

1. DanielleIgnace_26	92	144	188	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
2. Kitkat_34 + 1	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
3. KellieZio_33	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
4. Boveiy_18 + 12	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
5. Yasomi_18 + 13	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
6. Danzina_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
7. Whatever_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
8. Lannister_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
9. Chucky_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
10. Datfran_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
11. OzzyJ_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
12. Maneekul_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
13. Onlynyk_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
14. Goby_18 + 11	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
15. Hippo_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
16. Shorlax_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
17. Godpower_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
18. RedBear_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
19. Nanodon_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
20. RagePnight_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
21. Lorelei_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
22. Aaronoculus_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
23. EnochSoan_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
24. Lika_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
25. Dwayne_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
26. Toma_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
27. Naol_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
28. Inste_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
29. TrvxScott_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
30. Janus_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
31. Hank144_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
32. GiniDinner_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
33. Puginator_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
34. Paolo_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
35. Omar_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
36. Superstar_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
37. Daudau_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
38. Caelum_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
39. Animus_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
40. Axiom_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
41. ELB20_17	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
42. Marav_21	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
43. Alvy_20 + 11	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
44. Paedore_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
45. Amethyst_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
46. Jevington_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
47. Raizum_18	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
48. Zandv_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
49. Triumph_20	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660
50. Issmi_19	92	111	121	188	172	196	211	219	232	238	301	332	340	344	525	540	666	663	660

51: Thestral_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
52: Bowden_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
53: Nishikigoi_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
54: Pabito_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
55: Diane_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
56: Andris_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
57: Loolah_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
58: SqueakyClean_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
59: Vanseggele_23	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
60: Pavo_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
61: Conan_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
62: Celery_21	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
63: Yoshi_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
64: Kane_18 + 1	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
65: ElGato_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
66: Verabelle_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
67: Provolone_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
68: pntAm_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
69: Speedwell_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
70: SunkenRoods_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
71: Jnichele_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
72: Saitan_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
73: Zanzani_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
74: Dexers_17	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
75: Verse_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
76: Amelia_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
77: BroPie_18 + 1	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
78: pntHau3_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
79: Itza_18 + 2	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
80: VieEnRose_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
81: TP1604_8 + 1	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
82: ASIS_8 + 1	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
83: Mischief19_8	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
84: Sate_8 + 1	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
85: Abt2graduate_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
86: Xkcd426_8	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
87: RainyPoika_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
88: YDN12_8	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
89: OnionKnight_19	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
90: pntAsp2_27	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
91: EgmRose_15	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
92: TurkishDelight_18	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630
93: Attoomi_15	175	40	80	108	145	160	189	228	245	259	304	325	359	404	432	460	470	522	556	580	610	630

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 330589 Report

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

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 330589 has 137 members, 7 are drafts.

Phages represented in each track:

- Track 1 : DanielleIgnace_26
- Track 2 : Kitkat_34, BeatusComedenti_33
- Track 3 : KelleEzio_33
- Track 4 : Bovely_18, Esperer_18, SunsetPointe_18, Leviticus_18, Indigo_18, Nerdos_18, Ozzie_18, Caliburn_18, Hydra_20, Unstoppable_18, BeardedLady_19, Legacy_18, Phettuccine_18
- Track 5 : Yasdnil_18, TuanPN_18, Ejemplo_18
- Track 6 : Danzina_19, Brataylor_19, Zemlya_19
- Track 7 : Whatever_18
- Track 8 : Lannister_19
- Track 9 : Chucky_18
- Track 10 : Dattran_19, Celeste_18
- Track 11 : OzzyJ_19
- Track 12 : Maneekul_18
- Track 13 : Oliynyk_19, BryanRecycles_19, Rusticus_19, Eddasa_19, Izzy_19, Jash_19
- Track 14 : Goby_18, Sujidade_19
- Track 15 : Hippo_18
- Track 16 : Snorlax_18, SarahRose_18, Werner_18, BarryBee_20, Asten_18, Emaanora_20
- Track 17 : Godpower_19
- Track 18 : RedBear_20, Katalie_19, South40_19
- Track 19 : Nanodon_20
- Track 20 : TagePhighter_19
- Track 21 : Lorelei_18, Rana_18
- Track 22 : Aaronocolus_18
- Track 23 : EnochSoames_20
- Track 24 : Lika_18
- Track 25 : Dwayne_18
- Track 26 : Toma_18
- Track 27 : Nabi_18
- Track 28 : Triste_18
- Track 29 : TrvxScott_17

- Track 30 : Janus_19
- Track 31 : Hank144_19
- Track 32 : GirlDinner_18
- Track 33 : Puginator_20
- Track 34 : Paolo_20
- Track 35 : Omar_19
- Track 36 : Superstar_21
- Track 37 : Daudau_18
- Track 38 : Caelum_19
- Track 39 : Animus_19
- Track 40 : Axiom_19
- Track 41 : ELB20_17, R4_18
- Track 42 : Marav_21
- Track 43 : Alvy_20, BartholomewSD_20
- Track 44 : Paedore_18
- Track 45 : Amethyst_18
- Track 46 : Jevington_20
- Track 47 : Haizum_18, Tefunt_18
- Track 48 : Zainub_20
- Track 49 : Triumph_20
- Track 50 : Issmi_19
- Track 51 : Thestral_19
- Track 52 : Bowden_19, TinaBelcher_18
- Track 53 : Nishikigoi_18
- Track 54 : Pablito_18
- Track 55 : Diane_18
- Track 56 : Andris_18
- Track 57 : Loofah_19
- Track 58 : SqueakyClean_19
- Track 59 : Vanseggelen_23
- Track 60 : Pavo_19
- Track 61 : Conan_19
- Track 62 : Celery_21
- Track 63 : Yosif_19
- Track 64 : Kaine_18, Alsaber_19, Sudan_18
- Track 65 : ElGato_19
- Track 66 : Verabelle_19
- Track 67 : Provolone_19
- Track 68 : phiCAM_19
- Track 69 : Speedwell_23
- Track 70 : SunkenRoot_18
- Track 71 : Jhitchelle_17
- Track 72 : Saftant_18
- Track 73 : ZamZam_18
- Track 74 : Dexers_17
- Track 75 : Verse_18
- Track 76 : Amela_18
- Track 77 : BroPlease_19, GreenWeasel_20
- Track 78 : phiHau3_20
- Track 79 : Itza_18, Urza_18, Celia_18
- Track 80 : VieEnRose_18
- Track 81 : TP1604_8, BabyGotBac_8
- Track 82 : Asis_8, Maih_8

- Track 83 : Mischief19_8
- Track 84 : Salete_8, BayC_8
- Track 85 : Abt2graduatex2_8
- Track 86 : Xkcd426_8
- Track 87 : RainyPolka_8
- Track 88 : YDN12_8
- Track 89 : OnionKnight_17
- Track 90 : phiAsp2_27
- Track 91 : EmiRose_15
- Track 92 : TurkishDelight_28
- Track 93 : Attoomi_15

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

The start number called the most often in the published annotations is 12, it was called in 62 of the 130 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_19, Danzina_19, Dexers_17, Dwayne_18, Eddasa_19, Ejemplo_18, ElGato_19, Emaanora_20, EnochSoames_20, Esperer_18, Goby_18, Godpower_19, Hippo_18, Hydra_20, Indigo_18, Izzy_19, Jash_19, Jhitchelle_17, Kaine_18, Katalie_19, Lannister_19, Legacy_18, Leviticus_18, Lika_18, Maneekul_18, Nabi_18, Nanodon_20, Nerdos_18, Oliynyk_19, Ozzie_18, OzzyJ_19, Pavo_19, Phettuccine_18, RedBear_20, Rusticus_19, SarahRose_18, Snorlax_18, South40_19, Sudan_18, Sujidade_19, SunkenRoot_18, SunsetPointe_18, TagePhighter_19, Toma_18, Triste_18, TuanPN_18, Unstoppable_18, Vanseggelen_23, Verabelle_19, Verse_18, Werner_18, Whatever_18, Yasdnil_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:

- Abt2graduatex2_8, Alvy_20, Amethyst_18, Andris_18, Animus_19, Asis_8, Attoomi_15, Axiom_19, BabyGotBac_8, BartholomewSD_20, BayC_8, BeatusComedenti_33, Bowden_19, BroPlease_19, Caelum_19, Celia_18, DanielleIgnace_26, Daudau_18, Diane_18, ELB20_17, EmiRose_15, GirlDinner_18, GreenWeasel_20, Haizum_18, Hank144_19, Issmi_19, Itza_18, Janus_19, Jevington_20, KellEzio_33, Kitkat_34, Loofah_19, Maih_8, Marav_21, Mischief19_8, Nishikigoi_18, Omar_19, OnionKnight_17, Pablito_18, Paedore_18, Paolo_20, Puginator_20, R4_18, RainyPolka_8, Saftant_18, Salete_8, Speedwell_23, SqueakyClean_19, Superstar_21, TP1604_8, Tefunt_18, Thestral_19, TinaBelcher_18, Triumph_20, TrvxScott_17, TurkishDelight_28, Urza_18, VieEnRose_18, Xkcd426_8, YDN12_8, Yosif_19, Zainub_20, ZamZam_18, phiAsp2_27, phiHau3_20,

Summary by start number:

Start 1:

- Found in 3 of 137 (2.2%) of genes in pham
- Manual Annotations of this start: 3 of 130
- 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 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TurkishDelight_28 (singleton),

Start 4:

- Found in 3 of 137 (2.2%) of genes in pham
- Manual Annotations of this start: 3 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saftant_18 (BD3), Speedwell_23 (BD3), ZamZam_18 (BD3),

Start 12:

- Found in 72 of 137 (52.6%) of genes in pham
- Manual Annotations of this start: 62 of 130
- Called 91.7% 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_19 (BD3), Danzina_19 (BD1), Dexters_17 (BD3), Dwayne_18 (BD1), Eddasa_19 (BD1), Ejemplo_18 (BD1), ElGato_19 (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), Jhitchelle_17 (BD3), Kaine_18 (BD3), 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), Pavo_19 (BD3), Phettuccine_18 (BD1), RedBear_20 (BD1), Rusticus_19 (BD1), SarahRose_18 (BD1), Snorlax_18 (BD1), South40_19 (BD1), Sudan_18 (BD3), Sujidade_19 (BD1), SunkenRoot_18 (BD3), 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), Yasdnil_18 (BD1), Zemlya_19 (BD1),

Start 16:

- Found in 5 of 137 (3.6%) of genes in pham
- Manual Annotations of this start: 5 of 130
- 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 17:

- Found in 34 of 137 (24.8%) of genes in pham
- Manual Annotations of this start: 29 of 130
- Called 88.2% of time when present

- Phage (with cluster) where this start called: Alvy_20 (BD2), Amethyst_18 (BD2), Andris_18 (BD2), Axiom_19 (BD2), BartholomewSD_20 (BD2), Caelum_19 (BD2), Daudau_18 (BD2), Diane_18 (BD2), ELB20_17 (BD2), GirlDinner_18 (BD2), Haizum_18 (BD2), Hank144_19 (BD2), Issmi_19 (BD2), Janus_19 (BD2), Jevington_20 (BD2), Loofah_19 (BD2), Marav_21 (BD2), Nishikigoi_18 (BD2), Omar_19 (BD2), Pablito_18 (BD2), Paolo_20 (BD2), Puginator_20 (BD2), R4_18 (BD2), SqueakyClean_19 (BD2), Superstar_21 (BD2), Tefunt_18 (BD2), Thestral_19 (BD2), Triumph_20 (BD2), TrvxScott_17 (BD2), Zainub_20 (BD2),

Start 19:

- Found in 21 of 137 (15.3%) of genes in pham
- Manual Annotations of this start: 1 of 130
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Provolone_19 (BD3),

Start 23:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OnionKnight_17 (singleton),

Start 24:

- Found in 15 of 137 (10.9%) of genes in pham
- Manual Annotations of this start: 4 of 130
- 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 25:

- Found in 23 of 137 (16.8%) of genes in pham
- Manual Annotations of this start: 3 of 130
- Called 13.0% of time when present
- Phage (with cluster) where this start called: Animus_19 (BD2), Bowden_19 (BD2), TinaBelcher_18 (BD2),

Start 31:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attoomi_15 (singleton),

Start 33:

- Found in 11 of 137 (8.0%) of genes in pham
- Manual Annotations of this start: 11 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abt2graduatex2_8 (BG), Asis_8 (BG), BabyGotBac_8 (BG), BayC_8 (BG), Maih_8 (BG), Mischief19_8 (BG), RainyPolka_8 (BG), Salete_8 (BG), TP1604_8 (BG), Xkcd426_8 (BG), YDN12_8 (BG),

Start 36:

- Found in 4 of 137 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 130
- Called 25.0% of time when present

- Phage (with cluster) where this start called: Paedore_18 (BD2),

Start 40:

- Found in 114 of 137 (83.2%) 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),

Start 56:

- Found in 1 of 137 (0.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: phiAsp2_27 (singleton),

Start 92:

- Found in 14 of 137 (10.2%) of genes in pham
- Manual Annotations of this start: 4 of 130
- Called 28.6% of time when present
- Phage (with cluster) where this start called: BeatusComedenti_33 (AT), Daniellignace_26 (AT), Kellezio_33 (AT), Kitkat_34 (AT),

Start 103:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 130
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EmiRose_15 (singleton),

Summary by clusters:

There are 8 clusters represented in this pham: singleton, BG, BD4, BD6, BD1, AT, BD3, BD2,

Info for manual annotations of cluster AT:

- Start number 92 was manually annotated 4 times for cluster AT.

Info for manual annotations of cluster BD1:

- Start number 12 was manually annotated 51 times for cluster BD1.
- Start number 24 was manually annotated 4 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 17 was manually annotated 29 times for cluster BD2.
- Start number 25 was manually annotated 3 times for cluster BD2.
- Start number 36 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 4 was manually annotated 3 times for cluster BD3.
- Start number 12 was manually annotated 11 times for cluster BD3.
- Start number 16 was manually annotated 1 time for cluster BD3.
- Start number 19 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 16 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BG:

- Start number 33 was manually annotated 11 times for cluster BG.

Gene Information:

Gene: Aaronocolus_18 Start: 11669, Stop: 14989, Start Num: 12

Candidate Starts for Aaronocolus_18:

(Start: 12 @11669 has 62 MA's), (40, 11813), (58, 11924), (62, 11936), (71, 12005), (72, 12011), (76, 12032), (98, 12167), (109, 12230), (115, 12266), (116, 12269), (152, 12434), (160, 12473), (170, 12530), (191, 12734), (228, 13037), (233, 13070), (242, 13133), (245, 13166), (259, 13244), (264, 13280), (265, 13283), (268, 13301), (273, 13325), (278, 13346), (285, 13379), (291, 13397), (299, 13433), (315, 13487), (325, 13526), (330, 13550), (344, 13616), (354, 13652), (372, 13724), (392, 13748), (394, 13754), (399, 13778), (404, 13799), (427, 13889), (430, 13901), (432, 13913), (440, 13949), (450, 13988), (461, 14021), (495, 14192), (502, 14231), (523, 14333), (528, 14354), (533, 14366), (583, 14543), (589, 14594), (590, 14606), (619, 14780), (641, 14849), (650, 14888), (666, 14975), (667, 14978),

Gene: Abt2graduatex2_8 Start: 4210, Stop: 7257, Start Num: 33

Candidate Starts for Abt2graduatex2_8:

(Start: 33 @4210 has 11 MA's), (47, 4312), (52, 4345), (63, 4399), (70, 4462), (73, 4471), (74, 4480), (84, 4540), (95, 4615), (97, 4621), (124, 4753), (133, 4810), (173, 5005), (194, 5200), (201, 5251), (213, 5362), (214, 5371), (222, 5422), (249, 5587), (255, 5611), (258, 5620), (260, 5632), (266, 5656), (270, 5674), (272, 5683), (293, 5731), (304, 5761), (321, 5809), (328, 5839), (330, 5848), (335, 5869), (369, 6013), (372, 6022), (373, 6025), (392, 6058), (400, 6091), (416, 6154), (421, 6175), (425, 6187), (429, 6205), (440, 6253), (458, 6316), (461, 6328), (462, 6331), (473, 6382), (499, 6514), (500, 6517), (504, 6547), (505, 6550), (520, 6616), (533, 6658), (538, 6679), (544, 6682), (578, 6790), (599, 6949), (601, 6952), (603, 6961), (609, 7000), (612, 7018), (639, 7105), (655, 7177), (656, 7207),

Gene: Alsaber_19 Start: 11562, Stop: 15674, Start Num: 12

Candidate Starts for Alsaber_19:

(Start: 12 @11562 has 62 MA's), (Start: 19 @11586 has 1 MA's), (40, 11706), (43, 11739), (58, 11817), (59, 11820), (98, 12060), (102, 12081), (109, 12123), (115, 12159), (118, 12171), (145, 12297), (166, 12393), (170, 12423), (172, 12444), (180, 12516), (190, 12615), (191, 12624), (228, 12930), (234, 12966), (242, 13026), (259, 13137), (264, 13173), (268, 13194), (278, 13239), (285, 13272), (291, 13290), (298, 13323), (330, 13443), (331, 13446), (345, 13512), (347, 13521), (368, 13605), (371, 13614), (374, 13629), (389, 13704), (395, 13740), (404, 13779), (432, 13893), (435, 13905), (437, 13911), (444, 13950), (455, 13977), (469, 14031), (479, 14085), (503, 14214), (512, 14259), (533, 14346), (586, 14544), (589, 14574), (592, 14616), (624, 14775), (628, 14787), (643, 14850), (663, 14964), (672, 15003), (678, 15075), (682, 15114), (685, 15156), (690, 15231), (691, 15252), (694, 15309), (696, 15330), (699, 15378), (700, 15381), (701, 15396), (704, 15459), (705, 15468), (708, 15510), (716, 15660), (717, 15663),

Gene: Alvy_20 Start: 11699, Stop: 14998, Start Num: 17

Candidate Starts for Alvy_20:

(Start: 17 @11699 has 29 MA's), (40, 11834), (42, 11855), (49, 11897), (80, 12074), (109, 12245), (115, 12281), (145, 12419), (160, 12488), (172, 12566), (191, 12749), (228, 13052), (242, 13148), (245, 13181), (257, 13253), (259, 13259), (273, 13340), (277, 13358), (278, 13361), (285, 13394), (291, 13412), (335, 13586), (349, 13649), (351, 13655), (391, 13760), (404, 13814), (407, 13826),

(418, 13871), (432, 13928), (450, 14003), (470, 14075), (564, 14468), (568, 14492), (589, 14609), (590, 14621), (598, 14690), (600, 14699), (610, 14762), (631, 14840), (634, 14852), (640, 14864),

Gene: Amela_18 Start: 11854, Stop: 15966, Start Num: 12

Candidate Starts for Amela_18:

(Start: 12 @11854 has 62 MA's), (Start: 19 @11878 has 1 MA's), (40, 11998), (43, 12031), (49, 12061), (58, 12109), (59, 12112), (91, 12328), (105, 12388), (118, 12463), (129, 12526), (145, 12589), (161, 12664), (172, 12736), (190, 12907), (191, 12916), (228, 13222), (234, 13258), (242, 13318), (245, 13351), (259, 13429), (264, 13465), (268, 13486), (272, 13504), (278, 13531), (285, 13564), (291, 13582), (298, 13615), (315, 13672), (326, 13717), (330, 13735), (345, 13804), (371, 13906), (376, 13933), (389, 13996), (404, 14071), (424, 14149), (432, 14185), (435, 14197), (437, 14203), (444, 14242), (450, 14260), (479, 14377), (498, 14476), (499, 14482), (502, 14503), (503, 14506), (533, 14638), (562, 14716), (589, 14866), (592, 14908), (663, 15256), (672, 15295), (678, 15367), (682, 15406), (690, 15523), (691, 15544), (694, 15601), (696, 15622), (699, 15670), (700, 15673), (704, 15751), (705, 15760), (708, 15802), (716, 15952), (717, 15955),

Gene: Amethyst_18 Start: 11541, Stop: 15449, Start Num: 17

Candidate Starts for Amethyst_18:

(Start: 17 @11541 has 29 MA's), (40, 11676), (58, 11787), (67, 11850), (80, 11919), (108, 12081), (109, 12090), (115, 12126), (131, 12213), (189, 12582), (191, 12591), (242, 12990), (245, 13023), (264, 13137), (278, 13203), (285, 13236), (291, 13254), (296, 13278), (311, 13329), (344, 13428), (345, 13431), (346, 13437), (368, 13482), (404, 13569), (418, 13626), (432, 13683), (450, 13758), (470, 13830), (528, 14124), (564, 14223), (572, 14256), (589, 14364), (604, 14469), (663, 14754), (682, 14904), (685, 14946), (690, 15021), (691, 15042), (694, 15099), (696, 15120), (697, 15123),

