, SunsetPointe_18, Leviticus_18, Indigo_18, Nerdos_18, Ozzie_18, Caliburn_18, Unstoppable_18, Hydra_20, BeardedLady_19, Legacy_18, Phettuccine_18
- Track 2 : Yasdnil_18, TuanPN_18, Ejemplo_18
- Track 3 : Whatever_18
- Track 4 : Lannister_19
- Track 5 : Werner_18, Snorlax_18, SarahRose_18, BarryBee_20, Asten_18, Emaanora_20
- Track 6 : Chucky_18
- Track 7 : Dattran_19, Celeste_18
- Track 8 : Brataylor_19, Zemlya_19, Danzina_19
- Track 9 : OzzyJ_19
- Track 10 : Oliynyk_19, BryanRecycles_19, Rusticus_19, Eddasa_19, Izzy_19, Jash_19
- Track 11 : Goby_18, Sujidade_19
- Track 12 : Hippo_18
- Track 13 : Godpower_19
- Track 14 : Nabi_18
- Track 15 : RedBear_20, Katalie_19, South40_19
- Track 16 : TagePhighter_19
- Track 17 : Lorelei_18, Rana_18
- Track 18 : Nanodon_20
- Track 19 : Toma_18
- Track 20 : Aaronocolus_18
- Track 21 : EnochSoames_20
- Track 22 : Lika_18
- Track 23 : Dwayne_18
- Track 24 : Maneekul_18
- Track 25 : Triste_18
- Track 26 : TrvxScott_17
- Track 27 : Amethyst_18
- Track 28 : Paolo_22
- Track 29 : Janus_19

- Track 30 : Hank144_19
- Track 31 : GirlDinner_19
- Track 32 : Omar_19
- Track 33 : Superstar_21
- Track 34 : Daudau_18
- Track 35 : Caelum_19
- Track 36 : Animus_19
- Track 37 : ELB20_17, R4_18
- Track 38 : Zainub_24
- Track 39 : Marav_21
- Track 40 : Puginator_22
- Track 41 : Alvy_20, BartholomewSD_20
- Track 42 : Paedore_18
- Track 43 : Haizum_18, Tefunt_18
- Track 44 : Triumph_20
- Track 45 : Issmi_19
- Track 46 : Jevington_21
- Track 47 : Thestral_19
- Track 48 : Bowden_19, TinaBelcher_18
- Track 49 : Nishikigoi_18
- Track 50 : Pablito_18
- Track 51 : Diane_18
- Track 52 : Andris_18
- Track 53 : Loofah_19
- Track 54 : SqueakyClean_19
- Track 55 : Vanseggelen_23
- Track 56 : Verse_18
- Track 57 : Celery_21
- Track 58 : Yosif_19
- Track 59 : Verabelle_19
- Track 60 : ElGato_20
- Track 61 : Provolone_19
- Track 62 : Conan_21
- Track 63 : Alsaber_19
- Track 64 : phiCAM_19
- Track 65 : Saftant_18
- Track 66 : Dexers_17
- Track 67 : Amela_18
- Track 68 : BroPlease_19, GreenWeasel_20
- Track 69 : phiHau3_20
- Track 70 : VieEnRose_18
- Track 71 : Itza_18, Celia_18, Urza_18

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

The start number called the most often in the published annotations is 9, it was called in 55 of the 95 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aaronocolus_18, Alsaber_19, Amela_18, Asten_18, BarryBee_20, BeardedLady_19, Bovely_18, Brataylor_19, BryanRecycles_19, Caliburn_18, Celery_21, Chucky_18, Conan_21, Danzina_19, Dexers_17, Dwayne_18, Eddasa_19, Ejemplo_18, ElGato_20, Emaanora_20, EnochSoames_20, Esperer_18, Goby_18, Godpower_19, Hippo_18, Hydra_20, Indigo_18, Izzy_19, Jash_19, Katalie_19, Lannister_19, Legacy_18, Leviticus_18, Lika_18, Maneekul_18, Nabi_18, Nanodon_20, Nerdos_18, Oliynyk_19, Ozzie_18, OzzyJ_19, Phettuccine_18, RedBear_20, Rusticus_19, SarahRose_18, Snorlax_18, South40_19, Sujidade_19, SunsetPointe_18, TagePhighter_19, Toma_18, Triste_18, TuanPN_18, Unstoppable_18, Vanseggelen_23, Verabelle_19, Verse_18, Werner_18, Whatever_18, Yasdnii_18, Zemlya_19,

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

- Celeste_18, Dattran_19, Lorelei_18, Provolone_19, Rana_18, phiCAM_19,

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

- Alvy_20, Amethyst_18, Andris_18, Animus_19, BartholomewSD_20, Bowden_19, BroPlease_19, Caelum_19, Celia_18, Daudau_18, Diane_18, ELB20_17, GirlDinner_19, GreenWeasel_20, Haizum_18, Hank144_19, Issmi_19, Itza_18, Janus_19, Jevington_21, Loofah_19, Marav_21, Nishikigoi_18, Omar_19, Pablito_18, Paedore_18, Paolo_22, Puginator_22, R4_18, Saftant_18, SqueakyClean_19, Superstar_21, Tefunt_18, Thestral_19, TinaBelcher_18, Triumph_20, TrvxScott_17, Urza_18, VieEnRose_18, Yosif_19, Zainub_24, phiHau3_20,

Summary by start number:

Start 1:

- Found in 3 of 109 (2.8%) of genes in pham
- Manual Annotations of this start: 3 of 95
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BroPlease_19 (BD4), GreenWeasel_20 (BD4), phiHau3_20 (BD4),

Start 3:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saftant_18 (BD3),

Start 9:

- Found in 67 of 109 (61.5%) of genes in pham
- Manual Annotations of this start: 55 of 95
- Called 91.0% of time when present
- Phage (with cluster) where this start called: Aaronocolus_18 (BD1), Alsaber_19 (BD3), Amela_18 (BD3), Asten_18 (BD1), BarryBee_20 (BD1), BeardedLady_19 (BD1), Bovely_18 (BD1), Brataylor_19 (BD1), BryanRecycles_19 (BD1), Caliburn_18 (BD1), Celery_21 (BD3), Chucky_18 (BD1), Conan_21 (BD3), Danzina_19 (BD1), Dexers_17 (BD3), Dwayne_18 (BD1), Eddasa_19 (BD1), Ejemplo_18 (BD1), ElGato_20 (BD3), Emaanora_20 (BD1), EnochSoames_20 (BD1), Esperer_18 (BD1), Goby_18 (BD1), Godpower_19 (BD1), Hippo_18 (BD1), Hydra_20 (BD1), Indigo_18 (BD1), Izzy_19 (BD1), Jash_19 (BD1), Katalie_19 (BD1), Lannister_19 (BD1), Legacy_18 (BD1), Leviticus_18 (BD1), Lika_18 (BD1), Maneekul_18 (BD1), Nabi_18 (BD1), Nanodon_20 (BD1), Nerdos_18 (BD1), Oliynyk_19 (BD1), Ozzie_18 (BD1),

OzzyJ_19 (BD1), Phettuccine_18 (BD1), RedBear_20 (BD1), Rusticus_19 (BD1), SarahRose_18 (BD1), Snorlax_18 (BD1), South40_19 (BD1), Sujidade_19 (BD1), SunsetPointe_18 (BD1), TagePhighter_19 (BD1), Toma_18 (BD1), Triste_18 (BD1), TuanPN_18 (BD1), Unstoppable_18 (BD1), Vanseggelen_23 (BD3), Verabelle_19 (BD3), Verse_18 (BD3), Werner_18 (BD1), Whatever_18 (BD1), Yasdnii_18 (BD1), Zemlya_19 (BD1),

Start 11:

- Found in 5 of 109 (4.6%) of genes in pham
- Manual Annotations of this start: 5 of 95
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Celia_18 (BD6), Itza_18 (BD6), Urza_18 (BD6), VieEnRose_18 (BD6), Yosif_19 (BD3),

Start 12:

- Found in 33 of 109 (30.3%) of genes in pham
- Manual Annotations of this start: 22 of 95
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Alvy_20 (BD2), Amethyst_18 (BD2), Andris_18 (BD2), BartholomewSD_20 (BD2), Caelum_19 (BD2), Daudau_18 (BD2), Diane_18 (BD2), ELB20_17 (BD2), GirlDinner_19 (BD2), Haizum_18 (BD2), Hank144_19 (BD2), Issmi_19 (BD2), Janus_19 (BD2), Jevington_21 (BD2), Marav_21 (BD2), Nishikigoi_18 (BD2), Omar_19 (BD2), Pablito_18 (BD2), Puginator_22 (BD2), R4_18 (BD2), SqueakyClean_19 (BD2), Superstar_21 (BD2), Tefunt_18 (BD2), Thestral_19 (BD2), Triumph_20 (BD2), TrvxScott_17 (BD2), Zainub_24 (BD2),

Start 14:

- Found in 19 of 109 (17.4%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Provolone_19 (BD3),

Start 16:

- Found in 15 of 109 (13.8%) of genes in pham
- Manual Annotations of this start: 4 of 95
- Called 26.7% of time when present
- Phage (with cluster) where this start called: Celeste_18 (BD1), Dattran_19 (BD1), Lorelei_18 (BD1), Rana_18 (BD1),

Start 17:

- Found in 22 of 109 (20.2%) of genes in pham
- Manual Annotations of this start: 3 of 95
- Called 22.7% of time when present
- Phage (with cluster) where this start called: Animus_19 (BD2), Bowden_19 (BD2), Loofah_19 (BD2), Paolo_22 (BD2), TinaBelcher_18 (BD2),

Start 23:

- Found in 4 of 109 (3.7%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Paedore_18 (BD2),

Start 27:

- Found in 108 of 109 (99.1%) of genes in pham
- No Manual Annotations of this start.
- Called 0.9% of time when present
- Phage (with cluster) where this start called: phiCAM_19 (BD3),

Summary by clusters:

There are 5 clusters represented in this pham: BD4, BD6, BD1, BD3, BD2,

Info for manual annotations of cluster BD1:

- Start number 9 was manually annotated 51 times for cluster BD1.
- Start number 16 was manually annotated 4 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 12 was manually annotated 22 times for cluster BD2.
- Start number 17 was manually annotated 3 times for cluster BD2.
- Start number 23 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 3 was manually annotated 1 time for cluster BD3.
- Start number 9 was manually annotated 4 times for cluster BD3.
- Start number 11 was manually annotated 1 time for cluster BD3.
- Start number 14 was manually annotated 1 time for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 1 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 11 was manually annotated 4 times for cluster BD6.

Gene Information:

Gene: Aaronocolus_18 Start: 11669, Stop: 14989, Start Num: 9

Candidate Starts for Aaronocolus_18:

(Start: 9 @11669 has 55 MA's), (27, 11813), (36, 11924), (38, 11936), (42, 12005), (44, 12011), (48, 12032), (59, 12167), (67, 12230), (71, 12266), (72, 12269), (87, 12434), (93, 12473), (99, 12530), (110, 12734), (124, 13037), (125, 13070), (131, 13133), (134, 13166), (139, 13244), (143, 13280), (144, 13283), (146, 13301), (148, 13325), (150, 13346), (153, 13379), (158, 13397), (163, 13433), (173, 13487), (178, 13526), (183, 13550), (200, 13616), (210, 13652), (221, 13724), (226, 13748), (227, 13754), (231, 13778), (233, 13799), (245, 13889), (248, 13901), (249, 13913), (254, 13949), (260, 13988), (266, 14021), (283, 14192), (287, 14231), (296, 14333), (298, 14354), (302, 14366), (323, 14543), (327, 14594), (328, 14606), (338, 14780), (347, 14849), (350, 14888), (355, 14975), (357, 14978),

Gene: Alsaber_19 Start: 11562, Stop: 15674, Start Num: 9

Candidate Starts for Alsaber_19:

(Start: 9 @11562 has 55 MA's), (Start: 14 @11586 has 1 MA's), (27, 11706), (29, 11739), (36, 11817), (37, 11820), (59, 12060), (61, 12081), (67, 12123), (71, 12159), (73, 12171), (86, 12297), (98, 12393), (99, 12423), (101, 12444), (105, 12516), (109, 12615), (110, 12624), (124, 12930), (126, 12966), (131, 13026), (139, 13137), (143, 13173), (146, 13194), (150, 13239), (153, 13272), (158, 13290), (162,

13323), (183, 13443), (184, 13446), (191, 13512), (192, 13521), (203, 13605), (205, 13614), (209, 13629), (221, 13704), (228, 13740), (233, 13779), (249, 13893), (251, 13905), (252, 13911), (256, 13950), (262, 13977), (271, 14031), (275, 14085), (288, 14214), (292, 14259), (302, 14346), (325, 14544), (327, 14574), (329, 14616), (339, 14775), (341, 14787), (349, 14850), (356, 14964), (361, 15003), (363, 15075), (364, 15114), (365, 15156), (369, 15231), (370, 15252), (372, 15309), (373, 15330), (376, 15378), (377, 15381), (378, 15396), (381, 15459), (382, 15468), (385, 15510), (392, 15660), (393, 15663),

Gene: Alvy_20 Start: 11699, Stop: 14998, Start Num: 12

Candidate Starts for Alvy_20:

(Start: 12 @11699 has 22 MA's), (27, 11834), (28, 11855), (31, 11897), (50, 12074), (67, 12245), (71, 12281), (86, 12419), (93, 12488), (101, 12566), (110, 12749), (124, 13052), (131, 13148), (134, 13181), (138, 13253), (139, 13259), (148, 13340), (149, 13358), (150, 13361), (153, 13394), (158, 13412), (187, 13586), (205, 13649), (207, 13655), (225, 13760), (233, 13814), (235, 13826), (240, 13871), (249, 13928), (260, 14003), (272, 14075), (313, 14468), (318, 14492), (327, 14609), (328, 14621), (331, 14690), (332, 14699), (335, 14762), (343, 14840), (344, 14852), (347, 14864),

Gene: Amela_18 Start: 11854, Stop: 15966, Start Num: 9

Candidate Starts for Amela_18:

(Start: 9 @11854 has 55 MA's), (Start: 14 @11878 has 1 MA's), (27, 11998), (29, 12031), (31, 12061), (36, 12109), (37, 12112), (56, 12328), (63, 12388), (73, 12463), (78, 12526), (86, 12589), (94, 12664), (101, 12736), (109, 12907), (110, 12916), (124, 13222), (126, 13258), (131, 13318), (134, 13351), (139, 13429), (143, 13465), (146, 13486), (147, 13504), (150, 13531), (153, 13564), (158, 13582), (162, 13615), (173, 13672), (179, 13717), (183, 13735), (191, 13804), (205, 13906), (211, 13933), (221, 13996), (233, 14071), (243, 14149), (249, 14185), (251, 14197), (252, 14203), (256, 14242), (260, 14260), (275, 14377), (285, 14476), (286, 14482), (287, 14503), (288, 14506), (302, 14638), (311, 14716), (327, 14866), (329, 14908), (356, 15256), (361, 15295), (363, 15367), (364, 15406), (369, 15523), (370, 15544), (372, 15601), (373, 15622), (376, 15670), (377, 15673), (381, 15751), (382, 15760), (385, 15802), (392, 15952), (393, 15955),

Gene: Amethyst_18 Start: 11541, Stop: 15449, Start Num: 12

Candidate Starts for Amethyst_18:

(Start: 12 @11541 has 22 MA's), (27, 11676), (36, 11787), (40, 11850), (50, 11919), (66, 12081), (67, 12090), (71, 12126), (80, 12213), (108, 12582), (110, 12591), (131, 12990), (134, 13023), (143, 13137), (150, 13203), (153, 13236), (158, 13254), (161, 13278), (170, 13329), (200, 13428), (201, 13431), (203, 13437), (219, 13482), (233, 13569), (240, 13626), (249, 13683), (260, 13758), (272, 13830), (298, 14124), (313, 14223), (320, 14256), (327, 14364), (333, 14469), (356, 14754), (364, 14904), (365, 14946), (369, 15021), (370, 15042), (372, 15099), (373, 15120), (374, 15123),

