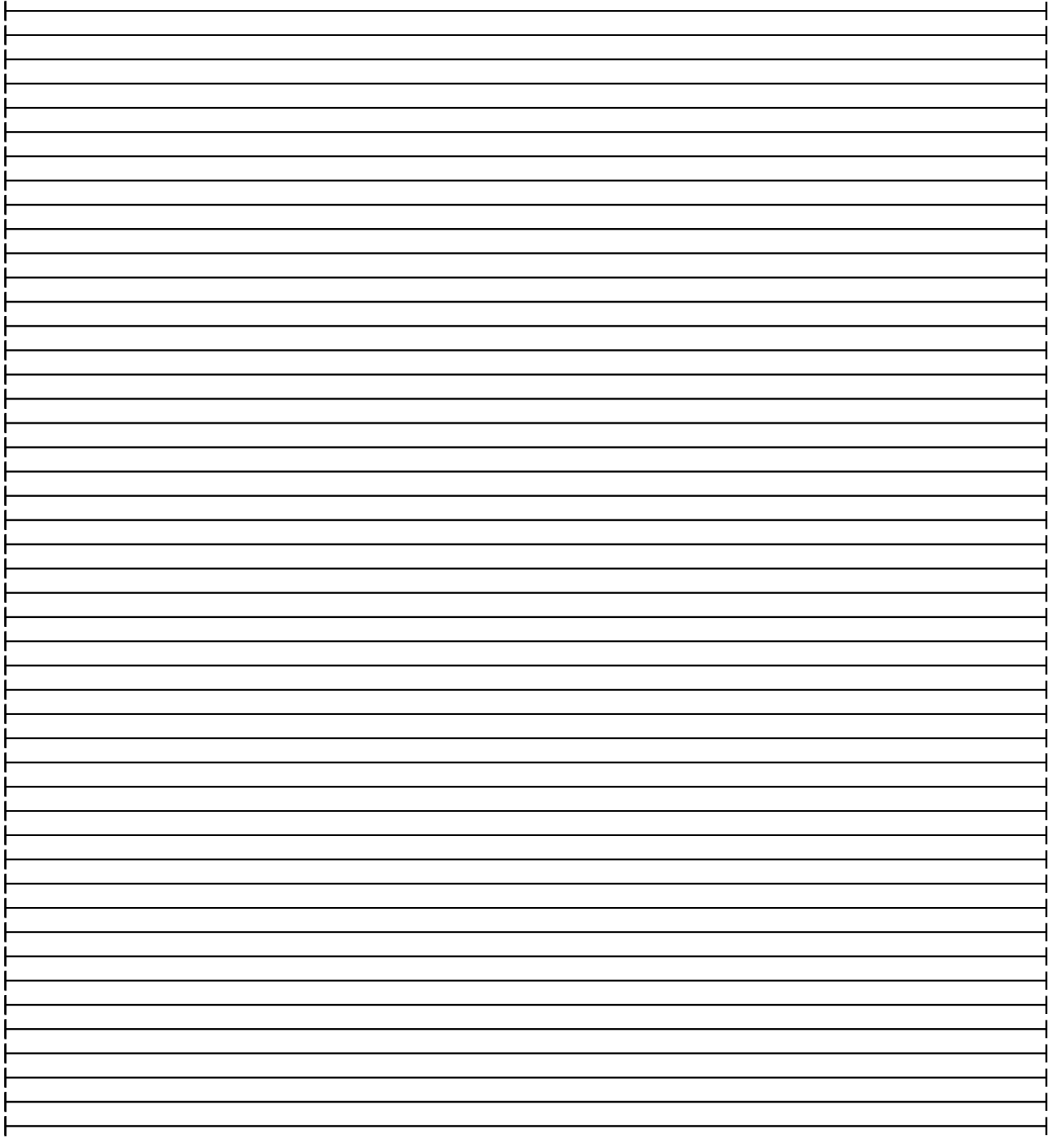
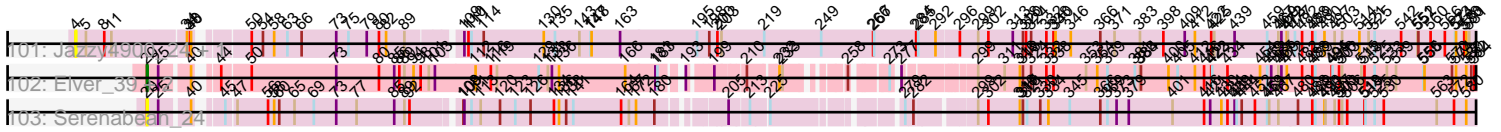


# Zoomed Pham 165920

Index	Name	Age	Gender	DOB	Address	Phone	Notes
1	Elsa_ZZ	14	F	10/10/2004	140	216	
2	Xenomorph						
3	Benito_20	14	M	10/10/2004	140	216	
4	Mooshroom	21	M	10/10/2004	140	216	
5	BenitoAnto	14	M	10/10/2004	140	216	
6	KeaneyLin						
7	Correa_21						
8	Dynamite_						
9	Tubby_ZZ						
10	Cheesy_ZZ						
11	Circum_ZZ						
12	JEGGS_ZZ						
13	Mudcat_ZZ						
14	Heisenberg_ZZ	14	M	10/10/2004	140	216	
15	Inked_ZZ	14	M	10/10/2004	140	216	
16	CastorTra	14	M	10/10/2004	140	216	
17	MimiBagen	14	M	10/10/2004	140	216	
18	Synepsis	14	M	10/10/2004	140	216	
19	Brunswick	14	M	10/10/2004	140	216	
20	Niktson_ZZ	14	M	10/10/2004	140	216	
21	AreFloNate	14	M	10/10/2004	140	216	
22	Issa_26	14	M	10/10/2004	140	216	
23	Teacup_ZZ	14	M	10/10/2004	140	216	
24	Tatanka_ZZ	14	M	10/10/2004	140	216	
25	Capnium	14	M	10/10/2004	140	216	
26	ScienceW	14	M	10/10/2004	140	216	
27	Trustfoot	14	M	10/10/2004	140	216	
28	Gordon_ZZ	14	M	10/10/2004	140	216	
29	Breylor17	14	M	10/10/2004	140	216	
30	Tenno_ZZ	14	M	10/10/2004	140	216	
31	DevitoJr	14	M	10/10/2004	140	216	
32	Darby_ZZ	14	M	10/10/2004	140	216	
33	Nightmare	14	M	10/10/2004	140	216	
34	Tokki_ZZ	14	M	10/10/2004	140	216	
35	Shepard_ZZ	14	M	10/10/2004	140	216	
36	LilHuddy_ZZ	14	M	10/10/2004	140	216	
37	Phaby_ZZ	14	M	10/10/2004	140	216	
38	Giantsban	14	M	10/10/2004	140	216	
39	Ingrid_ZZ	14	M	10/10/2004	140	216	
40	MediumF	14	M	10/10/2004	140	216	
41	Caterpillar	14	M	10/10/2004	140	216	
42	Wakai_ZZ	14	M	10/10/2004	140	216	
43	Argan_ZZ	14	M	10/10/2004	140	216	
44	Renald_ZZ	14	M	10/10/2004	140	216	
45	Barbie_ZZ	14	M	10/10/2004	140	216	
46	Zeina_ZZ	14	M	10/10/2004	140	216	
47	Leathe_ZZ	14	M	10/10/2004	140	216	
48	Ozuma_ZZ	14	M	10/10/2004	140	216	
49	Gantcha_ZZ	14	M	10/10/2004	140	216	
50	Lewand_ZZ	14	M	10/10/2004	140	216	

51: ProfiFrnk	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
52: Stayer_23	51	88	123	10	108	121	138	183	193	209	237	238	262	266	299	...
53: Sponto_23	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
54: StarLord	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
55: Saik_23	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
56: Kaunak_23	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
57: Egad_23	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
58: MirAaronia	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
59: Shiba_23	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
60: DoctorPe	90	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
61: Vjghelq	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
62: Vjgenias_23+	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
63: Vjya_23	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
64: VjdoSjlgins_23+	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
65: Vjybsyrus_23	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
66: Vjshi_23+	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
67: VjgetOsa_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
68: VjdaOsa_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
69: Vjdamaso_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
70: VjyStash_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
71: Vjno_23+	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
72: VjnyBasasi_23	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
73: VjGrey_23	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
74: Vjelectatron_23	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
75: Vjshi_23	112	121	138	161	175	199	212	229	238	266	299	...	...	...	...	
76: VjDye_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
77: Vjimpidaiado_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
78: VjWarrior_23	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
79: VjPower	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
80: PjerryCr	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	
81: RosaAsan	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
82: Moozy_19	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
83: Bilo_19	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
84: SheRa_19	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
85: Annihilius	51	88	123	123	138	135	183	193	209	237	238	262	266	299	...	...
86: Scap_19	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
87: HotFiles	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
88: GobinVoy	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
89: Dagn13_19	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
90: Vjra1301_21	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
91: VjdaOsa_21#5	120	138	141	161	175	199	212	229	238	266	299	...	...	...	...	
92: Vjgnitd_22	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
93: Vjg1246	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
94: Vjardasi_22	51	88	123	10	108	138	135	183	193	209	237	238	262	266	299	...
95: ClubPen	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	
96: DizzyRud	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	
97: Coun_30	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	
98: Camille_23	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	
99: Daprasus_24	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	
100: AtZan_22	10	70	138	161	175	199	212	229	238	266	299	...	...	...	...	

# Zoomed Pham 165920



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 165920 Report

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

Pham number 165920 has 130 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Elsa\_22, Arcadia\_22, Nason\_22
- Track 2 : Xenomorph\_20
- Track 3 : Benllo\_20
- Track 4 : Mooshroom\_21, Kardesai\_20, Hankly\_20
- Track 5 : BenitoAntonio\_22
- Track 6 : KeaneyLin\_20, GoCrazy\_20
- Track 7 : Correa\_21
- Track 8 : Dynamite\_21, NapoleonB\_21
- Track 9 : Tribby\_22
- Track 10 : Cheesy\_22
- Track 11 : Circum\_22
- Track 12 : JEGGS\_21
- Track 13 : Mudcat\_21
- Track 14 : Heisenberger\_21
- Track 15 : Inked\_28
- Track 16 : CastorTray\_28
- Track 17 : MiniBagel\_26
- Track 18 : Synopsis\_25
- Track 19 : Brunswick\_26
- Track 20 : Niktson\_26, ElephantMan\_26
- Track 21 : AreFloNak\_26, Nivinsha\_26
- Track 22 : Issa\_26
- Track 23 : Teacup\_26
- Track 24 : Tatanka\_26
- Track 25 : CapnMurica\_26
- Track 26 : ScienceWizSam\_28
- Track 27 : Trustiboi\_27
- Track 28 : Gordon\_26
- Track 29 : Breylor17\_27
- Track 30 : Tenno\_27
- Track 31 : DevitoJr\_26
- Track 32 : Darby\_26
- Track 33 : Nightmare\_27
- Track 34 : Tokki\_27
- Track 35 : Shepard\_27
- Track 36 : LilHuddy\_27
- Track 37 : Phaby\_27

- Track 38 : Giantsbane\_27
- Track 39 : Ingrid\_26, Loretta\_26
- Track 40 : MediumFry\_24
- Track 41 : Caterpillar\_24
- Track 42 : Makai\_26, Truckee\_25
- Track 43 : Argan\_25
- Track 44 : Renaldo\_31
- Track 45 : BarbieDoll\_29
- Track 46 : Zeina\_26
- Track 47 : Leathea\_26
- Track 48 : Uzumaki\_26
- Track 49 : GantcherGoblin\_25
- Track 50 : Lewando\_29
- Track 51 : ProfFrink\_23
- Track 52 : Stayer\_23, BronxBay\_23
- Track 53 : Sporto\_24
- Track 54 : StarLord\_23, Sloopyjoe\_23
- Track 55 : Salk\_23, Linda\_23
- Track 56 : Raunak\_23
- Track 57 : Egad\_23
- Track 58 : MrAaronian\_23, Djungelskog\_23
- Track 59 : Shiba\_23
- Track 60 : DoctorPepper\_23
- Track 61 : Michelle\_23
- Track 62 : Indigenous\_23, Jaylociraptor\_23
- Track 63 : Maya\_23
- Track 64 : FrodoSwaggins\_23, Popy\_23
- Track 65 : Meibysrarus\_23
- Track 66 : Hoshi\_23, Esketit\_23
- Track 67 : FidgetOrca\_23
- Track 68 : TaidaOne\_23
- Track 69 : Madamato\_23
- Track 70 : TonyStarch\_23
- Track 71 : Namu\_23, Rima\_23
- Track 72 : CherryBlossom\_23
- Track 73 : DrGrey\_23
- Track 74 : Spectropatronm\_23
- Track 75 : Soshi\_23
- Track 76 : TieDye\_22
- Track 77 : OlympicHelado\_23
- Track 78 : IceWarrior\_23
- Track 79 : GirlPower\_22
- Track 80 : PherryCruz\_18, RavenPuff\_18
- Track 81 : RosaAsantewaa\_19
- Track 82 : Moozy\_19
- Track 83 : Bilo\_19
- Track 84 : SheRa\_19
- Track 85 : Annihilus\_19
- Track 86 : Scap1\_19
- Track 87 : HotFries\_18
- Track 88 : GoblinVoyage\_19
- Track 89 : Doxi13\_19
- Track 90 : LibertyBell\_21

- Track 91 : Thiqqums\_21, SendItCS\_20, CricKo\_21, Miek\_21, Rainydai\_21, Regigigas\_22
- Track 92 : FromIndy\_22
- Track 93 : Bing\_24
- Track 94 : Kardashian\_22
- Track 95 : ClubPenguin\_22
- Track 96 : DizzyRudy\_24
- Track 97 : Count\_30
- Track 98 : Camille\_24
- Track 99 : Damascus\_24
- Track 100 : Arzan\_22
- Track 101 : Jazzy4900\_24, Sunny4976\_23
- Track 102 : Elver\_39, Paella\_40, Qui\_40
- Track 103 : Serenabean\_24

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

The start number called the most often in the published annotations is 20, it was called in 72 of the 112 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Annihilus\_19, Arcadia\_22, AreFloNak\_26, BenitoAntonio\_22, Benllo\_20, Bilo\_19, Breylor17\_27, BronxBay\_23, Brunswick\_26, Camille\_24, CapnMurica\_26, CastorTray\_28, Caterpillar\_24, Cheesy\_22, Circum\_22, Correa\_21, Count\_30, Damascus\_24, Darby\_26, DevitoJr\_26, DizzyRudy\_24, Djungelskog\_23, DoctorPepper\_23, Doxi13\_19, Dynamite\_21, ElephantMan\_26, Elsa\_22, Elver\_39, Giantsbane\_27, GoCrazy\_20, GoblinVoyage\_19, Gordon\_26, Hankly\_20, Heisenberger\_21, HotFries\_18, Ingrid\_26, Inked\_28, Issa\_26, JEGGS\_21, Kardesai\_20, KeaneyLin\_20, LilHuddy\_27, Linda\_23, Loretta\_26, Makai\_26, MediumFry\_24, Michelle\_23, MiniBagel\_26, Mooshroom\_21, MrAaronian\_23, Mudcat\_21, NapoleonB\_21, Nason\_22, Nightmare\_27, Niktson\_26, Nivinsha\_26, Paella\_40, PherryCruz\_18, Qui\_40, RavenPuff\_18, RosaAsantewaa\_19, Salk\_23, ScienceWizSam\_28, Serenabean\_24, SheRa\_19, Shepard\_27, Sloopyjoe\_23, Sporto\_24, StarLord\_23, Stayer\_23, Synopsis\_25, Tatanka\_26, Teacup\_26, Tenno\_27, Tokki\_27, Tribby\_22, Truckee\_25, Trustiboi\_27, Xenomorph\_20,