Gene: Andris_18 Start: 11508, Stop: 14702, Start Num: 17

Candidate Starts for Andris_18:

(Start: 17 @11508 has 29 MA's), (Start: 25 @11547 has 3 MA's), (40, 11643), (58, 11754), (74, 11850), (80, 11886), (108, 12048), (109, 12057), (114, 12087), (115, 12093), (126, 12150), (145, 12231), (170, 12357), (179, 12447), (191, 12561), (221, 12795), (228, 12864), (238, 12927), (242, 12960), (245, 12993), (268, 13128), (273, 13152), (278, 13173), (285, 13206), (291, 13224), (306, 13281), (307, 13284), (343, 13371), (382, 13476), (383, 13479), (399, 13518), (432, 13653), (445, 13713), (457, 13749), (460, 13758), (462, 13764), (519, 13995), (567, 14193), (572, 14205), (589, 14313), (598, 14394), (643, 14580), (666, 14691),

Gene: Animus_19 Start: 11880, Stop: 15038, Start Num: 25

Candidate Starts for Animus_19:

(Start: 17 @11841 has 29 MA's), (Start: 25 @11880 has 3 MA's), (40, 11979), (42, 12000), (55, 12072), (58, 12090), (80, 12222), (82, 12234), (108, 12384), (114, 12423), (115, 12429), (116, 12432), (126, 12486), (157, 12621), (170, 12693), (191, 12897), (207, 13005), (228, 13200), (242, 13296), (245, 13329), (259, 13407), (264, 13443), (268, 13464), (273, 13488), (278, 13509), (279, 13512), (285, 13542), (291, 13560), (300, 13599), (307, 13620), (309, 13626), (312, 13638), (343, 13707), (364, 13770), (373, 13803), (383, 13815), (432, 13989), (445, 14049), (460, 14094), (462, 14100), (511, 14298), (543, 14430), (566, 14520), (572, 14541), (589, 14649), (632, 14880), (643, 14916),

Gene: Asis_8 Start: 4267, Stop: 7314, Start Num: 33

Candidate Starts for Asis_8:

(Start: 33 @4267 has 11 MA's), (38, 4306), (52, 4402), (63, 4456), (70, 4519), (73, 4528), (74, 4537), (Start: 92 @4666 has 4 MA's), (95, 4672), (97, 4678), (124, 4810), (133, 4867), (150, 4921), (194, 5257), (201, 5308), (204, 5320), (213, 5419), (214, 5428), (222, 5479), (232, 5551), (237, 5566), (255, 5668), (258, 5677), (259, 5680), (266, 5713), (270, 5731), (272, 5740), (293, 5788), (295, 5797), (297, 5806), (321, 5866), (326, 5887), (328, 5896), (330, 5905), (333, 5917), (335, 5926), (337, 5938), (373, 6082), (392, 6115), (416, 6211), (440, 6310), (456, 6364), (462, 6388), (473, 6439), (480, 6472), (482,

6475), (488, 6517), (493, 6538), (500, 6574), (504, 6604), (505, 6607), (518, 6661), (527, 6703), (533, 6715), (544, 6739), (578, 6847), (593, 6961), (599, 7006), (601, 7009), (603, 7018), (612, 7075), (615, 7078), (617, 7087), (639, 7162), (655, 7234), (656, 7264),

Gene: Asten_18 Start: 11636, Stop: 14959, Start Num: 12

Candidate Starts for Asten_18:

(Start: 12 @11636 has 62 MA's), (40, 11783), (58, 11894), (62, 11906), (64, 11918), (74, 11993), (80, 12029), (102, 12158), (109, 12200), (114, 12230), (115, 12236), (126, 12293), (172, 12521), (178, 12581), (191, 12704), (228, 13007), (242, 13103), (245, 13136), (265, 13253), (268, 13271), (278, 13316), (285, 13349), (291, 13367), (311, 13442), (330, 13520), (335, 13541), (349, 13604), (354, 13622), (404, 13769), (424, 13847), (430, 13871), (432, 13883), (435, 13895), (437, 13901), (444, 13940), (450, 13958), (502, 14201), (523, 14303), (543, 14345), (583, 14513), (589, 14564), (590, 14576), (619, 14750), (641, 14819), (666, 14945), (667, 14948),

Gene: Attoomi_15 Start: 9427, Stop: 12852, Start Num: 31

Candidate Starts for Attoomi_15:

(Start: 31 @9427 has 1 MA's), (57, 9610), (63, 9628), (64, 9634), (77, 9706), (79, 9718), (Start: 92 @9793 has 4 MA's), (95, 9799), (100, 9823), (106, 9844), (113, 9886), (119, 9916), (125, 9937), (130, 9967), (136, 9985), (144, 10006), (145, 10009), (168, 10117), (176, 10204), (179, 10225), (180, 10228), (184, 10279), (186, 10291), (190, 10330), (201, 10414), (210, 10492), (212, 10519), (233, 10657), (236, 10666), (250, 10750), (256, 10786), (260, 10804), (276, 10882), (281, 10894), (284, 10903), (289, 10915), (294, 10933), (296, 10939), (319, 10996), (359, 11155), (361, 11167), (382, 11230), (398, 11266), (399, 11272), (402, 11284), (424, 11371), (450, 11482), (452, 11485), (458, 11506), (471, 11560), (473, 11572), (478, 11596), (480, 11605), (483, 11629), (487, 11650), (506, 11758), (530, 11863), (548, 11941), (556, 11968), (566, 12013), (570, 12031), (596, 12205), (597, 12208), (614, 12298), (649, 12442), (656, 12505), (658, 12508), (662, 12526), (673, 12577), (675, 12586), (678, 12643), (679, 12655), (680, 12673), (682, 12682), (683, 12691), (685, 12724), (693, 12835),

Gene: Axiom_19 Start: 11546, Stop: 14851, Start Num: 17

Candidate Starts for Axiom_19:

(Start: 17 @11546 has 29 MA's), (Start: 25 @11585 has 3 MA's), (40, 11684), (42, 11705), (55, 11777), (58, 11795), (80, 11927), (108, 12089), (114, 12128), (115, 12134), (116, 12137), (126, 12191), (191, 12602), (228, 12905), (238, 12968), (242, 13001), (245, 13034), (268, 13169), (278, 13214), (279, 13217), (285, 13247), (291, 13265), (299, 13301), (330, 13418), (333, 13430), (344, 13484), (354, 13520), (399, 13646), (404, 13667), (424, 13745), (430, 13769), (432, 13781), (444, 13838), (460, 13886), (470, 13928), (487, 14018), (533, 14234), (583, 14411), (589, 14462), (590, 14474), (610, 14615), (619, 14648), (632, 14693), (643, 14729),

Gene: BabyGotBac_8 Start: 4267, Stop: 7314, Start Num: 33

Candidate Starts for BabyGotBac_8:

(Start: 33 @4267 has 11 MA's), (38, 4306), (52, 4402), (63, 4456), (70, 4519), (73, 4528), (74, 4537), (Start: 92 @4666 has 4 MA's), (95, 4672), (97, 4678), (124, 4810), (133, 4867), (150, 4921), (194, 5257), (201, 5308), (204, 5320), (213, 5419), (214, 5428), (222, 5479), (232, 5551), (237, 5566), (255, 5668), (258, 5677), (259, 5680), (266, 5713), (270, 5731), (272, 5740), (293, 5788), (295, 5797), (297, 5806), (321, 5866), (326, 5887), (328, 5896), (330, 5905), (333, 5917), (335, 5926), (373, 6082), (392, 6115), (416, 6211), (423, 6238), (440, 6310), (456, 6364), (462, 6388), (473, 6439), (480, 6472), (482, 6475), (488, 6517), (493, 6538), (500, 6574), (504, 6604), (505, 6607), (518, 6661), (527, 6703), (533, 6715), (544, 6739), (578, 6847), (593, 6961), (599, 7006), (601, 7009), (603, 7018), (612, 7075), (615, 7078), (617, 7087), (639, 7162), (655, 7234), (656, 7264),

Gene: BarryBee_20 Start: 11646, Stop: 14969, Start Num: 12

Candidate Starts for BarryBee_20:

(Start: 12 @11646 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (64, 11928), (74, 12003), (80, 12039), (102, 12168), (109, 12210), (114, 12240), (115, 12246), (126, 12303), (172, 12531), (178, 12591), (191, 12714), (228, 13017), (242, 13113), (245, 13146), (265, 13263), (268, 13281), (278, 13326), (285, 13359), (291, 13377), (311, 13452), (330, 13530), (335, 13551), (349, 13614), (354, 13632), (404, 13779), (424, 13857), (430, 13881), (432, 13893), (435, 13905), (437, 13911), (444, 13950), (450, 13968), (502, 14211), (523, 14313), (543, 14355), (583, 14523), (589, 14574), (590, 14586), (619, 14760), (641, 14829), (666, 14955), (667, 14958),

Gene: BartholomewSD_20 Start: 11699, Stop: 14998, Start Num: 17

Candidate Starts for BartholomewSD_20:

(Start: 17 @11699 has 29 MA's), (40, 11834), (42, 11855), (49, 11897), (80, 12074), (109, 12245), (115, 12281), (145, 12419), (160, 12488), (172, 12566), (191, 12749), (228, 13052), (242, 13148), (245, 13181), (257, 13253), (259, 13259), (273, 13340), (277, 13358), (278, 13361), (285, 13394), (291, 13412), (335, 13586), (349, 13649), (351, 13655), (391, 13760), (404, 13814), (407, 13826), (418, 13871), (432, 13928), (450, 14003), (470, 14075), (564, 14468), (568, 14492), (589, 14609), (590, 14621), (598, 14690), (600, 14699), (610, 14762), (631, 14840), (634, 14852), (640, 14864),

Gene: BayC_8 Start: 4267, Stop: 7314, Start Num: 33

Candidate Starts for BayC_8:

(Start: 33 @4267 has 11 MA's), (38, 4306), (52, 4402), (63, 4456), (70, 4519), (73, 4528), (74, 4537), (Start: 92 @4666 has 4 MA's), (95, 4672), (97, 4678), (124, 4810), (133, 4867), (150, 4921), (194, 5257), (201, 5308), (204, 5320), (213, 5419), (214, 5428), (222, 5479), (232, 5551), (237, 5566), (255, 5668), (258, 5677), (259, 5680), (266, 5713), (270, 5731), (272, 5740), (293, 5788), (295, 5797), (297, 5806), (321, 5866), (326, 5887), (328, 5896), (330, 5905), (333, 5917), (335, 5926), (337, 5938), (373, 6082), (392, 6115), (416, 6211), (423, 6238), (440, 6310), (456, 6364), (462, 6388), (473, 6439), (480, 6472), (482, 6475), (488, 6517), (493, 6538), (500, 6574), (504, 6604), (505, 6607), (518, 6661), (527, 6703), (533, 6715), (544, 6739), (578, 6847), (593, 6961), (599, 7006), (601, 7009), (603, 7018), (612, 7075), (615, 7078), (617, 7087), (639, 7162), (655, 7234), (656, 7264),

Gene: BeardedLady_19 Start: 11916, Stop: 15236, Start Num: 12

Candidate Starts for BeardedLady_19:

(Start: 12 @11916 has 62 MA's), (40, 12060), (58, 12171), (62, 12183), (71, 12252), (72, 12258), (76, 12279), (98, 12414), (109, 12477), (115, 12513), (116, 12516), (152, 12681), (160, 12720), (170, 12777), (191, 12981), (228, 13284), (233, 13317), (242, 13380), (245, 13413), (259, 13491), (264, 13527), (265, 13530), (268, 13548), (273, 13572), (278, 13593), (285, 13626), (291, 13644), (299, 13680), (315, 13734), (325, 13773), (330, 13797), (344, 13863), (354, 13899), (372, 13971), (392, 13995), (394, 14001), (399, 14025), (404, 14046), (430, 14148), (432, 14160), (440, 14196), (450, 14235), (461, 14268), (495, 14439), (502, 14478), (523, 14580), (528, 14601), (533, 14613), (583, 14790), (589, 14841), (590, 14853), (619, 15027), (641, 15096), (650, 15135), (666, 15222), (667, 15225),

Gene: BeatusComedenti_33 Start: 18505, Stop: 21594, Start Num: 92

Candidate Starts for BeatusComedenti_33:

(Start: 92 @18505 has 4 MA's), (111, 18595), (137, 18718), (161, 18826), (166, 18847), (172, 18898), (177, 18955), (182, 18991), (189, 19069), (191, 19081), (196, 19126), (205, 19174), (220, 19312), (222, 19324), (225, 19348), (230, 19396), (235, 19441), (242, 19486), (251, 19558), (252, 19561), (254, 19579), (258, 19591), (269, 19654), (271, 19666), (273, 19675), (292, 19756), (315, 19849), (323, 19879), (325, 19888), (334, 19927), (341, 19975), (342, 19978), (369, 20086), (383, 20143), (384, 20155), (387, 20176), (389, 20182), (396, 20248), (397, 20260), (401, 20275), (409, 20308), (412, 20317), (417, 20341), (427, 20380), (431, 20401), (437, 20422), (442, 20455), (448, 20473), (454, 20485), (460, 20509), (467, 20536), (469, 20542), (472, 20557), (475, 20575), (494, 20674), (497, 20686), (504, 20731), (516, 20794), (517, 20797), (520, 20818), (521, 20821), (533, 20863), (535, 20872), (540, 20908), (559, 20974), (564, 20995), (567, 21016), (588, 21127), (589, 21136),

(590, 21148), (606, 21247), (609, 21277), (636, 21385), (637, 21388), (648, 21427), (660, 21505),

Gene: Bovely_18 Start: 11675, Stop: 14995, Start Num: 12

Candidate Starts for Bovely_18:

(Start: 12 @11675 has 62 MA's), (40, 11819), (58, 11930), (62, 11942), (71, 12011), (72, 12017), (76, 12038), (98, 12173), (109, 12236), (115, 12272), (116, 12275), (152, 12440), (160, 12479), (170, 12536), (191, 12740), (228, 13043), (233, 13076), (242, 13139), (245, 13172), (259, 13250), (264, 13286), (265, 13289), (268, 13307), (273, 13331), (278, 13352), (285, 13385), (291, 13403), (299, 13439), (315, 13493), (325, 13532), (330, 13556), (344, 13622), (354, 13658), (372, 13730), (392, 13754), (394, 13760), (399, 13784), (404, 13805), (430, 13907), (432, 13919), (440, 13955), (450, 13994), (461, 14027), (495, 14198), (502, 14237), (523, 14339), (528, 14360), (533, 14372), (583, 14549), (589, 14600), (590, 14612), (619, 14786), (641, 14855), (650, 14894), (666, 14981), (667, 14984),

Gene: Bowden_19 Start: 11670, Stop: 14930, Start Num: 25

Candidate Starts for Bowden_19:

(Start: 17 @11631 has 29 MA's), (Start: 25 @11670 has 3 MA's), (40, 11766), (42, 11787), (49, 11829), (53, 11844), (80, 12006), (109, 12177), (115, 12213), (162, 12432), (164, 12438), (172, 12498), (191, 12681), (228, 12984), (242, 13080), (245, 13113), (257, 13185), (259, 13191), (266, 13239), (273, 13272), (277, 13290), (278, 13293), (285, 13326), (291, 13344), (325, 13473), (335, 13518), (349, 13581), (351, 13587), (404, 13746), (407, 13758), (432, 13860), (443, 13914), (450, 13935), (470, 14007), (522, 14274), (564, 14400), (568, 14424), (589, 14541), (590, 14553), (598, 14622), (600, 14631), (610, 14694), (631, 14772), (634, 14784), (640, 14796),

Gene: Brataylor_19 Start: 11658, Stop: 14981, Start Num: 12

Candidate Starts for Brataylor_19:

(Start: 12 @11658 has 62 MA's), (Start: 24 @11694 has 4 MA's), (40, 11805), (58, 11916), (62, 11928), (64, 11940), (74, 12015), (80, 12051), (102, 12180), (109, 12222), (114, 12252), (115, 12258), (118, 12270), (126, 12315), (164, 12483), (172, 12543), (190, 12717), (191, 12726), (228, 13029), (234, 13065), (241, 13101), (242, 13125), (245, 13158), (265, 13275), (268, 13293), (278, 13338), (285, 13371), (291, 13389), (311, 13464), (330, 13542), (335, 13563), (339, 13584), (349, 13626), (354, 13644), (404, 13791), (424, 13869), (430, 13893), (432, 13905), (435, 13917), (437, 13923), (444, 13962), (450, 13980), (502, 14223), (523, 14325), (589, 14586), (590, 14598), (600, 14676), (605, 14694), (619, 14772), (641, 14841), (666, 14967), (667, 14970),

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

Candidate Starts for BroPlease_19:

(Start: 1 @11860 has 3 MA's), (9, 12196), (11, 12241), (13, 12334), (20, 12358), (22, 12367), (40, 12493), (52, 12577), (60, 12616), (72, 12703), (81, 12760), (93, 12853), (96, 12862), (102, 12889), (106, 12907), (110, 12940), (115, 12967), (126, 13024), (128, 13033), (161, 13180), (162, 13186), (163, 13189), (188, 13408), (189, 13423), (191, 13435), (202, 13516), (218, 13654), (228, 13738), (242, 13834), (243, 13843), (263, 13978), (264, 13981), (266, 13993), (285, 14080), (286, 14083), (288, 14089), (331, 14254), (336, 14281), (383, 14440), (392, 14449), (404, 14500), (405, 14503), (411, 14524), (422, 14572), (429, 14599), (432, 14614), (433, 14620), (450, 14689), (465, 14740), (529, 15058), (553, 15112), (561, 15142), (589, 15295), (598, 15376), (605, 15403), (666, 15670),

Gene: BryanRecycles_19 Start: 11832, Stop: 15152, Start Num: 12

Candidate Starts for BryanRecycles_19:

(Start: 12 @11832 has 62 MA's), (40, 11976), (58, 12087), (62, 12099), (71, 12168), (72, 12174), (76, 12195), (98, 12330), (109, 12393), (115, 12429), (116, 12432), (152, 12597), (160, 12636), (170, 12693), (190, 12888), (191, 12897), (228, 13200), (233, 13233), (242, 13296), (245, 13329), (259, 13407), (268, 13464), (273, 13488), (278, 13509), (285, 13542), (291, 13560), (299, 13596), (315, 13650), (325, 13689), (330, 13713), (344, 13779), (354, 13815), (372, 13887), (392, 13911), (394,

13917), (399, 13941), (404, 13962), (430, 14064), (432, 14076), (440, 14112), (450, 14151), (461, 14184), (495, 14355), (502, 14394), (503, 14397), (523, 14496), (528, 14517), (533, 14529), (589, 14757), (590, 14769), (619, 14943), (641, 15012), (650, 15051), (666, 15138), (667, 15141),

Gene: Caelum_19 Start: 11485, Stop: 15480, Start Num: 17

Candidate Starts for Caelum_19:

(Start: 17 @11485 has 29 MA's), (38, 11611), (40, 11620), (42, 11641), (53, 11698), (58, 11731), (80, 11863), (108, 12025), (115, 12070), (137, 12175), (166, 12304), (177, 12412), (191, 12535), (242, 12934), (264, 13081), (268, 13102), (273, 13126), (278, 13147), (285, 13180), (291, 13198), (296, 13222), (327, 13339), (353, 13450), (354, 13453), (360, 13474), (391, 13546), (404, 13600), (418, 13657), (432, 13714), (435, 13726), (437, 13732), (450, 13789), (470, 13861), (487, 13951), (568, 14278), (583, 14344), (589, 14395), (604, 14500), (610, 14548), (628, 14608), (654, 14719), (663, 14785), (677, 14857), (678, 14896), (682, 14935), (687, 14995), (689, 15049), (690, 15052), (691, 15073), (692, 15085), (694, 15130), (696, 15151), (699, 15199), (702, 15247), (716, 15469),

Gene: Caliburn_18 Start: 11649, Stop: 14969, Start Num: 12

Candidate Starts for Caliburn_18:

(Start: 12 @11649 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (71, 11985), (72, 11991), (76, 12012), (98, 12147), (109, 12210), (115, 12246), (116, 12249), (152, 12414), (160, 12453), (170, 12510), (191, 12714), (228, 13017), (233, 13050), (242, 13113), (245, 13146), (259, 13224), (264, 13260), (265, 13263), (268, 13281), (273, 13305), (278, 13326), (285, 13359), (291, 13377), (299, 13413), (315, 13467), (325, 13506), (330, 13530), (344, 13596), (354, 13632), (372, 13704), (392, 13728), (394, 13734), (399, 13758), (404, 13779), (430, 13881), (432, 13893), (440, 13929), (450, 13968), (461, 14001), (495, 14172), (502, 14211), (523, 14313), (528, 14334), (533, 14346), (583, 14523), (589, 14574), (590, 14586), (619, 14760), (641, 14829), (650, 14868), (666, 14955), (667, 14958),