Gene: Andris_18 Start: 11508, Stop: 14702, Start Num: 12

Candidate Starts for Andris_18:

(Start: 12 @11508 has 22 MA's), (Start: 17 @11547 has 3 MA's), (27, 11643), (36, 11754), (46, 11850), (50, 11886), (66, 12048), (67, 12057), (70, 12087), (71, 12093), (76, 12150), (86, 12231), (99, 12357), (104, 12447), (110, 12561), (123, 12795), (124, 12864), (127, 12927), (131, 12960), (134, 12993), (146, 13128), (148, 13152), (150, 13173), (153, 13206), (158, 13224), (166, 13281), (167, 13284), (199, 13371), (223, 13476), (224, 13479), (231, 13518), (249, 13653), (257, 13713), (268, 13749), (269, 13758), (270, 13764), (291, 13995), (317, 14193), (320, 14205), (327, 14313), (331, 14394), (348, 14580), (355, 14691),

Gene: Animus_19 Start: 11880, Stop: 15038, Start Num: 17

Candidate Starts for Animus_19:

(Start: 12 @11841 has 22 MA's), (Start: 17 @11880 has 3 MA's), (27, 11979), (28, 12000), (35, 12072), (36, 12090), (50, 12222), (51, 12234), (66, 12384), (70, 12423), (71, 12429), (72, 12432), (76,

12486), (91, 12621), (99, 12693), (110, 12897), (118, 13005), (124, 13200), (131, 13296), (134, 13329), (139, 13407), (143, 13443), (146, 13464), (148, 13488), (150, 13509), (151, 13512), (153, 13542), (158, 13560), (164, 13599), (167, 13620), (168, 13626), (171, 13638), (199, 13707), (217, 13770), (222, 13803), (224, 13815), (249, 13989), (257, 14049), (269, 14094), (270, 14100), (289, 14298), (305, 14430), (316, 14520), (320, 14541), (327, 14649), (343, 14880), (348, 14916),

Gene: Asten_18 Start: 11636, Stop: 14959, Start Num: 9

Candidate Starts for Asten_18:

(Start: 9 @11636 has 55 MA's), (27, 11783), (36, 11894), (38, 11906), (39, 11918), (46, 11993), (50, 12029), (61, 12158), (67, 12200), (70, 12230), (71, 12236), (76, 12293), (101, 12521), (103, 12581), (110, 12704), (124, 13007), (131, 13103), (134, 13136), (144, 13253), (146, 13271), (150, 13316), (153, 13349), (158, 13367), (170, 13442), (183, 13520), (187, 13541), (205, 13604), (210, 13622), (233, 13769), (243, 13847), (248, 13871), (249, 13883), (251, 13895), (252, 13901), (256, 13940), (260, 13958), (287, 14201), (296, 14303), (305, 14345), (323, 14513), (327, 14564), (328, 14576), (338, 14750), (347, 14819), (355, 14945), (357, 14948),

Gene: BarryBee_20 Start: 11646, Stop: 14969, Start Num: 9

Candidate Starts for BarryBee_20:

(Start: 9 @11646 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (39, 11928), (46, 12003), (50, 12039), (61, 12168), (67, 12210), (70, 12240), (71, 12246), (76, 12303), (101, 12531), (103, 12591), (110, 12714), (124, 13017), (131, 13113), (134, 13146), (144, 13263), (146, 13281), (150, 13326), (153, 13359), (158, 13377), (170, 13452), (183, 13530), (187, 13551), (205, 13614), (210, 13632), (233, 13779), (243, 13857), (248, 13881), (249, 13893), (251, 13905), (252, 13911), (256, 13950), (260, 13968), (287, 14211), (296, 14313), (305, 14355), (323, 14523), (327, 14574), (328, 14586), (338, 14760), (347, 14829), (355, 14955), (357, 14958),

Gene: BartholomewSD_20 Start: 11699, Stop: 14998, Start Num: 12

Candidate Starts for BartholomewSD_20:

(Start: 12 @11699 has 22 MA's), (27, 11834), (28, 11855), (31, 11897), (50, 12074), (67, 12245), (71, 12281), (86, 12419), (93, 12488), (101, 12566), (110, 12749), (124, 13052), (131, 13148), (134, 13181), (138, 13253), (139, 13259), (148, 13340), (149, 13358), (150, 13361), (153, 13394), (158, 13412), (187, 13586), (205, 13649), (207, 13655), (225, 13760), (233, 13814), (235, 13826), (240, 13871), (249, 13928), (260, 14003), (272, 14075), (313, 14468), (318, 14492), (327, 14609), (328, 14621), (331, 14690), (332, 14699), (335, 14762), (343, 14840), (344, 14852), (347, 14864),

Gene: BeardedLady_19 Start: 11916, Stop: 15236, Start Num: 9

Candidate Starts for BeardedLady_19:

(Start: 9 @11916 has 55 MA's), (27, 12060), (36, 12171), (38, 12183), (42, 12252), (44, 12258), (48, 12279), (59, 12414), (67, 12477), (71, 12513), (72, 12516), (87, 12681), (93, 12720), (99, 12777), (110, 12981), (124, 13284), (125, 13317), (131, 13380), (134, 13413), (139, 13491), (143, 13527), (144, 13530), (146, 13548), (148, 13572), (150, 13593), (153, 13626), (158, 13644), (163, 13680), (173, 13734), (178, 13773), (183, 13797), (200, 13863), (210, 13899), (221, 13971), (226, 13995), (227, 14001), (231, 14025), (233, 14046), (248, 14148), (249, 14160), (254, 14196), (260, 14235), (266, 14268), (283, 14439), (287, 14478), (296, 14580), (298, 14601), (302, 14613), (323, 14790), (327, 14841), (328, 14853), (338, 15027), (347, 15096), (350, 15135), (355, 15222), (357, 15225),

Gene: Bovely_18 Start: 11675, Stop: 14995, Start Num: 9

Candidate Starts for Bovely_18:

(Start: 9 @11675 has 55 MA's), (27, 11819), (36, 11930), (38, 11942), (42, 12011), (44, 12017), (48, 12038), (59, 12173), (67, 12236), (71, 12272), (72, 12275), (87, 12440), (93, 12479), (99, 12536), (110, 12740), (124, 13043), (125, 13076), (131, 13139), (134, 13172), (139, 13250), (143, 13286), (144, 13289), (146, 13307), (148, 13331), (150, 13352), (153, 13385), (158, 13403), (163, 13439), (173, 13493), (178, 13532), (183, 13556), (200, 13622), (210, 13658), (221, 13730), (226, 13754),

(227, 13760), (231, 13784), (233, 13805), (248, 13907), (249, 13919), (254, 13955), (260, 13994), (266, 14027), (283, 14198), (287, 14237), (296, 14339), (298, 14360), (302, 14372), (323, 14549), (327, 14600), (328, 14612), (338, 14786), (347, 14855), (350, 14894), (355, 14981), (357, 14984),

Gene: Bowden_19 Start: 11670, Stop: 14930, Start Num: 17

Candidate Starts for Bowden_19:

(Start: 12 @11631 has 22 MA's), (Start: 17 @11670 has 3 MA's), (27, 11766), (28, 11787), (31, 11829), (34, 11844), (50, 12006), (67, 12177), (71, 12213), (95, 12432), (97, 12438), (101, 12498), (110, 12681), (124, 12984), (131, 13080), (134, 13113), (138, 13185), (139, 13191), (145, 13239), (148, 13272), (149, 13290), (150, 13293), (153, 13326), (158, 13344), (178, 13473), (187, 13518), (205, 13581), (207, 13587), (233, 13746), (235, 13758), (249, 13860), (255, 13914), (260, 13935), (272, 14007), (295, 14274), (313, 14400), (318, 14424), (327, 14541), (328, 14553), (331, 14622), (332, 14631), (335, 14694), (343, 14772), (344, 14784), (347, 14796),

Gene: Brataylor_19 Start: 11658, Stop: 14981, Start Num: 9

Candidate Starts for Brataylor_19:

(Start: 9 @11658 has 55 MA's), (Start: 16 @11694 has 4 MA's), (27, 11805), (36, 11916), (38, 11928), (39, 11940), (46, 12015), (50, 12051), (61, 12180), (67, 12222), (70, 12252), (71, 12258), (73, 12270), (76, 12315), (97, 12483), (101, 12543), (109, 12717), (110, 12726), (124, 13029), (126, 13065), (130, 13101), (131, 13125), (134, 13158), (144, 13275), (146, 13293), (150, 13338), (153, 13371), (158, 13389), (170, 13464), (183, 13542), (187, 13563), (191, 13584), (205, 13626), (210, 13644), (233, 13791), (243, 13869), (248, 13893), (249, 13905), (251, 13917), (252, 13923), (256, 13962), (260, 13980), (287, 14223), (296, 14325), (327, 14586), (328, 14598), (332, 14676), (334, 14694), (338, 14772), (347, 14841), (355, 14967), (357, 14970),

Gene: BroPlease_19 Start: 11860, Stop: 15681, Start Num: 1

Candidate Starts for BroPlease_19:

(Start: 1 @11860 has 3 MA's), (5, 12196), (7, 12241), (8, 12334), (13, 12358), (Start: 14 @12367 has 1 MA's), (27, 12493), (33, 12577), (37, 12616), (45, 12703), (50, 12760), (57, 12853), (58, 12862), (61, 12889), (64, 12907), (68, 12940), (71, 12967), (76, 13024), (77, 13033), (94, 13180), (95, 13186), (96, 13189), (107, 13408), (108, 13423), (110, 13435), (115, 13516), (122, 13654), (124, 13738), (131, 13834), (132, 13843), (142, 13978), (143, 13981), (145, 13993), (153, 14080), (154, 14083), (156, 14089), (184, 14254), (188, 14281), (224, 14440), (226, 14449), (233, 14500), (234, 14503), (237, 14524), (242, 14572), (247, 14599), (249, 14614), (250, 14620), (260, 14689), (269, 14740), (300, 15058), (308, 15112), (310, 15142), (327, 15295), (331, 15376), (334, 15403), (355, 15670),

Gene: BryanRecycles_19 Start: 11832, Stop: 15152, Start Num: 9

Candidate Starts for BryanRecycles_19:

(Start: 9 @11832 has 55 MA's), (27, 11976), (36, 12087), (38, 12099), (42, 12168), (44, 12174), (48, 12195), (59, 12330), (67, 12393), (71, 12429), (72, 12432), (87, 12597), (93, 12636), (99, 12693), (109, 12888), (110, 12897), (124, 13200), (125, 13233), (131, 13296), (134, 13329), (139, 13407), (146, 13464), (148, 13488), (150, 13509), (153, 13542), (158, 13560), (163, 13596), (173, 13650), (178, 13689), (183, 13713), (200, 13779), (210, 13815), (221, 13887), (226, 13911), (227, 13917), (231, 13941), (233, 13962), (248, 14064), (249, 14076), (254, 14112), (260, 14151), (266, 14184), (283, 14355), (287, 14394), (288, 14397), (296, 14496), (298, 14517), (302, 14529), (327, 14757), (328, 14769), (338, 14943), (347, 15012), (350, 15051), (355, 15138), (357, 15141),

Gene: Caelum_19 Start: 11485, Stop: 15480, Start Num: 12

Candidate Starts for Caelum_19:

(Start: 12 @11485 has 22 MA's), (25, 11611), (27, 11620), (28, 11641), (34, 11698), (36, 11731), (50, 11863), (66, 12025), (71, 12070), (83, 12175), (98, 12304), (102, 12412), (110, 12535), (131, 12934), (143, 13081), (146, 13102), (148, 13126), (150, 13147), (153, 13180), (158, 13198), (161, 13222), (180, 13339), (209, 13450), (210, 13453), (215, 13474), (225, 13546), (233, 13600), (240, 13657),

(249, 13714), (251, 13726), (252, 13732), (260, 13789), (272, 13861), (278, 13951), (318, 14278), (323, 14344), (327, 14395), (333, 14500), (335, 14548), (341, 14608), (352, 14719), (356, 14785), (362, 14857), (363, 14896), (364, 14935), (367, 14995), (368, 15049), (369, 15052), (370, 15073), (371, 15085), (372, 15130), (373, 15151), (376, 15199), (379, 15247), (392, 15469),

Gene: Caliburn_18 Start: 11649, Stop: 14969, Start Num: 9

Candidate Starts for Caliburn_18:

(Start: 9 @11649 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (42, 11985), (44, 11991), (48, 12012), (59, 12147), (67, 12210), (71, 12246), (72, 12249), (87, 12414), (93, 12453), (99, 12510), (110, 12714), (124, 13017), (125, 13050), (131, 13113), (134, 13146), (139, 13224), (143, 13260), (144, 13263), (146, 13281), (148, 13305), (150, 13326), (153, 13359), (158, 13377), (163, 13413), (173, 13467), (178, 13506), (183, 13530), (200, 13596), (210, 13632), (221, 13704), (226, 13728), (227, 13734), (231, 13758), (233, 13779), (248, 13881), (249, 13893), (254, 13929), (260, 13968), (266, 14001), (283, 14172), (287, 14211), (296, 14313), (298, 14334), (302, 14346), (323, 14523), (327, 14574), (328, 14586), (338, 14760), (347, 14829), (350, 14868), (355, 14955), (357, 14958),

Gene: Celery_21 Start: 11512, Stop: 15627, Start Num: 9

Candidate Starts for Celery_21:

(6, 11401), (Start: 9 @11512 has 55 MA's), (Start: 14 @11536 has 1 MA's), (27, 11656), (29, 11689), (31, 11719), (36, 11767), (37, 11770), (61, 12031), (71, 12109), (72, 12112), (73, 12121), (78, 12184), (83, 12214), (85, 12238), (86, 12247), (90, 12298), (94, 12322), (101, 12394), (109, 12565), (110, 12574), (124, 12880), (127, 12943), (131, 12976), (136, 13051), (139, 13087), (143, 13123), (150, 13189), (153, 13222), (158, 13240), (162, 13273), (170, 13315), (173, 13330), (177, 13363), (178, 13369), (182, 13387), (185, 13402), (191, 13462), (192, 13471), (193, 13480), (198, 13510), (205, 13564), (209, 13579), (221, 13654), (233, 13729), (248, 13831), (249, 13843), (251, 13855), (252, 13861), (256, 13900), (260, 13918), (275, 14035), (287, 14161), (292, 14209), (301, 14293), (302, 14296), (327, 14524), (329, 14566), (356, 14914), (361, 14953), (363, 15025), (364, 15064), (365, 15106), (368, 15178), (369, 15181), (370, 15202), (372, 15259), (373, 15280), (376, 15328), (377, 15331), (378, 15346), (381, 15409), (382, 15418), (385, 15460), (392, 15613), (393, 15616),

Gene: Celeste_18 Start: 11686, Stop: 14973, Start Num: 16

Candidate Starts for Celeste_18:

(Start: 9 @11650 has 55 MA's), (Start: 16 @11686 has 4 MA's), (27, 11797), (36, 11908), (38, 11920), (39, 11932), (46, 12007), (50, 12043), (61, 12172), (67, 12214), (70, 12244), (71, 12250), (73, 12262), (76, 12307), (101, 12535), (110, 12718), (126, 13057), (131, 13117), (134, 13150), (144, 13267), (146, 13285), (150, 13330), (153, 13363), (158, 13381), (170, 13456), (183, 13534), (187, 13555), (191, 13576), (205, 13618), (210, 13636), (233, 13783), (243, 13861), (248, 13885), (249, 13897), (251, 13909), (252, 13915), (256, 13954), (260, 13972), (287, 14215), (296, 14317), (327, 14578), (328, 14590), (332, 14668), (334, 14686), (338, 14764), (347, 14833), (355, 14959), (357, 14962),