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

- Egad\_23, Moozy\_19, Phaby\_27, ProfFrink\_23, Raunak\_23, Scap1\_19, Shiba\_23,

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

- Argan\_25, Arzan\_22, BarbieDoll\_29, Bing\_24, CherryBlossom\_23, ClubPenguin\_22, CricKo\_21, DrGrey\_23, Esketit\_23, FidgetOrca\_23, FrodoSwaggins\_23, FromIndy\_22, GantcherGoblin\_25, GirlPower\_22, Hoshi\_23, IceWarrior\_23, Indigenous\_23, Jaylociraptor\_23, Jazzy4900\_24, Kardashian\_22, Leathea\_26, Lewando\_29, LibertyBell\_21, Madamato\_23, Maya\_23, Meibysrarus\_23, Miek\_21, Namu\_23, OlympicHelado\_23, Popy\_23, Rainydai\_21, Regigigas\_22, Renaldo\_31, Rima\_23, SendItCS\_20, Soshi\_23, Spectropatronm\_23, Sunny4976\_23, TaidaOne\_23, Thiqqums\_21, TieDye\_22, TonyStarch\_23, Uzumaki\_26, Zeina\_26,

## Summary by start number:

### Start 2:

- Found in 32 of 130 ( 24.6% ) of genes in pham
- Manual Annotations of this start: 30 of 112
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bing\_24 (BI5), CherryBlossom\_23 (BI1), CricKo\_21 (BI4), DrGrey\_23 (BI1), Esketit\_23 (BI1), FidgetOrca\_23 (BI1), FrodoSwaggins\_23 (BI1), FromIndy\_22 (BI4), GirlPower\_22 (BI1), Hoshi\_23 (BI1), IceWarrior\_23 (BI1), Indigenous\_23 (BI1), Jaylociraptor\_23 (BI1), Kardashian\_22 (BI6), LibertyBell\_21 (BI3), Madamato\_23 (BI1), Maya\_23 (BI1), Meibysrarus\_23 (BI1), Miek\_21 (BI4), Namu\_23 (BI1), OlympicHelado\_23 (BI1), Popy\_23 (BI1), Rainydai\_21 (BI4), Regigigas\_22 (BI4), Rima\_23 (BI1), SendItCS\_20 (BI4), Soshi\_23 (BI1), Spectropatronm\_23 (BI1), TaidaOne\_23 (BI1), Thiqqums\_21 (BI4), TieDye\_22 (BI1), TonyStarch\_23 (BI1),

### Start 4:

- Found in 4 of 130 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Arzan\_22 (FI), Jazzy4900\_24 (FI), Sunny4976\_23 (FI),

### Start 12:

- Found in 8 of 130 ( 6.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 12.5% of time when present
- Phage (with cluster) where this start called: BarbieDoll\_29 (AU6),

### Start 15:

- Found in 8 of 130 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 5 of 112
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Argan\_25 (AU6), GantcherGoblin\_25 (AU6), Leathea\_26 (AU6), Lewando\_29 (AU6), Uzumaki\_26 (AU6), Zeina\_26 (AU6),

### Start 16:

- Found in 1 of 130 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 112
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ClubPenguin\_22 (BI7),

### Start 19:

- Found in 82 of 130 ( 63.1% ) of genes in pham
- Manual Annotations of this start: 2 of 112
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Moozy\_19 (BI2), Scap1\_19 (BI2),

### Start 20:

- Found in 86 of 130 ( 66.2% ) of genes in pham
- Manual Annotations of this start: 72 of 112
- Called 91.9% of time when present

- Phage (with cluster) where this start called: Annihilus\_19 (BI2), Arcadia\_22 (AM), AreFloNak\_26 (AU1), BenitoAntonio\_22 (AM), Benllo\_20 (AM), Bilo\_19 (BI2), Breylor17\_27 (AU1), BronxBay\_23 (AW), Brunswick\_26 (AU1), Camille\_24 (EL), CapnMurica\_26 (AU1), CastorTray\_28 (AU1), Caterpillar\_24 (AU4), Cheesy\_22 (AM), Circum\_22 (AM), Correa\_21 (AM), Count\_30 (EL), Damascus\_24 (EL), Darby\_26 (AU1), DevitoJr\_26 (AU1), DizzyRudy\_24 (EL), Djungelskog\_23 (AW), DoctorPepper\_23 (AW), Doxi13\_19 (BI2), Dynamite\_21 (AM), ElephantMan\_26 (AU1), Elsa\_22 (AM), Elver\_39 (FK), Giantsbane\_27 (AU2), GoCrazy\_20 (AM), GoblinVoyage\_19 (BI2), Gordon\_26 (AU1), Hankly\_20 (AM), Heisenberger\_21 (AM), HotFries\_18 (BI2), Ingrid\_26 (AU3), Inked\_28 (AU), Issa\_26 (AU1), JEGGS\_21 (AM), Kardesai\_20 (AM), KeaneyLin\_20 (AM), LilHuddy\_27 (AU2), Linda\_23 (AW), Loretta\_26 (AU3), Makai\_26 (AU5), MediumFry\_24 (AU4), Michelle\_23 (AW), MiniBagel\_26 (AU1), Mooshroom\_21 (AM), MrAaronian\_23 (AW), Mudcat\_21 (AM), NapoleonB\_21 (AM), Nason\_22 (AM), Nightmare\_27 (AU1), Niktson\_26 (AU1), Nivinsha\_26 (AU1), Paella\_40 (FK), PherryCruz\_18 (BI2), Qui\_40 (FK), RavenPuff\_18 (BI2), RosaAsantewaa\_19 (BI2), Salk\_23 (AW), ScienceWizSam\_28 (AU1), Serenabean\_24 (HA), SheRa\_19 (BI2), Shepard\_27 (AU2), Sloopyjoe\_23 (AW), Sporto\_24 (AW), StarLord\_23 (AW), Stayer\_23 (AW), Synepsis\_25 (AU1), Tatanka\_26 (AU1), Teacup\_26 (AU1), Tenno\_27 (AU1), Tokki\_27 (AU2), Tribby\_22 (AM), Truckee\_25 (AU5), Trustiboi\_27 (AU1), Xenomorph\_20 (AM),

Start 25:

- Found in 86 of 130 ( 66.2% ) of genes in pham
- Manual Annotations of this start: 2 of 112
- Called 5.8% of time when present
- Phage (with cluster) where this start called: Egad\_23 (AW), Phaby\_27 (AU2), ProfFrink\_23 (AW), Raunak\_23 (AW), Shiba\_23 (AW),

Start 26:

- Found in 3 of 130 ( 2.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Renaldo\_31 (AU6),

### Summary by clusters:

There are 20 clusters represented in this pham: EL, FK, HA, AU5, AM, AU1, AU3, AU2, AU, AU4, AW, AU6, BI6, FI, BI4, BI5, BI2, BI3, BI7, BI1,

Info for manual annotations of cluster AM:

- Start number 20 was manually annotated 19 times for cluster AM.

Info for manual annotations of cluster AU:

- Start number 20 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 20 was manually annotated 17 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 20 was manually annotated 4 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 20 was manually annotated 2 times for cluster AU3.



Info for manual annotations of cluster AU4:

- Start number 20 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 20 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 15 was manually annotated 5 times for cluster AU6.

Info for manual annotations of cluster AW:

- Start number 20 was manually annotated 10 times for cluster AW.
- Start number 25 was manually annotated 2 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 2 was manually annotated 22 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 19 was manually annotated 2 times for cluster BI2.
- Start number 20 was manually annotated 9 times for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 2 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 2 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 2 was manually annotated 1 time for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 2 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 16 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster EL:

- Start number 20 was manually annotated 4 times for cluster EL.

Info for manual annotations of cluster FK:

- Start number 20 was manually annotated 2 times for cluster FK.

### ***Gene Information:***

Gene: Annihilus\_19 Start: 13516, Stop: 18744, Start Num: 20

Candidate Starts for Annihilus\_19:

(Start: 19 @13495 has 2 MA's), (Start: 20 @13516 has 72 MA's), (Start: 25 @13546 has 2 MA's), (43, 13648), (47, 13699), (58, 13807), (73, 13990), (80, 14116), (83, 14152), (89, 14191), (103, 14281), (138, 14668), (161, 14818), (166, 14842), (177, 14914), (227, 15145), (241, 15223), (243, 15241),

(244, 15244), (251, 15277), (269, 15385), (287, 15445), (299, 15526), (308, 15595), (316, 15649), (335, 15736), (336, 15739), (338, 15748), (355, 15850), (366, 15886), (369, 15904), (377, 15955), (396, 16057), (398, 16069), (400, 16084), (411, 16153), (412, 16162), (417, 16192), (429, 16237), (436, 16258), (443, 16288), (446, 16300), (447, 16303), (451, 16324), (452, 16333), (459, 16369), (467, 16402), (487, 16486), (490, 16531), (491, 16534), (492, 16537), (503, 16582), (510, 16612), (522, 16657), (525, 16672), (532, 16705), (537, 16726), (539, 16735), (540, 16744), (545, 16768), (546, 16771), (549, 16780), (552, 16801), (554, 16813), (561, 16840), (566, 16879), (570, 16900), (578, 16936), (580, 16942), (607, 17074), (609, 17083), (611, 17092), (614, 17101), (615, 17104), (617, 17116), (618, 17119), (619, 17128), (621, 17137), (638, 17230), (644, 17284), (664, 17392), (667, 17407), (670, 17446), (671, 17461), (684, 17605), (717, 17839), (731, 17914), (756, 18193), (757, 18196), (758, 18217), (761, 18265), (763, 18271), (773, 18379), (777, 18424), (780, 18451), (787, 18553), (795, 18706),

Gene: Arcadia\_22 Start: 17670, Stop: 22148, Start Num: 20

Candidate Starts for Arcadia\_22:

(Start: 19 @17649 has 2 MA's), (Start: 20 @17670 has 72 MA's), (Start: 25 @17700 has 2 MA's), (29, 17733), (33, 17754), (62, 17985), (65, 18015), (72, 18096), (73, 18138), (74, 18156), (77, 18198), (82, 18285), (89, 18339), (92, 18354), (98, 18387), (109, 18480), (113, 18528), (115, 18543), (120, 18585), (124, 18639), (130, 18714), (135, 18747), (148, 18855), (158, 18921), (166, 18954), (167, 18963), (169, 18966), (172, 18984), (226, 19266), (234, 19290), (236, 19320), (268, 19479), (282, 19539), (299, 19668), (304, 19716), (313, 19770), (315, 19782), (316, 19791), (318, 19800), (324, 19824), (332, 19869), (338, 19890), (349, 19965), (357, 19998), (366, 20028), (369, 20049), (371, 20070), (381, 20130), (382, 20136), (390, 20175), (391, 20178), (394, 20193), (405, 20256), (409, 20277), (412, 20307), (417, 20337), (422, 20355), (434, 20403), (440, 20427), (444, 20445), (447, 20454), (448, 20463), (450, 20469), (453, 20490), (459, 20520), (467, 20553), (468, 20559), (469, 20562), (472, 20574), (477, 20595), (488, 20646), (489, 20655), (491, 20685), (493, 20691), (500, 20724), (503, 20733), (510, 20763), (513, 20772), (515, 20784), (525, 20823), (530, 20850), (532, 20856), (533, 20859), (536, 20874), (542, 20901), (545, 20919), (549, 20931), (555, 20967), (575, 21069), (587, 21132), (592, 21168), (593, 21171), (595, 21177), (599, 21192), (603, 21210), (609, 21234), (613, 21249), (614, 21252), (618, 21270), (623, 21303), (628, 21324), (638, 21381), (644, 21435), (646, 21444), (654, 21498), (662, 21525), (664, 21543), (669, 21591), (670, 21597), (675, 21669), (683, 21747), (685, 21762), (690, 21801), (697, 21825), (706, 21894), (709, 21915), (723, 22008), (742, 22137),

Gene: AreFloNak\_26 Start: 20074, Stop: 24663, Start Num: 20

Candidate Starts for AreFloNak\_26:

(Start: 19 @20053 has 2 MA's), (Start: 20 @20074 has 72 MA's), (Start: 25 @20104 has 2 MA's), (33, 20158), (40, 20179), (44, 20215), (50, 20293), (57, 20353), (61, 20377), (62, 20389), (65, 20419), (68, 20470), (72, 20500), (73, 20542), (74, 20560), (77, 20602), (79, 20632), (81, 20677), (82, 20689), (89, 20743), (92, 20758), (94, 20770), (98, 20791), (109, 20884), (112, 20917), (113, 20932), (119, 20980), (135, 21151), (150, 21265), (151, 21268), (177, 21430), (184, 21454), (187, 21469), (190, 21481), (202, 21556), (217, 21649), (222, 21664), (223, 21670), (228, 21688), (241, 21760), (250, 21811), (253, 21826), (257, 21856), (270, 21928), (271, 21934), (281, 21967), (282, 21970), (288, 21997), (299, 22111), (306, 22168), (308, 22180), (316, 22234), (318, 22243), (319, 22246), (324, 22267), (332, 22312), (338, 22333), (344, 22375), (347, 22393), (360, 22450), (366, 22471), (369, 22492), (381, 22573), (383, 22588), (384, 22591), (390, 22618), (391, 22621), (400, 22672), (412, 22750), (414, 22765), (415, 22768), (419, 22786), (420, 22792), (422, 22798), (425, 22807), (434, 22843), (437, 22852), (444, 22885), (454, 22939), (455, 22942), (459, 22960), (463, 22972), (469, 23002), (472, 23017), (475, 23026), (477, 23038), (482, 23059), (489, 23098), (497, 23155), (500, 23167), (503, 23176), (513, 23215), (515, 23227), (524, 23257), (525, 23266), (533, 23302), (541, 23341), (542, 23344), (545, 23362), (547, 23368), (559, 23428), (562, 23437), (569, 23491), (570, 23494), (573, 23503), (595, 23620), (596, 23623), (601, 23644), (609, 23677), (610, 23680), (611, 23686), (614, 23695), (619, 23722), (628, 23767), (639, 23833), (645, 23884), (647, 23890), (655, 23950),

(662, 24034), (664, 24052), (666, 24064), (680, 24223), (681, 24232), (686, 24280), (691, 24313), (695, 24325), (697, 24331), (700, 24352), (701, 24355), (702, 24361), (707, 24400), (710, 24427), (737, 24613), (741, 24640),

Gene: Argan\_25 Start: 18963, Stop: 23600, Start Num: 15

Candidate Starts for Argan\_25:

(12, 18942), (Start: 15 @18963 has 5 MA's), (17, 18993), (23, 19047), (24, 19056), (58, 19326), (59, 19329), (65, 19386), (66, 19407), (72, 19467), (73, 19509), (77, 19569), (81, 19644), (89, 19710), (92, 19725), (98, 19758), (102, 19797), (103, 19800), (107, 19836), (109, 19851), (113, 19899), (131, 20097), (141, 20172), (148, 20226), (151, 20235), (159, 20295), (168, 20337), (177, 20397), (178, 20403), (181, 20412), (186, 20427), (187, 20436), (205, 20535), (206, 20547), (208, 20568), (265, 20853), (278, 20913), (282, 20922), (299, 21063), (304, 21111), (305, 21117), (309, 21135), (311, 21141), (316, 21186), (318, 21195), (324, 21219), (328, 21237), (337, 21282), (338, 21285), (341, 21294), (349, 21360), (360, 21402), (364, 21414), (366, 21423), (369, 21444), (377, 21495), (381, 21525), (383, 21540), (392, 21582), (397, 21600), (404, 21648), (405, 21651), (413, 21708), (439, 21816), (442, 21825), (452, 21876), (459, 21912), (467, 21945), (469, 21954), (472, 21966), (477, 21987), (484, 22014), (488, 22038), (489, 22047), (500, 22116), (501, 22119), (502, 22122), (503, 22125), (510, 22155), (515, 22176), (521, 22197), (525, 22215), (527, 22224), (530, 22242), (544, 22302), (550, 22335), (553, 22350), (554, 22356), (555, 22359), (564, 22404), (569, 22440), (570, 22443), (572, 22449), (575, 22461), (576, 22464), (598, 22581), (599, 22584), (603, 22602), (612, 22638), (621, 22680), (625, 22704), (638, 22773), (644, 22827), (647, 22839), (660, 22956), (664, 23001), (682, 23184), (683, 23205), (686, 23229), (697, 23280), (706, 23349), (707, 23352), (709, 23367),

Gene: Arzan\_22 Start: 17242, Stop: 22302, Start Num: 4

Candidate Starts for Arzan\_22:

(4, 17242), (5, 17272), (8, 17326), (11, 17347), (34, 17554), (36, 17560), (38, 17563), (50, 17683), (54, 17716), (58, 17749), (63, 17788), (66, 17830), (71, 17881), (73, 17932), (80, 18058), (82, 18079), (89, 18133), (95, 18163), (109, 18265), (111, 18286), (114, 18322), (119, 18361), (130, 18499), (135, 18532), (143, 18604), (145, 18625), (147, 18637), (148, 18640), (156, 18691), (163, 18724), (168, 18751), (171, 18769), (187, 18850), (195, 18949), (198, 18985), (203, 19021), (207, 19066), (227, 19171), (247, 19306), (266, 19468), (267, 19471), (276, 19531), (284, 19594), (285, 19600), (296, 19714), (299, 19768), (302, 19798), (309, 19840), (312, 19852), (317, 19897), (318, 19900), (320, 19909), (324, 19924), (332, 19969), (338, 19990), (341, 19999), (346, 20041), (366, 20128), (371, 20170), (383, 20245), (392, 20287), (402, 20347), (409, 20377), (422, 20455), (425, 20464), (432, 20494), (439, 20524), (459, 20620), (466, 20647), (467, 20653), (469, 20662), (472, 20674), (473, 20677), (477, 20695), (482, 20716), (488, 20746), (489, 20755), (497, 20812), (499, 20818), (503, 20833), (508, 20848), (513, 20872), (514, 20878), (521, 20905), (523, 20911), (525, 20923), (542, 21001), (544, 21010), (551, 21049), (552, 21052), (558, 21079), (563, 21106), (566, 21130), (578, 21187), (580, 21193), (581, 21202), (597, 21283), (611, 21343), (613, 21349), (614, 21352), (621, 21388), (623, 21403), (658, 21622), (664, 21709), (671, 21778), (680, 21880), (682, 21892), (683, 21913), (689, 21958), (692, 21976), (697, 21991), (702, 22021), (706, 22060), (739, 22276),

Gene: BarbieDoll\_29 Start: 20909, Stop: 25573, Start Num: 12

Candidate Starts for BarbieDoll\_29:

(12, 20909), (Start: 15 @20930 has 5 MA's), (17, 20960), (23, 21014), (26, 21035), (30, 21071), (50, 21239), (57, 21299), (65, 21365), (66, 21386), (73, 21488), (74, 21506), (77, 21548), (81, 21623), (82, 21635), (89, 21689), (92, 21704), (98, 21737), (107, 21815), (109, 21830), (118, 21920), (124, 21989), (135, 22097), (141, 22151), (147, 22202), (148, 22205), (159, 22274), (168, 22316), (177, 22376), (178, 22382), (181, 22391), (186, 22406), (187, 22415), (200, 22493), (205, 22514), (206, 22526), (208, 22547), (252, 22754), (256, 22778), (265, 22832), (282, 22901), (299, 23042), (309, 23114), (311, 23120), (316, 23165), (317, 23171), (318, 23174), (324, 23198), (328, 23216), (338, 23264), (341, 23273), (360, 23381), (366, 23402), (369, 23423), (376, 23471), (381, 23504), (383, 23519),

(397, 23579), (414, 23696), (439, 23795), (440, 23798), (452, 23855), (454, 23870), (456, 23882), (459, 23891), (467, 23924), (469, 23933), (472, 23945), (488, 24017), (489, 24026), (494, 24074), (500, 24095), (502, 24101), (503, 24104), (518, 24164), (525, 24194), (527, 24203), (545, 24290), (546, 24293), (547, 24296), (550, 24314), (553, 24329), (557, 24344), (559, 24356), (564, 24383), (569, 24419), (570, 24422), (572, 24428), (575, 24440), (585, 24494), (590, 24530), (599, 24563), (603, 24581), (609, 24605), (610, 24608), (616, 24629), (630, 24710), (635, 24740), (638, 24752), (644, 24806), (647, 24818), (660, 24935), (664, 24980), (671, 25049), (683, 25184), (686, 25208), (694, 25253), (697, 25259), (703, 25298), (706, 25328), (709, 25346),

Gene: BenitoAntonio\_22 Start: 17286, Stop: 21764, Start Num: 20

Candidate Starts for BenitoAntonio\_22:

(Start: 19 @17265 has 2 MA's), (Start: 20 @17286 has 72 MA's), (Start: 25 @17316 has 2 MA's), (29, 17349), (33, 17370), (62, 17601), (65, 17631), (72, 17712), (73, 17754), (74, 17772), (77, 17814), (82, 17901), (89, 17955), (92, 17970), (98, 18003), (107, 18081), (109, 18096), (113, 18144), (120, 18201), (124, 18255), (125, 18267), (130, 18330), (135, 18363), (148, 18471), (158, 18537), (166, 18570), (167, 18579), (172, 18600), (226, 18882), (235, 18927), (236, 18936), (268, 19095), (273, 19128), (282, 19155), (299, 19284), (311, 19362), (316, 19407), (318, 19416), (321, 19428), (324, 19440), (330, 19467), (332, 19485), (338, 19506), (349, 19581), (353, 19602), (354, 19605), (357, 19614), (366, 19644), (371, 19686), (381, 19746), (382, 19752), (383, 19761), (391, 19794), (393, 19806), (394, 19809), (403, 19866), (405, 19872), (409, 19893), (412, 19923), (417, 19953), (422, 19971), (434, 20019), (440, 20043), (444, 20061), (447, 20070), (450, 20085), (453, 20106), (459, 20136), (467, 20169), (468, 20175), (469, 20178), (472, 20190), (477, 20211), (488, 20262), (489, 20271), (491, 20301), (493, 20307), (500, 20340), (503, 20349), (510, 20379), (513, 20388), (515, 20400), (525, 20439), (530, 20466), (532, 20472), (533, 20475), (542, 20517), (549, 20547), (555, 20583), (575, 20685), (587, 20748), (592, 20784), (593, 20787), (595, 20793), (599, 20808), (603, 20826), (609, 20850), (613, 20865), (614, 20868), (618, 20886), (623, 20919), (628, 20940), (638, 20997), (644, 21051), (646, 21060), (654, 21114), (662, 21141), (664, 21159), (669, 21207), (670, 21213), (675, 21285), (683, 21363), (685, 21378), (690, 21417), (697, 21441), (706, 21510), (709, 21531), (723, 21624), (742, 21753),

Gene: Benllo\_20 Start: 17570, Stop: 22048, Start Num: 20

Candidate Starts for Benllo\_20:

(Start: 19 @17549 has 2 MA's), (Start: 20 @17570 has 72 MA's), (Start: 25 @17600 has 2 MA's), (29, 17633), (33, 17654), (62, 17885), (65, 17915), (72, 17996), (73, 18038), (74, 18056), (77, 18098), (82, 18185), (89, 18239), (92, 18254), (98, 18287), (107, 18365), (109, 18380), (113, 18428), (115, 18443), (120, 18485), (127, 18581), (130, 18614), (135, 18647), (148, 18755), (158, 18821), (166, 18854), (167, 18863), (169, 18866), (172, 18884), (226, 19166), (234, 19190), (236, 19220), (268, 19379), (282, 19439), (299, 19568), (304, 19616), (311, 19646), (313, 19670), (315, 19682), (316, 19691), (318, 19700), (324, 19724), (332, 19769), (338, 19790), (349, 19865), (357, 19898), (366, 19928), (369, 19949), (371, 19970), (381, 20030), (382, 20036), (390, 20075), (394, 20093), (409, 20177), (412, 20207), (417, 20237), (422, 20255), (434, 20303), (440, 20327), (444, 20345), (447, 20354), (448, 20363), (450, 20369), (453, 20390), (459, 20420), (467, 20453), (468, 20459), (470, 20468), (477, 20495), (484, 20522), (489, 20555), (490, 20582), (492, 20588), (498, 20615), (503, 20633), (510, 20663), (513, 20672), (515, 20684), (517, 20690), (518, 20693), (521, 20705), (525, 20723), (530, 20750), (532, 20756), (547, 20825), (552, 20852), (555, 20867), (575, 20969), (592, 21068), (593, 21071), (595, 21077), (599, 21092), (603, 21110), (613, 21149), (614, 21152), (618, 21170), (623, 21203), (628, 21224), (638, 21281), (644, 21335), (646, 21344), (654, 21398), (662, 21425), (664, 21443), (669, 21491), (670, 21497), (675, 21569), (683, 21647), (687, 21683), (690, 21701), (697, 21725), (701, 21749), (706, 21794), (709, 21815), (742, 22037),

Gene: Bilo\_19 Start: 14007, Stop: 19235, Start Num: 20

Candidate Starts for Bilo\_19:

(Start: 19 @13986 has 2 MA's), (Start: 20 @14007 has 72 MA's), (Start: 25 @14037 has 2 MA's), (47, 14190), (57, 14292), (58, 14298), (73, 14481), (78, 14562), (80, 14607), (83, 14643), (89, 14682), (96, 14715), (101, 14754), (103, 14772), (138, 15159), (161, 15309), (166, 15333), (177, 15405), (227, 15636), (235, 15684), (241, 15714), (243, 15732), (251, 15768), (299, 16017), (308, 16086), (318, 16149), (324, 16173), (336, 16230), (338, 16239), (344, 16281), (355, 16341), (357, 16347), (359, 16353), (366, 16377), (374, 16425), (396, 16548), (404, 16599), (411, 16644), (412, 16653), (417, 16683), (429, 16728), (436, 16749), (446, 16791), (447, 16794), (451, 16815), (452, 16824), (459, 16860), (467, 16893), (490, 17022), (492, 17028), (493, 17031), (503, 17073), (510, 17103), (522, 17148), (525, 17163), (532, 17196), (537, 17217), (539, 17226), (540, 17235), (545, 17259), (546, 17262), (552, 17292), (559, 17325), (566, 17370), (570, 17391), (580, 17433), (582, 17448), (594, 17514), (598, 17529), (611, 17583), (614, 17592), (615, 17595), (617, 17607), (618, 17610), (621, 17628), (644, 17775), (664, 17883), (667, 17898), (684, 18096), (717, 18330), (731, 18405), (751, 18642), (756, 18684), (757, 18687), (758, 18708), (761, 18756), (763, 18762), (773, 18870), (780, 18942), (787, 19044), (795, 19197),

Gene: Bing\_24 Start: 16028, Stop: 21496, Start Num: 2

Candidate Starts for Bing\_24:

(1, 16007), (Start: 2 @16028 has 30 MA's), (3, 16058), (6, 16133), (13, 16214), (14, 16217), (35, 16385), (57, 16571), (65, 16637), (73, 16760), (78, 16841), (80, 16886), (86, 16946), (89, 16961), (98, 17009), (103, 17051), (120, 17243), (125, 17309), (138, 17438), (150, 17519), (151, 17522), (161, 17588), (218, 17906), (229, 17924), (235, 17963), (243, 18011), (245, 18020), (251, 18047), (259, 18098), (264, 18131), (268, 18143), (270, 18161), (278, 18194), (281, 18200), (282, 18203), (299, 18293), (306, 18350), (308, 18362), (318, 18425), (335, 18503), (336, 18506), (338, 18515), (360, 18632), (366, 18653), (380, 18743), (396, 18824), (404, 18875), (411, 18920), (412, 18929), (428, 19001), (438, 19034), (444, 19061), (446, 19067), (449, 19082), (452, 19100), (459, 19136), (486, 19250), (488, 19262), (490, 19298), (492, 19304), (494, 19319), (503, 19349), (522, 19424), (525, 19439), (528, 19454), (530, 19466), (532, 19472), (535, 19487), (539, 19502), (544, 19526), (554, 19580), (555, 19583), (559, 19601), (563, 19622), (568, 19661), (573, 19676), (580, 19709), (594, 19790), (607, 19841), (611, 19859), (614, 19868), (621, 19904), (638, 19997), (661, 20135), (664, 20159), (665, 20162), (669, 20207), (684, 20372), (727, 20645), (754, 20948), (757, 20963), (758, 20984), (763, 21038), (768, 21089),

Gene: Breylor17\_27 Start: 20680, Stop: 25269, Start Num: 20

Candidate Starts for Breylor17\_27:

(Start: 19 @20659 has 2 MA's), (Start: 20 @20680 has 72 MA's), (Start: 25 @20710 has 2 MA's), (33, 20764), (40, 20785), (44, 20821), (50, 20899), (57, 20959), (61, 20983), (62, 20995), (65, 21025), (68, 21076), (72, 21106), (73, 21148), (74, 21166), (77, 21208), (79, 21238), (81, 21283), (82, 21295), (89, 21349), (92, 21364), (94, 21376), (98, 21397), (109, 21490), (112, 21523), (113, 21538), (119, 21586), (131, 21736), (135, 21757), (150, 21871), (151, 21874), (157, 21922), (177, 22036), (184, 22060), (187, 22075), (190, 22087), (217, 22255), (222, 22270), (223, 22276), (228, 22294), (241, 22366), (250, 22417), (253, 22432), (257, 22462), (270, 22534), (271, 22540), (281, 22573), (282, 22576), (288, 22603), (299, 22717), (306, 22774), (308, 22786), (316, 22840), (318, 22849), (319, 22852), (324, 22873), (332, 22918), (338, 22939), (344, 22981), (347, 22999), (360, 23056), (366, 23077), (369, 23098), (381, 23179), (383, 23194), (384, 23197), (391, 23227), (400, 23278), (412, 23356), (414, 23371), (415, 23374), (419, 23392), (420, 23398), (422, 23404), (425, 23413), (434, 23449), (437, 23458), (444, 23491), (454, 23545), (455, 23548), (459, 23566), (463, 23578), (469, 23608), (472, 23623), (475, 23632), (477, 23644), (482, 23665), (489, 23704), (497, 23761), (500, 23773), (503, 23782), (513, 23821), (515, 23833), (524, 23863), (525, 23872), (533, 23908), (541, 23947), (542, 23950), (547, 23974), (551, 23998), (559, 24034), (562, 24043), (565, 24064), (569, 24097), (570, 24100), (595, 24226), (596, 24229), (601, 24250), (609, 24283), (610, 24286), (611, 24292), (614, 24301), (619, 24328), (628, 24373), (639, 24439), (645, 24490), (647, 24496), (655, 24556), (659, 24580), (662, 24640), (664, 24658), (666, 24670), (670, 24712), (680, 24829), (681, 24838), (686, 24886), (691, 24919), (695, 24931), (697, 24937), (700, 24958), (701, 24961), (702, 24967),