Gene: Celery_21 Start: 11512, Stop: 15627, Start Num: 12

Candidate Starts for Celery_21:

(10, 11401), (Start: 12 @11512 has 62 MA's), (Start: 19 @11536 has 1 MA's), (40, 11656), (43, 11689), (49, 11719), (58, 11767), (59, 11770), (102, 12031), (115, 12109), (116, 12112), (118, 12121), (129, 12184), (137, 12214), (142, 12238), (145, 12247), (156, 12298), (161, 12322), (172, 12394), (190, 12565), (191, 12574), (228, 12880), (238, 12943), (242, 12976), (251, 13051), (259, 13087), (264, 13123), (278, 13189), (285, 13222), (291, 13240), (298, 13273), (311, 13315), (315, 13330), (324, 13363), (325, 13369), (329, 13387), (332, 13402), (345, 13462), (347, 13471), (350, 13480), (358, 13510), (371, 13564), (374, 13579), (389, 13654), (404, 13729), (430, 13831), (432, 13843), (435, 13855), (437, 13861), (444, 13900), (450, 13918), (479, 14035), (502, 14161), (512, 14209), (532, 14293), (533, 14296), (589, 14524), (592, 14566), (663, 14914), (672, 14953), (678, 15025), (682, 15064), (685, 15106), (689, 15178), (690, 15181), (691, 15202), (694, 15259), (696, 15280), (699, 15328), (700, 15331), (701, 15346), (704, 15409), (705, 15418), (708, 15460), (716, 15613), (717, 15616),

Gene: Celeste_18 Start: 11686, Stop: 14973, Start Num: 24

Candidate Starts for Celeste_18:

(Start: 12 @11650 has 62 MA's), (Start: 24 @11686 has 4 MA's), (40, 11797), (58, 11908), (62, 11920), (64, 11932), (74, 12007), (80, 12043), (102, 12172), (109, 12214), (114, 12244), (115, 12250), (118, 12262), (126, 12307), (172, 12535), (191, 12718), (234, 13057), (242, 13117), (245, 13150), (265, 13267), (268, 13285), (278, 13330), (285, 13363), (291, 13381), (311, 13456), (330, 13534), (335, 13555), (339, 13576), (349, 13618), (354, 13636), (404, 13783), (424, 13861), (430, 13885), (432, 13897), (435, 13909), (437, 13915), (444, 13954), (450, 13972), (502, 14215), (523, 14317), (589, 14578), (590, 14590), (600, 14668), (605, 14686), (619, 14764), (641, 14833), (666, 14959), (667, 14962),

Gene: Celia_18 Start: 12007, Stop: 15408, Start Num: 16

Candidate Starts for Celia_18:

(Start: 16 @12007 has 5 MA's), (Start: 19 @12022 has 1 MA's), (40, 12142), (55, 12235), (58, 12253), (64, 12277), (86, 12433), (118, 12610), (126, 12655), (145, 12736), (159, 12799), (162, 12817), (177, 12940), (191, 13063), (200, 13135), (203, 13147), (217, 13276), (228, 13369), (241, 13441), (242, 13465), (251, 13540), (266, 13624), (278, 13678), (285, 13711), (287, 13717), (292, 13738), (295, 13750), (307, 13789), (312, 13807), (351, 13972), (367, 14041), (372, 14056), (375, 14071), (379, 14092), (390, 14146), (399, 14197), (404, 14218), (432, 14332), (450, 14407), (455, 14416), (482, 14530), (502, 14650), (531, 14782), (533, 14785), (555, 14836), (570, 14902), (572, 14905), (589, 15013), (598, 15094), (605, 15121), (630, 15238), (650, 15310), (666, 15397),

Gene: Chucky_18 Start: 11647, Stop: 14970, Start Num: 12

Candidate Starts for Chucky_18:

(Start: 12 @11647 has 62 MA's), (40, 11794), (58, 11905), (62, 11917), (64, 11929), (74, 12004), (80, 12040), (102, 12169), (109, 12211), (114, 12241), (115, 12247), (126, 12304), (172, 12532), (178, 12592), (191, 12715), (228, 13018), (242, 13114), (245, 13147), (265, 13264), (268, 13282), (278, 13327), (285, 13360), (291, 13378), (311, 13453), (330, 13531), (335, 13552), (349, 13615), (354, 13633), (404, 13780), (424, 13858), (430, 13882), (432, 13894), (435, 13906), (437, 13912), (444, 13951), (450, 13969), (502, 14212), (523, 14314), (543, 14356), (583, 14524), (589, 14575), (590, 14587), (641, 14830), (666, 14956), (667, 14959),

Gene: Conan_19 Start: 11284, Stop: 15396, Start Num: 12

Candidate Starts for Conan_19:

(Start: 12 @11284 has 62 MA's), (Start: 19 @11308 has 1 MA's), (40, 11428), (43, 11461), (49, 11491), (58, 11539), (102, 11803), (109, 11845), (118, 11893), (145, 12019), (166, 12115), (170, 12145), (172, 12166), (177, 12223), (180, 12238), (190, 12337), (191, 12346), (228, 12652), (234, 12688), (242, 12748), (260, 12868), (264, 12895), (265, 12898), (273, 12940), (278, 12961), (325, 13141), (345, 13234), (347, 13243), (354, 13267), (366, 13321), (368, 13327), (371, 13336), (374, 13351), (377, 13366), (382, 13384), (389, 13426), (404, 13501), (432, 13615), (435, 13627), (437, 13633), (450, 13690), (461, 13723), (465, 13741), (474, 13780), (479, 13807), (503, 13936), (512, 13981), (533, 14068), (562, 14146), (586, 14266), (589, 14296), (592, 14338), (624, 14497), (628, 14509), (635, 14542), (658, 14662), (663, 14686), (671, 14719), (672, 14725), (677, 14758), (678, 14797), (682, 14836), (686, 14887), (690, 14953), (691, 14974), (694, 15031), (696, 15052), (699, 15100), (700, 15103), (701, 15118), (704, 15181), (705, 15190), (708, 15232), (710, 15247), (716, 15382), (717, 15385),

Gene: DanielleIgnace_26 Start: 17678, Stop: 20671, Start Num: 92

Candidate Starts for DanielleIgnace_26:

(Start: 92 @17678 has 4 MA's), (111, 17768), (117, 17798), (123, 17822), (126, 17843), (137, 17891), (146, 17927), (154, 17960), (158, 17981), (161, 17999), (166, 18020), (172, 18071), (177, 18128), (182, 18164), (191, 18254), (196, 18299), (205, 18347), (211, 18434), (220, 18485), (222, 18497), (225, 18521), (229, 18566), (235, 18614), (242, 18659), (252, 18734), (259, 18767), (264, 18803), (269, 18827), (301, 18962), (313, 19016), (315, 19022), (322, 19049), (334, 19100), (342, 19151), (346, 19169), (351, 19184), (360, 19217), (369, 19259), (375, 19283), (384, 19328), (397, 19400), (400, 19412), (401, 19415), (412, 19457), (414, 19469), (415, 19475), (417, 19481), (422, 19502), (431, 19541), (443, 19598), (448, 19613), (449, 19616), (459, 19643), (460, 19649), (467, 19676), (469, 19682), (471, 19694), (494, 19814), (497, 19826), (504, 19871), (506, 19880), (525, 19913), (540, 19982), (552, 20024), (553, 20027), (556, 20036), (559, 20048), (561, 20057), (564, 20069), (585, 20177), (586, 20180), (589, 20210), (590, 20222), (606, 20321), (609, 20351), (625, 20417), (638, 20468), (643, 20483), (647, 20498), (648, 20504), (651, 20516), (660, 20582),

Gene: Danzina_19 Start: 11860, Stop: 15183, Start Num: 12

Candidate Starts for Danzina_19:

(Start: 12 @11860 has 62 MA's), (Start: 24 @11896 has 4 MA's), (40, 12007), (58, 12118), (62, 12130), (64, 12142), (74, 12217), (80, 12253), (102, 12382), (109, 12424), (114, 12454), (115, 12460), (118, 12472), (126, 12517), (164, 12685), (172, 12745), (190, 12919), (191, 12928), (228, 13231), (234, 13267), (241, 13303), (242, 13327), (245, 13360), (265, 13477), (268, 13495), (278, 13540), (285, 13573), (291, 13591), (311, 13666), (330, 13744), (335, 13765), (339, 13786), (349, 13828), (354, 13846), (404, 13993), (424, 14071), (430, 14095), (432, 14107), (435, 14119), (437, 14125), (444, 14164), (450, 14182), (502, 14425), (523, 14527), (589, 14788), (590, 14800), (600, 14878), (605, 14896), (619, 14974), (641, 15043), (666, 15169), (667, 15172),

Gene: Dattran_19 Start: 11685, Stop: 14972, Start Num: 24

Candidate Starts for Dattran_19:

(Start: 12 @11649 has 62 MA's), (Start: 24 @11685 has 4 MA's), (40, 11796), (58, 11907), (62, 11919), (64, 11931), (74, 12006), (80, 12042), (102, 12171), (109, 12213), (114, 12243), (115, 12249), (118, 12261), (126, 12306), (172, 12534), (191, 12717), (234, 13056), (242, 13116), (245, 13149), (265, 13266), (268, 13284), (278, 13329), (285, 13362), (291, 13380), (311, 13455), (330, 13533), (335, 13554), (339, 13575), (349, 13617), (354, 13635), (404, 13782), (424, 13860), (430, 13884), (432, 13896), (435, 13908), (437, 13914), (444, 13953), (450, 13971), (502, 14214), (523, 14316), (589, 14577), (590, 14589), (600, 14667), (605, 14685), (619, 14763), (641, 14832), (666, 14958), (667, 14961),

Gene: Daudau_18 Start: 11605, Stop: 14904, Start Num: 17

Candidate Starts for Daudau_18:

(Start: 17 @11605 has 29 MA's), (Start: 25 @11644 has 3 MA's), (Start: 36 @11722 has 1 MA's), (40, 11740), (42, 11761), (58, 11851), (80, 11983), (112, 12172), (115, 12190), (124, 12229), (177, 12532), (191, 12655), (201, 12730), (238, 13021), (242, 13054), (264, 13201), (333, 13483), (354, 13573), (358, 13588), (404, 13720), (418, 13777), (430, 13822), (432, 13834), (444, 13891), (450, 13909), (528, 14275), (564, 14374), (568, 14398), (589, 14515), (590, 14527), (598, 14596), (600, 14605), (626, 14722),

Gene: Dexers_17 Start: 11265, Stop: 15377, Start Num: 12

Candidate Starts for Dexers_17:

(Start: 12 @11265 has 62 MA's), (Start: 19 @11289 has 1 MA's), (40, 11409), (43, 11442), (58, 11520), (59, 11523), (98, 11763), (102, 11784), (109, 11826), (118, 11874), (145, 12000), (166, 12096), (170, 12126), (172, 12147), (180, 12219), (190, 12318), (191, 12327), (193, 12339), (228, 12633), (234, 12669), (242, 12729), (259, 12840), (264, 12876), (268, 12897), (278, 12942), (285, 12975), (291, 12993), (298, 13026), (330, 13146), (331, 13149), (345, 13215), (347, 13224), (368, 13308), (371, 13317), (374, 13332), (389, 13407), (395, 13443), (404, 13482), (432, 13596), (435, 13608), (437, 13614), (444, 13653), (455, 13680), (469, 13734), (479, 13788), (503, 13917), (512, 13962), (533, 14049), (586, 14247), (589, 14277), (592, 14319), (624, 14478), (628, 14490), (643, 14553), (663, 14667), (672, 14706), (678, 14778), (682, 14817), (685, 14859), (690, 14934), (691, 14955), (694, 15012), (696, 15033), (699, 15081), (700, 15084), (701, 15099), (704, 15162), (705, 15171), (708, 15213), (716, 15363), (717, 15366),

Gene: Diane_18 Start: 11534, Stop: 15442, Start Num: 17

Candidate Starts for Diane_18:

(Start: 17 @11534 has 29 MA's), (40, 11669), (58, 11780), (67, 11843), (74, 11876), (80, 11912), (109, 12083), (114, 12113), (115, 12119), (131, 12206), (177, 12461), (178, 12464), (191, 12584), (242, 12983), (245, 13016), (264, 13130), (266, 13142), (278, 13196), (285, 13229), (291, 13247), (315, 13337), (344, 13421), (346, 13430), (404, 13562), (407, 13574), (418, 13619), (432, 13676), (450, 13751), (470, 13823), (528, 14117), (564, 14216), (572, 14249), (589, 14357), (628, 14570), (663, 14747), (682, 14897), (685, 14939), (690, 15014), (691, 15035), (694, 15092), (696, 15113), (697, 15116), (699, 15161), (706, 15254),

Gene: Dwayne_18 Start: 11643, Stop: 14966, Start Num: 12

Candidate Starts for Dwayne_18:

(Start: 12 @11643 has 62 MA's), (40, 11790), (58, 11901), (62, 11913), (64, 11925), (74, 12000), (80, 12036), (102, 12165), (109, 12207), (114, 12237), (115, 12243), (126, 12300), (172, 12528), (178, 12588), (191, 12711), (228, 13014), (242, 13110), (245, 13143), (265, 13260), (268, 13278), (278, 13323), (285, 13356), (291, 13374), (311, 13449), (330, 13527), (335, 13548), (349, 13611), (354, 13629), (372, 13701), (404, 13776), (424, 13854), (430, 13878), (432, 13890), (435, 13902), (437, 13908), (444, 13947), (450, 13965), (502, 14208), (523, 14310), (543, 14352), (583, 14520), (589, 14571), (590, 14583), (619, 14757), (641, 14826), (666, 14952), (667, 14955),

Gene: ELB20_17 Start: 11627, Stop: 15028, Start Num: 17

Candidate Starts for ELB20_17:

(Start: 17 @11627 has 29 MA's), (Start: 25 @11666 has 3 MA's), (38, 11753), (40, 11762), (42, 11783), (53, 11840), (58, 11873), (67, 11936), (69, 11954), (75, 11975), (80, 12005), (109, 12176), (115, 12212), (126, 12269), (131, 12299), (137, 12317), (152, 12380), (172, 12497), (191, 12680), (228, 12983), (238, 13046), (242, 13079), (245, 13112), (257, 13184), (259, 13190), (268, 13247), (273, 13271), (278, 13292), (285, 13325), (291, 13343), (311, 13418), (325, 13472), (327, 13484), (331, 13499), (335, 13517), (349, 13580), (432, 13859), (450, 13934), (470, 14006), (475, 14030), (522, 14273), (529, 14303), (541, 14390), (542, 14399), (568, 14522), (584, 14600), (589, 14639), (590, 14651), (600, 14729), (640, 14894),

Gene: Eddasa_19 Start: 11832, Stop: 15152, Start Num: 12

Candidate Starts for Eddasa_19:

(Start: 12 @11832 has 62 MA's), (40, 11976), (58, 12087), (62, 12099), (71, 12168), (72, 12174), (76, 12195), (98, 12330), (109, 12393), (115, 12429), (116, 12432), (152, 12597), (160, 12636), (170, 12693), (190, 12888), (191, 12897), (228, 13200), (233, 13233), (242, 13296), (245, 13329), (259, 13407), (268, 13464), (273, 13488), (278, 13509), (285, 13542), (291, 13560), (299, 13596), (315, 13650), (325, 13689), (330, 13713), (344, 13779), (354, 13815), (372, 13887), (392, 13911), (394, 13917), (399, 13941), (404, 13962), (430, 14064), (432, 14076), (440, 14112), (450, 14151), (461, 14184), (495, 14355), (502, 14394), (503, 14397), (523, 14496), (528, 14517), (533, 14529), (589, 14757), (590, 14769), (619, 14943), (641, 15012), (650, 15051), (666, 15138), (667, 15141),

Gene: Ejemplo_18 Start: 11643, Stop: 14966, Start Num: 12

Candidate Starts for Ejemplo_18:

(Start: 12 @11643 has 62 MA's), (40, 11790), (58, 11901), (62, 11913), (64, 11925), (74, 12000), (80, 12036), (109, 12207), (114, 12237), (115, 12243), (118, 12255), (126, 12300), (139, 12354), (164, 12468), (172, 12528), (190, 12702), (191, 12711), (228, 13014), (234, 13050), (242, 13110), (245, 13143), (259, 13221), (265, 13260), (268, 13278), (278, 13323), (285, 13356), (291, 13374), (311, 13449), (330, 13527), (335, 13548), (339, 13569), (349, 13611), (354, 13629), (372, 13701), (404, 13776), (424, 13854), (430, 13878), (432, 13890), (435, 13902), (437, 13908), (444, 13947), (450, 13965), (502, 14208), (511, 14253), (523, 14310), (583, 14520), (589, 14571), (641, 14826), (666, 14952), (667, 14955),

Gene: ElGato_19 Start: 11287, Stop: 15399, Start Num: 12

Candidate Starts for ElGato_19:

(Start: 12 @11287 has 62 MA's), (Start: 19 @11311 has 1 MA's), (40, 11431), (43, 11464), (49, 11494), (58, 11542), (102, 11806), (109, 11848), (118, 11896), (145, 12022), (166, 12118), (170, 12148), (172, 12169), (180, 12241), (190, 12340), (191, 12349), (228, 12655), (234, 12691), (242, 12751), (260, 12871), (264, 12898), (265, 12901), (273, 12943), (278, 12964), (325, 13144), (341, 13222), (345, 13237), (347, 13246), (354, 13270), (366, 13324), (368, 13330), (371, 13339), (374, 13354), (377, 13369), (382, 13387), (389, 13429), (404, 13504), (432, 13618), (435, 13630), (437, 13636), (444, 13675), (447, 13684), (450, 13693), (503, 13939), (512, 13984), (533, 14071), (562, 14149), (586, 14269), (589, 14299), (592, 14341), (624, 14500), (628, 14512), (635, 14545), (658, 14665), (663,

14689), (672, 14728), (677, 14761), (678, 14800), (682, 14839), (686, 14890), (690, 14956), (691, 14977), (694, 15034), (696, 15055), (699, 15103), (700, 15106), (701, 15121), (704, 15184), (705, 15193), (708, 15235), (710, 15250), (716, 15385), (717, 15388),

Gene: Emaanora_20 Start: 11646, Stop: 14969, Start Num: 12

Candidate Starts for Emaanora_20:

(Start: 12 @11646 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (64, 11928), (74, 12003), (80, 12039), (102, 12168), (109, 12210), (114, 12240), (115, 12246), (126, 12303), (172, 12531), (178, 12591), (191, 12714), (228, 13017), (242, 13113), (245, 13146), (265, 13263), (268, 13281), (278, 13326), (285, 13359), (291, 13377), (311, 13452), (330, 13530), (335, 13551), (349, 13614), (354, 13632), (404, 13779), (424, 13857), (430, 13881), (432, 13893), (435, 13905), (437, 13911), (444, 13950), (450, 13968), (502, 14211), (523, 14313), (543, 14355), (583, 14523), (589, 14574), (590, 14586), (619, 14760), (641, 14829), (666, 14955), (667, 14958),

Gene: EmiRose_15 Start: 10389, Stop: 13049, Start Num: 103

Candidate Starts for EmiRose_15:

(Start: 103 @10389 has 1 MA's), (109, 10428), (137, 10569), (151, 10632), (156, 10656), (165, 10698), (169, 10722), (171, 10743), (175, 10785), (177, 10809), (183, 10860), (185, 10878), (187, 10902), (190, 10926), (192, 10938), (199, 10998), (217, 11145), (219, 11160), (222, 11175), (227, 11232), (247, 11349), (248, 11361), (255, 11403), (262, 11436), (266, 11463), (267, 11469), (275, 11505), (310, 11625), (337, 11736), (340, 11748), (361, 11832), (363, 11841), (368, 11862), (405, 11946), (406, 11949), (412, 11970), (438, 12078), (451, 12129), (458, 12150), (461, 12162), (464, 12174), (468, 12189), (473, 12216), (477, 12234), (483, 12255), (486, 12270), (488, 12279), (489, 12288), (497, 12321), (501, 12345), (502, 12354), (508, 12390), (532, 12432), (549, 12453), (558, 12486), (575, 12552), (581, 12594), (589, 12651), (608, 12777), (620, 12843), (622, 12846), (638, 12909), (642, 12921), (653, 12957), (657, 13002), (659, 13011),

Gene: EnochSoames_20 Start: 11828, Stop: 15148, Start Num: 12

Candidate Starts for EnochSoames_20:

(Start: 12 @11828 has 62 MA's), (40, 11972), (58, 12083), (62, 12095), (64, 12107), (72, 12170), (74, 12182), (98, 12326), (109, 12389), (115, 12425), (116, 12428), (152, 12593), (160, 12632), (170, 12689), (190, 12884), (191, 12893), (228, 13196), (233, 13229), (242, 13292), (245, 13325), (259, 13403), (268, 13460), (273, 13484), (278, 13505), (285, 13538), (291, 13556), (299, 13592), (315, 13646), (325, 13685), (330, 13709), (344, 13775), (354, 13811), (372, 13883), (392, 13907), (394, 13913), (399, 13937), (404, 13958), (430, 14060), (432, 14072), (440, 14108), (450, 14147), (461, 14180), (495, 14351), (502, 14390), (503, 14393), (523, 14492), (528, 14513), (533, 14525), (589, 14753), (590, 14765), (619, 14939), (641, 15008), (650, 15047), (666, 15134), (667, 15137),

Gene: Esperer_18 Start: 11669, Stop: 14989, Start Num: 12

Candidate Starts for Esperer_18:

(Start: 12 @11669 has 62 MA's), (40, 11813), (58, 11924), (62, 11936), (71, 12005), (72, 12011), (76, 12032), (98, 12167), (109, 12230), (115, 12266), (116, 12269), (152, 12434), (160, 12473), (170, 12530), (191, 12734), (228, 13037), (233, 13070), (242, 13133), (245, 13166), (259, 13244), (264, 13280), (265, 13283), (268, 13301), (273, 13325), (278, 13346), (285, 13379), (291, 13397), (299, 13433), (315, 13487), (325, 13526), (330, 13550), (344, 13616), (354, 13652), (372, 13724), (392, 13748), (394, 13754), (399, 13778), (404, 13799), (430, 13901), (432, 13913), (440, 13949), (450, 13988), (461, 14021), (495, 14192), (502, 14231), (523, 14333), (528, 14354), (533, 14366), (583, 14543), (589, 14594), (590, 14606), (619, 14780), (641, 14849), (650, 14888), (666, 14975), (667, 14978),

Gene: GirlDinner_18 Start: 11503, Stop: 14700, Start Num: 17

Candidate Starts for GirlDinner_18:

(Start: 17 @11503 has 29 MA's), (Start: 25 @11542 has 3 MA's), (40, 11641), (42, 11662), (55, 11734), (58, 11752), (80, 11884), (82, 11896), (108, 12046), (114, 12085), (115, 12091), (116, 12094), (126, 12148), (157, 12283), (170, 12355), (191, 12559), (207, 12667), (228, 12862), (242, 12958), (245, 12991), (259, 13069), (264, 13105), (268, 13126), (273, 13150), (278, 13171), (279, 13174), (285, 13204), (291, 13222), (300, 13261), (307, 13282), (309, 13288), (312, 13300), (343, 13369), (364, 13432), (373, 13465), (383, 13477), (399, 13516), (432, 13651), (445, 13711), (460, 13756), (462, 13762), (496, 13879), (520, 14005), (543, 14092), (584, 14272), (589, 14311), (632, 14542), (643, 14578),

Gene: Goby_18 Start: 11655, Stop: 14978, Start Num: 12

Candidate Starts for Goby_18:

(Start: 12 @11655 has 62 MA's), (Start: 24 @11691 has 4 MA's), (40, 11802), (58, 11913), (62, 11925), (64, 11937), (74, 12012), (80, 12048), (102, 12177), (109, 12219), (114, 12249), (115, 12255), (118, 12267), (126, 12312), (172, 12540), (191, 12723), (234, 13062), (242, 13122), (245, 13155), (250, 13188), (264, 13269), (268, 13290), (278, 13335), (285, 13368), (291, 13386), (292, 13395), (311, 13461), (330, 13539), (335, 13560), (339, 13581), (349, 13623), (354, 13641), (404, 13788), (424, 13866), (430, 13890), (432, 13902), (435, 13914), (437, 13920), (444, 13959), (450, 13977), (502, 14220), (523, 14322), (584, 14544), (589, 14583), (590, 14595), (619, 14769), (641, 14838), (666, 14964), (667, 14967),

Gene: Godpower_19 Start: 11667, Stop: 14990, Start Num: 12

Candidate Starts for Godpower_19:

(Start: 12 @11667 has 62 MA's), (Start: 24 @11703 has 4 MA's), (40, 11814), (58, 11925), (62, 11937), (64, 11949), (74, 12024), (80, 12060), (88, 12114), (102, 12189), (109, 12231), (114, 12261), (115, 12267), (118, 12279), (126, 12324), (172, 12552), (190, 12726), (191, 12735), (234, 13074), (242, 13134), (245, 13167), (250, 13200), (264, 13281), (268, 13302), (278, 13347), (285, 13380), (291, 13398), (292, 13407), (311, 13473), (330, 13551), (335, 13572), (339, 13593), (349, 13635), (354, 13653), (404, 13800), (424, 13878), (430, 13902), (432, 13914), (435, 13926), (437, 13932), (444, 13971), (450, 13989), (502, 14232), (523, 14334), (584, 14556), (589, 14595), (590, 14607), (619, 14781), (641, 14850), (666, 14976), (667, 14979),

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

Candidate Starts for GreenWeasel_20:

(Start: 1 @11869 has 3 MA's), (9, 12205), (11, 12250), (13, 12343), (20, 12367), (22, 12376), (40, 12502), (52, 12586), (60, 12625), (72, 12712), (81, 12769), (93, 12862), (96, 12871), (102, 12898), (106, 12916), (110, 12949), (115, 12976), (126, 13033), (128, 13042), (161, 13189), (162, 13195), (163, 13198), (188, 13417), (189, 13432), (191, 13444), (202, 13525), (218, 13663), (228, 13747), (242, 13843), (243, 13852), (263, 13987), (264, 13990), (266, 14002), (285, 14089), (286, 14092), (288, 14098), (331, 14263), (336, 14290), (383, 14449), (392, 14458), (404, 14509), (405, 14512), (411, 14533), (422, 14581), (429, 14608), (432, 14623), (433, 14629), (450, 14698), (465, 14749), (529, 15067), (553, 15121), (561, 15151), (589, 15304), (598, 15385), (605, 15412), (666, 15679),

Gene: Haizum_18 Start: 11570, Stop: 15475, Start Num: 17

Candidate Starts for Haizum_18:

(Start: 17 @11570 has 29 MA's), (40, 11705), (58, 11816), (67, 11879), (74, 11912), (80, 11948), (108, 12110), (109, 12119), (115, 12155), (131, 12242), (189, 12611), (191, 12620), (242, 13019), (245, 13052), (264, 13166), (278, 13232), (285, 13265), (291, 13283), (296, 13307), (299, 13319), (315, 13373), (344, 13457), (346, 13466), (368, 13511), (404, 13598), (418, 13655), (432, 13712), (450, 13787), (470, 13859), (528, 14153), (564, 14252), (572, 14285), (589, 14393), (593, 14438), (604, 14498), (628, 14606), (682, 14933), (685, 14975), (690, 15050), (691, 15071), (694, 15128), (696, 15149), (697, 15152), (699, 15197), (716, 15464),

Gene: Hank144_19 Start: 11796, Stop: 15098, Start Num: 17

Candidate Starts for Hank144_19:

(Start: 17 @11796 has 29 MA's), (Start: 36 @11913 has 1 MA's), (40, 11931), (42, 11952), (58, 12042), (80, 12174), (102, 12303), (109, 12345), (115, 12381), (126, 12438), (191, 12849), (209, 13002), (228, 13152), (242, 13248), (245, 13281), (268, 13416), (273, 13440), (278, 13461), (285, 13494), (291, 13512), (330, 13665), (339, 13707), (348, 13746), (349, 13749), (399, 13893), (404, 13914), (424, 13992), (432, 14028), (435, 14040), (440, 14064), (444, 14085), (450, 14103), (470, 14175), (488, 14268), (492, 14286), (502, 14346), (511, 14391), (532, 14478), (533, 14481), (589, 14709), (598, 14790), (600, 14799), (643, 14976), (666, 15087),

Gene: Hippo_18 Start: 11646, Stop: 14969, Start Num: 12

Candidate Starts for Hippo_18:

(Start: 12 @11646 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (64, 11928), (74, 12003), (80, 12039), (102, 12168), (109, 12210), (114, 12240), (115, 12246), (126, 12303), (172, 12531), (178, 12591), (191, 12714), (228, 13017), (242, 13113), (245, 13146), (265, 13263), (268, 13281), (278, 13326), (285, 13359), (291, 13377), (311, 13452), (330, 13530), (335, 13551), (349, 13614), (354, 13632), (404, 13779), (424, 13857), (430, 13881), (432, 13893), (435, 13905), (437, 13911), (444, 13950), (450, 13968), (502, 14211), (511, 14256), (523, 14313), (583, 14523), (589, 14574), (590, 14586), (619, 14760), (641, 14829), (666, 14955), (667, 14958),

Gene: Hydra_20 Start: 12197, Stop: 15517, Start Num: 12

Candidate Starts for Hydra_20:

(Start: 12 @12197 has 62 MA's), (40, 12341), (58, 12452), (62, 12464), (71, 12533), (72, 12539), (76, 12560), (98, 12695), (109, 12758), (115, 12794), (116, 12797), (152, 12962), (160, 13001), (170, 13058), (191, 13262), (228, 13565), (233, 13598), (242, 13661), (245, 13694), (259, 13772), (264, 13808), (265, 13811), (268, 13829), (273, 13853), (278, 13874), (285, 13907), (291, 13925), (299, 13961), (315, 14015), (325, 14054), (330, 14078), (344, 14144), (354, 14180), (372, 14252), (392, 14276), (394, 14282), (399, 14306), (404, 14327), (430, 14429), (432, 14441), (440, 14477), (450, 14516), (461, 14549), (495, 14720), (502, 14759), (523, 14861), (528, 14882), (533, 14894), (583, 15071), (589, 15122), (590, 15134), (619, 15308), (641, 15377), (650, 15416), (666, 15503), (667, 15506),

Gene: Indigo_18 Start: 11669, Stop: 14989, Start Num: 12

Candidate Starts for Indigo_18:

(Start: 12 @11669 has 62 MA's), (40, 11813), (58, 11924), (62, 11936), (71, 12005), (72, 12011), (76, 12032), (98, 12167), (109, 12230), (115, 12266), (116, 12269), (152, 12434), (160, 12473), (170, 12530), (191, 12734), (228, 13037), (233, 13070), (242, 13133), (245, 13166), (259, 13244), (264, 13280), (265, 13283), (268, 13301), (273, 13325), (278, 13346), (285, 13379), (291, 13397), (299, 13433), (315, 13487), (325, 13526), (330, 13550), (344, 13616), (354, 13652), (372, 13724), (392, 13748), (394, 13754), (399, 13778), (404, 13799), (430, 13901), (432, 13913), (440, 13949), (450, 13988), (461, 14021), (495, 14192), (502, 14231), (523, 14333), (528, 14354), (533, 14366), (583, 14543), (589, 14594), (590, 14606), (619, 14780), (641, 14849), (650, 14888), (666, 14975), (667, 14978),

Gene: Issmi_19 Start: 11823, Stop: 15905, Start Num: 17

Candidate Starts for Issmi_19:

(Start: 17 @11823 has 29 MA's), (Start: 24 @11850 has 4 MA's), (40, 11958), (42, 11979), (58, 12069), (80, 12201), (102, 12330), (115, 12408), (122, 12441), (126, 12465), (177, 12750), (189, 12864), (191, 12873), (242, 13272), (264, 13419), (273, 13464), (280, 13494), (287, 13524), (333, 13701), (353, 13788), (354, 13791), (360, 13812), (403, 13932), (404, 13938), (430, 14040), (432, 14052), (450, 14127), (463, 14169), (487, 14277), (522, 14454), (529, 14484), (542, 14580), (543, 14601), (568, 14703), (589, 14820), (604, 14925), (663, 15210), (672, 15249), (677, 15282), (678, 15321), (682, 15360), (689, 15474), (690, 15477), (691, 15498), (694, 15555), (696, 15576), (697, 15579), (698, 15600), (699, 15624), (709, 15768), (716, 15894),

Gene: Itza_18 Start: 11930, Stop: 15331, Start Num: 16

Candidate Starts for Itza_18:

(Start: 16 @11930 has 5 MA's), (Start: 19 @11945 has 1 MA's), (40, 12065), (55, 12158), (58, 12176), (64, 12200), (86, 12356), (118, 12533), (126, 12578), (145, 12659), (159, 12722), (162, 12740), (177, 12863), (191, 12986), (200, 13058), (203, 13070), (217, 13199), (228, 13292), (241, 13364), (242, 13388), (251, 13463), (266, 13547), (278, 13601), (285, 13634), (287, 13640), (292, 13661), (295, 13673), (307, 13712), (312, 13730), (351, 13895), (367, 13964), (372, 13979), (375, 13994), (379, 14015), (390, 14069), (399, 14120), (404, 14141), (432, 14255), (450, 14330), (455, 14339), (482, 14453), (502, 14573), (531, 14705), (533, 14708), (555, 14759), (570, 14825), (572, 14828), (589, 14936), (598, 15017), (605, 15044), (630, 15161), (650, 15233), (666, 15320),

Gene: Izzy_19 Start: 11879, Stop: 15199, Start Num: 12

Candidate Starts for Izzy_19:

(Start: 12 @11879 has 62 MA's), (40, 12023), (58, 12134), (62, 12146), (71, 12215), (72, 12221), (76, 12242), (98, 12377), (109, 12440), (115, 12476), (116, 12479), (152, 12644), (160, 12683), (170, 12740), (190, 12935), (191, 12944), (228, 13247), (233, 13280), (242, 13343), (245, 13376), (259, 13454), (268, 13511), (273, 13535), (278, 13556), (285, 13589), (291, 13607), (299, 13643), (315, 13697), (325, 13736), (330, 13760), (344, 13826), (354, 13862), (372, 13934), (392, 13958), (394, 13964), (399, 13988), (404, 14009), (430, 14111), (432, 14123), (440, 14159), (450, 14198), (461, 14231), (495, 14402), (502, 14441), (503, 14444), (523, 14543), (528, 14564), (533, 14576), (589, 14804), (590, 14816), (619, 14990), (641, 15059), (650, 15098), (666, 15185), (667, 15188),

Gene: Janus_19 Start: 11841, Stop: 15038, Start Num: 17

Candidate Starts for Janus_19:

(Start: 17 @11841 has 29 MA's), (Start: 25 @11880 has 3 MA's), (40, 11979), (42, 12000), (55, 12072), (58, 12090), (80, 12222), (82, 12234), (108, 12384), (114, 12423), (115, 12429), (116, 12432), (126, 12486), (157, 12621), (170, 12693), (191, 12897), (207, 13005), (228, 13200), (242, 13296), (245, 13329), (259, 13407), (264, 13443), (268, 13464), (273, 13488), (278, 13509), (279, 13512), (285, 13542), (291, 13560), (300, 13599), (307, 13620), (309, 13626), (312, 13638), (343, 13707), (364, 13770), (373, 13803), (383, 13815), (399, 13854), (432, 13989), (445, 14049), (460, 14094), (462, 14100), (496, 14217), (543, 14430), (584, 14610), (589, 14649), (632, 14880), (643, 14916),

Gene: Jash_19 Start: 11832, Stop: 15152, Start Num: 12

Candidate Starts for Jash_19:

(Start: 12 @11832 has 62 MA's), (40, 11976), (58, 12087), (62, 12099), (71, 12168), (72, 12174), (76, 12195), (98, 12330), (109, 12393), (115, 12429), (116, 12432), (152, 12597), (160, 12636), (170, 12693), (190, 12888), (191, 12897), (228, 13200), (233, 13233), (242, 13296), (245, 13329), (259, 13407), (268, 13464), (273, 13488), (278, 13509), (285, 13542), (291, 13560), (299, 13596), (315, 13650), (325, 13689), (330, 13713), (344, 13779), (354, 13815), (372, 13887), (392, 13911), (394, 13917), (399, 13941), (404, 13962), (430, 14064), (432, 14076), (440, 14112), (450, 14151), (461, 14184), (495, 14355), (502, 14394), (503, 14397), (523, 14496), (528, 14517), (533, 14529), (589, 14757), (590, 14769), (619, 14943), (641, 15012), (650, 15051), (666, 15138), (667, 15141),

Gene: Jevington_20 Start: 12149, Stop: 15340, Start Num: 17

Candidate Starts for Jevington_20:

(Start: 17 @12149 has 29 MA's), (Start: 25 @12188 has 3 MA's), (38, 12275), (40, 12284), (42, 12305), (49, 12347), (80, 12524), (104, 12662), (108, 12686), (115, 12731), (116, 12734), (126, 12788), (152, 12899), (191, 13199), (208, 13322), (218, 13418), (228, 13502), (238, 13565), (240, 13571), (242, 13598), (264, 13745), (268, 13766), (273, 13790), (278, 13811), (279, 13814), (285, 13844), (291, 13862), (306, 13919), (343, 14009), (391, 14123), (392, 14126), (412, 14204), (418, 14234), (430, 14279), (432, 14291), (444, 14348), (445, 14351), (460, 14396), (462, 14402), (485, 14465), (503, 14558), (519, 14633), (543, 14732), (589, 14951), (619, 15137), (627, 15158), (632, 15182),

Gene: Jhitchelle_17 Start: 11193, Stop: 15305, Start Num: 12

Candidate Starts for Jhitchelle_17:

(Start: 12 @11193 has 62 MA's), (Start: 19 @11217 has 1 MA's), (39, 11331), (40, 11337), (43, 11370), (49, 11400), (55, 11430), (58, 11448), (64, 11472), (75, 11553), (98, 11691), (109, 11754), (115, 11790), (118, 11802), (126, 11847), (131, 11877), (145, 11928), (156, 11979), (172, 12075), (177, 12132), (182, 12168), (190, 12246), (191, 12255), (228, 12561), (239, 12627), (241, 12633), (242, 12657), (251, 12732), (264, 12804), (278, 12870), (280, 12879), (300, 12960), (316, 13014), (325, 13050), (345, 13143), (347, 13152), (350, 13161), (354, 13176), (376, 13272), (389, 13335), (397, 13380), (404, 13410), (418, 13467), (424, 13488), (432, 13524), (444, 13581), (450, 13599), (455, 13608), (516, 13908), (533, 13977), (545, 13995), (564, 14064), (572, 14097), (580, 14139), (581, 14148), (589, 14205), (598, 14286), (604, 14310), (618, 14388), (663, 14595), (672, 14634), (678, 14706), (682, 14745), (690, 14862), (691, 14883), (694, 14940), (696, 14961), (699, 15009), (700, 15012), (701, 15027), (704, 15090), (705, 15099), (708, 15141), (716, 15291), (717, 15294),

Gene: Kaine_18 Start: 11265, Stop: 15377, Start Num: 12

Candidate Starts for Kaine_18:

(Start: 12 @11265 has 62 MA's), (Start: 19 @11289 has 1 MA's), (40, 11409), (43, 11442), (58, 11520), (59, 11523), (98, 11763), (102, 11784), (109, 11826), (115, 11862), (118, 11874), (145, 12000), (166, 12096), (170, 12126), (172, 12147), (180, 12219), (190, 12318), (191, 12327), (228, 12633), (234, 12669), (242, 12729), (259, 12840), (264, 12876), (268, 12897), (278, 12942), (285, 12975), (291, 12993), (298, 13026), (330, 13146), (331, 13149), (345, 13215), (347, 13224), (368, 13308), (371, 13317), (374, 13332), (389, 13407), (395, 13443), (404, 13482), (432, 13596), (435, 13608), (437, 13614), (444, 13653), (455, 13680), (469, 13734), (479, 13788), (503, 13917), (512, 13962), (533, 14049), (586, 14247), (589, 14277), (592, 14319), (624, 14478), (628, 14490), (643, 14553), (663, 14667), (672, 14706), (678, 14778), (682, 14817), (685, 14859), (690, 14934), (691, 14955), (694, 15012), (696, 15033), (699, 15081), (700, 15084), (701, 15099), (704, 15162), (705, 15171), (708, 15213), (716, 15363), (717, 15366),

Gene: Katalie_19 Start: 11907, Stop: 15230, Start Num: 12

Candidate Starts for Katalie_19:

(Start: 12 @11907 has 62 MA's), (40, 12054), (58, 12165), (62, 12177), (64, 12189), (74, 12264), (80, 12300), (109, 12471), (114, 12501), (115, 12507), (118, 12519), (190, 12966), (191, 12975), (228, 13278), (234, 13314), (242, 13374), (245, 13407), (250, 13440), (264, 13521), (268, 13542), (273, 13566), (278, 13587), (285, 13620), (291, 13638), (307, 13698), (330, 13791), (335, 13812), (349, 13875), (354, 13893), (399, 14019), (404, 14040), (424, 14118), (432, 14154), (435, 14166), (437, 14172), (444, 14211), (450, 14229), (492, 14412), (502, 14472), (511, 14517), (589, 14835), (590, 14847), (619, 15021), (641, 15090), (666, 15216), (667, 15219),