Gene: Celia_18 Start: 12007, Stop: 15408, Start Num: 11

Candidate Starts for Celia_18:

(Start: 11 @12007 has 5 MA's), (Start: 14 @12022 has 1 MA's), (27, 12142), (35, 12235), (36, 12253), (39, 12277), (52, 12433), (73, 12610), (76, 12655), (86, 12736), (92, 12799), (95, 12817), (102, 12940), (110, 13063), (113, 13135), (116, 13147), (121, 13276), (124, 13369), (130, 13441), (131, 13465), (136, 13540), (145, 13624), (150, 13678), (153, 13711), (155, 13717), (159, 13738), (160, 13750), (167, 13789), (171, 13807), (194, 13972), (202, 14041), (206, 14056), (210, 14071), (215, 14092), (222, 14146), (231, 14197), (233, 14218), (249, 14332), (260, 14407), (262, 14416), (277, 14530), (287, 14650), (301, 14782), (302, 14785), (309, 14836), (319, 14902), (320, 14905), (327, 15013), (331, 15094), (334, 15121), (342, 15238), (351, 15310), (358, 15397),

Gene: Chucky_18 Start: 11647, Stop: 14970, Start Num: 9

Candidate Starts for Chucky_18:

(Start: 9 @11647 has 55 MA's), (27, 11794), (36, 11905), (38, 11917), (39, 11929), (46, 12004), (50, 12040), (61, 12169), (67, 12211), (70, 12241), (71, 12247), (76, 12304), (101, 12532), (103, 12592), (110, 12715), (124, 13018), (131, 13114), (134, 13147), (144, 13264), (146, 13282), (150, 13327), (153, 13360), (158, 13378), (170, 13453), (183, 13531), (187, 13552), (205, 13615), (210, 13633), (233, 13780), (243, 13858), (248, 13882), (249, 13894), (251, 13906), (252, 13912), (256, 13951), (260, 13969), (287, 14212), (296, 14314), (305, 14356), (323, 14524), (327, 14575), (328, 14587), (347, 14830), (355, 14956), (357, 14959),

Gene: Conan_21 Start: 11284, Stop: 15396, Start Num: 9

Candidate Starts for Conan_21:

(Start: 9 @11284 has 55 MA's), (Start: 14 @11308 has 1 MA's), (27, 11428), (29, 11461), (31, 11491), (36, 11539), (61, 11803), (67, 11845), (73, 11893), (86, 12019), (98, 12115), (99, 12145), (101, 12166), (102, 12223), (105, 12238), (109, 12337), (110, 12346), (124, 12652), (126, 12688), (131, 12748), (140, 12868), (143, 12895), (144, 12898), (148, 12940), (150, 12961), (178, 13141), (191, 13234), (192, 13243), (196, 13267), (201, 13321), (203, 13327), (205, 13336), (209, 13351), (212, 13366), (216, 13384), (221, 13426), (233, 13501), (249, 13615), (251, 13627), (252, 13633), (260, 13690), (266, 13723), (269, 13741), (273, 13780), (275, 13807), (288, 13936), (292, 13981), (302, 14068), (311, 14146), (325, 14266), (327, 14296), (329, 14338), (339, 14497), (341, 14509), (345, 14542), (353, 14662), (356, 14686), (360, 14719), (361, 14725), (362, 14758), (363, 14797), (364, 14836), (366, 14887), (369, 14953), (370, 14974), (372, 15031), (373, 15052), (376, 15100), (377, 15103), (378, 15118), (381, 15181), (382, 15190), (385, 15232), (387, 15247), (392, 15382), (393, 15385),

Gene: Danzina_19 Start: 11860, Stop: 15183, Start Num: 9

Candidate Starts for Danzina_19:

(Start: 9 @11860 has 55 MA's), (Start: 16 @11896 has 4 MA's), (27, 12007), (36, 12118), (38, 12130), (39, 12142), (46, 12217), (50, 12253), (61, 12382), (67, 12424), (70, 12454), (71, 12460), (73, 12472), (76, 12517), (97, 12685), (101, 12745), (109, 12919), (110, 12928), (124, 13231), (126, 13267), (130, 13303), (131, 13327), (134, 13360), (144, 13477), (146, 13495), (150, 13540), (153, 13573), (158, 13591), (170, 13666), (183, 13744), (187, 13765), (191, 13786), (205, 13828), (210, 13846), (233, 13993), (243, 14071), (248, 14095), (249, 14107), (251, 14119), (252, 14125), (256, 14164), (260, 14182), (287, 14425), (296, 14527), (327, 14788), (328, 14800), (332, 14878), (334, 14896), (338, 14974), (347, 15043), (355, 15169), (357, 15172),

Gene: Dattran_19 Start: 11685, Stop: 14972, Start Num: 16

Candidate Starts for Dattran_19:

(Start: 9 @11649 has 55 MA's), (Start: 16 @11685 has 4 MA's), (27, 11796), (36, 11907), (38, 11919), (39, 11931), (46, 12006), (50, 12042), (61, 12171), (67, 12213), (70, 12243), (71, 12249), (73, 12261), (76, 12306), (101, 12534), (110, 12717), (126, 13056), (131, 13116), (134, 13149), (144, 13266), (146, 13284), (150, 13329), (153, 13362), (158, 13380), (170, 13455), (183, 13533), (187, 13554), (191, 13575), (205, 13617), (210, 13635), (233, 13782), (243, 13860), (248, 13884), (249, 13896), (251, 13908), (252, 13914), (256, 13953), (260, 13971), (287, 14214), (296, 14316), (327, 14577), (328, 14589), (332, 14667), (334, 14685), (338, 14763), (347, 14832), (355, 14958), (357, 14961),

Gene: Daudau_18 Start: 11605, Stop: 14904, Start Num: 12

Candidate Starts for Daudau_18:

(Start: 12 @11605 has 22 MA's), (Start: 17 @11644 has 3 MA's), (Start: 23 @11722 has 1 MA's), (27, 11740), (28, 11761), (36, 11851), (50, 11983), (69, 12172), (71, 12190), (75, 12229), (102, 12532), (110, 12655), (114, 12730), (127, 13021), (131, 13054), (143, 13201), (186, 13483), (210, 13573), (213, 13588), (233, 13720), (240, 13777), (248, 13822), (249, 13834), (256, 13891), (260, 13909), (298, 14275), (313, 14374), (318, 14398), (327, 14515), (328, 14527), (331, 14596), (332, 14605), (340, 14722),

Gene: Dexers_17 Start: 11265, Stop: 15377, Start Num: 9

Candidate Starts for Dexers_17:

(Start: 9 @11265 has 55 MA's), (Start: 14 @11289 has 1 MA's), (27, 11409), (29, 11442), (36, 11520), (37, 11523), (59, 11763), (61, 11784), (67, 11826), (73, 11874), (86, 12000), (98, 12096), (99, 12126), (101, 12147), (105, 12219), (109, 12318), (110, 12327), (111, 12339), (124, 12633), (126, 12669), (131, 12729), (139, 12840), (143, 12876), (146, 12897), (150, 12942), (153, 12975), (158, 12993), (162, 13026), (183, 13146), (184, 13149), (191, 13215), (192, 13224), (203, 13308), (205, 13317), (209, 13332), (221, 13407), (228, 13443), (233, 13482), (249, 13596), (251, 13608), (252, 13614), (256, 13653), (262, 13680), (271, 13734), (275, 13788), (288, 13917), (292, 13962), (302, 14049), (325, 14247), (327, 14277), (329, 14319), (339, 14478), (341, 14490), (349, 14553), (356, 14667), (361, 14706), (363, 14778), (364, 14817), (365, 14859), (369, 14934), (370, 14955), (372, 15012), (373, 15033), (376, 15081), (377, 15084), (378, 15099), (381, 15162), (382, 15171), (385, 15213), (392, 15363), (393, 15366),

Gene: Diane_18 Start: 11534, Stop: 15442, Start Num: 12

Candidate Starts for Diane_18:

(Start: 12 @11534 has 22 MA's), (27, 11669), (36, 11780), (40, 11843), (46, 11876), (50, 11912), (67, 12083), (70, 12113), (71, 12119), (80, 12206), (102, 12461), (103, 12464), (110, 12584), (131, 12983), (134, 13016), (143, 13130), (145, 13142), (150, 13196), (153, 13229), (158, 13247), (173, 13337), (200, 13421), (203, 13430), (233, 13562), (235, 13574), (240, 13619), (249, 13676), (260, 13751), (272, 13823), (298, 14117), (313, 14216), (320, 14249), (327, 14357), (341, 14570), (356, 14747), (364, 14897), (365, 14939), (369, 15014), (370, 15035), (372, 15092), (373, 15113), (374, 15116), (376, 15161), (383, 15254),

Gene: Dwayne_18 Start: 11643, Stop: 14966, Start Num: 9

Candidate Starts for Dwayne_18:

(Start: 9 @11643 has 55 MA's), (27, 11790), (36, 11901), (38, 11913), (39, 11925), (46, 12000), (50, 12036), (61, 12165), (67, 12207), (70, 12237), (71, 12243), (76, 12300), (101, 12528), (103, 12588), (110, 12711), (124, 13014), (131, 13110), (134, 13143), (144, 13260), (146, 13278), (150, 13323), (153, 13356), (158, 13374), (170, 13449), (183, 13527), (187, 13548), (205, 13611), (210, 13629), (221, 13701), (233, 13776), (243, 13854), (248, 13878), (249, 13890), (251, 13902), (252, 13908), (256, 13947), (260, 13965), (287, 14208), (296, 14310), (305, 14352), (323, 14520), (327, 14571), (328, 14583), (338, 14757), (347, 14826), (355, 14952), (357, 14955),

Gene: ELB20_17 Start: 11627, Stop: 15028, Start Num: 12

Candidate Starts for ELB20_17:

(Start: 12 @11627 has 22 MA's), (Start: 17 @11666 has 3 MA's), (25, 11753), (27, 11762), (28, 11783), (34, 11840), (36, 11873), (40, 11936), (42, 11954), (47, 11975), (50, 12005), (67, 12176), (71, 12212), (76, 12269), (80, 12299), (83, 12317), (87, 12380), (101, 12497), (110, 12680), (124, 12983), (127, 13046), (131, 13079), (134, 13112), (138, 13184), (139, 13190), (146, 13247), (148, 13271), (150, 13292), (153, 13325), (158, 13343), (170, 13418), (178, 13472), (180, 13484), (184, 13499), (187, 13517), (205, 13580), (249, 13859), (260, 13934), (272, 14006), (274, 14030), (295, 14273), (299, 14303), (303, 14390), (304, 14399), (318, 14522), (324, 14600), (327, 14639), (328, 14651), (332, 14729), (347, 14894),

Gene: Eddasa_19 Start: 11832, Stop: 15152, Start Num: 9

Candidate Starts for Eddasa_19:

(Start: 9 @11832 has 55 MA's), (27, 11976), (36, 12087), (38, 12099), (42, 12168), (44, 12174), (48, 12195), (59, 12330), (67, 12393), (71, 12429), (72, 12432), (87, 12597), (93, 12636), (99, 12693), (109, 12888), (110, 12897), (124, 13200), (125, 13233), (131, 13296), (134, 13329), (139, 13407), (146, 13464), (148, 13488), (150, 13509), (153, 13542), (158, 13560), (163, 13596), (173, 13650), (178, 13689), (183, 13713), (200, 13779), (210, 13815), (221, 13887), (226, 13911), (227, 13917), (231, 13941), (233, 13962), (248, 14064), (249, 14076), (254, 14112), (260, 14151), (266, 14184),

(283, 14355), (287, 14394), (288, 14397), (296, 14496), (298, 14517), (302, 14529), (327, 14757), (328, 14769), (338, 14943), (347, 15012), (350, 15051), (355, 15138), (357, 15141),

Gene: Ejemplo_18 Start: 11643, Stop: 14966, Start Num: 9

Candidate Starts for Ejemplo_18:

(Start: 9 @11643 has 55 MA's), (27, 11790), (36, 11901), (38, 11913), (39, 11925), (46, 12000), (50, 12036), (67, 12207), (70, 12237), (71, 12243), (73, 12255), (76, 12300), (84, 12354), (97, 12468), (101, 12528), (109, 12702), (110, 12711), (124, 13014), (126, 13050), (131, 13110), (134, 13143), (139, 13221), (144, 13260), (146, 13278), (150, 13323), (153, 13356), (158, 13374), (170, 13449), (183, 13527), (187, 13548), (191, 13569), (205, 13611), (210, 13629), (221, 13701), (233, 13776), (243, 13854), (248, 13878), (249, 13890), (251, 13902), (252, 13908), (256, 13947), (260, 13965), (287, 14208), (291, 14253), (296, 14310), (323, 14520), (327, 14571), (347, 14826), (355, 14952), (357, 14955),

Gene: ElGato_20 Start: 11287, Stop: 15399, Start Num: 9

Candidate Starts for ElGato_20:

(Start: 9 @11287 has 55 MA's), (Start: 14 @11311 has 1 MA's), (27, 11431), (29, 11464), (31, 11494), (36, 11542), (61, 11806), (67, 11848), (73, 11896), (86, 12022), (98, 12118), (99, 12148), (101, 12169), (105, 12241), (109, 12340), (110, 12349), (124, 12655), (126, 12691), (131, 12751), (140, 12871), (143, 12898), (144, 12901), (148, 12943), (150, 12964), (178, 13144), (190, 13222), (191, 13237), (192, 13246), (196, 13270), (201, 13324), (203, 13330), (205, 13339), (209, 13354), (212, 13369), (216, 13387), (221, 13429), (233, 13504), (249, 13618), (251, 13630), (252, 13636), (256, 13675), (259, 13684), (260, 13693), (288, 13939), (292, 13984), (302, 14071), (311, 14149), (325, 14269), (327, 14299), (329, 14341), (339, 14500), (341, 14512), (345, 14545), (353, 14665), (356, 14689), (361, 14728), (362, 14761), (363, 14800), (364, 14839), (366, 14890), (369, 14956), (370, 14977), (372, 15034), (373, 15055), (376, 15103), (377, 15106), (378, 15121), (381, 15184), (382, 15193), (385, 15235), (387, 15250), (392, 15385), (393, 15388),

Gene: Emaanora_20 Start: 11646, Stop: 14969, Start Num: 9

Candidate Starts for Emaanora_20:

(Start: 9 @11646 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (39, 11928), (46, 12003), (50, 12039), (61, 12168), (67, 12210), (70, 12240), (71, 12246), (76, 12303), (101, 12531), (103, 12591), (110, 12714), (124, 13017), (131, 13113), (134, 13146), (144, 13263), (146, 13281), (150, 13326), (153, 13359), (158, 13377), (170, 13452), (183, 13530), (187, 13551), (205, 13614), (210, 13632), (233, 13779), (243, 13857), (248, 13881), (249, 13893), (251, 13905), (252, 13911), (256, 13950), (260, 13968), (287, 14211), (296, 14313), (305, 14355), (323, 14523), (327, 14574), (328, 14586), (338, 14760), (347, 14829), (355, 14955), (357, 14958),

Gene: EnochSoames_20 Start: 11828, Stop: 15148, Start Num: 9

Candidate Starts for EnochSoames_20:

(Start: 9 @11828 has 55 MA's), (27, 11972), (36, 12083), (38, 12095), (39, 12107), (44, 12170), (46, 12182), (59, 12326), (67, 12389), (71, 12425), (72, 12428), (87, 12593), (93, 12632), (99, 12689), (109, 12884), (110, 12893), (124, 13196), (125, 13229), (131, 13292), (134, 13325), (139, 13403), (146, 13460), (148, 13484), (150, 13505), (153, 13538), (158, 13556), (163, 13592), (173, 13646), (178, 13685), (183, 13709), (200, 13775), (210, 13811), (221, 13883), (226, 13907), (227, 13913), (231, 13937), (233, 13958), (248, 14060), (249, 14072), (254, 14108), (260, 14147), (266, 14180), (283, 14351), (287, 14390), (288, 14393), (296, 14492), (298, 14513), (302, 14525), (327, 14753), (328, 14765), (338, 14939), (347, 15008), (350, 15047), (355, 15134), (357, 15137),

Gene: Esperer_18 Start: 11669, Stop: 14989, Start Num: 9

Candidate Starts for Esperer_18:

(Start: 9 @11669 has 55 MA's), (27, 11813), (36, 11924), (38, 11936), (42, 12005), (44, 12011), (48, 12032), (59, 12167), (67, 12230), (71, 12266), (72, 12269), (87, 12434), (93, 12473), (99, 12530),

(110, 12734), (124, 13037), (125, 13070), (131, 13133), (134, 13166), (139, 13244), (143, 13280), (144, 13283), (146, 13301), (148, 13325), (150, 13346), (153, 13379), (158, 13397), (163, 13433), (173, 13487), (178, 13526), (183, 13550), (200, 13616), (210, 13652), (221, 13724), (226, 13748), (227, 13754), (231, 13778), (233, 13799), (248, 13901), (249, 13913), (254, 13949), (260, 13988), (266, 14021), (283, 14192), (287, 14231), (296, 14333), (298, 14354), (302, 14366), (323, 14543), (327, 14594), (328, 14606), (338, 14780), (347, 14849), (350, 14888), (355, 14975), (357, 14978),

Gene: GirlDinner_19 Start: 11503, Stop: 14700, Start Num: 12

Candidate Starts for GirlDinner_19:

(Start: 12 @11503 has 22 MA's), (Start: 17 @11542 has 3 MA's), (27, 11641), (28, 11662), (35, 11734), (36, 11752), (50, 11884), (51, 11896), (66, 12046), (70, 12085), (71, 12091), (72, 12094), (76, 12148), (91, 12283), (99, 12355), (110, 12559), (118, 12667), (124, 12862), (131, 12958), (134, 12991), (139, 13069), (143, 13105), (146, 13126), (148, 13150), (150, 13171), (151, 13174), (153, 13204), (158, 13222), (164, 13261), (167, 13282), (168, 13288), (171, 13300), (199, 13369), (217, 13432), (222, 13465), (224, 13477), (231, 13516), (249, 13651), (257, 13711), (269, 13756), (270, 13762), (280, 13879), (293, 14005), (305, 14092), (324, 14272), (327, 14311), (343, 14542), (348, 14578),

Gene: Goby_18 Start: 11655, Stop: 14978, Start Num: 9

Candidate Starts for Goby_18:

(Start: 9 @11655 has 55 MA's), (Start: 16 @11691 has 4 MA's), (27, 11802), (36, 11913), (38, 11925), (39, 11937), (46, 12012), (50, 12048), (61, 12177), (67, 12219), (70, 12249), (71, 12255), (73, 12267), (76, 12312), (101, 12540), (110, 12723), (126, 13062), (131, 13122), (134, 13155), (135, 13188), (143, 13269), (146, 13290), (150, 13335), (153, 13368), (158, 13386), (159, 13395), (170, 13461), (183, 13539), (187, 13560), (191, 13581), (205, 13623), (210, 13641), (233, 13788), (243, 13866), (248, 13890), (249, 13902), (251, 13914), (252, 13920), (256, 13959), (260, 13977), (287, 14220), (296, 14322), (324, 14544), (327, 14583), (328, 14595), (338, 14769), (347, 14838), (355, 14964), (357, 14967),

Gene: Godpower_19 Start: 11667, Stop: 14990, Start Num: 9

Candidate Starts for Godpower_19:

(Start: 9 @11667 has 55 MA's), (Start: 16 @11703 has 4 MA's), (27, 11814), (36, 11925), (38, 11937), (39, 11949), (46, 12024), (50, 12060), (54, 12114), (61, 12189), (67, 12231), (70, 12261), (71, 12267), (73, 12279), (76, 12324), (101, 12552), (109, 12726), (110, 12735), (126, 13074), (131, 13134), (134, 13167), (135, 13200), (143, 13281), (146, 13302), (150, 13347), (153, 13380), (158, 13398), (159, 13407), (170, 13473), (183, 13551), (187, 13572), (191, 13593), (205, 13635), (210, 13653), (233, 13800), (243, 13878), (248, 13902), (249, 13914), (251, 13926), (252, 13932), (256, 13971), (260, 13989), (287, 14232), (296, 14334), (324, 14556), (327, 14595), (328, 14607), (338, 14781), (347, 14850), (355, 14976), (357, 14979),

Gene: GreenWeasel_20 Start: 11869, Stop: 15690, Start Num: 1

Candidate Starts for GreenWeasel_20:

(Start: 1 @11869 has 3 MA's), (5, 12205), (7, 12250), (8, 12343), (13, 12367), (Start: 14 @12376 has 1 MA's), (27, 12502), (33, 12586), (37, 12625), (45, 12712), (50, 12769), (57, 12862), (58, 12871), (61, 12898), (64, 12916), (68, 12949), (71, 12976), (76, 13033), (77, 13042), (94, 13189), (95, 13195), (96, 13198), (107, 13417), (108, 13432), (110, 13444), (115, 13525), (122, 13663), (124, 13747), (131, 13843), (132, 13852), (142, 13987), (143, 13990), (145, 14002), (153, 14089), (154, 14092), (156, 14098), (184, 14263), (188, 14290), (224, 14449), (226, 14458), (233, 14509), (234, 14512), (237, 14533), (242, 14581), (247, 14608), (249, 14623), (250, 14629), (260, 14698), (269, 14749), (300, 15067), (308, 15121), (310, 15151), (327, 15304), (331, 15385), (334, 15412), (355, 15679),

Gene: Haizum_18 Start: 11570, Stop: 15475, Start Num: 12

Candidate Starts for Haizum_18:

(Start: 12 @11570 has 22 MA's), (27, 11705), (36, 11816), (40, 11879), (46, 11912), (50, 11948), (66, 12110), (67, 12119), (71, 12155), (80, 12242), (108, 12611), (110, 12620), (131, 13019), (134, 13052), (143, 13166), (150, 13232), (153, 13265), (158, 13283), (161, 13307), (163, 13319), (173, 13373), (200, 13457), (203, 13466), (219, 13511), (233, 13598), (240, 13655), (249, 13712), (260, 13787), (272, 13859), (298, 14153), (313, 14252), (320, 14285), (327, 14393), (330, 14438), (333, 14498), (341, 14606), (364, 14933), (365, 14975), (369, 15050), (370, 15071), (372, 15128), (373, 15149), (374, 15152), (376, 15197), (392, 15464),

Gene: Hank144_19 Start: 11796, Stop: 15098, Start Num: 12

Candidate Starts for Hank144_19:

(Start: 12 @11796 has 22 MA's), (Start: 23 @11913 has 1 MA's), (27, 11931), (28, 11952), (36, 12042), (50, 12174), (61, 12303), (67, 12345), (71, 12381), (76, 12438), (110, 12849), (120, 13002), (124, 13152), (131, 13248), (134, 13281), (146, 13416), (148, 13440), (150, 13461), (153, 13494), (158, 13512), (183, 13665), (191, 13707), (204, 13746), (205, 13749), (231, 13893), (233, 13914), (243, 13992), (249, 14028), (251, 14040), (254, 14064), (256, 14085), (260, 14103), (272, 14175), (279, 14268), (281, 14286), (287, 14346), (291, 14391), (301, 14478), (302, 14481), (327, 14709), (331, 14790), (332, 14799), (348, 14976), (355, 15087),

Gene: Hippo_18 Start: 11646, Stop: 14969, Start Num: 9

Candidate Starts for Hippo_18:

(Start: 9 @11646 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (39, 11928), (46, 12003), (50, 12039), (61, 12168), (67, 12210), (70, 12240), (71, 12246), (76, 12303), (101, 12531), (103, 12591), (110, 12714), (124, 13017), (131, 13113), (134, 13146), (144, 13263), (146, 13281), (150, 13326), (153, 13359), (158, 13377), (170, 13452), (183, 13530), (187, 13551), (205, 13614), (210, 13632), (233, 13779), (243, 13857), (248, 13881), (249, 13893), (251, 13905), (252, 13911), (256, 13950), (260, 13968), (287, 14211), (291, 14256), (296, 14313), (323, 14523), (327, 14574), (328, 14586), (338, 14760), (347, 14829), (355, 14955), (357, 14958),

Gene: Hydra_20 Start: 12197, Stop: 15517, Start Num: 9

Candidate Starts for Hydra_20:

(Start: 9 @12197 has 55 MA's), (27, 12341), (36, 12452), (38, 12464), (42, 12533), (44, 12539), (48, 12560), (59, 12695), (67, 12758), (71, 12794), (72, 12797), (87, 12962), (93, 13001), (99, 13058), (110, 13262), (124, 13565), (125, 13598), (131, 13661), (134, 13694), (139, 13772), (143, 13808), (144, 13811), (146, 13829), (148, 13853), (150, 13874), (153, 13907), (158, 13925), (163, 13961), (173, 14015), (178, 14054), (183, 14078), (200, 14144), (210, 14180), (221, 14252), (226, 14276), (227, 14282), (231, 14306), (233, 14327), (248, 14429), (249, 14441), (254, 14477), (260, 14516), (266, 14549), (283, 14720), (287, 14759), (296, 14861), (298, 14882), (302, 14894), (323, 15071), (327, 15122), (328, 15134), (338, 15308), (347, 15377), (350, 15416), (355, 15503), (357, 15506),

Gene: Indigo_18 Start: 11669, Stop: 14989, Start Num: 9

Candidate Starts for Indigo_18:

(Start: 9 @11669 has 55 MA's), (27, 11813), (36, 11924), (38, 11936), (42, 12005), (44, 12011), (48, 12032), (59, 12167), (67, 12230), (71, 12266), (72, 12269), (87, 12434), (93, 12473), (99, 12530), (110, 12734), (124, 13037), (125, 13070), (131, 13133), (134, 13166), (139, 13244), (143, 13280), (144, 13283), (146, 13301), (148, 13325), (150, 13346), (153, 13379), (158, 13397), (163, 13433), (173, 13487), (178, 13526), (183, 13550), (200, 13616), (210, 13652), (221, 13724), (226, 13748), (227, 13754), (231, 13778), (233, 13799), (248, 13901), (249, 13913), (254, 13949), (260, 13988), (266, 14021), (283, 14192), (287, 14231), (296, 14333), (298, 14354), (302, 14366), (323, 14543), (327, 14594), (328, 14606), (338, 14780), (347, 14849), (350, 14888), (355, 14975), (357, 14978),

Gene: Issmi_19 Start: 11823, Stop: 15905, Start Num: 12

Candidate Starts for Issmi_19:

(Start: 12 @11823 has 22 MA's), (Start: 16 @11850 has 4 MA's), (27, 11958), (28, 11979), (36, 12069), (50, 12201), (61, 12330), (71, 12408), (74, 12441), (76, 12465), (102, 12750), (108, 12864), (110, 12873), (131, 13272), (143, 13419), (148, 13464), (152, 13494), (155, 13524), (186, 13701), (209, 13788), (210, 13791), (215, 13812), (232, 13932), (233, 13938), (248, 14040), (249, 14052), (260, 14127), (268, 14169), (278, 14277), (295, 14454), (299, 14484), (304, 14580), (305, 14601), (318, 14703), (327, 14820), (333, 14925), (356, 15210), (361, 15249), (362, 15282), (363, 15321), (364, 15360), (368, 15474), (369, 15477), (370, 15498), (372, 15555), (373, 15576), (374, 15579), (375, 15600), (376, 15624), (386, 15768), (392, 15894),

Gene: Itza_18 Start: 11930, Stop: 15331, Start Num: 11

Candidate Starts for Itza_18:

(Start: 11 @11930 has 5 MA's), (Start: 14 @11945 has 1 MA's), (27, 12065), (35, 12158), (36, 12176), (39, 12200), (52, 12356), (73, 12533), (76, 12578), (86, 12659), (92, 12722), (95, 12740), (102, 12863), (110, 12986), (113, 13058), (116, 13070), (121, 13199), (124, 13292), (130, 13364), (131, 13388), (136, 13463), (145, 13547), (150, 13601), (153, 13634), (155, 13640), (159, 13661), (160, 13673), (167, 13712), (171, 13730), (194, 13895), (202, 13964), (206, 13979), (210, 13994), (215, 14015), (222, 14069), (231, 14120), (233, 14141), (249, 14255), (260, 14330), (262, 14339), (277, 14453), (287, 14573), (301, 14705), (302, 14708), (309, 14759), (319, 14825), (320, 14828), (327, 14936), (331, 15017), (334, 15044), (342, 15161), (351, 15233), (358, 15320),

Gene: Izzy_19 Start: 11879, Stop: 15199, Start Num: 9

Candidate Starts for Izzy_19:

(Start: 9 @11879 has 55 MA's), (27, 12023), (36, 12134), (38, 12146), (42, 12215), (44, 12221), (48, 12242), (59, 12377), (67, 12440), (71, 12476), (72, 12479), (87, 12644), (93, 12683), (99, 12740), (109, 12935), (110, 12944), (124, 13247), (125, 13280), (131, 13343), (134, 13376), (139, 13454), (146, 13511), (148, 13535), (150, 13556), (153, 13589), (158, 13607), (163, 13643), (173, 13697), (178, 13736), (183, 13760), (200, 13826), (210, 13862), (221, 13934), (226, 13958), (227, 13964), (231, 13988), (233, 14009), (248, 14111), (249, 14123), (254, 14159), (260, 14198), (266, 14231), (283, 14402), (287, 14441), (288, 14444), (296, 14543), (298, 14564), (302, 14576), (327, 14804), (328, 14816), (338, 14990), (347, 15059), (350, 15098), (355, 15185), (357, 15188),

Gene: Janus_19 Start: 11841, Stop: 15038, Start Num: 12

Candidate Starts for Janus_19:

(Start: 12 @11841 has 22 MA's), (Start: 17 @11880 has 3 MA's), (27, 11979), (28, 12000), (35, 12072), (36, 12090), (50, 12222), (51, 12234), (66, 12384), (70, 12423), (71, 12429), (72, 12432), (76, 12486), (91, 12621), (99, 12693), (110, 12897), (118, 13005), (124, 13200), (131, 13296), (134, 13329), (139, 13407), (143, 13443), (146, 13464), (148, 13488), (150, 13509), (151, 13512), (153, 13542), (158, 13560), (164, 13599), (167, 13620), (168, 13626), (171, 13638), (199, 13707), (217, 13770), (222, 13803), (224, 13815), (231, 13854), (249, 13989), (257, 14049), (269, 14094), (270, 14100), (280, 14217), (305, 14430), (324, 14610), (327, 14649), (343, 14880), (348, 14916),

Gene: Jash_19 Start: 11832, Stop: 15152, Start Num: 9

Candidate Starts for Jash_19:

(Start: 9 @11832 has 55 MA's), (27, 11976), (36, 12087), (38, 12099), (42, 12168), (44, 12174), (48, 12195), (59, 12330), (67, 12393), (71, 12429), (72, 12432), (87, 12597), (93, 12636), (99, 12693), (109, 12888), (110, 12897), (124, 13200), (125, 13233), (131, 13296), (134, 13329), (139, 13407), (146, 13464), (148, 13488), (150, 13509), (153, 13542), (158, 13560), (163, 13596), (173, 13650), (178, 13689), (183, 13713), (200, 13779), (210, 13815), (221, 13887), (226, 13911), (227, 13917), (231, 13941), (233, 13962), (248, 14064), (249, 14076), (254, 14112), (260, 14151), (266, 14184), (283, 14355), (287, 14394), (288, 14397), (296, 14496), (298, 14517), (302, 14529), (327, 14757), (328, 14769), (338, 14943), (347, 15012), (350, 15051), (355, 15138), (357, 15141),