Gene: KellEzio_33 Start: 18507, Stop: 21596, Start Num: 92

Candidate Starts for KellEzio_33:

(Start: 92 @18507 has 4 MA's), (111, 18597), (123, 18651), (161, 18828), (166, 18849), (172, 18900), (177, 18957), (182, 18993), (189, 19071), (191, 19083), (196, 19128), (205, 19176), (220, 19314), (222, 19326), (225, 19350), (230, 19398), (235, 19443), (242, 19488), (251, 19560), (252, 19563), (254, 19581), (258, 19593), (269, 19656), (271, 19668), (273, 19677), (292, 19758), (315, 19851), (323, 19881), (325, 19890), (334, 19929), (341, 19977), (342, 19980), (360, 20046), (369, 20088), (383, 20145), (384, 20157), (386, 20166), (387, 20178), (396, 20250), (397, 20262), (401, 20277), (409, 20310), (412, 20319), (417, 20343), (427, 20382), (431, 20403), (437, 20424), (442, 20457), (448, 20475), (454, 20487), (460, 20511), (467, 20538), (469, 20544), (472, 20559), (475, 20577), (494, 20676), (497, 20688), (504, 20733), (516, 20796), (517, 20799), (520, 20820), (521, 20823), (533, 20865), (535, 20874), (540, 20910), (559, 20976), (564, 20997), (567, 21018), (588, 21129), (589, 21138), (590, 21150), (606, 21249), (609, 21279), (636, 21387), (637, 21390), (648, 21429), (660, 21507),

Gene: Kitkat_34 Start: 18625, Stop: 21714, Start Num: 92

Candidate Starts for Kitkat_34:

(Start: 92 @18625 has 4 MA's), (111, 18715), (137, 18838), (161, 18946), (166, 18967), (172, 19018), (177, 19075), (182, 19111), (189, 19189), (191, 19201), (196, 19246), (205, 19294), (220, 19432), (222, 19444), (225, 19468), (230, 19516), (235, 19561), (242, 19606), (251, 19678), (252, 19681), (254, 19699), (258, 19711), (269, 19774), (271, 19786), (273, 19795), (292, 19876), (315, 19969), (323, 19999), (325, 20008), (334, 20047), (341, 20095), (342, 20098), (369, 20206), (383, 20263), (384, 20275), (387, 20296), (389, 20302), (396, 20368), (397, 20380), (401, 20395), (409, 20428), (412, 20437), (417, 20461), (427, 20500), (431, 20521), (437, 20542), (442, 20575), (448, 20593), (454, 20605), (460, 20629), (467, 20656), (469, 20662), (472, 20677), (475, 20695), (494, 20794), (497, 20806), (504, 20851), (516, 20914), (517, 20917), (520, 20938), (521, 20941), (533, 20983), (535, 20992), (540, 21028), (559, 21094), (564, 21115), (567, 21136), (588, 21247), (589, 21256), (590, 21268), (606, 21367), (609, 21397), (636, 21505), (637, 21508), (648, 21547), (660, 21625),

Gene: Lannister_19 Start: 11670, Stop: 14996, Start Num: 12

Candidate Starts for Lannister_19:

(Start: 12 @11670 has 62 MA's), (40, 11817), (58, 11928), (62, 11940), (64, 11952), (72, 12015), (80, 12063), (104, 12201), (109, 12234), (114, 12264), (115, 12270), (190, 12729), (191, 12738), (221, 12972), (228, 13041), (234, 13077), (242, 13137), (245, 13170), (259, 13248), (264, 13284), (265, 13287), (268, 13305), (273, 13329), (278, 13350), (285, 13383), (291, 13401), (311, 13476), (314, 13488), (330, 13554), (335, 13575), (339, 13596), (349, 13638), (354, 13656), (404, 13803), (424, 13881), (432, 13917), (435, 13929), (437, 13935), (444, 13974), (450, 13992), (502, 14235), (523, 14337), (583, 14547), (589, 14598), (590, 14610), (641, 14853), (666, 14982), (667, 14985),

Gene: Legacy_18 Start: 11640, Stop: 14960, Start Num: 12

Candidate Starts for Legacy_18:

(Start: 12 @11640 has 62 MA's), (40, 11784), (58, 11895), (62, 11907), (71, 11976), (72, 11982), (76, 12003), (98, 12138), (109, 12201), (115, 12237), (116, 12240), (152, 12405), (160, 12444), (170, 12501), (191, 12705), (228, 13008), (233, 13041), (242, 13104), (245, 13137), (259, 13215), (264, 13251), (265, 13254), (268, 13272), (273, 13296), (278, 13317), (285, 13350), (291, 13368), (299, 13404), (315, 13458), (325, 13497), (330, 13521), (344, 13587), (354, 13623), (372, 13695), (392, 13719), (394, 13725), (399, 13749), (404, 13770), (430, 13872), (432, 13884), (440, 13920), (450, 13959), (461, 13992), (495, 14163), (502, 14202), (523, 14304), (528, 14325), (533, 14337), (583, 14514), (589, 14565), (590, 14577), (619, 14751), (641, 14820), (650, 14859), (666, 14946), (667, 14949),

Gene: Leviticus_18 Start: 11669, Stop: 14989, Start Num: 12

Candidate Starts for Leviticus_18:

(Start: 12 @11669 has 62 MA's), (40, 11813), (58, 11924), (62, 11936), (71, 12005), (72, 12011), (76, 12032), (98, 12167), (109, 12230), (115, 12266), (116, 12269), (152, 12434), (160, 12473), (170, 12530), (191, 12734), (228, 13037), (233, 13070), (242, 13133), (245, 13166), (259, 13244), (264, 13280), (265, 13283), (268, 13301), (273, 13325), (278, 13346), (285, 13379), (291, 13397), (299, 13433), (315, 13487), (325, 13526), (330, 13550), (344, 13616), (354, 13652), (372, 13724), (392, 13748), (394, 13754), (399, 13778), (404, 13799), (430, 13901), (432, 13913), (440, 13949), (450, 13988), (461, 14021), (495, 14192), (502, 14231), (523, 14333), (528, 14354), (533, 14366), (583, 14543), (589, 14594), (590, 14606), (619, 14780), (641, 14849), (650, 14888), (666, 14975), (667, 14978),

Gene: Lika_18 Start: 11671, Stop: 14994, Start Num: 12

Candidate Starts for Lika_18:

(Start: 12 @11671 has 62 MA's), (Start: 24 @11707 has 4 MA's), (40, 11818), (58, 11929), (62, 11941), (64, 11953), (72, 12016), (74, 12028), (80, 12064), (102, 12193), (109, 12235), (114, 12265), (115,

12271), (118, 12283), (126, 12328), (172, 12556), (191, 12739), (221, 12973), (234, 13078), (242, 13138), (245, 13171), (250, 13204), (264, 13285), (268, 13306), (278, 13351), (285, 13384), (291, 13402), (292, 13411), (311, 13477), (330, 13555), (335, 13576), (339, 13597), (349, 13639), (354, 13657), (404, 13804), (424, 13882), (430, 13906), (432, 13918), (435, 13930), (437, 13936), (444, 13975), (450, 13993), (457, 14014), (502, 14236), (523, 14338), (584, 14560), (589, 14599), (590, 14611), (619, 14785), (641, 14854), (666, 14980), (667, 14983),

Gene: Loofah_19 Start: 11655, Stop: 14957, Start Num: 17

Candidate Starts for Loofah_19:

(Start: 17 @11655 has 29 MA's), (Start: 25 @11694 has 3 MA's), (Start: 36 @11772 has 1 MA's), (38, 11781), (40, 11790), (42, 11811), (53, 11868), (58, 11901), (69, 11982), (75, 12003), (80, 12033), (109, 12204), (115, 12240), (126, 12297), (131, 12327), (137, 12345), (152, 12408), (155, 12420), (172, 12525), (177, 12582), (191, 12708), (228, 13011), (238, 13074), (242, 13107), (245, 13140), (259, 13218), (268, 13275), (273, 13299), (278, 13320), (285, 13353), (291, 13371), (311, 13446), (325, 13500), (327, 13512), (335, 13545), (349, 13608), (432, 13887), (450, 13962), (470, 14034), (564, 14427), (584, 14529), (589, 14568), (598, 14649), (610, 14721), (640, 14823),

Gene: Lorelei_18 Start: 11676, Stop: 14963, Start Num: 24

Candidate Starts for Lorelei_18:

(Start: 12 @11640 has 62 MA's), (Start: 24 @11676 has 4 MA's), (40, 11787), (58, 11898), (62, 11910), (64, 11922), (74, 11997), (80, 12033), (102, 12162), (109, 12204), (114, 12234), (115, 12240), (118, 12252), (164, 12465), (172, 12525), (190, 12699), (191, 12708), (228, 13011), (234, 13047), (242, 13107), (245, 13140), (257, 13212), (265, 13257), (268, 13275), (278, 13320), (285, 13353), (291, 13371), (311, 13446), (330, 13524), (335, 13545), (339, 13566), (349, 13608), (354, 13626), (404, 13773), (424, 13851), (430, 13875), (432, 13887), (435, 13899), (437, 13905), (444, 13944), (450, 13962), (502, 14205), (512, 14253), (523, 14307), (583, 14517), (589, 14568), (590, 14580), (619, 14754), (641, 14823), (666, 14949), (667, 14952),

Gene: Maih_8 Start: 4266, Stop: 7313, Start Num: 33

Candidate Starts for Maih_8:

(Start: 33 @4266 has 11 MA's), (38, 4305), (52, 4401), (63, 4455), (70, 4518), (73, 4527), (74, 4536), (Start: 92 @4665 has 4 MA's), (95, 4671), (97, 4677), (124, 4809), (133, 4866), (150, 4920), (194, 5256), (201, 5307), (204, 5319), (213, 5418), (214, 5427), (222, 5478), (232, 5550), (237, 5565), (255, 5667), (258, 5676), (259, 5679), (266, 5712), (270, 5730), (272, 5739), (293, 5787), (295, 5796), (297, 5805), (321, 5865), (326, 5886), (328, 5895), (330, 5904), (333, 5916), (335, 5925), (337, 5937), (373, 6081), (392, 6114), (416, 6210), (440, 6309), (456, 6363), (462, 6387), (473, 6438), (480, 6471), (482, 6474), (488, 6516), (493, 6537), (500, 6573), (504, 6603), (505, 6606), (518, 6660), (527, 6702), (533, 6714), (544, 6738), (578, 6846), (593, 6960), (599, 7005), (601, 7008), (603, 7017), (612, 7074), (615, 7077), (617, 7086), (639, 7161), (655, 7233), (656, 7263),

Gene: Maneekul_18 Start: 11642, Stop: 14965, Start Num: 12

Candidate Starts for Maneekul_18:

(Start: 12 @11642 has 62 MA's), (40, 11789), (58, 11900), (62, 11912), (64, 11924), (74, 11999), (80, 12035), (109, 12206), (114, 12236), (115, 12242), (118, 12254), (126, 12299), (139, 12353), (164, 12467), (172, 12527), (190, 12701), (191, 12710), (228, 13013), (234, 13049), (242, 13109), (245, 13142), (259, 13220), (265, 13259), (268, 13277), (278, 13322), (285, 13355), (291, 13373), (311, 13448), (330, 13526), (335, 13547), (339, 13568), (349, 13610), (354, 13628), (372, 13700), (404, 13775), (424, 13853), (430, 13877), (432, 13889), (435, 13901), (437, 13907), (444, 13946), (450, 13964), (502, 14207), (511, 14252), (523, 14309), (572, 14462), (583, 14519), (589, 14570), (641, 14825), (666, 14951), (667, 14954),

Gene: Marav_21 Start: 12499, Stop: 15690, Start Num: 17

Candidate Starts for Marav_21:

(Start: 17 @12499 has 29 MA's), (Start: 25 @12538 has 3 MA's), (38, 12625), (40, 12634), (42, 12655), (49, 12697), (80, 12874), (108, 13036), (115, 13081), (116, 13084), (126, 13138), (191, 13549), (203, 13633), (218, 13768), (228, 13852), (242, 13948), (264, 14095), (268, 14116), (273, 14140), (278, 14161), (279, 14164), (285, 14194), (291, 14212), (306, 14269), (343, 14359), (356, 14389), (391, 14473), (392, 14476), (412, 14554), (418, 14584), (430, 14629), (432, 14641), (444, 14698), (445, 14701), (460, 14746), (462, 14752), (485, 14815), (503, 14908), (519, 14983), (561, 15148), (566, 15172), (567, 15181), (589, 15301), (610, 15454), (619, 15487), (627, 15508), (632, 15532), (635, 15544),

Gene: Mischief19_8 Start: 4246, Stop: 8070, Start Num: 33

Candidate Starts for Mischief19_8:

(Start: 33 @4246 has 11 MA's), (46, 4345), (62, 4429), (72, 4507), (83, 4573), (84, 4579), (85, 4585), (91, 4642), (116, 4765), (127, 4828), (133, 4858), (169, 5011), (173, 5053), (198, 5278), (201, 5299), (204, 5311), (216, 5437), (224, 5491), (231, 5542), (251, 5701), (258, 5734), (286, 5875), (292, 5899), (299, 5926), (309, 5968), (320, 6022), (331, 6067), (337, 6097), (346, 6139), (350, 6151), (355, 6172), (362, 6199), (382, 6259), (426, 6409), (438, 6454), (441, 6472), (458, 6532), (466, 6565), (476, 6610), (480, 6631), (488, 6676), (510, 6796), (515, 6817), (519, 6832), (536, 6898), (539, 6928), (547, 6949), (551, 6964), (557, 6982), (571, 7042), (573, 7048), (611, 7309), (616, 7324), (624, 7354), (633, 7387), (676, 7606), (681, 7687), (684, 7708), (688, 7783), (695, 7900),

Gene: Nabi_18 Start: 11640, Stop: 14963, Start Num: 12

Candidate Starts for Nabi_18:

(Start: 12 @11640 has 62 MA's), (Start: 24 @11676 has 4 MA's), (40, 11787), (58, 11898), (62, 11910), (64, 11922), (74, 11997), (80, 12033), (102, 12162), (109, 12204), (114, 12234), (115, 12240), (118, 12252), (164, 12465), (172, 12525), (190, 12699), (191, 12708), (228, 13011), (234, 13047), (242, 13107), (245, 13140), (257, 13212), (265, 13257), (268, 13275), (278, 13320), (285, 13353), (291, 13371), (311, 13446), (330, 13524), (335, 13545), (339, 13566), (349, 13608), (354, 13626), (404, 13773), (424, 13851), (430, 13875), (432, 13887), (435, 13899), (437, 13905), (444, 13944), (450, 13962), (502, 14205), (512, 14253), (523, 14307), (583, 14517), (589, 14568), (590, 14580), (619, 14754), (641, 14823), (666, 14949), (667, 14952),

Gene: Nanodon_20 Start: 11848, Stop: 15171, Start Num: 12

Candidate Starts for Nanodon_20:

(Start: 12 @11848 has 62 MA's), (Start: 24 @11884 has 4 MA's), (Start: 25 @11896 has 3 MA's), (40, 11995), (58, 12106), (62, 12118), (64, 12130), (72, 12193), (74, 12205), (80, 12241), (109, 12412), (114, 12442), (115, 12448), (118, 12460), (126, 12505), (134, 12544), (171, 12724), (172, 12733), (178, 12793), (190, 12907), (191, 12916), (206, 13015), (234, 13255), (242, 13315), (245, 13348), (264, 13462), (268, 13483), (273, 13507), (278, 13528), (285, 13561), (290, 13576), (291, 13579), (311, 13654), (330, 13732), (335, 13753), (339, 13774), (349, 13816), (354, 13834), (372, 13906), (404, 13981), (424, 14059), (432, 14095), (435, 14107), (437, 14113), (444, 14152), (450, 14170), (502, 14413), (523, 14515), (583, 14725), (589, 14776), (590, 14788), (619, 14962), (641, 15031), (666, 15157), (667, 15160),

Gene: Nerdos_18 Start: 11669, Stop: 14989, Start Num: 12

Candidate Starts for Nerdos_18:

(Start: 12 @11669 has 62 MA's), (40, 11813), (58, 11924), (62, 11936), (71, 12005), (72, 12011), (76, 12032), (98, 12167), (109, 12230), (115, 12266), (116, 12269), (152, 12434), (160, 12473), (170, 12530), (191, 12734), (228, 13037), (233, 13070), (242, 13133), (245, 13166), (259, 13244), (264, 13280), (265, 13283), (268, 13301), (273, 13325), (278, 13346), (285, 13379), (291, 13397), (299, 13433), (315, 13487), (325, 13526), (330, 13550), (344, 13616), (354, 13652), (372, 13724), (392, 13748), (394, 13754), (399, 13778), (404, 13799), (430, 13901), (432, 13913), (440, 13949), (450, 13988), (461, 14021), (495, 14192), (502, 14231), (523, 14333), (528, 14354), (533, 14366), (583, 14543), (589, 14594), (590, 14606), (619, 14780), (641, 14849), (650, 14888), (666, 14975), (667,

14978),

Gene: Nishikigoi_18 Start: 11570, Stop: 15475, Start Num: 17

Candidate Starts for Nishikigoi_18:

(Start: 17 @11570 has 29 MA's), (40, 11705), (58, 11816), (67, 11879), (74, 11912), (80, 11948), (108, 12110), (109, 12119), (115, 12155), (131, 12242), (189, 12611), (191, 12620), (242, 13019), (245, 13052), (264, 13166), (278, 13232), (285, 13265), (291, 13283), (296, 13307), (299, 13319), (315, 13373), (344, 13457), (346, 13466), (404, 13598), (418, 13655), (432, 13712), (450, 13787), (470, 13859), (528, 14153), (564, 14252), (572, 14285), (589, 14393), (593, 14438), (604, 14498), (628, 14606), (682, 14933), (685, 14975), (690, 15050), (691, 15071), (694, 15128), (696, 15149), (697, 15152), (699, 15197), (716, 15464),

Gene: Oliynyk_19 Start: 11832, Stop: 15152, Start Num: 12

Candidate Starts for Oliynyk_19:

(Start: 12 @11832 has 62 MA's), (40, 11976), (58, 12087), (62, 12099), (71, 12168), (72, 12174), (76, 12195), (98, 12330), (109, 12393), (115, 12429), (116, 12432), (152, 12597), (160, 12636), (170, 12693), (190, 12888), (191, 12897), (228, 13200), (233, 13233), (242, 13296), (245, 13329), (259, 13407), (268, 13464), (273, 13488), (278, 13509), (285, 13542), (291, 13560), (299, 13596), (315, 13650), (325, 13689), (330, 13713), (344, 13779), (354, 13815), (372, 13887), (392, 13911), (394, 13917), (399, 13941), (404, 13962), (430, 14064), (432, 14076), (440, 14112), (450, 14151), (461, 14184), (495, 14355), (502, 14394), (503, 14397), (523, 14496), (528, 14517), (533, 14529), (589, 14757), (590, 14769), (619, 14943), (641, 15012), (650, 15051), (666, 15138), (667, 15141),

Gene: Omar_19 Start: 11800, Stop: 15807, Start Num: 17

Candidate Starts for Omar_19:

(Start: 17 @11800 has 29 MA's), (38, 11926), (40, 11935), (58, 12046), (67, 12109), (80, 12178), (98, 12286), (109, 12349), (115, 12385), (130, 12466), (153, 12556), (177, 12727), (178, 12730), (191, 12850), (200, 12922), (242, 13249), (257, 13354), (264, 13396), (266, 13408), (268, 13417), (273, 13441), (278, 13462), (285, 13495), (291, 13513), (317, 13609), (345, 13690), (346, 13696), (372, 13753), (408, 13843), (415, 13873), (421, 13897), (428, 13921), (432, 13942), (450, 14017), (462, 14053), (470, 14089), (528, 14383), (572, 14614), (587, 14701), (589, 14722), (610, 14875), (624, 14923), (663, 15112), (682, 15262), (685, 15304), (690, 15379), (691, 15400), (694, 15457), (696, 15478), (699, 15526), (715, 15721),

Gene: OnionKnight_17 Start: 10736, Stop: 13582, Start Num: 23

Candidate Starts for OnionKnight_17:

(Start: 23 @10736 has 1 MA's), (28, 10763), (32, 10796), (41, 10874), (48, 10910), (51, 10931), (54, 10952), (64, 10994), (Start: 92 @11174 has 4 MA's), (95, 11180), (113, 11267), (120, 11300), (121, 11309), (124, 11321), (126, 11339), (131, 11372), (135, 11381), (143, 11402), (147, 11414), (150, 11423), (163, 11492), (170, 11534), (172, 11555), (173, 11567), (174, 11579), (179, 11624), (181, 11633), (182, 11648), (184, 11678), (197, 11789), (198, 11792), (212, 11918), (215, 11942), (224, 12002), (226, 12014), (242, 12095), (247, 12128), (250, 12149), (259, 12194), (262, 12215), (289, 12323), (294, 12341), (303, 12362), (307, 12374), (308, 12377), (327, 12440), (337, 12485), (340, 12497), (345, 12521), (357, 12566), (363, 12593), (380, 12638), (393, 12662), (398, 12683), (410, 12731), (419, 12770), (420, 12773), (434, 12833), (463, 12944), (476, 13004), (481, 13025), (485, 13058), (505, 13169), (506, 13175), (507, 13187), (537, 13319), (554, 13373), (559, 13391), (560, 13397), (563, 13409), (569, 13430), (576, 13457),

Gene: Ozzie_18 Start: 11649, Stop: 14969, Start Num: 12

Candidate Starts for Ozzie_18:

(Start: 12 @11649 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (71, 11985), (72, 11991), (76, 12012), (98, 12147), (109, 12210), (115, 12246), (116, 12249), (152, 12414), (160, 12453), (170, 12510), (191, 12714), (228, 13017), (233, 13050), (242, 13113), (245, 13146), (259, 13224), (264,

13260), (265, 13263), (268, 13281), (273, 13305), (278, 13326), (285, 13359), (291, 13377), (299, 13413), (315, 13467), (325, 13506), (330, 13530), (344, 13596), (354, 13632), (372, 13704), (392, 13728), (394, 13734), (399, 13758), (404, 13779), (430, 13881), (432, 13893), (440, 13929), (450, 13968), (461, 14001), (495, 14172), (502, 14211), (523, 14313), (528, 14334), (533, 14346), (583, 14523), (589, 14574), (590, 14586), (619, 14760), (641, 14829), (650, 14868), (666, 14955), (667, 14958),

Gene: OzzyJ_19 Start: 11637, Stop: 14960, Start Num: 12

Candidate Starts for OzzyJ_19:

(Start: 12 @11637 has 62 MA's), (40, 11784), (58, 11895), (62, 11907), (64, 11919), (74, 11994), (80, 12030), (102, 12159), (109, 12201), (114, 12231), (115, 12237), (126, 12294), (172, 12522), (178, 12582), (191, 12705), (228, 13008), (242, 13104), (245, 13137), (257, 13209), (265, 13254), (268, 13272), (278, 13317), (285, 13350), (291, 13368), (311, 13443), (330, 13521), (335, 13542), (349, 13605), (354, 13623), (372, 13695), (404, 13770), (424, 13848), (432, 13884), (435, 13896), (437, 13902), (444, 13941), (450, 13959), (502, 14202), (511, 14247), (523, 14304), (583, 14514), (589, 14565), (590, 14577), (619, 14751), (641, 14820), (666, 14946), (667, 14949),

Gene: Pablito_18 Start: 11494, Stop: 14799, Start Num: 17

Candidate Starts for Pablito_18:

(Start: 17 @11494 has 29 MA's), (Start: 25 @11533 has 3 MA's), (40, 11632), (42, 11653), (55, 11725), (58, 11743), (80, 11875), (82, 11887), (102, 12004), (104, 12013), (109, 12046), (115, 12082), (126, 12139), (131, 12169), (137, 12187), (155, 12262), (170, 12346), (172, 12367), (177, 12424), (191, 12550), (228, 12853), (238, 12916), (242, 12949), (245, 12982), (259, 13060), (262, 13081), (264, 13096), (266, 13108), (268, 13117), (273, 13141), (278, 13162), (285, 13195), (291, 13213), (299, 13249), (330, 13366), (354, 13468), (392, 13564), (404, 13615), (424, 13693), (430, 13717), (432, 13729), (435, 13741), (437, 13747), (444, 13786), (450, 13804), (488, 13969), (502, 14047), (562, 14260), (568, 14293), (589, 14410), (590, 14422), (632, 14641), (643, 14677),

Gene: Paedore_18 Start: 11772, Stop: 14957, Start Num: 36

Candidate Starts for Paedore_18:

(Start: 17 @11655 has 29 MA's), (Start: 25 @11694 has 3 MA's), (Start: 36 @11772 has 1 MA's), (38, 11781), (40, 11790), (42, 11811), (53, 11868), (58, 11901), (69, 11982), (75, 12003), (80, 12033), (109, 12204), (115, 12240), (126, 12297), (131, 12327), (137, 12345), (152, 12408), (155, 12420), (172, 12525), (177, 12582), (191, 12708), (228, 13011), (238, 13074), (242, 13107), (245, 13140), (259, 13218), (268, 13275), (273, 13299), (278, 13320), (285, 13353), (291, 13371), (311, 13446), (325, 13500), (327, 13512), (335, 13545), (349, 13608), (432, 13887), (450, 13962), (470, 14034), (564, 14427), (584, 14529), (589, 14568), (598, 14649), (610, 14721), (640, 14823),

Gene: Paolo_20 Start: 12162, Stop: 15353, Start Num: 17

Candidate Starts for Paolo_20:

(Start: 17 @12162 has 29 MA's), (Start: 25 @12201 has 3 MA's), (38, 12288), (40, 12297), (42, 12318), (49, 12360), (80, 12537), (98, 12645), (104, 12675), (108, 12699), (115, 12744), (116, 12747), (126, 12801), (191, 13212), (208, 13335), (218, 13431), (228, 13515), (242, 13611), (264, 13758), (268, 13779), (273, 13803), (278, 13824), (279, 13827), (285, 13857), (291, 13875), (343, 14022), (391, 14136), (392, 14139), (412, 14217), (418, 14247), (430, 14292), (432, 14304), (444, 14361), (445, 14364), (460, 14409), (462, 14415), (485, 14478), (501, 14559), (503, 14571), (519, 14646), (543, 14745), (561, 14811), (575, 14865), (589, 14964), (619, 15150), (627, 15171), (632, 15195), (635, 15207),

Gene: Pavo_19 Start: 11557, Stop: 15669, Start Num: 12

Candidate Starts for Pavo_19:

(Start: 12 @11557 has 62 MA's), (Start: 19 @11581 has 1 MA's), (40, 11701), (43, 11734), (49, 11764), (58, 11812), (98, 12055), (102, 12076), (109, 12118), (118, 12166), (145, 12292), (166, 12388), (170,

12418), (172, 12439), (180, 12511), (190, 12610), (191, 12619), (228, 12925), (234, 12961), (242, 13021), (252, 13099), (259, 13132), (264, 13168), (268, 13189), (278, 13234), (285, 13267), (291, 13285), (298, 13318), (311, 13360), (325, 13414), (329, 13432), (330, 13438), (331, 13441), (345, 13507), (347, 13516), (358, 13555), (371, 13609), (374, 13624), (385, 13675), (389, 13699), (404, 13774), (432, 13888), (435, 13900), (437, 13906), (450, 13963), (461, 13996), (465, 14014), (474, 14053), (479, 14080), (503, 14209), (512, 14254), (533, 14341), (562, 14419), (586, 14539), (589, 14569), (592, 14611), (624, 14770), (628, 14782), (635, 14815), (658, 14935), (663, 14959), (672, 14998), (677, 15031), (678, 15070), (682, 15109), (686, 15160), (690, 15226), (691, 15247), (694, 15304), (696, 15325), (699, 15373), (700, 15376), (701, 15391), (704, 15454), (705, 15463), (708, 15505), (710, 15520), (716, 15655), (717, 15658),

Gene: Phettuccine_18 Start: 11669, Stop: 14989, Start Num: 12

Candidate Starts for Phettuccine_18:

(Start: 12 @11669 has 62 MA's), (40, 11813), (58, 11924), (62, 11936), (71, 12005), (72, 12011), (76, 12032), (98, 12167), (109, 12230), (115, 12266), (116, 12269), (152, 12434), (160, 12473), (170, 12530), (191, 12734), (228, 13037), (233, 13070), (242, 13133), (245, 13166), (259, 13244), (264, 13280), (265, 13283), (268, 13301), (273, 13325), (278, 13346), (285, 13379), (291, 13397), (299, 13433), (315, 13487), (325, 13526), (330, 13550), (344, 13616), (354, 13652), (372, 13724), (392, 13748), (394, 13754), (399, 13778), (404, 13799), (430, 13901), (432, 13913), (440, 13949), (450, 13988), (461, 14021), (495, 14192), (502, 14231), (523, 14333), (528, 14354), (533, 14366), (583, 14543), (589, 14594), (590, 14606), (619, 14780), (641, 14849), (650, 14888), (666, 14975), (667, 14978),

Gene: Provolone_19 Start: 11311, Stop: 15399, Start Num: 19

Candidate Starts for Provolone_19:

(Start: 12 @11287 has 62 MA's), (Start: 19 @11311 has 1 MA's), (40, 11431), (43, 11464), (49, 11494), (58, 11542), (102, 11806), (109, 11848), (118, 11896), (145, 12022), (166, 12118), (170, 12148), (172, 12169), (180, 12241), (190, 12340), (191, 12349), (228, 12655), (234, 12691), (242, 12751), (260, 12871), (264, 12898), (265, 12901), (273, 12943), (278, 12964), (325, 13144), (345, 13237), (347, 13246), (354, 13270), (366, 13324), (368, 13330), (371, 13339), (374, 13354), (377, 13369), (382, 13387), (389, 13429), (404, 13504), (432, 13618), (435, 13630), (437, 13636), (450, 13693), (461, 13726), (465, 13744), (474, 13783), (479, 13810), (503, 13939), (512, 13984), (533, 14071), (562, 14149), (586, 14269), (589, 14299), (592, 14341), (624, 14500), (628, 14512), (635, 14545), (658, 14665), (663, 14689), (672, 14728), (677, 14761), (678, 14800), (682, 14839), (686, 14890), (690, 14956), (691, 14977), (694, 15034), (696, 15055), (699, 15103), (700, 15106), (701, 15121), (704, 15184), (705, 15193), (708, 15235), (710, 15250), (716, 15385), (717, 15388),

Gene: Puginator_20 Start: 12120, Stop: 15398, Start Num: 17

Candidate Starts for Puginator_20:

(Start: 17 @12120 has 29 MA's), (Start: 25 @12159 has 3 MA's), (38, 12246), (40, 12255), (42, 12276), (49, 12318), (80, 12495), (98, 12603), (104, 12633), (108, 12657), (115, 12702), (116, 12705), (126, 12759), (191, 13170), (208, 13293), (228, 13473), (238, 13536), (240, 13542), (242, 13569), (264, 13716), (268, 13737), (273, 13761), (278, 13782), (279, 13785), (285, 13815), (291, 13833), (318, 13932), (344, 14052), (349, 14070), (352, 14082), (365, 14139), (373, 14163), (382, 14172), (383, 14175), (392, 14184), (398, 14208), (399, 14214), (403, 14229), (418, 14292), (430, 14337), (432, 14349), (444, 14406), (445, 14409), (452, 14427), (460, 14454), (462, 14460), (485, 14523), (501, 14604), (503, 14616), (526, 14727), (534, 14757), (543, 14790), (564, 14868), (572, 14901), (589, 15009), (619, 15195), (627, 15216), (632, 15240), (635, 15252),

Gene: R4_18 Start: 11638, Stop: 15039, Start Num: 17

Candidate Starts for R4_18:

(Start: 17 @11638 has 29 MA's), (Start: 25 @11677 has 3 MA's), (38, 11764), (40, 11773), (42, 11794), (53, 11851), (58, 11884), (67, 11947), (69, 11965), (75, 11986), (80, 12016), (109, 12187), (115,

12223), (126, 12280), (131, 12310), (137, 12328), (152, 12391), (172, 12508), (191, 12691), (228, 12994), (238, 13057), (242, 13090), (245, 13123), (257, 13195), (259, 13201), (268, 13258), (273, 13282), (278, 13303), (285, 13336), (291, 13354), (311, 13429), (325, 13483), (327, 13495), (331, 13510), (335, 13528), (349, 13591), (432, 13870), (450, 13945), (470, 14017), (475, 14041), (522, 14284), (529, 14314), (541, 14401), (542, 14410), (568, 14533), (584, 14611), (589, 14650), (590, 14662), (600, 14740), (640, 14905),

Gene: RainyPolka_8 Start: 4224, Stop: 7268, Start Num: 33

Candidate Starts for RainyPolka_8:

(14, 4122), (15, 4125), (18, 4140), (Start: 33 @4224 has 11 MA's), (34, 4239), (52, 4359), (63, 4413), (70, 4476), (73, 4485), (74, 4494), (84, 4554), (95, 4629), (97, 4635), (133, 4824), (150, 4878), (194, 5214), (201, 5265), (213, 5376), (214, 5385), (222, 5436), (233, 5511), (255, 5625), (258, 5634), (260, 5646), (270, 5688), (272, 5697), (295, 5754), (304, 5775), (312, 5802), (321, 5823), (328, 5853), (330, 5862), (333, 5874), (335, 5883), (337, 5895), (368, 6024), (369, 6027), (373, 6039), (392, 6072), (400, 6105), (416, 6168), (421, 6189), (422, 6192), (425, 6201), (429, 6219), (440, 6267), (458, 6330), (461, 6342), (462, 6345), (473, 6396), (483, 6450), (488, 6474), (499, 6528), (500, 6531), (504, 6561), (505, 6564), (510, 6594), (520, 6630), (532, 6669), (533, 6672), (538, 6693), (544, 6696), (599, 6963), (601, 6966), (603, 6975), (609, 7014), (617, 7044), (655, 7188), (656, 7218),

Gene: Rana_18 Start: 11676, Stop: 14963, Start Num: 24

Candidate Starts for Rana_18:

(Start: 12 @11640 has 62 MA's), (Start: 24 @11676 has 4 MA's), (40, 11787), (58, 11898), (62, 11910), (64, 11922), (74, 11997), (80, 12033), (102, 12162), (109, 12204), (114, 12234), (115, 12240), (118, 12252), (164, 12465), (172, 12525), (190, 12699), (191, 12708), (228, 13011), (234, 13047), (242, 13107), (245, 13140), (257, 13212), (265, 13257), (268, 13275), (278, 13320), (285, 13353), (291, 13371), (311, 13446), (330, 13524), (335, 13545), (339, 13566), (349, 13608), (354, 13626), (404, 13773), (424, 13851), (430, 13875), (432, 13887), (435, 13899), (437, 13905), (444, 13944), (450, 13962), (502, 14205), (512, 14253), (523, 14307), (583, 14517), (589, 14568), (590, 14580), (619, 14754), (641, 14823), (666, 14949), (667, 14952),

Gene: RedBear_20 Start: 11907, Stop: 15230, Start Num: 12

Candidate Starts for RedBear_20:

(Start: 12 @11907 has 62 MA's), (40, 12054), (58, 12165), (62, 12177), (64, 12189), (74, 12264), (80, 12300), (109, 12471), (114, 12501), (115, 12507), (118, 12519), (190, 12966), (191, 12975), (228, 13278), (234, 13314), (242, 13374), (245, 13407), (250, 13440), (264, 13521), (268, 13542), (273, 13566), (278, 13587), (285, 13620), (291, 13638), (307, 13698), (330, 13791), (335, 13812), (349, 13875), (354, 13893), (399, 14019), (404, 14040), (424, 14118), (432, 14154), (435, 14166), (437, 14172), (444, 14211), (450, 14229), (492, 14412), (502, 14472), (511, 14517), (589, 14835), (590, 14847), (619, 15021), (641, 15090), (666, 15216), (667, 15219),

Gene: Rusticus_19 Start: 11832, Stop: 15152, Start Num: 12

Candidate Starts for Rusticus_19:

(Start: 12 @11832 has 62 MA's), (40, 11976), (58, 12087), (62, 12099), (71, 12168), (72, 12174), (76, 12195), (98, 12330), (109, 12393), (115, 12429), (116, 12432), (152, 12597), (160, 12636), (170, 12693), (190, 12888), (191, 12897), (228, 13200), (233, 13233), (242, 13296), (245, 13329), (259, 13407), (268, 13464), (273, 13488), (278, 13509), (285, 13542), (291, 13560), (299, 13596), (315, 13650), (325, 13689), (330, 13713), (344, 13779), (354, 13815), (372, 13887), (392, 13911), (394, 13917), (399, 13941), (404, 13962), (430, 14064), (432, 14076), (440, 14112), (450, 14151), (461, 14184), (495, 14355), (502, 14394), (503, 14397), (523, 14496), (528, 14517), (533, 14529), (589, 14757), (590, 14769), (619, 14943), (641, 15012), (650, 15051), (666, 15138), (667, 15141),

Gene: Saftant_18 Start: 11565, Stop: 15947, Start Num: 4

Candidate Starts for Saftant_18:

(2, 11433), (Start: 4 @11565 has 3 MA's), (7, 11694), (13, 11901), (21, 11931), (26, 11952), (29, 11967), (30, 11976), (35, 12018), (37, 12033), (49, 12111), (50, 12117), (71, 12249), (74, 12270), (78, 12288), (99, 12423), (104, 12450), (107, 12465), (115, 12519), (118, 12531), (129, 12594), (131, 12606), (142, 12648), (145, 12657), (172, 12804), (191, 12984), (198, 13038), (228, 13290), (242, 13386), (244, 13404), (260, 13506), (264, 13533), (266, 13545), (278, 13599), (291, 13650), (310, 13719), (329, 13797), (333, 13815), (335, 13824), (339, 13845), (351, 13893), (360, 13926), (395, 14013), (404, 14052), (408, 14067), (426, 14139), (429, 14151), (432, 14166), (439, 14199), (446, 14229), (450, 14241), (457, 14262), (462, 14277), (480, 14349), (565, 14697), (566, 14706), (570, 14724), (589, 14835), (592, 14877), (613, 14997), (638, 15090), (643, 15111), (658, 15201), (663, 15225), (670, 15249), (672, 15264), (677, 15297), (678, 15336), (682, 15375), (689, 15489), (690, 15492), (691, 15513), (694, 15570), (696, 15591), (699, 15639), (700, 15642), (702, 15687), (708, 15771), (714, 15846), (716, 15933), (717, 15936),

Gene: Salete_8 Start: 4267, Stop: 7314, Start Num: 33

Candidate Starts for Salete_8:

(Start: 33 @4267 has 11 MA's), (38, 4306), (52, 4402), (63, 4456), (70, 4519), (73, 4528), (74, 4537), (Start: 92 @4666 has 4 MA's), (95, 4672), (97, 4678), (124, 4810), (133, 4867), (150, 4921), (194, 5257), (201, 5308), (204, 5320), (213, 5419), (214, 5428), (222, 5479), (232, 5551), (237, 5566), (255, 5668), (258, 5677), (259, 5680), (266, 5713), (270, 5731), (272, 5740), (293, 5788), (295, 5797), (297, 5806), (321, 5866), (326, 5887), (328, 5896), (330, 5905), (333, 5917), (335, 5926), (337, 5938), (373, 6082), (392, 6115), (416, 6211), (423, 6238), (440, 6310), (456, 6364), (462, 6388), (473, 6439), (480, 6472), (482, 6475), (488, 6517), (493, 6538), (500, 6574), (504, 6604), (505, 6607), (518, 6661), (527, 6703), (533, 6715), (544, 6739), (578, 6847), (593, 6961), (599, 7006), (601, 7009), (603, 7018), (612, 7075), (615, 7078), (617, 7087), (639, 7162), (655, 7234), (656, 7264),

Gene: SarahRose_18 Start: 11643, Stop: 14966, Start Num: 12

Candidate Starts for SarahRose_18:

(Start: 12 @11643 has 62 MA's), (40, 11790), (58, 11901), (62, 11913), (64, 11925), (74, 12000), (80, 12036), (102, 12165), (109, 12207), (114, 12237), (115, 12243), (126, 12300), (172, 12528), (178, 12588), (191, 12711), (228, 13014), (242, 13110), (245, 13143), (265, 13260), (268, 13278), (278, 13323), (285, 13356), (291, 13374), (311, 13449), (330, 13527), (335, 13548), (349, 13611), (354, 13629), (404, 13776), (424, 13854), (430, 13878), (432, 13890), (435, 13902), (437, 13908), (444, 13947), (450, 13965), (502, 14208), (523, 14310), (543, 14352), (583, 14520), (589, 14571), (590, 14583), (619, 14757), (641, 14826), (666, 14952), (667, 14955),

Gene: Snorlax_18 Start: 11646, Stop: 14969, Start Num: 12

Candidate Starts for Snorlax_18:

(Start: 12 @11646 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (64, 11928), (74, 12003), (80, 12039), (102, 12168), (109, 12210), (114, 12240), (115, 12246), (126, 12303), (172, 12531), (178, 12591), (191, 12714), (228, 13017), (242, 13113), (245, 13146), (265, 13263), (268, 13281), (278, 13326), (285, 13359), (291, 13377), (311, 13452), (330, 13530), (335, 13551), (349, 13614), (354, 13632), (404, 13779), (424, 13857), (430, 13881), (432, 13893), (435, 13905), (437, 13911), (444, 13950), (450, 13968), (502, 14211), (523, 14313), (543, 14355), (583, 14523), (589, 14574), (590, 14586), (619, 14760), (641, 14829), (666, 14955), (667, 14958),