Gene: Jevington_21 Start: 12149, Stop: 15340, Start Num: 12

Candidate Starts for Jevington_21:

(Start: 12 @12149 has 22 MA's), (Start: 17 @12188 has 3 MA's), (25, 12275), (27, 12284), (28, 12305), (31, 12347), (50, 12524), (62, 12662), (66, 12686), (71, 12731), (72, 12734), (76, 12788), (87, 12899), (110, 13199), (119, 13322), (122, 13418), (124, 13502), (127, 13565), (129, 13571), (131, 13598), (143, 13745), (146, 13766), (148, 13790), (150, 13811), (151, 13814), (153, 13844), (158, 13862), (166, 13919), (199, 14009), (225, 14123), (226, 14126), (238, 14204), (240, 14234), (248, 14279), (249, 14291), (256, 14348), (257, 14351), (269, 14396), (270, 14402), (276, 14465), (284, 14558), (291, 14633), (305, 14732), (327, 14951), (338, 15137), (340, 15158), (343, 15182),

Gene: Katalie_19 Start: 11907, Stop: 15230, Start Num: 9

Candidate Starts for Katalie_19:

(Start: 9 @11907 has 55 MA's), (27, 12054), (36, 12165), (38, 12177), (39, 12189), (46, 12264), (50, 12300), (67, 12471), (70, 12501), (71, 12507), (73, 12519), (109, 12966), (110, 12975), (124, 13278), (126, 13314), (131, 13374), (134, 13407), (135, 13440), (143, 13521), (146, 13542), (148, 13566), (150, 13587), (153, 13620), (158, 13638), (167, 13698), (183, 13791), (187, 13812), (205, 13875), (210, 13893), (231, 14019), (233, 14040), (243, 14118), (249, 14154), (251, 14166), (252, 14172), (256, 14211), (260, 14229), (281, 14412), (287, 14472), (291, 14517), (327, 14835), (328, 14847), (338, 15021), (347, 15090), (355, 15216), (357, 15219),

Gene: Lannister_19 Start: 11670, Stop: 14996, Start Num: 9

Candidate Starts for Lannister_19:

(Start: 9 @11670 has 55 MA's), (27, 11817), (36, 11928), (38, 11940), (39, 11952), (44, 12015), (50, 12063), (62, 12201), (67, 12234), (70, 12264), (71, 12270), (109, 12729), (110, 12738), (123, 12972), (124, 13041), (126, 13077), (131, 13137), (134, 13170), (139, 13248), (143, 13284), (144, 13287), (146, 13305), (148, 13329), (150, 13350), (153, 13383), (158, 13401), (170, 13476), (172, 13488), (183, 13554), (187, 13575), (191, 13596), (205, 13638), (210, 13656), (233, 13803), (243, 13881), (249, 13917), (251, 13929), (252, 13935), (256, 13974), (260, 13992), (287, 14235), (296, 14337), (323, 14547), (327, 14598), (328, 14610), (347, 14853), (355, 14982), (357, 14985),

Gene: Legacy_18 Start: 11640, Stop: 14960, Start Num: 9

Candidate Starts for Legacy_18:

(Start: 9 @11640 has 55 MA's), (27, 11784), (36, 11895), (38, 11907), (42, 11976), (44, 11982), (48, 12003), (59, 12138), (67, 12201), (71, 12237), (72, 12240), (87, 12405), (93, 12444), (99, 12501), (110, 12705), (124, 13008), (125, 13041), (131, 13104), (134, 13137), (139, 13215), (143, 13251), (144, 13254), (146, 13272), (148, 13296), (150, 13317), (153, 13350), (158, 13368), (163, 13404), (173, 13458), (178, 13497), (183, 13521), (200, 13587), (210, 13623), (221, 13695), (226, 13719), (227, 13725), (231, 13749), (233, 13770), (248, 13872), (249, 13884), (254, 13920), (260, 13959), (266, 13992), (283, 14163), (287, 14202), (296, 14304), (298, 14325), (302, 14337), (323, 14514), (327, 14565), (328, 14577), (338, 14751), (347, 14820), (350, 14859), (355, 14946), (357, 14949),

Gene: Leviticus_18 Start: 11669, Stop: 14989, Start Num: 9

Candidate Starts for Leviticus_18:

(Start: 9 @11669 has 55 MA's), (27, 11813), (36, 11924), (38, 11936), (42, 12005), (44, 12011), (48, 12032), (59, 12167), (67, 12230), (71, 12266), (72, 12269), (87, 12434), (93, 12473), (99, 12530), (110, 12734), (124, 13037), (125, 13070), (131, 13133), (134, 13166), (139, 13244), (143, 13280), (144, 13283), (146, 13301), (148, 13325), (150, 13346), (153, 13379), (158, 13397), (163, 13433), (173, 13487), (178, 13526), (183, 13550), (200, 13616), (210, 13652), (221, 13724), (226, 13748), (227, 13754), (231, 13778), (233, 13799), (248, 13901), (249, 13913), (254, 13949), (260, 13988), (266, 14021), (283, 14192), (287, 14231), (296, 14333), (298, 14354), (302, 14366), (323, 14543), (327, 14594), (328, 14606), (338, 14780), (347, 14849), (350, 14888), (355, 14975), (357, 14978),

Gene: Lika_18 Start: 11671, Stop: 14994, Start Num: 9

Candidate Starts for Lika_18:

(Start: 9 @11671 has 55 MA's), (Start: 16 @11707 has 4 MA's), (27, 11818), (36, 11929), (38, 11941), (39, 11953), (44, 12016), (46, 12028), (50, 12064), (61, 12193), (67, 12235), (70, 12265), (71, 12271), (73, 12283), (76, 12328), (101, 12556), (110, 12739), (123, 12973), (126, 13078), (131, 13138), (134, 13171), (135, 13204), (143, 13285), (146, 13306), (150, 13351), (153, 13384), (158, 13402), (159, 13411), (170, 13477), (183, 13555), (187, 13576), (191, 13597), (205, 13639), (210, 13657), (233, 13804), (243, 13882), (248, 13906), (249, 13918), (251, 13930), (252, 13936), (256, 13975), (260, 13993), (263, 14014), (287, 14236), (296, 14338), (324, 14560), (327, 14599), (328, 14611), (338, 14785), (347, 14854), (355, 14980), (357, 14983),

Gene: Loofah_19 Start: 11694, Stop: 14957, Start Num: 17

Candidate Starts for Loofah_19:

(Start: 12 @11655 has 22 MA's), (Start: 17 @11694 has 3 MA's), (Start: 23 @11772 has 1 MA's), (25, 11781), (27, 11790), (28, 11811), (34, 11868), (36, 11901), (42, 11982), (47, 12003), (50, 12033), (67, 12204), (71, 12240), (76, 12297), (80, 12327), (83, 12345), (87, 12408), (89, 12420), (101, 12525), (102, 12582), (110, 12708), (124, 13011), (127, 13074), (131, 13107), (134, 13140), (139, 13218), (146, 13275), (148, 13299), (150, 13320), (153, 13353), (158, 13371), (170, 13446), (178, 13500), (180, 13512), (187, 13545), (205, 13608), (249, 13887), (260, 13962), (272, 14034), (313, 14427), (324, 14529), (327, 14568), (331, 14649), (335, 14721), (347, 14823),

Gene: Lorelei_18 Start: 11676, Stop: 14963, Start Num: 16

Candidate Starts for Lorelei_18:

(Start: 9 @11640 has 55 MA's), (Start: 16 @11676 has 4 MA's), (27, 11787), (36, 11898), (38, 11910), (39, 11922), (46, 11997), (50, 12033), (61, 12162), (67, 12204), (70, 12234), (71, 12240), (73, 12252), (97, 12465), (101, 12525), (109, 12699), (110, 12708), (124, 13011), (126, 13047), (131, 13107), (134, 13140), (138, 13212), (144, 13257), (146, 13275), (150, 13320), (153, 13353), (158, 13371), (170, 13446), (183, 13524), (187, 13545), (191, 13566), (205, 13608), (210, 13626), (233, 13773), (243, 13851), (248, 13875), (249, 13887), (251, 13899), (252, 13905), (256, 13944), (260, 13962), (287, 14205), (292, 14253), (296, 14307), (323, 14517), (327, 14568), (328, 14580), (338, 14754), (347, 14823), (355, 14949), (357, 14952),

Gene: Maneekul_18 Start: 11642, Stop: 14965, Start Num: 9

Candidate Starts for Maneekul_18:

(Start: 9 @11642 has 55 MA's), (27, 11789), (36, 11900), (38, 11912), (39, 11924), (46, 11999), (50, 12035), (67, 12206), (70, 12236), (71, 12242), (73, 12254), (76, 12299), (84, 12353), (97, 12467), (101, 12527), (109, 12701), (110, 12710), (124, 13013), (126, 13049), (131, 13109), (134, 13142), (139, 13220), (144, 13259), (146, 13277), (150, 13322), (153, 13355), (158, 13373), (170, 13448), (183, 13526), (187, 13547), (191, 13568), (205, 13610), (210, 13628), (221, 13700), (233, 13775), (243, 13853), (248, 13877), (249, 13889), (251, 13901), (252, 13907), (256, 13946), (260, 13964), (287, 14207), (291, 14252), (296, 14309), (320, 14462), (323, 14519), (327, 14570), (347, 14825), (355, 14951), (357, 14954),

Gene: Marav_21 Start: 12499, Stop: 15690, Start Num: 12

Candidate Starts for Marav_21:

(Start: 12 @12499 has 22 MA's), (Start: 17 @12538 has 3 MA's), (25, 12625), (27, 12634), (28, 12655), (31, 12697), (50, 12874), (66, 13036), (71, 13081), (72, 13084), (76, 13138), (110, 13549), (116, 13633), (122, 13768), (124, 13852), (131, 13948), (143, 14095), (146, 14116), (148, 14140), (150, 14161), (151, 14164), (153, 14194), (158, 14212), (166, 14269), (199, 14359), (211, 14389), (225, 14473), (226, 14476), (238, 14554), (240, 14584), (248, 14629), (249, 14641), (256, 14698), (257, 14701), (269, 14746), (270, 14752), (276, 14815), (284, 14908), (291, 14983), (310, 15148), (316, 15172), (317, 15181), (327, 15301), (335, 15454), (338, 15487), (340, 15508), (343, 15532), (344, 15544),

Gene: Nabi_18 Start: 11640, Stop: 14963, Start Num: 9

Candidate Starts for Nabi_18:

(Start: 9 @11640 has 55 MA's), (Start: 16 @11676 has 4 MA's), (27, 11787), (36, 11898), (38, 11910), (39, 11922), (46, 11997), (50, 12033), (61, 12162), (67, 12204), (70, 12234), (71, 12240), (73, 12252), (97, 12465), (101, 12525), (109, 12699), (110, 12708), (124, 13011), (126, 13047), (131, 13107), (134, 13140), (138, 13212), (144, 13257), (146, 13275), (150, 13320), (153, 13353), (158, 13371), (170, 13446), (183, 13524), (187, 13545), (191, 13566), (205, 13608), (210, 13626), (233, 13773), (243, 13851), (248, 13875), (249, 13887), (251, 13899), (252, 13905), (256, 13944), (260, 13962), (287, 14205), (292, 14253), (296, 14307), (323, 14517), (327, 14568), (328, 14580), (338, 14754), (347, 14823), (355, 14949), (357, 14952),

Gene: Nanodon_20 Start: 11848, Stop: 15171, Start Num: 9

Candidate Starts for Nanodon_20:

(Start: 9 @11848 has 55 MA's), (Start: 16 @11884 has 4 MA's), (Start: 17 @11896 has 3 MA's), (27, 11995), (36, 12106), (38, 12118), (39, 12130), (44, 12193), (46, 12205), (50, 12241), (67, 12412), (70, 12442), (71, 12448), (73, 12460), (76, 12505), (82, 12544), (100, 12724), (101, 12733), (103, 12793), (109, 12907), (110, 12916), (117, 13015), (126, 13255), (131, 13315), (134, 13348), (143, 13462), (146, 13483), (148, 13507), (150, 13528), (153, 13561), (157, 13576), (158, 13579), (170, 13654), (183, 13732), (187, 13753), (191, 13774), (205, 13816), (210, 13834), (221, 13906), (233, 13981), (243, 14059), (249, 14095), (251, 14107), (252, 14113), (256, 14152), (260, 14170), (287, 14413), (296, 14515), (323, 14725), (327, 14776), (328, 14788), (338, 14962), (347, 15031), (355, 15157), (357, 15160),

Gene: Nerdos_18 Start: 11669, Stop: 14989, Start Num: 9

Candidate Starts for Nerdos_18:

(Start: 9 @11669 has 55 MA's), (27, 11813), (36, 11924), (38, 11936), (42, 12005), (44, 12011), (48, 12032), (59, 12167), (67, 12230), (71, 12266), (72, 12269), (87, 12434), (93, 12473), (99, 12530), (110, 12734), (124, 13037), (125, 13070), (131, 13133), (134, 13166), (139, 13244), (143, 13280), (144, 13283), (146, 13301), (148, 13325), (150, 13346), (153, 13379), (158, 13397), (163, 13433), (173, 13487), (178, 13526), (183, 13550), (200, 13616), (210, 13652), (221, 13724), (226, 13748), (227, 13754), (231, 13778), (233, 13799), (248, 13901), (249, 13913), (254, 13949), (260, 13988), (266, 14021), (283, 14192), (287, 14231), (296, 14333), (298, 14354), (302, 14366), (323, 14543), (327, 14594), (328, 14606), (338, 14780), (347, 14849), (350, 14888), (355, 14975), (357, 14978),

Gene: Nishikigoi_18 Start: 11570, Stop: 15475, Start Num: 12

Candidate Starts for Nishikigoi_18:

(Start: 12 @11570 has 22 MA's), (27, 11705), (36, 11816), (40, 11879), (46, 11912), (50, 11948), (66, 12110), (67, 12119), (71, 12155), (80, 12242), (108, 12611), (110, 12620), (131, 13019), (134, 13052), (143, 13166), (150, 13232), (153, 13265), (158, 13283), (161, 13307), (163, 13319), (173, 13373), (200, 13457), (203, 13466), (233, 13598), (240, 13655), (249, 13712), (260, 13787), (272, 13859), (298, 14153), (313, 14252), (320, 14285), (327, 14393), (330, 14438), (333, 14498), (341, 14606), (364, 14933), (365, 14975), (369, 15050), (370, 15071), (372, 15128), (373, 15149), (374, 15152), (376, 15197), (392, 15464),

Gene: Oliynyk_19 Start: 11832, Stop: 15152, Start Num: 9

Candidate Starts for Oliynyk_19:

(Start: 9 @11832 has 55 MA's), (27, 11976), (36, 12087), (38, 12099), (42, 12168), (44, 12174), (48, 12195), (59, 12330), (67, 12393), (71, 12429), (72, 12432), (87, 12597), (93, 12636), (99, 12693), (109, 12888), (110, 12897), (124, 13200), (125, 13233), (131, 13296), (134, 13329), (139, 13407), (146, 13464), (148, 13488), (150, 13509), (153, 13542), (158, 13560), (163, 13596), (173, 13650), (178, 13689), (183, 13713), (200, 13779), (210, 13815), (221, 13887), (226, 13911), (227, 13917), (231, 13941), (233, 13962), (248, 14064), (249, 14076), (254, 14112), (260, 14151), (266, 14184), (283, 14355), (287, 14394), (288, 14397), (296, 14496), (298, 14517), (302, 14529), (327, 14757), (328, 14769), (338, 14943), (347, 15012), (350, 15051), (355, 15138), (357, 15141),

Gene: Omar_19 Start: 11800, Stop: 15807, Start Num: 12

Candidate Starts for Omar_19:

(Start: 12 @11800 has 22 MA's), (25, 11926), (27, 11935), (36, 12046), (40, 12109), (50, 12178), (59, 12286), (67, 12349), (71, 12385), (79, 12466), (88, 12556), (102, 12727), (103, 12730), (110, 12850), (113, 12922), (131, 13249), (138, 13354), (143, 13396), (145, 13408), (146, 13417), (148, 13441), (150, 13462), (153, 13495), (158, 13513), (174, 13609), (201, 13690), (203, 13696), (221, 13753), (236, 13843), (239, 13873), (241, 13897), (246, 13921), (249, 13942), (260, 14017), (267, 14053), (272, 14089), (298, 14383), (320, 14614), (326, 14701), (327, 14722), (335, 14875), (339, 14923), (356, 15112), (364, 15262), (365, 15304), (369, 15379), (370, 15400), (372, 15457), (373, 15478), (376, 15526), (391, 15721),

Gene: Ozzie_18 Start: 11649, Stop: 14969, Start Num: 9

Candidate Starts for Ozzie_18:

(Start: 9 @11649 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (42, 11985), (44, 11991), (48, 12012), (59, 12147), (67, 12210), (71, 12246), (72, 12249), (87, 12414), (93, 12453), (99, 12510), (110, 12714), (124, 13017), (125, 13050), (131, 13113), (134, 13146), (139, 13224), (143, 13260), (144, 13263), (146, 13281), (148, 13305), (150, 13326), (153, 13359), (158, 13377), (163, 13413), (173, 13467), (178, 13506), (183, 13530), (200, 13596), (210, 13632), (221, 13704), (226, 13728), (227, 13734), (231, 13758), (233, 13779), (248, 13881), (249, 13893), (254, 13929), (260, 13968), (266, 14001), (283, 14172), (287, 14211), (296, 14313), (298, 14334), (302, 14346), (323, 14523), (327, 14574), (328, 14586), (338, 14760), (347, 14829), (350, 14868), (355, 14955), (357, 14958),

Gene: OzzyJ_19 Start: 11637, Stop: 14960, Start Num: 9

Candidate Starts for OzzyJ_19:

(Start: 9 @11637 has 55 MA's), (27, 11784), (36, 11895), (38, 11907), (39, 11919), (46, 11994), (50, 12030), (61, 12159), (67, 12201), (70, 12231), (71, 12237), (76, 12294), (101, 12522), (103, 12582), (110, 12705), (124, 13008), (131, 13104), (134, 13137), (138, 13209), (144, 13254), (146, 13272), (150, 13317), (153, 13350), (158, 13368), (170, 13443), (183, 13521), (187, 13542), (205, 13605), (210, 13623), (221, 13695), (233, 13770), (243, 13848), (249, 13884), (251, 13896), (252, 13902), (256, 13941), (260, 13959), (287, 14202), (291, 14247), (296, 14304), (323, 14514), (327, 14565), (328, 14577), (338, 14751), (347, 14820), (355, 14946), (357, 14949),

Gene: Pablito_18 Start: 11494, Stop: 14799, Start Num: 12

Candidate Starts for Pablito_18:

(Start: 12 @11494 has 22 MA's), (Start: 17 @11533 has 3 MA's), (27, 11632), (28, 11653), (35, 11725), (36, 11743), (50, 11875), (51, 11887), (61, 12004), (62, 12013), (67, 12046), (71, 12082), (76, 12139), (80, 12169), (83, 12187), (89, 12262), (99, 12346), (101, 12367), (102, 12424), (110, 12550), (124, 12853), (127, 12916), (131, 12949), (134, 12982), (139, 13060), (141, 13081), (143, 13096), (145, 13108), (146, 13117), (148, 13141), (150, 13162), (153, 13195), (158, 13213), (163, 13249), (183, 13366), (210, 13468), (226, 13564), (233, 13615), (243, 13693), (248, 13717), (249, 13729), (251, 13741), (252, 13747), (256, 13786), (260, 13804), (279, 13969), (287, 14047), (311, 14260), (318, 14293), (327, 14410), (328, 14422), (343, 14641), (348, 14677),

Gene: Paedore_18 Start: 11772, Stop: 14957, Start Num: 23

Candidate Starts for Paedore_18:

(Start: 12 @11655 has 22 MA's), (Start: 17 @11694 has 3 MA's), (Start: 23 @11772 has 1 MA's), (25, 11781), (27, 11790), (28, 11811), (34, 11868), (36, 11901), (42, 11982), (47, 12003), (50, 12033), (67, 12204), (71, 12240), (76, 12297), (80, 12327), (83, 12345), (87, 12408), (89, 12420), (101, 12525), (102, 12582), (110, 12708), (124, 13011), (127, 13074), (131, 13107), (134, 13140), (139, 13218), (146, 13275), (148, 13299), (150, 13320), (153, 13353), (158, 13371), (170, 13446), (178, 13500), (180, 13512), (187, 13545), (205, 13608), (249, 13887), (260, 13962), (272, 14034), (313, 14427), (324, 14529), (327, 14568), (331, 14649), (335, 14721), (347, 14823),

Gene: Paolo_22 Start: 12201, Stop: 15353, Start Num: 17

Candidate Starts for Paolo_22:

(Start: 12 @12162 has 22 MA's), (Start: 17 @12201 has 3 MA's), (25, 12288), (27, 12297), (28, 12318), (31, 12360), (50, 12537), (59, 12645), (62, 12675), (66, 12699), (71, 12744), (72, 12747), (76, 12801), (110, 13212), (119, 13335), (122, 13431), (124, 13515), (131, 13611), (143, 13758), (146, 13779), (148, 13803), (150, 13824), (151, 13827), (153, 13857), (158, 13875), (199, 14022), (225, 14136), (226, 14139), (238, 14217), (240, 14247), (248, 14292), (249, 14304), (256, 14361), (257, 14364), (269, 14409), (270, 14415), (276, 14478), (282, 14559), (284, 14571), (291, 14646), (305, 14745), (310, 14811), (321, 14865), (327, 14964), (338, 15150), (340, 15171), (343, 15195), (344, 15207),

Gene: Phettuccine_18 Start: 11669, Stop: 14989, Start Num: 9

Candidate Starts for Phettuccine_18:

(Start: 9 @11669 has 55 MA's), (27, 11813), (36, 11924), (38, 11936), (42, 12005), (44, 12011), (48, 12032), (59, 12167), (67, 12230), (71, 12266), (72, 12269), (87, 12434), (93, 12473), (99, 12530), (110, 12734), (124, 13037), (125, 13070), (131, 13133), (134, 13166), (139, 13244), (143, 13280), (144, 13283), (146, 13301), (148, 13325), (150, 13346), (153, 13379), (158, 13397), (163, 13433), (173, 13487), (178, 13526), (183, 13550), (200, 13616), (210, 13652), (221, 13724), (226, 13748), (227, 13754), (231, 13778), (233, 13799), (248, 13901), (249, 13913), (254, 13949), (260, 13988), (266, 14021), (283, 14192), (287, 14231), (296, 14333), (298, 14354), (302, 14366), (323, 14543), (327, 14594), (328, 14606), (338, 14780), (347, 14849), (350, 14888), (355, 14975), (357, 14978),

Gene: Provolone_19 Start: 11311, Stop: 15399, Start Num: 14

Candidate Starts for Provolone_19:

(Start: 9 @11287 has 55 MA's), (Start: 14 @11311 has 1 MA's), (27, 11431), (29, 11464), (31, 11494), (36, 11542), (61, 11806), (67, 11848), (73, 11896), (86, 12022), (98, 12118), (99, 12148), (101, 12169), (105, 12241), (109, 12340), (110, 12349), (124, 12655), (126, 12691), (131, 12751), (140, 12871), (143, 12898), (144, 12901), (148, 12943), (150, 12964), (178, 13144), (191, 13237), (192, 13246), (196, 13270), (201, 13324), (203, 13330), (205, 13339), (209, 13354), (212, 13369), (216, 13387), (221, 13429), (233, 13504), (249, 13618), (251, 13630), (252, 13636), (260, 13693), (266, 13726), (269, 13744), (273, 13783), (275, 13810), (288, 13939), (292, 13984), (302, 14071), (311, 14149), (325, 14269), (327, 14299), (329, 14341), (339, 14500), (341, 14512), (345, 14545), (353, 14665), (356, 14689), (361, 14728), (362, 14761), (363, 14800), (364, 14839), (366, 14890), (369, 14956), (370, 14977), (372, 15034), (373, 15055), (376, 15103), (377, 15106), (378, 15121), (381, 15184), (382, 15193), (385, 15235), (387, 15250), (392, 15385), (393, 15388),

Gene: Puginator_22 Start: 12120, Stop: 15398, Start Num: 12

Candidate Starts for Puginator_22:

(Start: 12 @12120 has 22 MA's), (Start: 17 @12159 has 3 MA's), (25, 12246), (27, 12255), (28, 12276), (31, 12318), (50, 12495), (59, 12603), (62, 12633), (66, 12657), (71, 12702), (72, 12705), (76, 12759), (110, 13170), (119, 13293), (124, 13473), (127, 13536), (129, 13542), (131, 13569), (143, 13716), (146, 13737), (148, 13761), (150, 13782), (151, 13785), (153, 13815), (158, 13833), (175, 13932), (200, 14052), (205, 14070), (208, 14082), (218, 14139), (222, 14163), (223, 14172), (224, 14175), (226, 14184), (230, 14208), (231, 14214), (232, 14229), (240, 14292), (248, 14337), (249, 14349), (256, 14406), (257, 14409), (264, 14427), (269, 14454), (270, 14460), (276, 14523), (282, 14604), (284, 14616), (294, 14727), (297, 14757), (305, 14790), (313, 14868), (320, 14901), (327, 15009), (338, 15195), (340, 15216), (343, 15240), (344, 15252),

Gene: R4_18 Start: 11638, Stop: 15039, Start Num: 12

Candidate Starts for R4_18:

(Start: 12 @11638 has 22 MA's), (Start: 17 @11677 has 3 MA's), (25, 11764), (27, 11773), (28, 11794), (34, 11851), (36, 11884), (40, 11947), (42, 11965), (47, 11986), (50, 12016), (67, 12187), (71,

12223), (76, 12280), (80, 12310), (83, 12328), (87, 12391), (101, 12508), (110, 12691), (124, 12994), (127, 13057), (131, 13090), (134, 13123), (138, 13195), (139, 13201), (146, 13258), (148, 13282), (150, 13303), (153, 13336), (158, 13354), (170, 13429), (178, 13483), (180, 13495), (184, 13510), (187, 13528), (205, 13591), (249, 13870), (260, 13945), (272, 14017), (274, 14041), (295, 14284), (299, 14314), (303, 14401), (304, 14410), (318, 14533), (324, 14611), (327, 14650), (328, 14662), (332, 14740), (347, 14905),

Gene: Rana_18 Start: 11676, Stop: 14963, Start Num: 16

Candidate Starts for Rana_18:

(Start: 9 @11640 has 55 MA's), (Start: 16 @11676 has 4 MA's), (27, 11787), (36, 11898), (38, 11910), (39, 11922), (46, 11997), (50, 12033), (61, 12162), (67, 12204), (70, 12234), (71, 12240), (73, 12252), (97, 12465), (101, 12525), (109, 12699), (110, 12708), (124, 13011), (126, 13047), (131, 13107), (134, 13140), (138, 13212), (144, 13257), (146, 13275), (150, 13320), (153, 13353), (158, 13371), (170, 13446), (183, 13524), (187, 13545), (191, 13566), (205, 13608), (210, 13626), (233, 13773), (243, 13851), (248, 13875), (249, 13887), (251, 13899), (252, 13905), (256, 13944), (260, 13962), (287, 14205), (292, 14253), (296, 14307), (323, 14517), (327, 14568), (328, 14580), (338, 14754), (347, 14823), (355, 14949), (357, 14952),

Gene: RedBear_20 Start: 11907, Stop: 15230, Start Num: 9

Candidate Starts for RedBear_20:

(Start: 9 @11907 has 55 MA's), (27, 12054), (36, 12165), (38, 12177), (39, 12189), (46, 12264), (50, 12300), (67, 12471), (70, 12501), (71, 12507), (73, 12519), (109, 12966), (110, 12975), (124, 13278), (126, 13314), (131, 13374), (134, 13407), (135, 13440), (143, 13521), (146, 13542), (148, 13566), (150, 13587), (153, 13620), (158, 13638), (167, 13698), (183, 13791), (187, 13812), (205, 13875), (210, 13893), (231, 14019), (233, 14040), (243, 14118), (249, 14154), (251, 14166), (252, 14172), (256, 14211), (260, 14229), (281, 14412), (287, 14472), (291, 14517), (327, 14835), (328, 14847), (338, 15021), (347, 15090), (355, 15216), (357, 15219),

Gene: Rusticus_19 Start: 11832, Stop: 15152, Start Num: 9

Candidate Starts for Rusticus_19:

(Start: 9 @11832 has 55 MA's), (27, 11976), (36, 12087), (38, 12099), (42, 12168), (44, 12174), (48, 12195), (59, 12330), (67, 12393), (71, 12429), (72, 12432), (87, 12597), (93, 12636), (99, 12693), (109, 12888), (110, 12897), (124, 13200), (125, 13233), (131, 13296), (134, 13329), (139, 13407), (146, 13464), (148, 13488), (150, 13509), (153, 13542), (158, 13560), (163, 13596), (173, 13650), (178, 13689), (183, 13713), (200, 13779), (210, 13815), (221, 13887), (226, 13911), (227, 13917), (231, 13941), (233, 13962), (248, 14064), (249, 14076), (254, 14112), (260, 14151), (266, 14184), (283, 14355), (287, 14394), (288, 14397), (296, 14496), (298, 14517), (302, 14529), (327, 14757), (328, 14769), (338, 14943), (347, 15012), (350, 15051), (355, 15138), (357, 15141),

Gene: Saftant_18 Start: 11565, Stop: 15947, Start Num: 3

Candidate Starts for Saftant_18:

(2, 11433), (Start: 3 @11565 has 1 MA's), (4, 11694), (10, 11901), (15, 11931), (18, 11952), (20, 11967), (21, 11976), (22, 12018), (24, 12033), (31, 12111), (32, 12117), (43, 12249), (48, 12270), (49, 12288), (60, 12423), (62, 12450), (65, 12465), (71, 12519), (73, 12531), (78, 12594), (80, 12606), (85, 12648), (86, 12657), (101, 12804), (110, 12984), (112, 13038), (124, 13290), (131, 13386), (133, 13404), (140, 13506), (143, 13533), (145, 13545), (150, 13599), (158, 13650), (169, 13719), (182, 13797), (186, 13815), (187, 13824), (191, 13845), (207, 13893), (215, 13926), (228, 14013), (233, 14052), (236, 14067), (244, 14139), (247, 14151), (249, 14166), (253, 14199), (258, 14229), (260, 14241), (263, 14262), (267, 14277), (276, 14349), (314, 14697), (315, 14706), (319, 14724), (327, 14835), (329, 14877), (336, 14997), (346, 15090), (349, 15111), (353, 15201), (356, 15225), (359, 15249), (361, 15264), (362, 15297), (363, 15336), (364, 15375), (368, 15489), (369, 15492), (370, 15513), (372, 15570), (373, 15591), (376, 15639), (377, 15642), (379, 15687), (385, 15771), (390, 15846), (392, 15933), (393, 15936),

Gene: SarahRose_18 Start: 11643, Stop: 14966, Start Num: 9

Candidate Starts for SarahRose_18:

(Start: 9 @11643 has 55 MA's), (27, 11790), (36, 11901), (38, 11913), (39, 11925), (46, 12000), (50, 12036), (61, 12165), (67, 12207), (70, 12237), (71, 12243), (76, 12300), (101, 12528), (103, 12588), (110, 12711), (124, 13014), (131, 13110), (134, 13143), (144, 13260), (146, 13278), (150, 13323), (153, 13356), (158, 13374), (170, 13449), (183, 13527), (187, 13548), (205, 13611), (210, 13629), (233, 13776), (243, 13854), (248, 13878), (249, 13890), (251, 13902), (252, 13908), (256, 13947), (260, 13965), (287, 14208), (296, 14310), (305, 14352), (323, 14520), (327, 14571), (328, 14583), (338, 14757), (347, 14826), (355, 14952), (357, 14955),

Gene: Snorlax_18 Start: 11646, Stop: 14969, Start Num: 9

Candidate Starts for Snorlax_18:

(Start: 9 @11646 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (39, 11928), (46, 12003), (50, 12039), (61, 12168), (67, 12210), (70, 12240), (71, 12246), (76, 12303), (101, 12531), (103, 12591), (110, 12714), (124, 13017), (131, 13113), (134, 13146), (144, 13263), (146, 13281), (150, 13326), (153, 13359), (158, 13377), (170, 13452), (183, 13530), (187, 13551), (205, 13614), (210, 13632), (233, 13779), (243, 13857), (248, 13881), (249, 13893), (251, 13905), (252, 13911), (256, 13950), (260, 13968), (287, 14211), (296, 14313), (305, 14355), (323, 14523), (327, 14574), (328, 14586), (338, 14760), (347, 14829), (355, 14955), (357, 14958),

Gene: South40_19 Start: 11907, Stop: 15230, Start Num: 9

Candidate Starts for South40_19:

(Start: 9 @11907 has 55 MA's), (27, 12054), (36, 12165), (38, 12177), (39, 12189), (46, 12264), (50, 12300), (67, 12471), (70, 12501), (71, 12507), (73, 12519), (109, 12966), (110, 12975), (124, 13278), (126, 13314), (131, 13374), (134, 13407), (135, 13440), (143, 13521), (146, 13542), (148, 13566), (150, 13587), (153, 13620), (158, 13638), (167, 13698), (183, 13791), (187, 13812), (205, 13875), (210, 13893), (231, 14019), (233, 14040), (243, 14118), (249, 14154), (251, 14166), (252, 14172), (256, 14211), (260, 14229), (281, 14412), (287, 14472), (291, 14517), (327, 14835), (328, 14847), (338, 15021), (347, 15090), (355, 15216), (357, 15219),

Gene: SqueakyClean_19 Start: 11767, Stop: 14964, Start Num: 12

Candidate Starts for SqueakyClean_19:

(Start: 12 @11767 has 22 MA's), (Start: 17 @11806 has 3 MA's), (27, 11905), (28, 11926), (35, 11998), (36, 12016), (50, 12148), (51, 12160), (66, 12310), (70, 12349), (71, 12355), (72, 12358), (76, 12412), (91, 12547), (99, 12619), (110, 12823), (118, 12931), (124, 13126), (131, 13222), (134, 13255), (139, 13333), (143, 13369), (146, 13390), (148, 13414), (150, 13435), (151, 13438), (153, 13468), (158, 13486), (164, 13525), (167, 13546), (168, 13552), (171, 13564), (199, 13633), (217, 13696), (222, 13729), (224, 13741), (249, 13915), (257, 13975), (269, 14020), (270, 14026), (289, 14224), (305, 14356), (316, 14446), (320, 14467), (327, 14575), (343, 14806), (348, 14842),

Gene: Sujidade_19 Start: 11947, Stop: 15270, Start Num: 9

Candidate Starts for Sujidade_19:

(Start: 9 @11947 has 55 MA's), (Start: 16 @11983 has 4 MA's), (27, 12094), (36, 12205), (38, 12217), (39, 12229), (46, 12304), (50, 12340), (61, 12469), (67, 12511), (70, 12541), (71, 12547), (73, 12559), (76, 12604), (101, 12832), (110, 13015), (126, 13354), (131, 13414), (134, 13447), (135, 13480), (143, 13561), (146, 13582), (150, 13627), (153, 13660), (158, 13678), (159, 13687), (170, 13753), (183, 13831), (187, 13852), (191, 13873), (205, 13915), (210, 13933), (233, 14080), (243, 14158), (248, 14182), (249, 14194), (251, 14206), (252, 14212), (256, 14251), (260, 14269), (287, 14512), (296, 14614), (324, 14836), (327, 14875), (328, 14887), (338, 15061), (347, 15130), (355, 15256), (357, 15259),

Gene: SunsetPointe_18 Start: 11659, Stop: 14979, Start Num: 9

Candidate Starts for SunsetPointe_18:

(Start: 9 @11659 has 55 MA's), (27, 11803), (36, 11914), (38, 11926), (42, 11995), (44, 12001), (48, 12022), (59, 12157), (67, 12220), (71, 12256), (72, 12259), (87, 12424), (93, 12463), (99, 12520), (110, 12724), (124, 13027), (125, 13060), (131, 13123), (134, 13156), (139, 13234), (143, 13270), (144, 13273), (146, 13291), (148, 13315), (150, 13336), (153, 13369), (158, 13387), (163, 13423), (173, 13477), (178, 13516), (183, 13540), (200, 13606), (210, 13642), (221, 13714), (226, 13738), (227, 13744), (231, 13768), (233, 13789), (248, 13891), (249, 13903), (254, 13939), (260, 13978), (266, 14011), (283, 14182), (287, 14221), (296, 14323), (298, 14344), (302, 14356), (323, 14533), (327, 14584), (328, 14596), (338, 14770), (347, 14839), (350, 14878), (355, 14965), (357, 14968),

Gene: Superstar_21 Start: 12671, Stop: 16678, Start Num: 12

Candidate Starts for Superstar_21:

(Start: 12 @12671 has 22 MA's), (25, 12797), (27, 12806), (34, 12884), (36, 12917), (50, 13049), (55, 13115), (61, 13178), (67, 13220), (71, 13256), (76, 13313), (80, 13343), (89, 13436), (91, 13448), (102, 13598), (108, 13712), (110, 13721), (131, 14120), (139, 14231), (146, 14288), (148, 14312), (150, 14333), (153, 14366), (158, 14384), (173, 14474), (200, 14558), (201, 14561), (203, 14567), (219, 14612), (220, 14615), (233, 14699), (240, 14756), (249, 14813), (251, 14825), (252, 14831), (260, 14888), (272, 14960), (298, 15254), (299, 15257), (302, 15266), (327, 15593), (333, 15698), (335, 15746), (341, 15806), (356, 15983), (362, 16055), (363, 16094), (364, 16133), (368, 16247), (369, 16250), (370, 16271), (372, 16328), (373, 16349), (374, 16352), (379, 16445), (380, 16469), (384, 16493), (392, 16667),

Gene: TagePighther_19 Start: 11646, Stop: 14969, Start Num: 9

Candidate Starts for TagePighther_19:

(Start: 9 @11646 has 55 MA's), (27, 11793), (36, 11904), (38, 11916), (39, 11928), (46, 12003), (61, 12168), (67, 12210), (70, 12240), (71, 12246), (76, 12303), (101, 12531), (103, 12591), (110, 12714), (124, 13017), (131, 13113), (134, 13146), (144, 13263), (146, 13281), (150, 13326), (153, 13359), (158, 13377), (170, 13452), (183, 13530), (187, 13551), (205, 13614), (210, 13632), (233, 13779), (243, 13857), (248, 13881), (249, 13893), (251, 13905), (252, 13911), (256, 13950), (260, 13968), (287, 14211), (296, 14313), (305, 14355), (323, 14523), (327, 14574), (328, 14586), (347, 14829), (355, 14955), (357, 14958),

Gene: Tefunt_18 Start: 11570, Stop: 15475, Start Num: 12

Candidate Starts for Tefunt_18:

(Start: 12 @11570 has 22 MA's), (27, 11705), (36, 11816), (40, 11879), (46, 11912), (50, 11948), (66, 12110), (67, 12119), (71, 12155), (80, 12242), (108, 12611), (110, 12620), (131, 13019), (134, 13052), (143, 13166), (150, 13232), (153, 13265), (158, 13283), (161, 13307), (163, 13319), (173, 13373), (200, 13457), (203, 13466), (219, 13511), (233, 13598), (240, 13655), (249, 13712), (260, 13787), (272, 13859), (298, 14153), (313, 14252), (320, 14285), (327, 14393), (330, 14438), (333, 14498), (341, 14606), (364, 14933), (365, 14975), (369, 15050), (370, 15071), (372, 15128), (373, 15149), (374, 15152), (376, 15197), (392, 15464),

Gene: Thestral_19 Start: 11634, Stop: 14933, Start Num: 12

Candidate Starts for Thestral_19:

(Start: 12 @11634 has 22 MA's), (Start: 17 @11673 has 3 MA's), (27, 11769), (28, 11790), (31, 11832), (34, 11847), (50, 12009), (67, 12180), (71, 12216), (86, 12354), (93, 12423), (108, 12672), (110, 12684), (124, 12987), (131, 13083), (134, 13116), (138, 13188), (139, 13194), (143, 13230), (146, 13251), (148, 13275), (149, 13293), (150, 13296), (153, 13329), (158, 13347), (178, 13476), (187, 13521), (205, 13584), (207, 13590), (233, 13749), (235, 13761), (249, 13863), (260, 13938), (272, 14010), (295, 14277), (313, 14403), (318, 14427), (327, 14544), (328, 14556), (331, 14625), (332, 14634), (335, 14697), (343, 14775), (344, 14787), (347, 14799),

Gene: TinaBelcher_18 Start: 11621, Stop: 14881, Start Num: 17

Candidate Starts for TinaBelcher_18:

(Start: 12 @11582 has 22 MA's), (Start: 17 @11621 has 3 MA's), (27, 11717), (28, 11738), (31, 11780), (34, 11795), (50, 11957), (67, 12128), (71, 12164), (95, 12383), (97, 12389), (101, 12449), (110, 12632), (124, 12935), (131, 13031), (134, 13064), (138, 13136), (139, 13142), (145, 13190), (148, 13223), (149, 13241), (150, 13244), (153, 13277), (158, 13295), (178, 13424), (187, 13469), (205, 13532), (207, 13538), (233, 13697), (235, 13709), (249, 13811), (255, 13865), (260, 13886), (272, 13958), (295, 14225), (313, 14351), (318, 14375), (327, 14492), (328, 14504), (331, 14573), (332, 14582), (335, 14645), (343, 14723), (344, 14735), (347, 14747),

Gene: Toma_18 Start: 11655, Stop: 14978, Start Num: 9

Candidate Starts for Toma_18:

(Start: 9 @11655 has 55 MA's), (Start: 16 @11691 has 4 MA's), (27, 11802), (36, 11913), (38, 11925), (39, 11937), (46, 12012), (50, 12048), (61, 12177), (67, 12219), (70, 12249), (71, 12255), (73, 12267), (76, 12312), (101, 12540), (110, 12723), (126, 13062), (131, 13122), (134, 13155), (144, 13272), (146, 13290), (150, 13335), (153, 13368), (158, 13386), (170, 13461), (183, 13539), (187, 13560), (191, 13581), (205, 13623), (210, 13641), (233, 13788), (243, 13866), (248, 13890), (249, 13902), (251, 13914), (252, 13920), (256, 13959), (260, 13977), (287, 14220), (296, 14322), (324, 14544), (327, 14583), (328, 14595), (338, 14769), (347, 14838), (355, 14964), (357, 14967),

Gene: Triste_18 Start: 11637, Stop: 14960, Start Num: 9

Candidate Starts for Triste_18:

(Start: 9 @11637 has 55 MA's), (27, 11784), (36, 11895), (38, 11907), (39, 11919), (46, 11994), (50, 12030), (67, 12201), (70, 12231), (71, 12237), (76, 12294), (101, 12522), (103, 12582), (110, 12705), (124, 13008), (131, 13104), (134, 13137), (144, 13254), (146, 13272), (150, 13317), (153, 13350), (158, 13368), (170, 13443), (183, 13521), (187, 13542), (205, 13605), (210, 13623), (233, 13770), (243, 13848), (248, 13872), (249, 13884), (251, 13896), (252, 13902), (256, 13941), (260, 13959), (287, 14202), (296, 14304), (305, 14346), (323, 14514), (327, 14565), (328, 14577), (338, 14751), (347, 14820), (355, 14946), (357, 14949),

Gene: Triumph_20 Start: 11576, Stop: 14881, Start Num: 12

Candidate Starts for Triumph_20:

(Start: 12 @11576 has 22 MA's), (Start: 17 @11615 has 3 MA's), (27, 11714), (28, 11735), (35, 11807), (36, 11825), (50, 11957), (51, 11969), (66, 12119), (70, 12158), (71, 12164), (72, 12167), (76, 12221), (110, 12632), (124, 12935), (131, 13031), (134, 13064), (146, 13199), (148, 13223), (150, 13244), (151, 13247), (153, 13277), (158, 13295), (163, 13331), (183, 13448), (186, 13460), (200, 13514), (210, 13550), (233, 13697), (243, 13775), (248, 13799), (249, 13811), (256, 13868), (265, 13916), (272, 13958), (278, 14048), (302, 14264), (323, 14441), (327, 14492), (328, 14504), (335, 14645), (338, 14678), (343, 14723), (348, 14759),

Gene: TrvxScott_17 Start: 11584, Stop: 14883, Start Num: 12

Candidate Starts for TrvxScott_17:

(Start: 12 @11584 has 22 MA's), (Start: 17 @11623 has 3 MA's), (27, 11719), (28, 11740), (31, 11782), (34, 11797), (50, 11959), (67, 12130), (71, 12166), (110, 12634), (124, 12937), (131, 13033), (134, 13066), (138, 13138), (139, 13144), (148, 13225), (149, 13243), (150, 13246), (153, 13279), (158, 13297), (178, 13426), (187, 13471), (205, 13534), (207, 13540), (233, 13699), (235, 13711), (240, 13756), (249, 13813), (260, 13888), (261, 13894), (272, 13960), (295, 14227), (313, 14353), (318, 14377), (327, 14494), (328, 14506), (331, 14575), (332, 14584), (335, 14647), (340, 14701), (343, 14725), (347, 14749),

Gene: TuanPN_18 Start: 11643, Stop: 14966, Start Num: 9

Candidate Starts for TuanPN_18:

(Start: 9 @11643 has 55 MA's), (27, 11790), (36, 11901), (38, 11913), (39, 11925), (46, 12000), (50, 12036), (67, 12207), (70, 12237), (71, 12243), (73, 12255), (76, 12300), (84, 12354), (97, 12468),

(101, 12528), (109, 12702), (110, 12711), (124, 13014), (126, 13050), (131, 13110), (134, 13143), (139, 13221), (144, 13260), (146, 13278), (150, 13323), (153, 13356), (158, 13374), (170, 13449), (183, 13527), (187, 13548), (191, 13569), (205, 13611), (210, 13629), (221, 13701), (233, 13776), (243, 13854), (248, 13878), (249, 13890), (251, 13902), (252, 13908), (256, 13947), (260, 13965), (287, 14208), (291, 14253), (296, 14310), (323, 14520), (327, 14571), (347, 14826), (355, 14952), (357, 14955),

Gene: Unstoppable_18 Start: 11660, Stop: 14980, Start Num: 9

Candidate Starts for Unstoppable_18:

(Start: 9 @11660 has 55 MA's), (27, 11804), (36, 11915), (38, 11927), (42, 11996), (44, 12002), (48, 12023), (59, 12158), (67, 12221), (71, 12257), (72, 12260), (87, 12425), (93, 12464), (99, 12521), (110, 12725), (124, 13028), (125, 13061), (131, 13124), (134, 13157), (139, 13235), (143, 13271), (144, 13274), (146, 13292), (148, 13316), (150, 13337), (153, 13370), (158, 13388), (163, 13424), (173, 13478), (178, 13517), (183, 13541), (200, 13607), (210, 13643), (221, 13715), (226, 13739), (227, 13745), (231, 13769), (233, 13790), (248, 13892), (249, 13904), (254, 13940), (260, 13979), (266, 14012), (283, 14183), (287, 14222), (296, 14324), (298, 14345), (302, 14357), (323, 14534), (327, 14585), (328, 14597), (338, 14771), (347, 14840), (350, 14879), (355, 14966), (357, 14969),