Gene: South40_19 Start: 11907, Stop: 15230, Start Num: 12

Candidate Starts for South40_19:

(Start: 12 @11907 has 62 MA's), (40, 12054), (58, 12165), (62, 12177), (64, 12189), (74, 12264), (80, 12300), (109, 12471), (114, 12501), (115, 12507), (118, 12519), (190, 12966), (191, 12975), (228, 13278), (234, 13314), (242, 13374), (245, 13407), (250, 13440), (264, 13521), (268, 13542), (273, 13566), (278, 13587), (285, 13620), (291, 13638), (307, 13698), (330, 13791), (335, 13812), (349, 13875), (354, 13893), (399, 14019), (404, 14040), (424, 14118), (432, 14154), (435, 14166), (437, 14172), (444, 14211), (450, 14229), (492, 14412), (502, 14472), (511, 14517), (589, 14835), (590,

14847), (619, 15021), (641, 15090), (666, 15216), (667, 15219),

Gene: Speedwell_23 Start: 13301, Stop: 17692, Start Num: 4

Candidate Starts for Speedwell_23:

(Start: 4 @13301 has 3 MA's), (5, 13346), (6, 13376), (26, 13688), (29, 13703), (30, 13712), (35, 13754), (44, 13820), (45, 13826), (46, 13829), (66, 13949), (69, 13982), (78, 14024), (94, 14141), (107, 14201), (118, 14267), (145, 14393), (171, 14531), (172, 14540), (191, 14720), (198, 14774), (203, 14804), (228, 15026), (234, 15062), (242, 15122), (260, 15242), (264, 15269), (278, 15335), (291, 15386), (310, 15455), (329, 15533), (333, 15551), (335, 15560), (339, 15581), (356, 15650), (405, 15791), (429, 15887), (432, 15902), (439, 15935), (450, 15977), (465, 16028), (470, 16049), (474, 16067), (492, 16160), (513, 16271), (515, 16283), (518, 16295), (533, 16355), (567, 16463), (589, 16583), (592, 16625), (670, 16997), (672, 17012), (677, 17045), (678, 17084), (682, 17123), (685, 17165), (690, 17240), (691, 17261), (694, 17318), (696, 17339), (699, 17387), (700, 17390), (708, 17519), (714, 17591), (716, 17678), (717, 17681),

Gene: SqueakyClean_19 Start: 11767, Stop: 14964, Start Num: 17

Candidate Starts for SqueakyClean_19:

(Start: 17 @11767 has 29 MA's), (Start: 25 @11806 has 3 MA's), (40, 11905), (42, 11926), (55, 11998), (58, 12016), (80, 12148), (82, 12160), (108, 12310), (114, 12349), (115, 12355), (116, 12358), (126, 12412), (157, 12547), (170, 12619), (191, 12823), (207, 12931), (228, 13126), (242, 13222), (245, 13255), (259, 13333), (264, 13369), (268, 13390), (273, 13414), (278, 13435), (279, 13438), (285, 13468), (291, 13486), (300, 13525), (307, 13546), (309, 13552), (312, 13564), (343, 13633), (364, 13696), (373, 13729), (383, 13741), (432, 13915), (445, 13975), (460, 14020), (462, 14026), (511, 14224), (543, 14356), (566, 14446), (572, 14467), (589, 14575), (632, 14806), (643, 14842),

Gene: Sudan_18 Start: 11552, Stop: 15664, Start Num: 12

Candidate Starts for Sudan_18:

(Start: 12 @11552 has 62 MA's), (Start: 19 @11576 has 1 MA's), (40, 11696), (43, 11729), (58, 11807), (59, 11810), (98, 12050), (102, 12071), (109, 12113), (115, 12149), (118, 12161), (145, 12287), (166, 12383), (170, 12413), (172, 12434), (180, 12506), (190, 12605), (191, 12614), (228, 12920), (234, 12956), (242, 13016), (259, 13127), (264, 13163), (268, 13184), (278, 13229), (285, 13262), (291, 13280), (298, 13313), (330, 13433), (331, 13436), (345, 13502), (347, 13511), (368, 13595), (371, 13604), (374, 13619), (389, 13694), (395, 13730), (404, 13769), (432, 13883), (435, 13895), (437, 13901), (444, 13940), (455, 13967), (469, 14021), (479, 14075), (503, 14204), (512, 14249), (533, 14336), (586, 14534), (589, 14564), (592, 14606), (624, 14765), (628, 14777), (643, 14840), (663, 14954), (672, 14993), (678, 15065), (682, 15104), (685, 15146), (690, 15221), (691, 15242), (694, 15299), (696, 15320), (699, 15368), (700, 15371), (701, 15386), (704, 15449), (705, 15458), (708, 15500), (716, 15650), (717, 15653),

Gene: Sujidade_19 Start: 11947, Stop: 15270, Start Num: 12

Candidate Starts for Sujidade_19:

(Start: 12 @11947 has 62 MA's), (Start: 24 @11983 has 4 MA's), (40, 12094), (58, 12205), (62, 12217), (64, 12229), (74, 12304), (80, 12340), (102, 12469), (109, 12511), (114, 12541), (115, 12547), (118, 12559), (126, 12604), (172, 12832), (191, 13015), (234, 13354), (242, 13414), (245, 13447), (250, 13480), (264, 13561), (268, 13582), (278, 13627), (285, 13660), (291, 13678), (292, 13687), (311, 13753), (330, 13831), (335, 13852), (339, 13873), (349, 13915), (354, 13933), (404, 14080), (424, 14158), (430, 14182), (432, 14194), (435, 14206), (437, 14212), (444, 14251), (450, 14269), (502, 14512), (523, 14614), (584, 14836), (589, 14875), (590, 14887), (619, 15061), (641, 15130), (666, 15256), (667, 15259),

Gene: SunkenRoot_18 Start: 11847, Stop: 15959, Start Num: 12

Candidate Starts for SunkenRoot_18:

(Start: 12 @11847 has 62 MA's), (Start: 19 @11871 has 1 MA's), (40, 11991), (43, 12024), (49, 12054), (58, 12102), (59, 12105), (91, 12321), (98, 12345), (102, 12366), (109, 12408), (115, 12444), (116, 12447), (118, 12456), (129, 12519), (137, 12549), (142, 12573), (145, 12582), (149, 12594), (156, 12633), (161, 12657), (172, 12729), (190, 12900), (191, 12909), (228, 13215), (238, 13278), (242, 13311), (259, 13422), (264, 13458), (268, 13479), (278, 13524), (285, 13557), (291, 13575), (298, 13608), (311, 13650), (315, 13665), (324, 13698), (325, 13704), (329, 13722), (332, 13737), (345, 13797), (347, 13806), (350, 13815), (354, 13830), (358, 13845), (368, 13890), (371, 13899), (376, 13926), (388, 13986), (404, 14064), (424, 14142), (432, 14178), (435, 14190), (437, 14196), (444, 14235), (450, 14253), (455, 14262), (479, 14370), (498, 14469), (499, 14475), (502, 14496), (503, 14499), (533, 14631), (562, 14709), (589, 14859), (592, 14901), (663, 15249), (672, 15288), (678, 15360), (682, 15399), (690, 15516), (691, 15537), (694, 15594), (696, 15615), (699, 15663), (700, 15666), (704, 15744), (705, 15753), (708, 15795), (716, 15945), (717, 15948),

Gene: SunsetPointe_18 Start: 11659, Stop: 14979, Start Num: 12

Candidate Starts for SunsetPointe_18:

(Start: 12 @11659 has 62 MA's), (40, 11803), (58, 11914), (62, 11926), (71, 11995), (72, 12001), (76, 12022), (98, 12157), (109, 12220), (115, 12256), (116, 12259), (152, 12424), (160, 12463), (170, 12520), (191, 12724), (228, 13027), (233, 13060), (242, 13123), (245, 13156), (259, 13234), (264, 13270), (265, 13273), (268, 13291), (273, 13315), (278, 13336), (285, 13369), (291, 13387), (299, 13423), (315, 13477), (325, 13516), (330, 13540), (344, 13606), (354, 13642), (372, 13714), (392, 13738), (394, 13744), (399, 13768), (404, 13789), (430, 13891), (432, 13903), (440, 13939), (450, 13978), (461, 14011), (495, 14182), (502, 14221), (523, 14323), (528, 14344), (533, 14356), (583, 14533), (589, 14584), (590, 14596), (619, 14770), (641, 14839), (650, 14878), (666, 14965), (667, 14968),

Gene: Superstar_21 Start: 12671, Stop: 16678, Start Num: 17

Candidate Starts for Superstar_21:

(Start: 17 @12671 has 29 MA's), (38, 12797), (40, 12806), (53, 12884), (58, 12917), (80, 13049), (89, 13115), (102, 13178), (109, 13220), (115, 13256), (126, 13313), (131, 13343), (155, 13436), (157, 13448), (177, 13598), (189, 13712), (191, 13721), (242, 14120), (259, 14231), (268, 14288), (273, 14312), (278, 14333), (285, 14366), (291, 14384), (315, 14474), (344, 14558), (345, 14561), (346, 14567), (368, 14612), (369, 14615), (404, 14699), (418, 14756), (432, 14813), (435, 14825), (437, 14831), (450, 14888), (470, 14960), (528, 15254), (529, 15257), (533, 15266), (589, 15593), (604, 15698), (610, 15746), (628, 15806), (663, 15983), (677, 16055), (678, 16094), (682, 16133), (689, 16247), (690, 16250), (691, 16271), (694, 16328), (696, 16349), (697, 16352), (702, 16445), (703, 16469), (707, 16493), (716, 16667),

Gene: TP1604_8 Start: 4267, Stop: 7314, Start Num: 33

Candidate Starts for TP1604_8:

(Start: 33 @4267 has 11 MA's), (38, 4306), (52, 4402), (63, 4456), (70, 4519), (73, 4528), (74, 4537), (Start: 92 @4666 has 4 MA's), (95, 4672), (97, 4678), (124, 4810), (133, 4867), (150, 4921), (194, 5257), (201, 5308), (204, 5320), (213, 5419), (214, 5428), (222, 5479), (232, 5551), (237, 5566), (255, 5668), (258, 5677), (259, 5680), (266, 5713), (270, 5731), (272, 5740), (293, 5788), (295, 5797), (297, 5806), (321, 5866), (326, 5887), (328, 5896), (330, 5905), (333, 5917), (335, 5926), (373, 6082), (392, 6115), (416, 6211), (423, 6238), (440, 6310), (456, 6364), (462, 6388), (473, 6439), (480, 6472), (482, 6475), (488, 6517), (493, 6538), (500, 6574), (504, 6604), (505, 6607), (518, 6661), (527, 6703), (533, 6715), (544, 6739), (578, 6847), (593, 6961), (599, 7006), (601, 7009), (603, 7018), (612, 7075), (615, 7078), (617, 7087), (639, 7162), (655, 7234), (656, 7264),

Gene: TagePhighter_19 Start: 11646, Stop: 14969, Start Num: 12

Candidate Starts for TagePhighter_19:

(Start: 12 @11646 has 62 MA's), (40, 11793), (58, 11904), (62, 11916), (64, 11928), (74, 12003), (102, 12168), (109, 12210), (114, 12240), (115, 12246), (126, 12303), (172, 12531), (178, 12591), (191,

12714), (228, 13017), (242, 13113), (245, 13146), (265, 13263), (268, 13281), (278, 13326), (285, 13359), (291, 13377), (311, 13452), (330, 13530), (335, 13551), (349, 13614), (354, 13632), (404, 13779), (424, 13857), (430, 13881), (432, 13893), (435, 13905), (437, 13911), (444, 13950), (450, 13968), (502, 14211), (523, 14313), (543, 14355), (583, 14523), (589, 14574), (590, 14586), (641, 14829), (666, 14955), (667, 14958),

Gene: Tefunt_18 Start: 11570, Stop: 15475, Start Num: 17

Candidate Starts for Tefunt_18:

(Start: 17 @11570 has 29 MA's), (40, 11705), (58, 11816), (67, 11879), (74, 11912), (80, 11948), (108, 12110), (109, 12119), (115, 12155), (131, 12242), (189, 12611), (191, 12620), (242, 13019), (245, 13052), (264, 13166), (278, 13232), (285, 13265), (291, 13283), (296, 13307), (299, 13319), (315, 13373), (344, 13457), (346, 13466), (368, 13511), (404, 13598), (418, 13655), (432, 13712), (450, 13787), (470, 13859), (528, 14153), (564, 14252), (572, 14285), (589, 14393), (593, 14438), (604, 14498), (628, 14606), (682, 14933), (685, 14975), (690, 15050), (691, 15071), (694, 15128), (696, 15149), (697, 15152), (699, 15197), (716, 15464),

Gene: Thestral_19 Start: 11634, Stop: 14933, Start Num: 17

Candidate Starts for Thestral_19:

(Start: 17 @11634 has 29 MA's), (Start: 25 @11673 has 3 MA's), (40, 11769), (42, 11790), (49, 11832), (53, 11847), (80, 12009), (109, 12180), (115, 12216), (145, 12354), (160, 12423), (189, 12672), (191, 12684), (228, 12987), (242, 13083), (245, 13116), (257, 13188), (259, 13194), (264, 13230), (268, 13251), (273, 13275), (277, 13293), (278, 13296), (285, 13329), (291, 13347), (325, 13476), (335, 13521), (349, 13584), (351, 13590), (404, 13749), (407, 13761), (432, 13863), (450, 13938), (470, 14010), (522, 14277), (564, 14403), (568, 14427), (589, 14544), (590, 14556), (598, 14625), (600, 14634), (610, 14697), (631, 14775), (634, 14787), (640, 14799),

Gene: TinaBelcher_18 Start: 11621, Stop: 14881, Start Num: 25

Candidate Starts for TinaBelcher_18:

(Start: 17 @11582 has 29 MA's), (Start: 25 @11621 has 3 MA's), (40, 11717), (42, 11738), (49, 11780), (53, 11795), (80, 11957), (109, 12128), (115, 12164), (162, 12383), (164, 12389), (172, 12449), (191, 12632), (228, 12935), (242, 13031), (245, 13064), (257, 13136), (259, 13142), (266, 13190), (273, 13223), (277, 13241), (278, 13244), (285, 13277), (291, 13295), (325, 13424), (335, 13469), (349, 13532), (351, 13538), (404, 13697), (407, 13709), (432, 13811), (443, 13865), (450, 13886), (470, 13958), (522, 14225), (564, 14351), (568, 14375), (589, 14492), (590, 14504), (598, 14573), (600, 14582), (610, 14645), (631, 14723), (634, 14735), (640, 14747),

Gene: Toma_18 Start: 11655, Stop: 14978, Start Num: 12

Candidate Starts for Toma_18:

(Start: 12 @11655 has 62 MA's), (Start: 24 @11691 has 4 MA's), (40, 11802), (58, 11913), (62, 11925), (64, 11937), (74, 12012), (80, 12048), (102, 12177), (109, 12219), (114, 12249), (115, 12255), (118, 12267), (126, 12312), (172, 12540), (191, 12723), (234, 13062), (242, 13122), (245, 13155), (265, 13272), (268, 13290), (278, 13335), (285, 13368), (291, 13386), (311, 13461), (330, 13539), (335, 13560), (339, 13581), (349, 13623), (354, 13641), (404, 13788), (424, 13866), (430, 13890), (432, 13902), (435, 13914), (437, 13920), (444, 13959), (450, 13977), (502, 14220), (523, 14322), (584, 14544), (589, 14583), (590, 14595), (619, 14769), (641, 14838), (666, 14964), (667, 14967),

Gene: Triste_18 Start: 11637, Stop: 14960, Start Num: 12

Candidate Starts for Triste_18:

(Start: 12 @11637 has 62 MA's), (40, 11784), (58, 11895), (62, 11907), (64, 11919), (74, 11994), (80, 12030), (109, 12201), (114, 12231), (115, 12237), (126, 12294), (172, 12522), (178, 12582), (191, 12705), (228, 13008), (242, 13104), (245, 13137), (265, 13254), (268, 13272), (278, 13317), (285, 13350), (291, 13368), (311, 13443), (330, 13521), (335, 13542), (349, 13605), (354, 13623), (404, 13770), (424, 13848), (430, 13872), (432, 13884), (435, 13896), (437, 13902), (444, 13941), (450,

13959), (502, 14202), (523, 14304), (543, 14346), (583, 14514), (589, 14565), (590, 14577), (619, 14751), (641, 14820), (666, 14946), (667, 14949),

Gene: Triumph_20 Start: 11576, Stop: 14881, Start Num: 17

Candidate Starts for Triumph_20:

(Start: 17 @11576 has 29 MA's), (Start: 25 @11615 has 3 MA's), (40, 11714), (42, 11735), (55, 11807), (58, 11825), (80, 11957), (82, 11969), (108, 12119), (114, 12158), (115, 12164), (116, 12167), (126, 12221), (191, 12632), (228, 12935), (242, 13031), (245, 13064), (268, 13199), (273, 13223), (278, 13244), (279, 13247), (285, 13277), (291, 13295), (299, 13331), (330, 13448), (333, 13460), (344, 13514), (354, 13550), (404, 13697), (424, 13775), (430, 13799), (432, 13811), (444, 13868), (460, 13916), (470, 13958), (487, 14048), (533, 14264), (583, 14441), (589, 14492), (590, 14504), (610, 14645), (619, 14678), (632, 14723), (643, 14759),

Gene: TrvxScott_17 Start: 11584, Stop: 14883, Start Num: 17

Candidate Starts for TrvxScott_17:

(Start: 17 @11584 has 29 MA's), (Start: 25 @11623 has 3 MA's), (40, 11719), (42, 11740), (49, 11782), (53, 11797), (80, 11959), (109, 12130), (115, 12166), (191, 12634), (228, 12937), (242, 13033), (245, 13066), (257, 13138), (259, 13144), (273, 13225), (277, 13243), (278, 13246), (285, 13279), (291, 13297), (325, 13426), (335, 13471), (349, 13534), (351, 13540), (404, 13699), (407, 13711), (418, 13756), (432, 13813), (450, 13888), (453, 13894), (470, 13960), (522, 14227), (564, 14353), (568, 14377), (589, 14494), (590, 14506), (598, 14575), (600, 14584), (610, 14647), (626, 14701), (631, 14725), (640, 14749),

Gene: TuanPN_18 Start: 11643, Stop: 14966, Start Num: 12

Candidate Starts for TuanPN_18:

(Start: 12 @11643 has 62 MA's), (40, 11790), (58, 11901), (62, 11913), (64, 11925), (74, 12000), (80, 12036), (109, 12207), (114, 12237), (115, 12243), (118, 12255), (126, 12300), (139, 12354), (164, 12468), (172, 12528), (190, 12702), (191, 12711), (228, 13014), (234, 13050), (242, 13110), (245, 13143), (259, 13221), (265, 13260), (268, 13278), (278, 13323), (285, 13356), (291, 13374), (311, 13449), (330, 13527), (335, 13548), (339, 13569), (349, 13611), (354, 13629), (372, 13701), (404, 13776), (424, 13854), (430, 13878), (432, 13890), (435, 13902), (437, 13908), (444, 13947), (450, 13965), (502, 14208), (511, 14253), (523, 14310), (583, 14520), (589, 14571), (641, 14826), (666, 14952), (667, 14955),

Gene: TurkishDelight_28 Start: 22980, Stop: 26681, Start Num: 3

Candidate Starts for TurkishDelight_28:

(Start: 3 @22980 has 1 MA's), (101, 23862), (116, 23943), (148, 24084), (150, 24090), (194, 24426), (195, 24444), (201, 24477), (214, 24597), (247, 24795), (315, 25080), (334, 25158), (347, 25221), (370, 25311), (418, 25458), (423, 25476), (441, 25551), (444, 25569), (458, 25611), (465, 25641), (475, 25686), (479, 25707), (484, 25743), (489, 25773), (491, 25779), (523, 25944), (544, 26010), (556, 26052), (563, 26082), (576, 26139), (577, 26142), (579, 26160), (582, 26175), (591, 26250), (594, 26274), (602, 26325), (621, 26421), (645, 26514), (647, 26520), (665, 26628), (668, 26643), (669, 26646), (674, 26673),

Gene: Unstoppable_18 Start: 11660, Stop: 14980, Start Num: 12

Candidate Starts for Unstoppable_18:

(Start: 12 @11660 has 62 MA's), (40, 11804), (58, 11915), (62, 11927), (71, 11996), (72, 12002), (76, 12023), (98, 12158), (109, 12221), (115, 12257), (116, 12260), (152, 12425), (160, 12464), (170, 12521), (191, 12725), (228, 13028), (233, 13061), (242, 13124), (245, 13157), (259, 13235), (264, 13271), (265, 13274), (268, 13292), (273, 13316), (278, 13337), (285, 13370), (291, 13388), (299, 13424), (315, 13478), (325, 13517), (330, 13541), (344, 13607), (354, 13643), (372, 13715), (392, 13739), (394, 13745), (399, 13769), (404, 13790), (430, 13892), (432, 13904), (440, 13940), (450, 13979), (461, 14012), (495, 14183), (502, 14222), (523, 14324), (528, 14345), (533, 14357), (583,

14534), (589, 14585), (590, 14597), (619, 14771), (641, 14840), (650, 14879), (666, 14966), (667, 14969),

Gene: Urza_18 Start: 11942, Stop: 15343, Start Num: 16

Candidate Starts for Urza_18:

(Start: 16 @11942 has 5 MA's), (Start: 19 @11957 has 1 MA's), (40, 12077), (55, 12170), (58, 12188), (64, 12212), (86, 12368), (118, 12545), (126, 12590), (145, 12671), (159, 12734), (162, 12752), (177, 12875), (191, 12998), (200, 13070), (203, 13082), (217, 13211), (228, 13304), (241, 13376), (242, 13400), (251, 13475), (266, 13559), (278, 13613), (285, 13646), (287, 13652), (292, 13673), (295, 13685), (307, 13724), (312, 13742), (351, 13907), (367, 13976), (372, 13991), (375, 14006), (379, 14027), (390, 14081), (399, 14132), (404, 14153), (432, 14267), (450, 14342), (455, 14351), (482, 14465), (502, 14585), (531, 14717), (533, 14720), (555, 14771), (570, 14837), (572, 14840), (589, 14948), (598, 15029), (605, 15056), (630, 15173), (650, 15245), (666, 15332),

Gene: Vanseggelen_23 Start: 11218, Stop: 15330, Start Num: 12

Candidate Starts for Vanseggelen_23:

(Start: 12 @11218 has 62 MA's), (Start: 19 @11242 has 1 MA's), (27, 11269), (40, 11362), (43, 11395), (49, 11425), (58, 11473), (68, 11545), (98, 11716), (102, 11737), (109, 11779), (118, 11827), (129, 11890), (145, 11953), (166, 12049), (170, 12079), (172, 12100), (180, 12172), (190, 12271), (191, 12280), (228, 12586), (242, 12682), (245, 12715), (259, 12793), (264, 12829), (278, 12895), (320, 13054), (325, 13075), (345, 13168), (347, 13177), (350, 13186), (377, 13300), (389, 13360), (397, 13405), (404, 13435), (418, 13492), (424, 13513), (432, 13549), (444, 13606), (450, 13624), (455, 13633), (533, 14002), (564, 14089), (572, 14122), (580, 14164), (589, 14230), (598, 14311), (604, 14335), (624, 14431), (628, 14443), (658, 14596), (663, 14620), (672, 14659), (678, 14731), (682, 14770), (685, 14812), (690, 14887), (691, 14908), (694, 14965), (696, 14986), (699, 15034), (700, 15037), (701, 15052), (704, 15115), (705, 15124), (708, 15166), (710, 15181), (716, 15316), (717, 15319),

Gene: Verabelle_19 Start: 11549, Stop: 15661, Start Num: 12

Candidate Starts for Verabelle_19:

(Start: 12 @11549 has 62 MA's), (Start: 19 @11573 has 1 MA's), (27, 11600), (39, 11687), (40, 11693), (43, 11726), (49, 11756), (58, 11804), (87, 11987), (89, 12005), (102, 12068), (109, 12110), (115, 12146), (118, 12158), (126, 12203), (131, 12233), (145, 12284), (156, 12335), (170, 12410), (172, 12431), (177, 12488), (182, 12524), (190, 12602), (191, 12611), (217, 12824), (228, 12917), (239, 12983), (241, 12989), (242, 13013), (253, 13100), (278, 13226), (280, 13235), (288, 13268), (291, 13277), (298, 13310), (311, 13352), (317, 13373), (325, 13406), (327, 13418), (329, 13424), (332, 13439), (345, 13499), (347, 13508), (350, 13517), (353, 13529), (354, 13532), (376, 13628), (378, 13637), (389, 13691), (397, 13736), (404, 13766), (418, 13823), (424, 13844), (432, 13880), (444, 13937), (450, 13955), (455, 13964), (479, 14072), (509, 14240), (533, 14333), (564, 14420), (572, 14453), (580, 14495), (589, 14561), (598, 14642), (604, 14666), (618, 14744), (658, 14927), (663, 14951), (672, 14990), (677, 15023), (678, 15062), (682, 15101), (690, 15218), (691, 15239), (694, 15296), (696, 15317), (700, 15368), (704, 15446), (705, 15455), (708, 15497), (716, 15647), (717, 15650),

Gene: Verse_18 Start: 11848, Stop: 15960, Start Num: 12

Candidate Starts for Verse_18:

(Start: 12 @11848 has 62 MA's), (Start: 19 @11872 has 1 MA's), (40, 11992), (43, 12025), (49, 12055), (58, 12103), (59, 12106), (91, 12322), (105, 12382), (118, 12457), (129, 12520), (145, 12583), (161, 12658), (172, 12730), (190, 12901), (191, 12910), (228, 13216), (234, 13252), (242, 13312), (245, 13345), (259, 13423), (262, 13444), (264, 13459), (268, 13480), (272, 13498), (278, 13525), (285, 13558), (291, 13576), (298, 13609), (315, 13666), (326, 13711), (330, 13729), (345, 13798), (371, 13900), (376, 13927), (389, 13990), (404, 14065), (424, 14143), (429, 14164), (432, 14179), (435, 14191), (437, 14197), (444, 14236), (450, 14254), (479, 14371), (498, 14470), (499, 14476), (502,

14497), (503, 14500), (533, 14632), (562, 14710), (589, 14860), (592, 14902), (663, 15250), (672, 15289), (678, 15361), (682, 15400), (690, 15517), (691, 15538), (694, 15595), (696, 15616), (699, 15664), (700, 15667), (704, 15745), (705, 15754), (708, 15796), (716, 15946), (717, 15949),

Gene: VieEnRose_18 Start: 12008, Stop: 15409, Start Num: 16

Candidate Starts for VieEnRose_18:

(Start: 16 @12008 has 5 MA's), (Start: 19 @12023 has 1 MA's), (40, 12143), (55, 12236), (58, 12254), (64, 12278), (86, 12434), (109, 12563), (118, 12611), (126, 12656), (145, 12737), (159, 12800), (162, 12818), (177, 12941), (191, 13064), (200, 13136), (203, 13148), (217, 13277), (228, 13370), (241, 13442), (242, 13466), (266, 13625), (278, 13679), (285, 13712), (287, 13718), (292, 13739), (305, 13784), (312, 13808), (328, 13874), (338, 13919), (356, 13994), (367, 14042), (372, 14057), (375, 14072), (376, 14081), (390, 14147), (399, 14198), (404, 14219), (432, 14333), (450, 14408), (455, 14417), (470, 14480), (502, 14651), (531, 14783), (533, 14786), (546, 14807), (552, 14828), (589, 15014), (590, 15026), (598, 15095), (600, 15104), (605, 15122), (630, 15239), (650, 15311), (666, 15398),

Gene: Werner_18 Start: 11647, Stop: 14970, Start Num: 12

Candidate Starts for Werner_18:

(Start: 12 @11647 has 62 MA's), (40, 11794), (58, 11905), (62, 11917), (64, 11929), (74, 12004), (80, 12040), (102, 12169), (109, 12211), (114, 12241), (115, 12247), (126, 12304), (172, 12532), (178, 12592), (191, 12715), (228, 13018), (242, 13114), (245, 13147), (265, 13264), (268, 13282), (278, 13327), (285, 13360), (291, 13378), (311, 13453), (330, 13531), (335, 13552), (349, 13615), (354, 13633), (404, 13780), (424, 13858), (430, 13882), (432, 13894), (435, 13906), (437, 13912), (444, 13951), (450, 13969), (502, 14212), (523, 14314), (543, 14356), (583, 14524), (589, 14575), (590, 14587), (619, 14761), (641, 14830), (666, 14956), (667, 14959),

Gene: Whatever_18 Start: 11647, Stop: 14970, Start Num: 12

Candidate Starts for Whatever_18:

(Start: 12 @11647 has 62 MA's), (40, 11794), (42, 11815), (58, 11905), (62, 11917), (64, 11929), (74, 12004), (80, 12040), (102, 12169), (109, 12211), (114, 12241), (115, 12247), (126, 12304), (172, 12532), (178, 12592), (191, 12715), (228, 13018), (242, 13114), (245, 13147), (265, 13264), (268, 13282), (278, 13327), (285, 13360), (291, 13378), (311, 13453), (330, 13531), (335, 13552), (349, 13615), (354, 13633), (404, 13780), (424, 13858), (430, 13882), (432, 13894), (435, 13906), (437, 13912), (444, 13951), (450, 13969), (502, 14212), (523, 14314), (543, 14356), (583, 14524), (589, 14575), (590, 14587), (619, 14761), (641, 14830), (666, 14956), (667, 14959),

Gene: Xkcd426_8 Start: 4325, Stop: 7600, Start Num: 33

Candidate Starts for Xkcd426_8:

(Start: 33 @4325 has 11 MA's), (52, 4460), (83, 4652), (85, 4664), (90, 4712), (95, 4733), (116, 4835), (133, 4928), (216, 5507), (220, 5528), (234, 5639), (266, 5861), (291, 5960), (302, 6014), (353, 6233), (355, 6242), (392, 6344), (413, 6428), (421, 6461), (423, 6467), (435, 6515), (440, 6539), (441, 6542), (452, 6581), (459, 6605), (461, 6614), (471, 6656), (472, 6659), (473, 6668), (476, 6680), (488, 6746), (497, 6788), (503, 6824), (524, 6920), (550, 7022), (553, 7034), (556, 7043), (574, 7118), (576, 7130), (579, 7151), (586, 7187), (607, 7334), (621, 7397), (623, 7400), (629, 7418), (652, 7511), (664, 7592),

Gene: YDN12_8 Start: 4250, Stop: 7294, Start Num: 33

Candidate Starts for YDN12_8:

(Start: 33 @4250 has 11 MA's), (52, 4385), (61, 4427), (63, 4439), (70, 4502), (73, 4511), (74, 4520), (84, 4580), (Start: 92 @4649 has 4 MA's), (95, 4655), (97, 4661), (124, 4793), (133, 4850), (141, 4874), (194, 5240), (213, 5402), (214, 5411), (222, 5462), (237, 5549), (249, 5627), (255, 5651), (258, 5660), (259, 5663), (266, 5696), (270, 5714), (293, 5771), (295, 5780), (297, 5789), (321, 5849), (326, 5870), (328, 5879), (330, 5888), (333, 5900), (335, 5909), (369, 6053), (392, 6098), (400, 6131), (416, 6194), (421, 6215), (440, 6293), (456, 6347), (462, 6371), (473, 6422), (474, 6425), (480, 6455), (482, 6458),

(488, 6500), (490, 6512), (493, 6521), (500, 6557), (501, 6566), (504, 6587), (505, 6590), (520, 6656), (527, 6686), (533, 6698), (544, 6722), (593, 6944), (595, 6971), (599, 6989), (601, 6992), (603, 7001), (612, 7058), (615, 7061), (617, 7070),

Gene: Yasdni18 Start: 11639, Stop: 14962, Start Num: 12

Candidate Starts for Yasdni18:

(Start: 12 @11639 has 62 MA's), (40, 11786), (58, 11897), (62, 11909), (64, 11921), (74, 11996), (80, 12032), (109, 12203), (114, 12233), (115, 12239), (118, 12251), (126, 12296), (139, 12350), (164, 12464), (172, 12524), (190, 12698), (191, 12707), (228, 13010), (234, 13046), (242, 13106), (245, 13139), (259, 13217), (265, 13256), (268, 13274), (278, 13319), (285, 13352), (291, 13370), (311, 13445), (330, 13523), (335, 13544), (339, 13565), (349, 13607), (354, 13625), (372, 13697), (404, 13772), (424, 13850), (430, 13874), (432, 13886), (435, 13898), (437, 13904), (444, 13943), (450, 13961), (502, 14204), (511, 14249), (523, 14306), (583, 14516), (589, 14567), (641, 14822), (666, 14948), (667, 14951),

Gene: Yosif19 Start: 11936, Stop: 15949, Start Num: 16

Candidate Starts for Yosif19:

(Start: 16 @11936 has 5 MA's), (Start: 19 @11951 has 1 MA's), (40, 12071), (45, 12113), (49, 12134), (58, 12182), (74, 12281), (98, 12425), (104, 12455), (118, 12536), (132, 12614), (191, 12992), (203, 13076), (208, 13115), (228, 13295), (233, 13328), (242, 13391), (264, 13538), (278, 13604), (285, 13637), (287, 13643), (291, 13655), (327, 13796), (329, 13802), (335, 13829), (351, 13898), (372, 13982), (379, 13985), (383, 13997), (404, 14057), (432, 14171), (435, 14183), (455, 14255), (498, 14450), (502, 14477), (532, 14609), (533, 14612), (546, 14633), (552, 14654), (589, 14840), (661, 15218), (663, 15227), (672, 15266), (677, 15299), (682, 15377), (685, 15419), (686, 15428), (689, 15491), (690, 15494), (691, 15515), (694, 15572), (696, 15593), (699, 15641), (700, 15644), (701, 15659), (704, 15722), (705, 15731), (708, 15773), (711, 15794), (713, 15806), (714, 15848), (716, 15935), (717, 15938),

Gene: Zainub20 Start: 12120, Stop: 15311, Start Num: 17

Candidate Starts for Zainub20:

(Start: 17 @12120 has 29 MA's), (Start: 25 @12159 has 3 MA's), (38, 12246), (40, 12255), (42, 12276), (49, 12318), (80, 12495), (98, 12603), (104, 12633), (108, 12657), (115, 12702), (116, 12705), (126, 12759), (191, 13170), (208, 13293), (228, 13473), (238, 13536), (240, 13542), (242, 13569), (264, 13716), (268, 13737), (273, 13761), (278, 13782), (279, 13785), (285, 13815), (291, 13833), (343, 13980), (391, 14094), (392, 14097), (412, 14175), (418, 14205), (430, 14250), (432, 14262), (444, 14319), (445, 14322), (460, 14367), (462, 14373), (503, 14529), (519, 14604), (543, 14703), (561, 14769), (575, 14823), (589, 14922), (619, 15108), (627, 15129), (632, 15153), (635, 15165),

Gene: ZamZam18 Start: 11560, Stop: 15954, Start Num: 4

Candidate Starts for ZamZam18:

(2, 11434), (Start: 4 @11560 has 3 MA's), (7, 11689), (8, 11710), (13, 11896), (21, 11926), (26, 11947), (29, 11962), (30, 11971), (35, 12013), (37, 12028), (44, 12079), (71, 12244), (72, 12250), (78, 12283), (99, 12418), (104, 12445), (107, 12460), (115, 12514), (118, 12526), (129, 12589), (131, 12601), (142, 12643), (145, 12652), (172, 12799), (191, 12979), (198, 13033), (228, 13285), (239, 13351), (242, 13381), (260, 13501), (264, 13528), (266, 13540), (278, 13594), (291, 13645), (298, 13678), (310, 13714), (329, 13792), (333, 13810), (335, 13819), (339, 13840), (351, 13888), (360, 13921), (404, 14047), (408, 14062), (426, 14134), (429, 14146), (432, 14161), (439, 14194), (446, 14224), (450, 14236), (470, 14308), (487, 14398), (495, 14440), (570, 14731), (589, 14842), (598, 14923), (604, 14947), (663, 15232), (672, 15271), (678, 15343), (682, 15382), (685, 15424), (690, 15499), (691, 15520), (694, 15577), (696, 15598), (699, 15646), (700, 15649), (702, 15694), (708, 15778), (712, 15805), (714, 15853), (716, 15940), (717, 15943),

Gene: Zemlya19 Start: 11666, Stop: 14989, Start Num: 12

Candidate Starts for Zemlya_19:

(Start: 12 @11666 has 62 MA's), (Start: 24 @11702 has 4 MA's), (40, 11813), (58, 11924), (62, 11936), (64, 11948), (74, 12023), (80, 12059), (102, 12188), (109, 12230), (114, 12260), (115, 12266), (118, 12278), (126, 12323), (164, 12491), (172, 12551), (190, 12725), (191, 12734), (228, 13037), (234, 13073), (241, 13109), (242, 13133), (245, 13166), (265, 13283), (268, 13301), (278, 13346), (285, 13379), (291, 13397), (311, 13472), (330, 13550), (335, 13571), (339, 13592), (349, 13634), (354, 13652), (404, 13799), (424, 13877), (430, 13901), (432, 13913), (435, 13925), (437, 13931), (444, 13970), (450, 13988), (502, 14231), (523, 14333), (589, 14594), (590, 14606), (600, 14684), (605, 14702), (619, 14780), (641, 14849), (666, 14975), (667, 14978),

Gene: phiAsp2_27 Start: 16322, Stop: 19258, Start Num: 56

Candidate Starts for phiAsp2_27:

(56, 16322), (65, 16364), (74, 16433), (Start: 92 @16559 has 4 MA's), (138, 16769), (140, 16781), (167, 16895), (184, 17060), (190, 17108), (191, 17117), (199, 17180), (207, 17222), (223, 17345), (228, 17390), (234, 17426), (246, 17522), (247, 17525), (255, 17579), (258, 17588), (259, 17591), (261, 17603), (265, 17636), (269, 17657), (271, 17669), (274, 17681), (282, 17720), (283, 17723), (310, 17813), (342, 17954), (345, 17966), (353, 17987), (369, 18035), (381, 18053), (391, 18065), (392, 18068), (419, 18167), (427, 18197), (436, 18227), (460, 18317), (470, 18359), (473, 18374), (475, 18383), (478, 18398), (489, 18461), (490, 18464), (492, 18470), (502, 18530), (503, 18533), (506, 18551), (514, 18587), (533, 18668), (576, 18794), (577, 18797), (590, 18896), (592, 18926), (604, 18989), (605, 18992), (606, 18995), (642, 19148), (644, 19154), (646, 19163), (652, 19178),

Gene: phiCAM_19 Start: 13655, Stop: 17626, Start Num: 40

Candidate Starts for phiCAM_19:

(Start: 12 @13511 has 62 MA's), (Start: 19 @13535 has 1 MA's), (40, 13655), (43, 13688), (49, 13718), (58, 13766), (59, 13769), (91, 13985), (102, 14030), (115, 14108), (116, 14111), (118, 14120), (129, 14183), (137, 14213), (142, 14237), (145, 14246), (156, 14297), (161, 14321), (172, 14393), (190, 14564), (191, 14573), (228, 14879), (238, 14942), (242, 14975), (259, 15086), (264, 15122), (268, 15143), (278, 15188), (285, 15221), (291, 15239), (298, 15272), (311, 15314), (315, 15329), (324, 15362), (325, 15368), (329, 15386), (330, 15392), (331, 15395), (345, 15461), (347, 15470), (350, 15479), (354, 15494), (371, 15563), (374, 15578), (389, 15653), (404, 15728), (429, 15827), (432, 15842), (435, 15854), (437, 15860), (444, 15899), (450, 15917), (474, 16007), (479, 16034), (502, 16160), (523, 16262), (533, 16295), (589, 16523), (592, 16565), (624, 16724), (628, 16736), (663, 16913), (672, 16952), (678, 17024), (682, 17063), (690, 17180), (691, 17201), (694, 17258), (696, 17279), (699, 17327), (700, 17330), (701, 17345), (704, 17408), (705, 17417), (708, 17459), (716, 17612), (717, 17615),

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

Candidate Starts for phiHau3_20:

(Start: 1 @11837 has 3 MA's), (9, 12173), (11, 12218), (13, 12311), (20, 12335), (22, 12344), (40, 12470), (52, 12554), (60, 12593), (72, 12680), (81, 12737), (93, 12830), (96, 12839), (102, 12866), (106, 12884), (110, 12917), (115, 12944), (126, 13001), (128, 13010), (161, 13157), (162, 13163), (163, 13166), (188, 13385), (191, 13412), (202, 13493), (218, 13631), (228, 13715), (242, 13811), (243, 13820), (263, 13955), (264, 13958), (266, 13970), (285, 14057), (286, 14060), (288, 14066), (331, 14231), (336, 14258), (383, 14417), (392, 14426), (404, 14477), (411, 14501), (422, 14549), (429, 14576), (432, 14591), (450, 14666), (465, 14717), (529, 15035), (553, 15089), (561, 15119), (589, 15272), (598, 15353), (600, 15362), (605, 15380), (666, 15647),