Gene: Urza_18 Start: 11942, Stop: 15343, Start Num: 11

Candidate Starts for Urza_18:

(Start: 11 @11942 has 5 MA's), (Start: 14 @11957 has 1 MA's), (27, 12077), (35, 12170), (36, 12188), (39, 12212), (52, 12368), (73, 12545), (76, 12590), (86, 12671), (92, 12734), (95, 12752), (102, 12875), (110, 12998), (113, 13070), (116, 13082), (121, 13211), (124, 13304), (130, 13376), (131, 13400), (136, 13475), (145, 13559), (150, 13613), (153, 13646), (155, 13652), (159, 13673), (160, 13685), (167, 13724), (171, 13742), (194, 13907), (202, 13976), (206, 13991), (210, 14006), (215, 14027), (222, 14081), (231, 14132), (233, 14153), (249, 14267), (260, 14342), (262, 14351), (277, 14465), (287, 14585), (301, 14717), (302, 14720), (309, 14771), (319, 14837), (320, 14840), (327, 14948), (331, 15029), (334, 15056), (342, 15173), (351, 15245), (358, 15332),

Gene: Vanseggelen_23 Start: 11218, Stop: 15330, Start Num: 9

Candidate Starts for Vanseggelen_23:

(Start: 9 @11218 has 55 MA's), (Start: 14 @11242 has 1 MA's), (19, 11269), (27, 11362), (29, 11395), (31, 11425), (36, 11473), (41, 11545), (59, 11716), (61, 11737), (67, 11779), (73, 11827), (78, 11890), (86, 11953), (98, 12049), (99, 12079), (101, 12100), (105, 12172), (109, 12271), (110, 12280), (124, 12586), (131, 12682), (134, 12715), (139, 12793), (143, 12829), (150, 12895), (176, 13054), (178, 13075), (191, 13168), (192, 13177), (193, 13186), (212, 13300), (221, 13360), (229, 13405), (233, 13435), (240, 13492), (243, 13513), (249, 13549), (256, 13606), (260, 13624), (262, 13633), (302, 14002), (312, 14089), (320, 14122), (322, 14164), (327, 14230), (331, 14311), (333, 14335), (339, 14431), (341, 14443), (353, 14596), (356, 14620), (361, 14659), (363, 14731), (364, 14770), (365, 14812), (369, 14887), (370, 14908), (372, 14965), (373, 14986), (376, 15034), (377, 15037), (378, 15052), (381, 15115), (382, 15124), (385, 15166), (387, 15181), (392, 15316), (393, 15319),

Gene: Verabelle_19 Start: 11549, Stop: 15661, Start Num: 9

Candidate Starts for Verabelle_19:

(Start: 9 @11549 has 55 MA's), (Start: 14 @11573 has 1 MA's), (19, 11600), (26, 11687), (27, 11693), (29, 11726), (31, 11756), (36, 11804), (53, 11987), (55, 12005), (61, 12068), (67, 12110), (71, 12146), (73, 12158), (76, 12203), (80, 12233), (86, 12284), (90, 12335), (99, 12410), (101, 12431), (102, 12488), (106, 12524), (109, 12602), (110, 12611), (121, 12824), (124, 12917), (128, 12983), (130, 12989), (131, 13013), (137, 13100), (150, 13226), (152, 13235), (156, 13268), (158, 13277), (162, 13310), (170, 13352), (174, 13373), (178, 13406), (180, 13418), (182, 13424), (185, 13439), (191, 13499), (192, 13508), (193, 13517), (195, 13529), (196, 13532), (211, 13628), (214, 13637), (221, 13691), (229, 13736), (233, 13766), (240, 13823), (243, 13844), (249, 13880), (256, 13937), (260, 13955), (262, 13964), (275, 14072), (290, 14240), (302, 14333), (312, 14420), (320, 14453), (322,

14495), (327, 14561), (331, 14642), (333, 14666), (337, 14744), (353, 14927), (356, 14951), (361, 14990), (362, 15023), (363, 15062), (364, 15101), (369, 15218), (370, 15239), (372, 15296), (373, 15317), (377, 15368), (381, 15446), (382, 15455), (385, 15497), (392, 15647), (393, 15650),

Gene: Verse_18 Start: 11848, Stop: 15960, Start Num: 9

Candidate Starts for Verse_18:

(Start: 9 @11848 has 55 MA's), (Start: 14 @11872 has 1 MA's), (27, 11992), (29, 12025), (31, 12055), (36, 12103), (37, 12106), (56, 12322), (63, 12382), (73, 12457), (78, 12520), (86, 12583), (94, 12658), (101, 12730), (109, 12901), (110, 12910), (124, 13216), (126, 13252), (131, 13312), (134, 13345), (139, 13423), (141, 13444), (143, 13459), (146, 13480), (147, 13498), (150, 13525), (153, 13558), (158, 13576), (162, 13609), (173, 13666), (179, 13711), (183, 13729), (191, 13798), (205, 13900), (211, 13927), (221, 13990), (233, 14065), (243, 14143), (247, 14164), (249, 14179), (251, 14191), (252, 14197), (256, 14236), (260, 14254), (275, 14371), (285, 14470), (286, 14476), (287, 14497), (288, 14500), (302, 14632), (311, 14710), (327, 14860), (329, 14902), (356, 15250), (361, 15289), (363, 15361), (364, 15400), (369, 15517), (370, 15538), (372, 15595), (373, 15616), (376, 15664), (377, 15667), (381, 15745), (382, 15754), (385, 15796), (392, 15946), (393, 15949),

Gene: VieEnRose_18 Start: 12008, Stop: 15409, Start Num: 11

Candidate Starts for VieEnRose_18:

(Start: 11 @12008 has 5 MA's), (Start: 14 @12023 has 1 MA's), (27, 12143), (35, 12236), (36, 12254), (39, 12278), (52, 12434), (67, 12563), (73, 12611), (76, 12656), (86, 12737), (92, 12800), (95, 12818), (102, 12941), (110, 13064), (113, 13136), (116, 13148), (121, 13277), (124, 13370), (130, 13442), (131, 13466), (145, 13625), (150, 13679), (153, 13712), (155, 13718), (159, 13739), (165, 13784), (171, 13808), (181, 13874), (189, 13919), (197, 13994), (202, 14042), (206, 14057), (210, 14072), (211, 14081), (222, 14147), (231, 14198), (233, 14219), (249, 14333), (260, 14408), (262, 14417), (272, 14480), (287, 14651), (301, 14783), (302, 14786), (306, 14807), (307, 14828), (327, 15014), (328, 15026), (331, 15095), (332, 15104), (334, 15122), (342, 15239), (351, 15311), (358, 15398),

Gene: Werner_18 Start: 11647, Stop: 14970, Start Num: 9

Candidate Starts for Werner_18:

(Start: 9 @11647 has 55 MA's), (27, 11794), (36, 11905), (38, 11917), (39, 11929), (46, 12004), (50, 12040), (61, 12169), (67, 12211), (70, 12241), (71, 12247), (76, 12304), (101, 12532), (103, 12592), (110, 12715), (124, 13018), (131, 13114), (134, 13147), (144, 13264), (146, 13282), (150, 13327), (153, 13360), (158, 13378), (170, 13453), (183, 13531), (187, 13552), (205, 13615), (210, 13633), (233, 13780), (243, 13858), (248, 13882), (249, 13894), (251, 13906), (252, 13912), (256, 13951), (260, 13969), (287, 14212), (296, 14314), (305, 14356), (323, 14524), (327, 14575), (328, 14587), (338, 14761), (347, 14830), (355, 14956), (357, 14959),

Gene: Whatever_18 Start: 11647, Stop: 14970, Start Num: 9

Candidate Starts for Whatever_18:

(Start: 9 @11647 has 55 MA's), (27, 11794), (28, 11815), (36, 11905), (38, 11917), (39, 11929), (46, 12004), (50, 12040), (61, 12169), (67, 12211), (70, 12241), (71, 12247), (76, 12304), (101, 12532), (103, 12592), (110, 12715), (124, 13018), (131, 13114), (134, 13147), (144, 13264), (146, 13282), (150, 13327), (153, 13360), (158, 13378), (170, 13453), (183, 13531), (187, 13552), (205, 13615), (210, 13633), (233, 13780), (243, 13858), (248, 13882), (249, 13894), (251, 13906), (252, 13912), (256, 13951), (260, 13969), (287, 14212), (296, 14314), (305, 14356), (323, 14524), (327, 14575), (328, 14587), (338, 14761), (347, 14830), (355, 14956), (357, 14959),

Gene: Yasdni1_18 Start: 11639, Stop: 14962, Start Num: 9

Candidate Starts for Yasdni1_18:

(Start: 9 @11639 has 55 MA's), (27, 11786), (36, 11897), (38, 11909), (39, 11921), (46, 11996), (50, 12032), (67, 12203), (70, 12233), (71, 12239), (73, 12251), (76, 12296), (84, 12350), (97, 12464), (101, 12524), (109, 12698), (110, 12707), (124, 13010), (126, 13046), (131, 13106), (134, 13139),

(139, 13217), (144, 13256), (146, 13274), (150, 13319), (153, 13352), (158, 13370), (170, 13445), (183, 13523), (187, 13544), (191, 13565), (205, 13607), (210, 13625), (221, 13697), (233, 13772), (243, 13850), (248, 13874), (249, 13886), (251, 13898), (252, 13904), (256, 13943), (260, 13961), (287, 14204), (291, 14249), (296, 14306), (323, 14516), (327, 14567), (347, 14822), (355, 14948), (357, 14951),

Gene: Yosif_19 Start: 11936, Stop: 15949, Start Num: 11

Candidate Starts for Yosif_19:

(Start: 11 @11936 has 5 MA's), (Start: 14 @11951 has 1 MA's), (27, 12071), (30, 12113), (31, 12134), (36, 12182), (47, 12281), (59, 12425), (62, 12455), (73, 12536), (81, 12614), (110, 12992), (116, 13076), (119, 13115), (124, 13295), (125, 13328), (131, 13391), (143, 13538), (150, 13604), (153, 13637), (155, 13643), (158, 13655), (180, 13796), (182, 13802), (187, 13829), (207, 13898), (221, 13982), (222, 13985), (224, 13997), (233, 14057), (249, 14171), (251, 14183), (262, 14255), (285, 14450), (287, 14477), (301, 14609), (302, 14612), (306, 14633), (307, 14654), (327, 14840), (354, 15218), (356, 15227), (361, 15266), (362, 15299), (364, 15377), (365, 15419), (366, 15428), (368, 15491), (369, 15494), (370, 15515), (372, 15572), (373, 15593), (376, 15641), (377, 15644), (378, 15659), (381, 15722), (382, 15731), (385, 15773), (388, 15794), (389, 15806), (390, 15848), (392, 15935), (393, 15938),

Gene: Zainub_24 Start: 12120, Stop: 15311, Start Num: 12

Candidate Starts for Zainub_24:

(Start: 12 @12120 has 22 MA's), (Start: 17 @12159 has 3 MA's), (25, 12246), (27, 12255), (28, 12276), (31, 12318), (50, 12495), (59, 12603), (62, 12633), (66, 12657), (71, 12702), (72, 12705), (76, 12759), (110, 13170), (119, 13293), (124, 13473), (127, 13536), (129, 13542), (131, 13569), (143, 13716), (146, 13737), (148, 13761), (150, 13782), (151, 13785), (153, 13815), (158, 13833), (199, 13980), (225, 14094), (226, 14097), (238, 14175), (240, 14205), (248, 14250), (249, 14262), (256, 14319), (257, 14322), (269, 14367), (270, 14373), (284, 14529), (291, 14604), (305, 14703), (310, 14769), (321, 14823), (327, 14922), (338, 15108), (340, 15129), (343, 15153), (344, 15165),

Gene: Zemlya_19 Start: 11666, Stop: 14989, Start Num: 9

Candidate Starts for Zemlya_19:

(Start: 9 @11666 has 55 MA's), (Start: 16 @11702 has 4 MA's), (27, 11813), (36, 11924), (38, 11936), (39, 11948), (46, 12023), (50, 12059), (61, 12188), (67, 12230), (70, 12260), (71, 12266), (73, 12278), (76, 12323), (97, 12491), (101, 12551), (109, 12725), (110, 12734), (124, 13037), (126, 13073), (130, 13109), (131, 13133), (134, 13166), (144, 13283), (146, 13301), (150, 13346), (153, 13379), (158, 13397), (170, 13472), (183, 13550), (187, 13571), (191, 13592), (205, 13634), (210, 13652), (233, 13799), (243, 13877), (248, 13901), (249, 13913), (251, 13925), (252, 13931), (256, 13970), (260, 13988), (287, 14231), (296, 14333), (327, 14594), (328, 14606), (332, 14684), (334, 14702), (338, 14780), (347, 14849), (355, 14975), (357, 14978),

Gene: phiCAM_19 Start: 13655, Stop: 17626, Start Num: 27

Candidate Starts for phiCAM_19:

(Start: 9 @13511 has 55 MA's), (Start: 14 @13535 has 1 MA's), (27, 13655), (29, 13688), (31, 13718), (36, 13766), (37, 13769), (56, 13985), (61, 14030), (71, 14108), (72, 14111), (73, 14120), (78, 14183), (83, 14213), (85, 14237), (86, 14246), (90, 14297), (94, 14321), (101, 14393), (109, 14564), (110, 14573), (124, 14879), (127, 14942), (131, 14975), (139, 15086), (143, 15122), (146, 15143), (150, 15188), (153, 15221), (158, 15239), (162, 15272), (170, 15314), (173, 15329), (177, 15362), (178, 15368), (182, 15386), (183, 15392), (184, 15395), (191, 15461), (192, 15470), (193, 15479), (196, 15494), (205, 15563), (209, 15578), (221, 15653), (233, 15728), (247, 15827), (249, 15842), (251, 15854), (252, 15860), (256, 15899), (260, 15917), (273, 16007), (275, 16034), (287, 16160), (296, 16262), (302, 16295), (327, 16523), (329, 16565), (339, 16724), (341, 16736), (356, 16913), (361, 16952), (363, 17024), (364, 17063), (369, 17180), (370, 17201), (372, 17258), (373, 17279), (376, 17327), (377, 17330), (378, 17345), (381, 17408), (382, 17417), (385, 17459), (392, 17612), (393,

17615),

Gene: phiHau3_20 Start: 11837, Stop: 15658, Start Num: 1

Candidate Starts for phiHau3_20:

(Start: 1 @11837 has 3 MA's), (5, 12173), (7, 12218), (8, 12311), (13, 12335), (Start: 14 @12344 has 1 MA's), (27, 12470), (33, 12554), (37, 12593), (45, 12680), (50, 12737), (57, 12830), (58, 12839), (61, 12866), (64, 12884), (68, 12917), (71, 12944), (76, 13001), (77, 13010), (94, 13157), (95, 13163), (96, 13166), (107, 13385), (110, 13412), (115, 13493), (122, 13631), (124, 13715), (131, 13811), (132, 13820), (142, 13955), (143, 13958), (145, 13970), (153, 14057), (154, 14060), (156, 14066), (184, 14231), (188, 14258), (224, 14417), (226, 14426), (233, 14477), (237, 14501), (242, 14549), (247, 14576), (249, 14591), (260, 14666), (269, 14717), (300, 15035), (308, 15089), (310, 15119), (327, 15272), (331, 15353), (332, 15362), (334, 15380), (355, 15647),