(707, 25006), (710, 25033), (737, 25219), (741, 25246),

Gene: BronxBay\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for BronxBay\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (221, 18827), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: Brunswick\_26 Start: 20146, Stop: 24735, Start Num: 20

Candidate Starts for Brunswick\_26:

(Start: 19 @20125 has 2 MA's), (Start: 20 @20146 has 72 MA's), (Start: 25 @20176 has 2 MA's), (33, 20230), (40, 20251), (44, 20287), (50, 20365), (57, 20425), (61, 20449), (62, 20461), (65, 20491), (68, 20542), (72, 20572), (73, 20614), (74, 20632), (77, 20674), (79, 20704), (81, 20749), (82, 20761), (89, 20815), (92, 20830), (94, 20842), (98, 20863), (109, 20956), (112, 20989), (113, 21004), (119, 21052), (131, 21202), (135, 21223), (148, 21331), (150, 21337), (151, 21340), (157, 21388), (177, 21502), (184, 21526), (187, 21541), (190, 21553), (202, 21628), (208, 21673), (217, 21721), (222, 21736), (223, 21742), (228, 21760), (241, 21832), (248, 21874), (250, 21883), (257, 21928), (270, 22000), (271, 22006), (281, 22039), (282, 22042), (288, 22069), (299, 22183), (306, 22240), (308, 22252), (316, 22306), (318, 22315), (319, 22318), (324, 22339), (332, 22384), (338, 22405), (358, 22516), (360, 22522), (366, 22543), (368, 22561), (369, 22564), (371, 22585), (381, 22645), (383, 22660), (384, 22663), (390, 22690), (391, 22693), (397, 22720), (412, 22822), (414, 22837), (415, 22840), (419, 22858), (420, 22864), (421, 22867), (425, 22879), (434, 22915), (437, 22924), (444, 22957), (454, 23011), (455, 23014), (459, 23032), (463, 23044), (469, 23074), (472, 23089), (475, 23098), (477, 23110), (489, 23170), (495, 23221), (497, 23227), (500, 23239), (503, 23248), (513, 23287), (515, 23299), (519, 23311), (524, 23329), (525, 23338), (541, 23413), (542, 23416), (545, 23434), (559, 23500), (561, 23506), (562, 23509), (569, 23563), (570, 23566), (595, 23692), (596, 23695), (601, 23716), (609, 23749), (611, 23758), (628, 23839), (633, 23872), (639, 23905), (647, 23962), (655, 24022), (659, 24046), (664, 24124), (666, 24136), (678, 24262), (681, 24304), (686, 24352), (691, 24385), (695, 24397), (697, 24403), (700, 24424), (701, 24427), (702, 24433), (707, 24472), (710, 24499), (712, 24526), (737, 24685), (741, 24712),

Gene: Camille\_24 Start: 16246, Stop: 20454, Start Num: 20

Candidate Starts for Camille\_24:

(Start: 19 @16225 has 2 MA's), (Start: 20 @16246 has 72 MA's), (22, 16258), (Start: 25 @16279 has 2 MA's), (46, 16417), (48, 16438), (56, 16516), (58, 16534), (65, 16594), (73, 16717), (77, 16777), (85, 16888), (88, 16912), (89, 16918), (92, 16933), (98, 16966), (105, 17029), (108, 17056), (109, 17059), (111, 17080), (112, 17092), (115, 17122), (136, 17338), (140, 17374), (149, 17437), (152, 17446), (161, 17509), (171, 17563), (174, 17587), (193, 17668), (197, 17698), (211, 17788), (239, 17836),

(254, 17917), (257, 17938), (278, 18043), (283, 18055), (290, 18085), (298, 18154), (299, 18163), (308, 18232), (309, 18235), (316, 18286), (318, 18295), (324, 18319), (326, 18325), (327, 18328), (329, 18340), (331, 18358), (332, 18364), (338, 18385), (342, 18406), (343, 18415), (344, 18427), (346, 18436), (353, 18481), (360, 18502), (367, 18532), (374, 18574), (375, 18586), (379, 18607), (381, 18625), (387, 18655), (396, 18694), (402, 18733), (408, 18760), (411, 18784), (442, 18850), (447, 18871), (477, 18901), (493, 18997), (500, 19030), (503, 19039), (506, 19054), (507, 19057), (515, 19096), (516, 19099), (517, 19102), (522, 19120), (525, 19135), (532, 19168), (541, 19210), (542, 19213), (550, 19255), (556, 19282), (559, 19297), (565, 19327), (571, 19366), (577, 19390), (579, 19402), (580, 19405), (586, 19441), (587, 19444), (592, 19480), (606, 19534), (613, 19561), (615, 19567), (627, 19633), (629, 19645), (630, 19651), (637, 19690), (639, 19702), (641, 19723), (654, 19810), (664, 19855), (670, 19909), (674, 19975), (677, 19987), (679, 20005), (683, 20059), (685, 20074), (686, 20083), (689, 20104), (691, 20116), (693, 20122), (705, 20194), (714, 20263), (719, 20299), (724, 20314), (738, 20419), (741, 20434),

Gene: CapnMurica\_26 Start: 21235, Stop: 25824, Start Num: 20

Candidate Starts for CapnMurica\_26:

(Start: 19 @21214 has 2 MA's), (Start: 20 @21235 has 72 MA's), (Start: 25 @21265 has 2 MA's), (33, 21319), (40, 21340), (44, 21376), (57, 21514), (62, 21550), (65, 21580), (73, 21703), (74, 21721), (77, 21763), (84, 21871), (89, 21904), (92, 21919), (98, 21952), (107, 22030), (109, 22045), (111, 22066), (112, 22078), (114, 22102), (120, 22150), (127, 22246), (130, 22279), (135, 22312), (144, 22396), (148, 22420), (151, 22429), (190, 22642), (197, 22684), (202, 22717), (217, 22810), (222, 22825), (223, 22831), (228, 22849), (231, 22858), (235, 22891), (236, 22900), (250, 22972), (257, 23017), (270, 23089), (271, 23095), (281, 23128), (282, 23131), (288, 23158), (299, 23272), (306, 23329), (308, 23341), (316, 23395), (318, 23404), (319, 23407), (324, 23428), (332, 23473), (338, 23494), (358, 23605), (360, 23611), (366, 23632), (368, 23650), (369, 23653), (371, 23674), (381, 23734), (383, 23749), (384, 23752), (390, 23779), (391, 23782), (397, 23809), (410, 23893), (412, 23911), (414, 23926), (415, 23929), (419, 23947), (420, 23953), (421, 23956), (425, 23968), (426, 23974), (434, 24004), (437, 24013), (444, 24046), (454, 24100), (455, 24103), (459, 24121), (469, 24163), (472, 24178), (475, 24187), (477, 24199), (489, 24259), (497, 24316), (500, 24328), (503, 24337), (513, 24376), (515, 24388), (517, 24394), (520, 24406), (524, 24418), (525, 24427), (541, 24502), (542, 24505), (545, 24523), (559, 24589), (562, 24598), (569, 24652), (570, 24655), (595, 24781), (601, 24805), (609, 24838), (611, 24847), (616, 24862), (619, 24883), (628, 24928), (639, 24994), (647, 25051), (655, 25111), (661, 25189), (664, 25213), (666, 25225), (678, 25351), (681, 25393), (686, 25441), (691, 25474), (695, 25486), (697, 25492), (700, 25513), (701, 25516), (702, 25522), (707, 25561), (710, 25588), (737, 25774),

Gene: CastorTray\_28 Start: 20538, Stop: 25127, Start Num: 20

Candidate Starts for CastorTray\_28:

(Start: 19 @20517 has 2 MA's), (Start: 20 @20538 has 72 MA's), (Start: 25 @20568 has 2 MA's), (33, 20622), (40, 20643), (44, 20679), (50, 20757), (57, 20817), (61, 20841), (62, 20853), (65, 20883), (68, 20934), (72, 20964), (73, 21006), (74, 21024), (77, 21066), (79, 21096), (81, 21141), (82, 21153), (89, 21207), (92, 21222), (94, 21234), (98, 21255), (109, 21348), (112, 21381), (113, 21396), (119, 21444), (131, 21594), (135, 21615), (150, 21729), (151, 21732), (177, 21894), (184, 21918), (187, 21933), (190, 21945), (217, 22113), (222, 22128), (223, 22134), (228, 22152), (241, 22224), (250, 22275), (253, 22290), (257, 22320), (270, 22392), (271, 22398), (281, 22431), (282, 22434), (288, 22461), (299, 22575), (306, 22632), (308, 22644), (316, 22698), (318, 22707), (319, 22710), (324, 22731), (332, 22776), (338, 22797), (344, 22839), (347, 22857), (360, 22914), (366, 22935), (369, 22956), (381, 23037), (383, 23052), (384, 23055), (390, 23082), (391, 23085), (400, 23136), (412, 23214), (414, 23229), (415, 23232), (419, 23250), (420, 23256), (422, 23262), (425, 23271), (434, 23307), (435, 23310), (437, 23316), (438, 23322), (444, 23349), (454, 23403), (455, 23406), (459, 23424), (463, 23436), (469, 23466), (472, 23481), (475, 23490), (477, 23502), (482, 23523), (489, 23562), (497, 23619), (500, 23631), (503, 23640), (513, 23679), (515, 23691), (524, 23721), (525, 23730), (533, 23766), (541, 23805), (542, 23808), (545, 23826), (547, 23832), (559, 23892), (560, 23895),

(562, 23901), (565, 23922), (569, 23955), (570, 23958), (595, 24084), (596, 24087), (601, 24108), (609, 24141), (610, 24144), (611, 24150), (614, 24159), (619, 24186), (625, 24219), (628, 24231), (639, 24297), (645, 24348), (647, 24354), (655, 24414), (659, 24438), (662, 24498), (664, 24516), (666, 24528), (670, 24570), (680, 24687), (681, 24696), (686, 24744), (691, 24777), (695, 24789), (697, 24795), (700, 24816), (701, 24819), (702, 24825), (707, 24864), (710, 24891), (737, 25077), (741, 25104),

Gene: Caterpillar\_24 Start: 19324, Stop: 23907, Start Num: 20

Candidate Starts for Caterpillar\_24:

(Start: 19 @19303 has 2 MA's), (Start: 20 @19324 has 72 MA's), (Start: 25 @19354 has 2 MA's), (33, 19408), (44, 19465), (48, 19513), (62, 19639), (65, 19669), (72, 19750), (73, 19792), (74, 19810), (77, 19852), (79, 19882), (81, 19927), (82, 19939), (89, 19993), (92, 20008), (93, 20014), (98, 20041), (105, 20104), (107, 20119), (109, 20134), (112, 20167), (113, 20182), (114, 20191), (119, 20230), (127, 20335), (135, 20401), (142, 20470), (148, 20509), (151, 20518), (159, 20578), (160, 20581), (184, 20704), (185, 20707), (193, 20743), (221, 20911), (223, 20920), (230, 20941), (235, 20974), (253, 21070), (261, 21124), (270, 21172), (271, 21178), (272, 21181), (282, 21214), (299, 21361), (313, 21463), (316, 21484), (318, 21493), (319, 21496), (324, 21517), (338, 21583), (349, 21658), (352, 21673), (358, 21694), (360, 21700), (366, 21721), (369, 21742), (371, 21763), (381, 21823), (383, 21838), (384, 21841), (389, 21865), (393, 21883), (406, 21955), (412, 22000), (414, 22015), (415, 22018), (419, 22036), (420, 22042), (422, 22048), (434, 22093), (437, 22102), (440, 22117), (444, 22135), (449, 22156), (454, 22189), (455, 22192), (459, 22210), (472, 22267), (475, 22276), (477, 22288), (482, 22309), (484, 22315), (485, 22318), (488, 22339), (489, 22348), (495, 22399), (497, 22405), (500, 22417), (503, 22426), (511, 22459), (525, 22516), (540, 22588), (541, 22591), (542, 22594), (545, 22612), (547, 22618), (551, 22642), (559, 22678), (561, 22684), (563, 22699), (568, 22738), (580, 22786), (587, 22825), (601, 22894), (611, 22936), (614, 22945), (639, 23083), (640, 23092), (641, 23104), (646, 23137), (647, 23140), (660, 23257), (661, 23278), (666, 23314), (670, 23356), (675, 23428), (686, 23530), (695, 23575), (697, 23581), (707, 23650), (710, 23677), (737, 23857), (739, 23866),

Gene: Cheesy\_22 Start: 17385, Stop: 21863, Start Num: 20

Candidate Starts for Cheesy\_22:

(Start: 19 @17364 has 2 MA's), (Start: 20 @17385 has 72 MA's), (Start: 25 @17415 has 2 MA's), (29, 17448), (33, 17469), (62, 17700), (65, 17730), (72, 17811), (73, 17853), (74, 17871), (77, 17913), (82, 18000), (89, 18054), (92, 18069), (98, 18102), (107, 18180), (109, 18195), (113, 18243), (120, 18300), (124, 18354), (127, 18396), (130, 18429), (135, 18462), (148, 18570), (158, 18636), (166, 18669), (167, 18678), (169, 18681), (172, 18699), (226, 18981), (234, 19005), (236, 19035), (268, 19194), (273, 19227), (282, 19254), (299, 19383), (311, 19461), (316, 19506), (318, 19515), (321, 19527), (324, 19539), (330, 19566), (332, 19584), (338, 19605), (349, 19680), (353, 19701), (354, 19704), (357, 19713), (366, 19743), (369, 19764), (371, 19785), (381, 19845), (382, 19851), (390, 19890), (391, 19893), (394, 19908), (405, 19971), (409, 19992), (412, 20022), (417, 20052), (422, 20070), (434, 20118), (440, 20142), (444, 20160), (447, 20169), (448, 20178), (450, 20184), (453, 20205), (459, 20235), (467, 20268), (468, 20274), (469, 20277), (472, 20289), (477, 20310), (488, 20361), (489, 20370), (491, 20400), (493, 20406), (500, 20439), (503, 20448), (510, 20478), (513, 20487), (515, 20499), (525, 20538), (530, 20565), (532, 20571), (533, 20574), (536, 20589), (542, 20616), (549, 20646), (555, 20682), (575, 20784), (587, 20847), (592, 20883), (593, 20886), (599, 20907), (603, 20925), (613, 20964), (615, 20970), (618, 20985), (622, 21006), (623, 21018), (644, 21150), (646, 21159), (654, 21213), (662, 21240), (664, 21258), (669, 21306), (670, 21312), (675, 21384), (683, 21462), (687, 21498), (690, 21516), (697, 21540), (701, 21564), (706, 21609), (709, 21630), (742, 21852),

Gene: CherryBlossom\_23 Start: 16177, Stop: 21663, Start Num: 2

Candidate Starts for CherryBlossom\_23:



(1, 16156), (Start: 2 @16177 has 30 MA's), (3, 16207), (13, 16351), (43, 16561), (53, 16681), (58, 16720), (62, 16750), (64, 16774), (65, 16780), (66, 16801), (67, 16816), (73, 16903), (79, 16993), (80, 17029), (81, 17038), (83, 17065), (89, 17104), (90, 17113), (94, 17131), (98, 17152), (103, 17194), (104, 17203), (112, 17311), (121, 17416), (130, 17512), (138, 17578), (161, 17728), (175, 17812), (179, 17833), (190, 17875), (212, 18010), (242, 18142), (243, 18151), (251, 18187), (252, 18196), (259, 18238), (264, 18271), (297, 18424), (299, 18445), (307, 18508), (308, 18514), (310, 18520), (313, 18547), (316, 18568), (317, 18574), (318, 18577), (324, 18601), (332, 18646), (335, 18655), (336, 18658), (338, 18667), (349, 18742), (355, 18769), (360, 18784), (361, 18787), (366, 18805), (369, 18823), (371, 18844), (380, 18895), (392, 18961), (396, 18976), (410, 19063), (412, 19081), (416, 19108), (441, 19198), (442, 19201), (451, 19243), (452, 19252), (459, 19288), (464, 19306), (465, 19309), (477, 19363), (478, 19366), (488, 19414), (490, 19450), (492, 19456), (496, 19477), (503, 19501), (510, 19531), (525, 19591), (532, 19624), (533, 19627), (536, 19642), (544, 19678), (552, 19720), (554, 19732), (555, 19735), (565, 19783), (568, 19813), (573, 19828), (580, 19861), (582, 19876), (593, 19939), (613, 20017), (614, 20020), (621, 20056), (632, 20122), (645, 20209), (646, 20212), (664, 20311), (669, 20359), (670, 20365), (684, 20524), (727, 20797), (740, 20899), (749, 21022), (757, 21115), (758, 21136), (761, 21184), (763, 21190), (764, 21196), (768, 21241), (778, 21349), (780, 21370), (785, 21418), (790, 21505), (794, 21607), (795, 21616),

Gene: Circum\_22 Start: 17392, Stop: 21870, Start Num: 20

Candidate Starts for Circum\_22:

(Start: 19 @17371 has 2 MA's), (Start: 20 @17392 has 72 MA's), (Start: 25 @17422 has 2 MA's), (29, 17455), (33, 17476), (62, 17707), (65, 17737), (72, 17818), (73, 17860), (74, 17878), (77, 17920), (82, 18007), (89, 18061), (92, 18076), (98, 18109), (107, 18187), (109, 18202), (113, 18250), (120, 18307), (124, 18361), (127, 18403), (130, 18436), (135, 18469), (148, 18577), (158, 18643), (166, 18676), (167, 18685), (169, 18688), (172, 18706), (226, 18988), (234, 19012), (236, 19042), (268, 19201), (282, 19261), (299, 19390), (304, 19438), (313, 19492), (315, 19504), (316, 19513), (318, 19522), (324, 19546), (332, 19591), (338, 19612), (349, 19687), (357, 19720), (366, 19750), (371, 19792), (381, 19852), (382, 19858), (390, 19897), (394, 19915), (405, 19978), (409, 19999), (412, 20029), (417, 20059), (422, 20077), (434, 20125), (440, 20149), (444, 20167), (447, 20176), (448, 20185), (450, 20191), (453, 20212), (459, 20242), (467, 20275), (468, 20281), (469, 20284), (472, 20296), (477, 20317), (488, 20368), (489, 20377), (491, 20407), (493, 20413), (500, 20446), (503, 20455), (510, 20485), (513, 20494), (515, 20506), (525, 20545), (530, 20572), (532, 20578), (533, 20581), (536, 20596), (542, 20623), (545, 20641), (549, 20653), (555, 20689), (575, 20791), (592, 20890), (593, 20893), (595, 20899), (599, 20914), (603, 20932), (609, 20956), (613, 20971), (614, 20974), (618, 20992), (623, 21025), (628, 21046), (649, 21178), (654, 21220), (664, 21265), (666, 21277), (670, 21319), (675, 21391), (681, 21445), (683, 21469), (686, 21493), (687, 21505), (690, 21523), (701, 21571), (706, 21616), (709, 21637), (723, 21730), (742, 21859),

Gene: ClubPenguin\_22 Start: 15929, Stop: 21244, Start Num: 16

Candidate Starts for ClubPenguin\_22:

(13, 15908), (Start: 16 @15929 has 1 MA's), (18, 15959), (47, 16181), (49, 16202), (73, 16472), (79, 16562), (80, 16598), (89, 16673), (98, 16721), (100, 16730), (103, 16763), (138, 17150), (139, 17153), (150, 17231), (166, 17324), (175, 17384), (186, 17426), (239, 17696), (250, 17756), (260, 17813), (282, 17915), (299, 18023), (316, 18146), (318, 18155), (332, 18224), (335, 18233), (336, 18236), (346, 18296), (360, 18362), (364, 18374), (366, 18383), (369, 18401), (371, 18422), (386, 18512), (404, 18605), (411, 18650), (412, 18659), (417, 18689), (427, 18728), (428, 18731), (439, 18770), (446, 18797), (451, 18821), (452, 18830), (458, 18863), (459, 18866), (463, 18878), (467, 18899), (476, 18935), (480, 18950), (490, 19028), (494, 19049), (496, 19055), (500, 19070), (503, 19079), (525, 19169), (532, 19202), (543, 19253), (545, 19265), (554, 19310), (580, 19439), (587, 19478), (592, 19514), (598, 19535), (607, 19571), (611, 19589), (614, 19598), (621, 19634), (623, 19649), (624, 19655), (632, 19700), (654, 19844), (663, 19880), (664, 19889), (673, 20003), (683, 20096), (698, 20180), (735, 20447), (743, 20501), (747, 20582), (753, 20663), (757, 20696), (758, 20717), (762, 20768), (766, 20807), (768, 20822), (772, 20870), (773, 20879), (774, 20891), (780, 20951),

(785, 20999), (786, 21023), (788, 21068),

Gene: Correa\_21 Start: 16900, Stop: 21378, Start Num: 20

Candidate Starts for Correa\_21:

(Start: 19 @16879 has 2 MA's), (Start: 20 @16900 has 72 MA's), (Start: 25 @16930 has 2 MA's), (29, 16963), (33, 16984), (62, 17215), (65, 17245), (72, 17326), (73, 17368), (74, 17386), (77, 17428), (82, 17515), (89, 17569), (92, 17584), (98, 17617), (109, 17710), (113, 17758), (115, 17773), (120, 17815), (124, 17869), (130, 17944), (135, 17977), (148, 18085), (158, 18151), (166, 18184), (167, 18193), (169, 18196), (172, 18214), (226, 18496), (234, 18520), (236, 18550), (268, 18709), (282, 18769), (299, 18898), (311, 18976), (314, 19006), (316, 19021), (318, 19030), (324, 19054), (330, 19081), (332, 19099), (338, 19120), (349, 19195), (353, 19216), (357, 19228), (366, 19258), (371, 19300), (381, 19360), (382, 19366), (390, 19405), (393, 19420), (394, 19423), (403, 19480), (405, 19486), (409, 19507), (412, 19537), (417, 19567), (422, 19585), (434, 19633), (440, 19657), (444, 19675), (447, 19684), (450, 19699), (453, 19720), (459, 19750), (467, 19783), (468, 19789), (469, 19792), (472, 19804), (477, 19825), (488, 19876), (489, 19885), (491, 19915), (493, 19921), (500, 19954), (503, 19963), (510, 19993), (513, 20002), (515, 20014), (520, 20032), (525, 20053), (530, 20080), (532, 20086), (533, 20089), (536, 20104), (542, 20131), (549, 20161), (555, 20197), (575, 20299), (587, 20362), (592, 20398), (593, 20401), (599, 20422), (603, 20440), (613, 20479), (615, 20485), (618, 20500), (622, 20521), (623, 20533), (644, 20665), (654, 20728), (662, 20755), (664, 20773), (669, 20821), (670, 20827), (675, 20899), (683, 20977), (687, 21013), (690, 21031), (699, 21064), (701, 21079), (706, 21124), (742, 21367),

Gene: Count\_30 Start: 23420, Stop: 27673, Start Num: 20

Candidate Starts for Count\_30:

(Start: 19 @23399 has 2 MA's), (Start: 20 @23420 has 72 MA's), (Start: 25 @23453 has 2 MA's), (43, 23555), (56, 23690), (59, 23711), (65, 23768), (73, 23891), (77, 23951), (85, 24062), (88, 24086), (89, 24092), (92, 24107), (98, 24140), (99, 24146), (109, 24233), (111, 24254), (112, 24266), (113, 24281), (130, 24467), (136, 24512), (149, 24611), (152, 24620), (171, 24737), (174, 24761), (181, 24794), (238, 25007), (268, 25166), (270, 25184), (291, 25268), (294, 25310), (308, 25433), (309, 25436), (316, 25487), (318, 25496), (323, 25517), (335, 25574), (342, 25607), (343, 25616), (346, 25637), (347, 25646), (353, 25682), (360, 25703), (367, 25733), (371, 25766), (373, 25772), (375, 25787), (379, 25808), (381, 25826), (388, 25862), (391, 25874), (392, 25883), (395, 25895), (402, 25934), (406, 25949), (407, 25955), (410, 25976), (412, 25994), (439, 26042), (442, 26051), (444, 26063), (447, 26072), (477, 26114), (478, 26117), (488, 26165), (489, 26174), (490, 26201), (500, 26243), (503, 26252), (512, 26294), (517, 26315), (522, 26333), (524, 26339), (525, 26348), (532, 26381), (533, 26384), (555, 26492), (556, 26495), (559, 26510), (561, 26516), (571, 26579), (575, 26594), (580, 26618), (586, 26654), (587, 26657), (592, 26693), (599, 26717), (600, 26720), (605, 26744), (606, 26747), (623, 26828), (631, 26870), (649, 26981), (654, 27023), (664, 27068), (673, 27182), (676, 27200), (685, 27290), (695, 27344), (707, 27419), (738, 27632),

Gene: CricKo\_21 Start: 15072, Stop: 20549, Start Num: 2

Candidate Starts for CricKo\_21:

(Start: 2 @15072 has 30 MA's), (3, 15102), (7, 15183), (9, 15213), (10, 15216), (13, 15246), (73, 15798), (80, 15924), (87, 15987), (89, 15999), (97, 16041), (103, 16089), (108, 16173), (120, 16281), (135, 16443), (138, 16476), (147, 16548), (161, 16626), (190, 16773), (251, 17085), (252, 17094), (263, 17157), (299, 17331), (303, 17373), (308, 17400), (311, 17409), (318, 17463), (324, 17487), (336, 17544), (356, 17658), (366, 17691), (371, 17730), (379, 17772), (380, 17781), (385, 17817), (396, 17862), (404, 17913), (410, 17949), (412, 17967), (417, 17997), (427, 18036), (428, 18039), (439, 18078), (440, 18081), (447, 18108), (451, 18129), (452, 18138), (458, 18171), (459, 18174), (465, 18195), (480, 18258), (490, 18336), (492, 18342), (500, 18378), (501, 18381), (502, 18384), (503, 18387), (518, 18447), (520, 18456), (525, 18477), (531, 18507), (532, 18510), (545, 18573), (546, 18576), (547, 18579), (555, 18621), (559, 18639), (565, 18669), (573, 18714), (575, 18723), (580, 18747), (592, 18822), (594, 18828), (607, 18879), (614, 18906), (617, 18921), (619, 18933),

(621, 18942), (625, 18966), (637, 19032), (645, 19095), (650, 19119), (664, 19197), (669, 19245), (672, 19287), (684, 19410), (704, 19527), (717, 19644), (732, 19725), (736, 19770), (744, 19815), (757, 20001), (758, 20022), (759, 20034), (763, 20076), (768, 20127), (772, 20175), (776, 20214), (782, 20265), (789, 20388), (793, 20427),

Gene: Damascus\_24 Start: 16928, Stop: 21136, Start Num: 20

Candidate Starts for Damascus\_24:

(Start: 19 @16907 has 2 MA's), (Start: 20 @16928 has 72 MA's), (Start: 25 @16961 has 2 MA's), (48, 17120), (56, 17198), (65, 17276), (73, 17399), (77, 17459), (85, 17570), (88, 17594), (89, 17600), (92, 17615), (98, 17648), (108, 17738), (109, 17741), (111, 17762), (112, 17774), (124, 17900), (136, 18020), (144, 18092), (148, 18116), (168, 18227), (181, 18302), (197, 18380), (212, 18473), (240, 18518), (252, 18587), (262, 18653), (268, 18674), (290, 18767), (298, 18836), (299, 18845), (308, 18914), (316, 18968), (318, 18977), (322, 18992), (324, 19001), (327, 19010), (331, 19040), (332, 19046), (338, 19067), (342, 19088), (344, 19109), (346, 19118), (347, 19127), (351, 19154), (353, 19163), (360, 19184), (361, 19187), (365, 19199), (381, 19307), (385, 19334), (391, 19355), (394, 19370), (399, 19397), (400, 19400), (402, 19415), (407, 19436), (410, 19457), (412, 19475), (442, 19532), (444, 19544), (445, 19547), (447, 19553), (477, 19583), (489, 19643), (491, 19673), (500, 19712), (503, 19721), (509, 19751), (515, 19778), (516, 19781), (517, 19784), (525, 19817), (532, 19850), (542, 19895), (550, 19937), (559, 19979), (560, 19982), (561, 19985), (571, 20048), (580, 20087), (586, 20123), (587, 20126), (592, 20162), (624, 20303), (649, 20450), (654, 20492), (664, 20537), (670, 20591), (678, 20675), (681, 20717), (682, 20720), (689, 20786), (691, 20798), (697, 20816), (705, 20876), (714, 20945), (719, 20981), (729, 21020), (741, 21116),

Gene: Darby\_26 Start: 19984, Stop: 24573, Start Num: 20

Candidate Starts for Darby\_26:

(Start: 19 @19963 has 2 MA's), (Start: 20 @19984 has 72 MA's), (Start: 25 @20014 has 2 MA's), (33, 20068), (40, 20089), (44, 20125), (50, 20203), (57, 20263), (61, 20287), (62, 20299), (65, 20329), (68, 20380), (72, 20410), (73, 20452), (74, 20470), (77, 20512), (79, 20542), (81, 20587), (82, 20599), (89, 20653), (92, 20668), (94, 20680), (98, 20701), (109, 20794), (112, 20827), (113, 20842), (119, 20890), (131, 21040), (135, 21061), (137, 21082), (150, 21175), (151, 21178), (157, 21226), (177, 21340), (184, 21364), (190, 21391), (202, 21466), (217, 21559), (222, 21574), (223, 21580), (228, 21598), (241, 21670), (250, 21721), (253, 21736), (257, 21766), (270, 21838), (271, 21844), (275, 21862), (281, 21877), (282, 21880), (288, 21907), (299, 22021), (306, 22078), (308, 22090), (316, 22144), (318, 22153), (319, 22156), (324, 22177), (332, 22222), (338, 22243), (344, 22285), (347, 22303), (360, 22360), (366, 22381), (369, 22402), (381, 22483), (383, 22498), (384, 22501), (390, 22528), (391, 22531), (400, 22582), (412, 22660), (414, 22675), (415, 22678), (419, 22696), (420, 22702), (422, 22708), (425, 22717), (434, 22753), (437, 22762), (444, 22795), (454, 22849), (455, 22852), (459, 22870), (463, 22882), (469, 22912), (472, 22927), (475, 22936), (477, 22948), (482, 22969), (489, 23008), (497, 23065), (500, 23077), (503, 23086), (513, 23125), (515, 23137), (524, 23167), (525, 23176), (541, 23251), (545, 23272), (547, 23278), (559, 23338), (562, 23347), (569, 23401), (570, 23404), (595, 23530), (596, 23533), (601, 23554), (609, 23587), (610, 23590), (611, 23596), (614, 23605), (619, 23632), (628, 23677), (639, 23743), (645, 23794), (647, 23800), (655, 23860), (659, 23884), (662, 23944), (664, 23962), (666, 23974), (670, 24016), (680, 24133), (681, 24142), (686, 24190), (691, 24223), (695, 24235), (697, 24241), (700, 24262), (701, 24265), (702, 24271), (707, 24310), (710, 24337), (737, 24523), (741, 24550),

Gene: DevitoJr\_26 Start: 20152, Stop: 24744, Start Num: 20

Candidate Starts for DevitoJr\_26:

(Start: 19 @20131 has 2 MA's), (Start: 20 @20152 has 72 MA's), (Start: 25 @20182 has 2 MA's), (33, 20236), (40, 20257), (44, 20293), (50, 20371), (57, 20431), (61, 20455), (62, 20467), (65, 20497), (68, 20548), (72, 20578), (73, 20620), (74, 20638), (77, 20680), (79, 20710), (81, 20755), (82, 20767), (89, 20821), (92, 20836), (94, 20848), (98, 20869), (109, 20962), (112, 20995), (113, 21010), (119, 21058), (135, 21229), (150, 21343), (151, 21346), (157, 21394), (177, 21508), (184, 21532), (187, 21547),

(217, 21727), (222, 21742), (223, 21748), (228, 21766), (241, 21838), (253, 21904), (270, 22006), (271, 22012), (281, 22045), (282, 22048), (288, 22075), (299, 22192), (306, 22249), (308, 22261), (316, 22315), (318, 22324), (319, 22327), (324, 22348), (332, 22393), (338, 22414), (358, 22525), (360, 22531), (366, 22552), (368, 22570), (371, 22594), (381, 22654), (383, 22669), (384, 22672), (390, 22699), (391, 22702), (412, 22831), (414, 22846), (415, 22849), (419, 22867), (420, 22873), (421, 22876), (425, 22888), (434, 22924), (437, 22933), (444, 22966), (454, 23020), (455, 23023), (459, 23041), (463, 23053), (469, 23083), (472, 23098), (475, 23107), (477, 23119), (489, 23179), (497, 23236), (500, 23248), (503, 23257), (513, 23296), (515, 23308), (524, 23338), (525, 23347), (541, 23422), (542, 23425), (545, 23443), (559, 23509), (561, 23515), (562, 23518), (569, 23572), (570, 23575), (595, 23701), (596, 23704), (601, 23725), (609, 23758), (611, 23767), (628, 23848), (633, 23881), (639, 23914), (647, 23971), (655, 24031), (659, 24055), (664, 24133), (666, 24145), (678, 24271), (681, 24313), (686, 24361), (691, 24394), (695, 24406), (697, 24412), (700, 24433), (701, 24436), (702, 24442), (707, 24481), (710, 24508), (737, 24694), (741, 24721),

Gene: DizzyRudy\_24 Start: 16857, Stop: 21065, Start Num: 20

Candidate Starts for DizzyRudy\_24:

(Start: 19 @16836 has 2 MA's), (Start: 20 @16857 has 72 MA's), (Start: 25 @16890 has 2 MA's), (48, 17049), (65, 17205), (73, 17328), (77, 17388), (85, 17499), (88, 17523), (89, 17529), (92, 17544), (98, 17577), (108, 17667), (109, 17670), (111, 17691), (112, 17703), (124, 17829), (136, 17949), (144, 18021), (148, 18045), (168, 18156), (181, 18231), (197, 18309), (201, 18336), (212, 18402), (252, 18516), (262, 18582), (268, 18603), (290, 18696), (298, 18765), (299, 18774), (308, 18843), (316, 18897), (318, 18906), (322, 18921), (324, 18930), (327, 18939), (331, 18969), (332, 18975), (338, 18996), (342, 19017), (344, 19038), (346, 19047), (347, 19056), (351, 19083), (353, 19092), (360, 19113), (361, 19116), (365, 19128), (381, 19236), (385, 19263), (391, 19284), (400, 19329), (402, 19344), (407, 19365), (410, 19386), (412, 19404), (442, 19461), (444, 19473), (445, 19476), (447, 19482), (477, 19512), (489, 19572), (491, 19602), (500, 19641), (503, 19650), (509, 19680), (515, 19707), (516, 19710), (517, 19713), (525, 19746), (532, 19779), (540, 19818), (542, 19824), (550, 19866), (556, 19893), (559, 19908), (560, 19911), (561, 19914), (571, 19977), (574, 19986), (580, 20016), (586, 20052), (587, 20055), (592, 20091), (624, 20232), (649, 20379), (654, 20421), (664, 20466), (670, 20520), (678, 20604), (681, 20646), (682, 20649), (689, 20715), (691, 20727), (697, 20745), (705, 20805), (714, 20874), (719, 20910), (729, 20949), (741, 21045),

Gene: Djungelskog\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for Djungelskog\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: DoctorPepper\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for DoctorPepper\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (529, 20432), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (590, 20750), (591, 20756), (593, 20762), (595, 20768), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605), (730, 21683),

Gene: Doxi13\_19 Start: 13488, Stop: 18716, Start Num: 20

Candidate Starts for Doxi13\_19:

(Start: 19 @13467 has 2 MA's), (Start: 20 @13488 has 72 MA's), (Start: 25 @13518 has 2 MA's), (43, 13620), (47, 13671), (58, 13779), (73, 13962), (80, 14088), (83, 14124), (89, 14163), (103, 14253), (138, 14640), (161, 14790), (166, 14814), (177, 14886), (227, 15117), (241, 15195), (243, 15213), (244, 15216), (251, 15249), (269, 15357), (287, 15417), (299, 15498), (308, 15567), (316, 15621), (335, 15708), (336, 15711), (355, 15822), (366, 15858), (369, 15876), (377, 15927), (396, 16029), (398, 16041), (400, 16056), (411, 16125), (412, 16134), (417, 16164), (429, 16209), (436, 16230), (443, 16260), (446, 16272), (447, 16275), (451, 16296), (452, 16305), (459, 16341), (467, 16374), (486, 16455), (487, 16458), (490, 16503), (491, 16506), (492, 16509), (503, 16554), (510, 16584), (522, 16629), (525, 16644), (532, 16677), (537, 16698), (539, 16707), (540, 16716), (545, 16740), (546, 16743), (566, 16851), (576, 16893), (578, 16908), (580, 16914), (594, 16995), (607, 17046), (609, 17055), (611, 17064), (614, 17073), (615, 17076), (617, 17088), (618, 17091), (619, 17100), (621, 17109), (625, 17133), (638, 17202), (644, 17256), (664, 17364), (667, 17379), (670, 17418), (684, 17577), (717, 17811), (731, 17886), (735, 17919), (751, 18123), (756, 18165), (757, 18168), (758, 18189), (761, 18237), (763, 18243), (773, 18351), (780, 18423), (787, 18525), (795, 18678),

Gene: DrGrey\_23 Start: 16676, Stop: 22156, Start Num: 2

Candidate Starts for DrGrey\_23:

(1, 16655), (Start: 2 @16676 has 30 MA's), (3, 16706), (13, 16850), (18, 16901), (28, 16985), (43, 17060), (52, 17177), (53, 17180), (57, 17213), (62, 17249), (65, 17279), (73, 17402), (80, 17528), (83, 17564), (89, 17603), (91, 17615), (98, 17651), (103, 17693), (120, 17885), (125, 17951), (131, 18026), (135, 18047), (138, 18080), (146, 18143), (147, 18152), (161, 18230), (190, 18377), (211, 18509), (229, 18566), (242, 18644), (243, 18653), (245, 18662), (251, 18689), (262, 18764), (264, 18773), (280, 18839), (281, 18842), (293, 18881), (299, 18935), (308, 19004), (316, 19058), (324, 19091), (332, 19136), (335, 19145), (338, 19157), (349, 19232), (351, 19244), (363, 19283), (366, 19295), (371, 19334), (377, 19364), (379, 19376), (386, 19424), (396, 19466), (403, 19514), (412, 19571), (442, 19691), (451, 19733), (452, 19742), (459, 19778), (464, 19796), (465, 19799), (467, 19811), (477, 19853), (478, 19856), (488, 19904), (490, 19940), (492, 19946), (496, 19967), (503, 19991), (525, 20081), (532, 20114), (536, 20132), (539, 20144), (540, 20153), (552, 20210), (554, 20222), (555, 20225), (559, 20243), (568, 20303), (573, 20318), (580, 20351), (582, 20366), (596, 20438), (607, 20483), (611, 20501), (614, 20510), (621, 20546), (624, 20567), (625, 20570), (654, 20756),

(661, 20777), (662, 20783), (664, 20801), (665, 20804), (667, 20816), (669, 20849), (670, 20855), (683, 21005), (684, 21014), (727, 21287), (740, 21389), (757, 21605), (758, 21626), (761, 21674), (763, 21680), (764, 21686), (768, 21731), (780, 21860), (785, 21908), (794, 22100), (795, 22109),

Gene: Dynamite\_21 Start: 17193, Stop: 21671, Start Num: 20

Candidate Starts for Dynamite\_21:

(Start: 19 @17172 has 2 MA's), (Start: 20 @17193 has 72 MA's), (Start: 25 @17223 has 2 MA's), (29, 17256), (33, 17277), (62, 17508), (65, 17538), (66, 17559), (72, 17619), (73, 17661), (74, 17679), (77, 17721), (82, 17808), (89, 17862), (92, 17877), (98, 17910), (109, 18003), (113, 18051), (115, 18066), (120, 18108), (124, 18162), (130, 18237), (135, 18270), (148, 18378), (158, 18444), (166, 18477), (167, 18486), (169, 18489), (172, 18507), (226, 18789), (234, 18813), (236, 18843), (268, 19002), (282, 19062), (299, 19191), (311, 19269), (314, 19299), (316, 19314), (318, 19323), (324, 19347), (330, 19374), (332, 19392), (338, 19413), (349, 19488), (353, 19509), (357, 19521), (366, 19551), (371, 19593), (381, 19653), (382, 19659), (390, 19698), (405, 19779), (409, 19800), (412, 19830), (417, 19860), (422, 19878), (434, 19926), (440, 19950), (444, 19968), (447, 19977), (448, 19986), (450, 19992), (453, 20013), (459, 20043), (467, 20076), (468, 20082), (469, 20085), (472, 20097), (477, 20118), (488, 20169), (489, 20178), (491, 20208), (493, 20214), (500, 20247), (503, 20256), (510, 20286), (513, 20295), (515, 20307), (521, 20328), (525, 20346), (530, 20373), (532, 20379), (533, 20382), (536, 20397), (542, 20424), (545, 20442), (549, 20454), (555, 20490), (575, 20592), (587, 20655), (592, 20691), (593, 20694), (595, 20700), (599, 20715), (603, 20733), (613, 20772), (614, 20775), (618, 20793), (623, 20826), (628, 20847), (638, 20904), (644, 20958), (646, 20967), (654, 21021), (662, 21048), (664, 21066), (669, 21114), (670, 21120), (675, 21192), (683, 21270), (685, 21285), (690, 21324), (697, 21348), (706, 21417), (709, 21438), (723, 21531), (742, 21660),

Gene: Egad\_23 Start: 17271, Stop: 21791, Start Num: 25

Candidate Starts for Egad\_23:

(Start: 19 @17220 has 2 MA's), (Start: 20 @17241 has 72 MA's), (Start: 25 @17271 has 2 MA's), (29, 17304), (50, 17460), (61, 17544), (62, 17556), (65, 17586), (72, 17667), (73, 17709), (74, 17727), (77, 17769), (79, 17799), (81, 17844), (82, 17856), (89, 17910), (92, 17925), (98, 17958), (105, 18021), (109, 18051), (112, 18084), (113, 18099), (119, 18147), (131, 18297), (135, 18318), (148, 18426), (151, 18435), (157, 18483), (193, 18660), (209, 18774), (220, 18825), (223, 18837), (237, 18918), (253, 19002), (255, 19020), (262, 19065), (271, 19110), (272, 19113), (273, 19119), (286, 19152), (299, 19263), (308, 19332), (309, 19335), (315, 19377), (316, 19386), (318, 19395), (326, 19425), (332, 19464), (334, 19470), (338, 19485), (344, 19527), (366, 19623), (369, 19644), (370, 19647), (372, 19668), (381, 19725), (383, 19740), (390, 19770), (392, 19782), (398, 19809), (400, 19824), (409, 19872), (412, 19902), (414, 19917), (422, 19950), (424, 19956), (434, 19995), (437, 20004), (439, 20016), (444, 20037), (456, 20103), (459, 20112), (467, 20145), (468, 20151), (469, 20154), (472, 20166), (473, 20169), (478, 20190), (483, 20211), (489, 20247), (494, 20295), (503, 20325), (525, 20415), (538, 20472), (547, 20517), (550, 20535), (556, 20562), (558, 20571), (559, 20577), (568, 20637), (572, 20649), (575, 20661), (585, 20715), (590, 20751), (591, 20757), (593, 20763), (595, 20769), (604, 20805), (610, 20829), (611, 20835), (613, 20841), (614, 20844), (623, 20895), (626, 20907), (632, 20946), (652, 21078), (658, 21114), (660, 21156), (664, 21201), (672, 21291), (681, 21381), (683, 21405), (686, 21429), (687, 21441), (689, 21450), (691, 21462), (695, 21474), (703, 21519), (707, 21549), (709, 21567), (713, 21606),

Gene: ElephantMan\_26 Start: 20686, Stop: 25275, Start Num: 20

Candidate Starts for ElephantMan\_26:

(Start: 19 @20665 has 2 MA's), (Start: 20 @20686 has 72 MA's), (Start: 25 @20716 has 2 MA's), (33, 20770), (40, 20791), (44, 20827), (50, 20905), (57, 20965), (61, 20989), (62, 21001), (65, 21031), (72, 21112), (73, 21154), (74, 21172), (77, 21214), (79, 21244), (81, 21289), (82, 21301), (89, 21355), (92, 21370), (94, 21382), (98, 21403), (109, 21496), (112, 21529), (113, 21544), (119, 21592), (131, 21742), (135, 21763), (148, 21871), (150, 21877), (151, 21880), (157, 21928), (177, 22042), (184, 22066), (187, 22081), (190, 22093), (202, 22168), (208, 22213), (217, 22261), (222, 22276), (223,

22282), (228, 22300), (241, 22372), (248, 22414), (250, 22423), (257, 22468), (270, 22540), (271, 22546), (281, 22579), (282, 22582), (288, 22609), (299, 22723), (304, 22771), (306, 22780), (308, 22792), (316, 22846), (318, 22855), (319, 22858), (324, 22879), (332, 22924), (338, 22945), (358, 23056), (360, 23062), (366, 23083), (368, 23101), (369, 23104), (371, 23125), (381, 23185), (383, 23200), (384, 23203), (390, 23230), (391, 23233), (412, 23362), (414, 23377), (415, 23380), (419, 23398), (420, 23404), (425, 23419), (434, 23455), (437, 23464), (444, 23497), (454, 23551), (455, 23554), (459, 23572), (463, 23584), (469, 23614), (472, 23629), (475, 23638), (477, 23650), (489, 23710), (495, 23761), (497, 23767), (500, 23779), (503, 23788), (513, 23827), (515, 23839), (519, 23851), (524, 23869), (525, 23878), (541, 23953), (542, 23956), (545, 23974), (559, 24040), (561, 24046), (562, 24049), (569, 24103), (570, 24106), (595, 24232), (596, 24235), (601, 24256), (609, 24289), (611, 24298), (628, 24379), (633, 24412), (639, 24445), (647, 24502), (655, 24562), (659, 24586), (664, 24664), (666, 24676), (678, 24802), (681, 24844), (686, 24892), (691, 24925), (695, 24937), (697, 24943), (700, 24964), (701, 24967), (707, 25012), (710, 25039), (712, 25066), (713, 25069), (737, 25225), (741, 25252),

Gene: Elsa\_22 Start: 17670, Stop: 22148, Start Num: 20

Candidate Starts for Elsa\_22:

(Start: 19 @17649 has 2 MA's), (Start: 20 @17670 has 72 MA's), (Start: 25 @17700 has 2 MA's), (29, 17733), (33, 17754), (62, 17985), (65, 18015), (72, 18096), (73, 18138), (74, 18156), (77, 18198), (82, 18285), (89, 18339), (92, 18354), (98, 18387), (109, 18480), (113, 18528), (115, 18543), (120, 18585), (124, 18639), (130, 18714), (135, 18747), (148, 18855), (158, 18921), (166, 18954), (167, 18963), (169, 18966), (172, 18984), (226, 19266), (234, 19290), (236, 19320), (268, 19479), (282, 19539), (299, 19668), (304, 19716), (313, 19770), (315, 19782), (316, 19791), (318, 19800), (324, 19824), (332, 19869), (338, 19890), (349, 19965), (357, 19998), (366, 20028), (369, 20049), (371, 20070), (381, 20130), (382, 20136), (390, 20175), (391, 20178), (394, 20193), (405, 20256), (409, 20277), (412, 20307), (417, 20337), (422, 20355), (434, 20403), (440, 20427), (444, 20445), (447, 20454), (448, 20463), (450, 20469), (453, 20490), (459, 20520), (467, 20553), (468, 20559), (469, 20562), (472, 20574), (477, 20595), (488, 20646), (489, 20655), (491, 20685), (493, 20691), (500, 20724), (503, 20733), (510, 20763), (513, 20772), (515, 20784), (525, 20823), (530, 20850), (532, 20856), (533, 20859), (536, 20874), (542, 20901), (545, 20919), (549, 20931), (555, 20967), (575, 21069), (587, 21132), (592, 21168), (593, 21171), (595, 21177), (599, 21192), (603, 21210), (609, 21234), (613, 21249), (614, 21252), (618, 21270), (623, 21303), (628, 21324), (638, 21381), (644, 21435), (646, 21444), (654, 21498), (662, 21525), (664, 21543), (669, 21591), (670, 21597), (675, 21669), (683, 21747), (685, 21762), (690, 21801), (697, 21825), (706, 21894), (709, 21915), (723, 22008), (742, 22137),

Gene: Elver\_39 Start: 29219, Stop: 33769, Start Num: 20

Candidate Starts for Elver\_39:

(Start: 20 @29219 has 72 MA's), (Start: 25 @29249 has 2 MA's), (40, 29324), (44, 29360), (50, 29438), (73, 29687), (80, 29813), (85, 29858), (86, 29873), (89, 29888), (94, 29915), (98, 29936), (101, 29960), (103, 29978), (112, 30095), (116, 30140), (119, 30158), (129, 30281), (131, 30308), (133, 30320), (136, 30341), (166, 30536), (181, 30623), (183, 30629), (193, 30671), (199, 30722), (210, 30785), (232, 30860), (233, 30869), (258, 30989), (273, 31067), (277, 31076), (299, 31244), (311, 31322), (316, 31367), (318, 31376), (324, 31400), (332, 31445), (338, 31466), (353, 31562), (364, 31595), (369, 31625), (381, 31706), (383, 31721), (384, 31724), (400, 31805), (405, 31832), (412, 31883), (416, 31910), (422, 31931), (423, 31934), (434, 31976), (454, 32072), (459, 32093), (463, 32105), (467, 32126), (469, 32135), (472, 32147), (482, 32189), (488, 32219), (489, 32228), (494, 32276), (495, 32279), (500, 32297), (503, 32306), (515, 32357), (518, 32366), (525, 32396), (533, 32432), (539, 32459), (555, 32540), (556, 32543), (570, 32624), (574, 32636), (580, 32666), (582, 32681), (584, 32690), (587, 32705), (593, 32744), (603, 32783), (607, 32798), (609, 32807), (612, 32819), (615, 32828), (616, 32831), (623, 32876), (624, 32882), (634, 32939), (638, 32954), (641, 32984), (655, 33080), (660, 33137), (664, 33182), (671, 33251), (679, 33332), (680, 33353), (683, 33386), (689, 33431), (690, 33440), (694, 33455), (697, 33461), (706, 33530), (709, 33548),

(715, 33599),

Gene: Esketit\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for Esketit\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (53, 16664), (58, 16703), (62, 16733), (64, 16757), (65, 16763), (66, 16784), (67, 16799), (73, 16886), (79, 16976), (80, 17012), (81, 17021), (83, 17048), (89, 17087), (90, 17096), (94, 17114), (98, 17135), (103, 17177), (104, 17186), (112, 17294), (121, 17399), (130, 17495), (138, 17561), (161, 17711), (175, 17795), (179, 17816), (190, 17858), (212, 17993), (229, 18047), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (270, 18284), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (392, 18944), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (460, 19274), (464, 19289), (465, 19292), (467, 19304), (477, 19346), (478, 19349), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (539, 19637), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (611, 19994), (613, 20000), (614, 20003), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: FidgetOrca\_23 Start: 16166, Stop: 21652, Start Num: 2

Candidate Starts for FidgetOrca\_23:

(1, 16145), (Start: 2 @16166 has 30 MA's), (3, 16196), (13, 16340), (43, 16550), (53, 16670), (58, 16709), (62, 16739), (64, 16763), (65, 16769), (66, 16790), (67, 16805), (73, 16892), (79, 16982), (80, 17018), (81, 17027), (83, 17054), (89, 17093), (90, 17102), (94, 17120), (98, 17141), (103, 17183), (104, 17192), (112, 17300), (121, 17405), (130, 17501), (138, 17567), (161, 17717), (175, 17801), (179, 17822), (190, 17864), (212, 17999), (242, 18131), (243, 18140), (251, 18176), (252, 18185), (259, 18227), (264, 18260), (297, 18413), (299, 18434), (307, 18497), (308, 18503), (310, 18509), (313, 18536), (316, 18557), (317, 18563), (318, 18566), (324, 18590), (332, 18635), (335, 18644), (336, 18647), (338, 18656), (349, 18731), (355, 18758), (360, 18773), (361, 18776), (366, 18794), (369, 18812), (371, 18833), (380, 18884), (396, 18965), (410, 19052), (412, 19070), (416, 19097), (442, 19190), (451, 19232), (452, 19241), (459, 19277), (464, 19295), (465, 19298), (477, 19352), (488, 19403), (490, 19439), (492, 19445), (496, 19466), (503, 19490), (510, 19520), (525, 19580), (532, 19613), (533, 19616), (536, 19631), (544, 19667), (552, 19709), (554, 19721), (555, 19724), (565, 19772), (568, 19802), (573, 19817), (580, 19850), (582, 19865), (593, 19928), (613, 20006), (621, 20045), (632, 20111), (645, 20198), (646, 20201), (664, 20300), (669, 20348), (670, 20354), (684, 20513), (727, 20786), (740, 20888), (749, 21011), (757, 21104), (758, 21125), (761, 21173), (763, 21179), (764, 21185), (768, 21230), (778, 21338), (780, 21359), (785, 21407), (790, 21494), (794, 21596), (795, 21605),

Gene: FrodoSwaggins\_23 Start: 16676, Stop: 22156, Start Num: 2

Candidate Starts for FrodoSwaggins\_23:

(1, 16655), (Start: 2 @16676 has 30 MA's), (3, 16706), (13, 16850), (18, 16901), (28, 16985), (43, 17060), (52, 17177), (53, 17180), (57, 17213), (62, 17249), (65, 17279), (73, 17402), (80, 17528), (83, 17564), (89, 17603), (91, 17615), (98, 17651), (103, 17693), (120, 17885), (125, 17951), (131, 18026), (135, 18047), (138, 18080), (146, 18143), (147, 18152), (161, 18230), (190, 18377), (211, 18509), (229, 18566), (242, 18644), (243, 18653), (245, 18662), (251, 18689), (262, 18764), (264, 18773), (280, 18839), (281, 18842), (293, 18881), (299, 18935), (308, 19004), (316, 19058), (324, 19091), (332, 19136), (335, 19145), (338, 19157), (349, 19232), (363, 19283), (366, 19295), (371, 19334), (377, 19364), (379, 19376), (386, 19424), (396, 19466), (403, 19514), (412, 19571), (442, 19691),



(451, 19733), (452, 19742), (459, 19778), (464, 19796), (465, 19799), (467, 19811), (477, 19853), (478, 19856), (488, 19904), (490, 19940), (492, 19946), (496, 19967), (503, 19991), (525, 20081), (532, 20114), (536, 20132), (539, 20144), (540, 20153), (552, 20210), (554, 20222), (555, 20225), (559, 20243), (568, 20303), (573, 20318), (580, 20351), (582, 20366), (596, 20438), (607, 20483), (611, 20501), (614, 20510), (621, 20546), (624, 20567), (625, 20570), (654, 20756), (661, 20777), (662, 20783), (664, 20801), (665, 20804), (667, 20816), (669, 20849), (670, 20855), (683, 21005), (684, 21014), (727, 21287), (740, 21389), (757, 21605), (758, 21626), (761, 21674), (763, 21680), (764, 21686), (768, 21731), (780, 21860), (785, 21908), (794, 22100), (795, 22109),

Gene: FromIndy\_22 Start: 15060, Stop: 20537, Start Num: 2

Candidate Starts for FromIndy\_22:

(Start: 2 @15060 has 30 MA's), (3, 15090), (5, 15144), (7, 15171), (9, 15201), (10, 15204), (13, 15234), (73, 15786), (80, 15912), (89, 15987), (97, 16029), (103, 16077), (108, 16161), (120, 16269), (135, 16431), (138, 16464), (147, 16536), (161, 16614), (190, 16761), (251, 17073), (252, 17082), (263, 17145), (278, 17208), (299, 17319), (303, 17361), (308, 17388), (311, 17397), (318, 17451), (324, 17475), (336, 17532), (338, 17541), (356, 17646), (359, 17655), (366, 17679), (379, 17760), (396, 17850), (404, 17901), (410, 17937), (412, 17955), (417, 17985), (427, 18024), (428, 18027), (439, 18066), (447, 18096), (451, 18117), (452, 18126), (458, 18159), (459, 18162), (465, 18183), (480, 18246), (490, 18324), (492, 18330), (500, 18366), (501, 18369), (502, 18372), (503, 18375), (515, 18426), (518, 18435), (520, 18444), (525, 18465), (531, 18495), (532, 18498), (545, 18561), (546, 18564), (547, 18567), (555, 18609), (559, 18627), (565, 18657), (573, 18702), (580, 18735), (592, 18810), (594, 18816), (602, 18846), (607, 18867), (614, 18894), (617, 18909), (621, 18930), (625, 18954), (637, 19020), (642, 19062), (645, 19083), (650, 19107), (664, 19185), (669, 19233), (684, 19398), (717, 19632), (732, 19713), (736, 19758), (744, 19803), (757, 19989), (758, 20010), (759, 20022), (763, 20064), (768, 20115), (772, 20163), (776, 20202), (782, 20253), (789, 20376), (793, 20415),

Gene: GantcherGoblin\_25 Start: 19002, Stop: 23639, Start Num: 15

Candidate Starts for GantcherGoblin\_25:

(12, 18981), (Start: 15 @19002 has 5 MA's), (17, 19032), (23, 19086), (24, 19095), (58, 19365), (59, 19368), (65, 19425), (66, 19446), (72, 19506), (73, 19548), (77, 19608), (82, 19695), (86, 19734), (89, 19749), (92, 19764), (98, 19797), (102, 19836), (103, 19839), (107, 19875), (109, 19890), (113, 19938), (147, 20262), (151, 20274), (159, 20334), (168, 20376), (177, 20436), (178, 20442), (181, 20451), (186, 20466), (187, 20475), (205, 20574), (206, 20586), (207, 20595), (208, 20607), (265, 20892), (278, 20952), (282, 20961), (299, 21102), (304, 21150), (309, 21174), (311, 21180), (316, 21225), (318, 21234), (324, 21258), (328, 21276), (337, 21321), (338, 21324), (341, 21333), (349, 21399), (360, 21441), (364, 21453), (366, 21462), (369, 21483), (377, 21534), (381, 21564), (383, 21579), (392, 21621), (397, 21639), (404, 21687), (405, 21690), (413, 21747), (418, 21774), (439, 21855), (442, 21864), (452, 21915), (459, 21951), (467, 21984), (469, 21993), (472, 22005), (479, 22032), (484, 22053), (488, 22077), (489, 22086), (500, 22155), (501, 22158), (502, 22161), (503, 22164), (510, 22194), (515, 22215), (521, 22236), (525, 22254), (527, 22263), (530, 22281), (544, 22341), (550, 22374), (553, 22389), (554, 22395), (555, 22398), (564, 22443), (568, 22476), (569, 22479), (570, 22482), (575, 22500), (598, 22620), (599, 22623), (603, 22641), (612, 22677), (621, 22719), (625, 22743), (638, 22812), (644, 22866), (647, 22878), (660, 22995), (664, 23040), (669, 23088), (682, 23223), (683, 23244), (686, 23268), (697, 23319), (706, 23388), (709, 23406),

Gene: Giantsbane\_27 Start: 19149, Stop: 23738, Start Num: 20

Candidate Starts for Giantsbane\_27:

(Start: 19 @19128 has 2 MA's), (Start: 20 @19149 has 72 MA's), (Start: 25 @19179 has 2 MA's), (33, 19233), (44, 19290), (57, 19428), (62, 19464), (65, 19494), (72, 19575), (73, 19617), (74, 19635), (77, 19677), (82, 19764), (89, 19818), (92, 19833), (93, 19839), (98, 19866), (107, 19944), (109, 19959), (112, 19992), (113, 20007), (114, 20016), (117, 20043), (119, 20055), (123, 20109), (135, 20226), (148, 20334), (151, 20343), (158, 20400), (160, 20406), (182, 20523), (186, 20535), (190, 20556),

(193, 20568), (197, 20598), (208, 20676), (223, 20745), (235, 20805), (253, 20901), (261, 20955), (270, 21003), (271, 21009), (282, 21045), (299, 21189), (300, 21201), (306, 21246), (308, 21258), (316, 21312), (318, 21321), (319, 21324), (324, 21345), (338, 21411), (348, 21477), (349, 21486), (350, 21489), (351, 21498), (358, 21522), (360, 21528), (366, 21549), (368, 21567), (369, 21570), (371, 21591), (381, 21651), (383, 21666), (384, 21669), (389, 21693), (390, 21696), (391, 21699), (398, 21735), (412, 21828), (414, 21843), (415, 21846), (419, 21864), (420, 21870), (425, 21885), (434, 21921), (437, 21930), (444, 21963), (454, 22017), (455, 22020), (459, 22038), (472, 22095), (475, 22104), (477, 22116), (482, 22137), (484, 22143), (485, 22146), (489, 22176), (497, 22233), (500, 22245), (502, 22251), (503, 22254), (525, 22344), (533, 22380), (547, 22446), (551, 22470), (552, 22473), (559, 22506), (560, 22509), (561, 22512), (562, 22515), (569, 22569), (570, 22572), (593, 22692), (601, 22722), (604, 22734), (611, 22764), (614, 22773), (616, 22779), (632, 22875), (641, 22932), (647, 22968), (656, 23031), (664, 23130), (666, 23142), (675, 23256), (686, 23358), (695, 23403), (697, 23409), (701, 23433), (703, 23448), (707, 23478), (710, 23505), (712, 23532), (721, 23577),

Gene: GirlPower\_22 Start: 17641, Stop: 23130, Start Num: 2

Candidate Starts for GirlPower\_22:

(1, 17620), (Start: 2 @17641 has 30 MA's), (3, 17671), (13, 17815), (32, 17983), (50, 18118), (58, 18184), (62, 18214), (65, 18244), (73, 18367), (78, 18448), (79, 18457), (80, 18493), (89, 18568), (94, 18595), (97, 18610), (98, 18616), (103, 18658), (106, 18709), (120, 18847), (138, 19042), (150, 19123), (161, 19192), (179, 19297), (191, 19342), (229, 19528), (243, 19615), (251, 19651), (252, 19660), (297, 19888), (299, 19909), (307, 19972), (308, 19978), (310, 19984), (316, 20032), (317, 20038), (318, 20041), (324, 20065), (332, 20110), (335, 20119), (336, 20122), (341, 20140), (359, 20245), (366, 20269), (378, 20341), (380, 20359), (396, 20440), (412, 20545), (442, 20665), (451, 20707), (452, 20716), (459, 20752), (465, 20773), (478, 20830), (488, 20878), (490, 20914), (496, 20941), (503, 20965), (510, 20995), (525, 21055), (532, 21088), (536, 21106), (540, 21127), (549, 21163), (552, 21184), (554, 21196), (555, 21199), (559, 21217), (561, 21223), (568, 21277), (573, 21292), (580, 21325), (582, 21340), (593, 21403), (613, 21481), (614, 21484), (621, 21520), (632, 21586), (636, 21607), (645, 21673), (648, 21685), (664, 21775), (669, 21823), (683, 21979), (684, 21988), (733, 22309), (744, 22393), (757, 22579), (758, 22600), (760, 22624), (761, 22648), (763, 22654), (764, 22660), (768, 22705), (778, 22813), (785, 22882), (790, 22969), (794, 23074), (795, 23083),

Gene: GoCrazy\_20 Start: 17193, Stop: 21671, Start Num: 20

Candidate Starts for GoCrazy\_20:

(Start: 19 @17172 has 2 MA's), (Start: 20 @17193 has 72 MA's), (Start: 25 @17223 has 2 MA's), (33, 17277), (44, 17334), (62, 17508), (65, 17538), (72, 17619), (73, 17661), (74, 17679), (77, 17721), (82, 17808), (89, 17862), (92, 17877), (98, 17910), (107, 17988), (109, 18003), (113, 18051), (120, 18108), (127, 18204), (130, 18237), (135, 18270), (148, 18378), (158, 18444), (166, 18477), (167, 18486), (169, 18489), (172, 18507), (226, 18789), (234, 18813), (236, 18843), (268, 19002), (282, 19062), (299, 19191), (304, 19239), (311, 19269), (313, 19293), (315, 19305), (316, 19314), (318, 19323), (324, 19347), (332, 19392), (338, 19413), (349, 19488), (353, 19509), (354, 19512), (357, 19521), (366, 19551), (371, 19593), (381, 19653), (382, 19659), (383, 19668), (391, 19701), (393, 19713), (394, 19716), (405, 19779), (409, 19800), (412, 19830), (417, 19860), (422, 19878), (434, 19926), (440, 19950), (444, 19968), (447, 19977), (453, 20013), (459, 20043), (467, 20076), (468, 20082), (469, 20085), (472, 20097), (477, 20118), (488, 20169), (489, 20178), (493, 20214), (500, 20247), (503, 20256), (510, 20286), (513, 20295), (515, 20307), (525, 20346), (530, 20373), (532, 20379), (533, 20382), (536, 20397), (542, 20424), (549, 20454), (555, 20490), (575, 20592), (587, 20655), (592, 20691), (599, 20715), (603, 20733), (613, 20772), (615, 20778), (618, 20793), (622, 20814), (623, 20826), (644, 20958), (654, 21021), (662, 21048), (664, 21066), (669, 21114), (670, 21120), (675, 21192), (683, 21270), (687, 21306), (690, 21324), (697, 21348), (701, 21372), (706, 21417), (709, 21438), (742, 21660),

Gene: GoblinVoyage\_19 Start: 13488, Stop: 18716, Start Num: 20

Candidate Starts for GoblinVoyage\_19:

(Start: 19 @13467 has 2 MA's), (Start: 20 @13488 has 72 MA's), (Start: 25 @13518 has 2 MA's), (43, 13620), (47, 13671), (58, 13779), (73, 13962), (80, 14088), (83, 14124), (89, 14163), (103, 14253), (138, 14640), (161, 14790), (166, 14814), (177, 14886), (227, 15117), (241, 15195), (243, 15213), (244, 15216), (251, 15249), (269, 15357), (287, 15417), (299, 15498), (308, 15567), (316, 15621), (335, 15708), (336, 15711), (355, 15822), (366, 15858), (369, 15876), (377, 15927), (396, 16029), (398, 16041), (400, 16056), (411, 16125), (412, 16134), (417, 16164), (429, 16209), (436, 16230), (443, 16260), (446, 16272), (447, 16275), (451, 16296), (452, 16305), (459, 16341), (467, 16374), (487, 16458), (490, 16503), (491, 16506), (492, 16509), (503, 16554), (510, 16584), (522, 16629), (525, 16644), (532, 16677), (537, 16698), (539, 16707), (540, 16716), (545, 16740), (546, 16743), (566, 16851), (576, 16893), (578, 16908), (580, 16914), (594, 16995), (607, 17046), (609, 17055), (610, 17058), (611, 17064), (614, 17073), (615, 17076), (617, 17088), (618, 17091), (619, 17100), (621, 17109), (625, 17133), (638, 17202), (644, 17256), (664, 17364), (667, 17379), (670, 17418), (684, 17577), (717, 17811), (731, 17886), (735, 17919), (751, 18123), (756, 18165), (757, 18168), (758, 18189), (761, 18237), (763, 18243), (773, 18351), (780, 18423), (787, 18525), (795, 18678),

Gene: Gordon\_26 Start: 21257, Stop: 25849, Start Num: 20

Candidate Starts for Gordon\_26:

(Start: 19 @21236 has 2 MA's), (Start: 20 @21257 has 72 MA's), (Start: 25 @21287 has 2 MA's), (33, 21341), (44, 21398), (50, 21476), (57, 21536), (62, 21572), (65, 21602), (73, 21725), (74, 21743), (77, 21785), (89, 21926), (92, 21941), (98, 21974), (107, 22052), (109, 22067), (111, 22088), (112, 22100), (114, 22124), (120, 22172), (127, 22268), (130, 22301), (135, 22334), (140, 22382), (148, 22442), (151, 22451), (157, 22499), (173, 22580), (177, 22613), (184, 22637), (187, 22652), (190, 22664), (217, 22832), (223, 22853), (228, 22871), (235, 22913), (241, 22943), (250, 22994), (253, 23009), (257, 23039), (270, 23111), (271, 23117), (281, 23150), (282, 23153), (299, 23297), (306, 23354), (308, 23366), (316, 23420), (318, 23429), (319, 23432), (324, 23453), (332, 23498), (338, 23519), (344, 23561), (347, 23579), (360, 23636), (366, 23657), (369, 23678), (371, 23699), (381, 23759), (383, 23774), (384, 23777), (390, 23804), (391, 23807), (400, 23858), (412, 23936), (414, 23951), (415, 23954), (419, 23972), (420, 23978), (421, 23981), (422, 23984), (425, 23993), (434, 24029), (437, 24038), (444, 24071), (454, 24125), (455, 24128), (459, 24146), (463, 24158), (469, 24188), (472, 24203), (475, 24212), (477, 24224), (482, 24245), (489, 24284), (497, 24341), (500, 24353), (503, 24362), (513, 24401), (515, 24413), (524, 24443), (525, 24452), (533, 24488), (541, 24527), (542, 24530), (545, 24548), (547, 24554), (559, 24614), (562, 24623), (569, 24677), (570, 24680), (595, 24806), (596, 24809), (601, 24830), (610, 24866), (611, 24872), (614, 24881), (619, 24908), (625, 24941), (628, 24953), (639, 25019), (647, 25076), (655, 25136), (659, 25160), (664, 25238), (666, 25250), (678, 25376), (680, 25409), (681, 25418), (686, 25466), (691, 25499), (695, 25511), (697, 25517), (700, 25538), (701, 25541), (702, 25547), (707, 25586), (710, 25613), (737, 25799), (741, 25826),

Gene: Hankly\_20 Start: 16415, Stop: 20893, Start Num: 20

Candidate Starts for Hankly\_20:

(Start: 19 @16394 has 2 MA's), (Start: 20 @16415 has 72 MA's), (Start: 25 @16445 has 2 MA's), (33, 16499), (44, 16556), (62, 16730), (65, 16760), (72, 16841), (73, 16883), (74, 16901), (77, 16943), (82, 17030), (86, 17069), (89, 17084), (92, 17099), (98, 17132), (107, 17210), (109, 17225), (113, 17273), (115, 17288), (120, 17330), (127, 17426), (130, 17459), (135, 17492), (148, 17600), (158, 17666), (166, 17699), (167, 17708), (169, 17711), (172, 17729), (226, 18011), (234, 18035), (236, 18065), (268, 18224), (282, 18284), (299, 18413), (304, 18461), (311, 18491), (313, 18515), (315, 18527), (316, 18536), (318, 18545), (324, 18569), (332, 18614), (338, 18635), (349, 18710), (357, 18743), (366, 18773), (369, 18794), (371, 18815), (381, 18875), (382, 18881), (390, 18920), (394, 18938), (409, 19022), (412, 19052), (417, 19082), (422, 19100), (434, 19148), (440, 19172), (444, 19190), (447, 19199), (448, 19208), (450, 19214), (453, 19235), (459, 19265), (467, 19298), (468, 19304), (470, 19313), (477, 19340), (484, 19367), (489, 19400), (490, 19427), (492, 19433), (498, 19460),

(503, 19478), (510, 19508), (513, 19517), (515, 19529), (517, 19535), (518, 19538), (521, 19550), (525, 19568), (530, 19595), (532, 19601), (547, 19670), (552, 19697), (555, 19712), (575, 19814), (592, 19913), (593, 19916), (595, 19922), (599, 19937), (603, 19955), (613, 19994), (614, 19997), (618, 20015), (623, 20048), (628, 20069), (638, 20126), (644, 20180), (654, 20243), (662, 20270), (664, 20288), (669, 20336), (670, 20342), (675, 20414), (683, 20492), (685, 20507), (690, 20546), (697, 20570), (701, 20594), (706, 20639), (709, 20660), (742, 20882),

Gene: Heisenberger\_21 Start: 17063, Stop: 21541, Start Num: 20

Candidate Starts for Heisenberger\_21:

(Start: 19 @17042 has 2 MA's), (Start: 20 @17063 has 72 MA's), (Start: 25 @17093 has 2 MA's), (29, 17126), (33, 17147), (62, 17378), (65, 17408), (72, 17489), (73, 17531), (74, 17549), (77, 17591), (82, 17678), (89, 17732), (92, 17747), (98, 17780), (107, 17858), (109, 17873), (113, 17921), (120, 17978), (124, 18032), (127, 18074), (128, 18077), (130, 18107), (135, 18140), (148, 18248), (158, 18314), (166, 18347), (167, 18356), (169, 18359), (172, 18377), (226, 18659), (234, 18683), (236, 18713), (268, 18872), (282, 18932), (299, 19061), (304, 19109), (311, 19139), (315, 19175), (316, 19184), (318, 19193), (324, 19217), (332, 19262), (338, 19283), (349, 19358), (357, 19391), (366, 19421), (369, 19442), (371, 19463), (381, 19523), (382, 19529), (390, 19568), (391, 19571), (394, 19586), (405, 19649), (409, 19670), (412, 19700), (417, 19730), (422, 19748), (434, 19796), (440, 19820), (444, 19838), (447, 19847), (448, 19856), (450, 19862), (453, 19883), (459, 19913), (467, 19946), (468, 19952), (469, 19955), (472, 19967), (477, 19988), (488, 20039), (489, 20048), (491, 20078), (493, 20084), (500, 20117), (503, 20126), (510, 20156), (513, 20165), (515, 20177), (525, 20216), (530, 20243), (532, 20249), (533, 20252), (536, 20267), (542, 20294), (545, 20312), (549, 20324), (555, 20360), (575, 20462), (587, 20525), (592, 20561), (593, 20564), (595, 20570), (599, 20585), (603, 20603), (609, 20627), (613, 20642), (614, 20645), (618, 20663), (623, 20696), (628, 20717), (638, 20774), (644, 20828), (646, 20837), (654, 20891), (662, 20918), (664, 20936), (669, 20984), (670, 20990), (675, 21062), (683, 21140), (685, 21155), (690, 21194), (697, 21218), (706, 21287), (709, 21308), (742, 21530),

Gene: Hoshi\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for Hoshi\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (53, 16664), (58, 16703), (62, 16733), (64, 16757), (65, 16763), (66, 16784), (67, 16799), (73, 16886), (79, 16976), (80, 17012), (81, 17021), (83, 17048), (89, 17087), (90, 17096), (94, 17114), (98, 17135), (103, 17177), (104, 17186), (112, 17294), (121, 17399), (130, 17495), (138, 17561), (161, 17711), (175, 17795), (179, 17816), (190, 17858), (212, 17993), (229, 18047), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (270, 18284), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (392, 18944), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (460, 19274), (464, 19289), (465, 19292), (467, 19304), (477, 19346), (478, 19349), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (539, 19637), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (611, 19994), (613, 20000), (614, 20003), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: HotFries\_18 Start: 13486, Stop: 18714, Start Num: 20

Candidate Starts for HotFries\_18:

(Start: 19 @13465 has 2 MA's), (Start: 20 @13486 has 72 MA's), (Start: 25 @13516 has 2 MA's), (43, 13618), (47, 13669), (58, 13777), (73, 13960), (80, 14086), (83, 14122), (89, 14161), (103, 14251),

(138, 14638), (161, 14788), (166, 14812), (177, 14884), (227, 15115), (241, 15193), (243, 15211), (244, 15214), (251, 15247), (269, 15355), (287, 15415), (299, 15496), (308, 15565), (316, 15619), (321, 15640), (335, 15706), (336, 15709), (355, 15820), (366, 15856), (369, 15874), (377, 15925), (396, 16027), (398, 16039), (400, 16054), (411, 16123), (412, 16132), (417, 16162), (436, 16228), (443, 16258), (446, 16270), (447, 16273), (451, 16294), (452, 16303), (459, 16339), (467, 16372), (487, 16456), (490, 16501), (491, 16504), (492, 16507), (503, 16552), (510, 16582), (522, 16627), (525, 16642), (532, 16675), (537, 16696), (539, 16705), (540, 16714), (545, 16738), (546, 16741), (552, 16771), (554, 16783), (566, 16849), (570, 16870), (576, 16891), (578, 16906), (580, 16912), (607, 17044), (609, 17053), (611, 17062), (614, 17071), (615, 17074), (617, 17086), (618, 17089), (619, 17098), (621, 17107), (638, 17200), (644, 17254), (664, 17362), (667, 17377), (670, 17416), (684, 17575), (717, 17809), (731, 17884), (756, 18163), (757, 18166), (758, 18187), (761, 18235), (763, 18241), (773, 18349), (780, 18421), (784, 18460), (785, 18469), (787, 18523), (795, 18676),

Gene: IceWarrior\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for IceWarrior\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (52, 16661), (62, 16733), (65, 16763), (73, 16886), (80, 17012), (89, 17087), (98, 17135), (103, 17177), (120, 17366), (138, 17561), (147, 17633), (161, 17711), (175, 17795), (179, 17816), (190, 17858), (212, 17993), (229, 18047), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (270, 18284), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (392, 18944), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (460, 19274), (464, 19289), (465, 19292), (467, 19304), (477, 19346), (478, 19349), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (539, 19637), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (611, 19994), (613, 20000), (614, 20003), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: Indigenous\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for Indigenous\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (53, 16664), (58, 16703), (62, 16733), (64, 16757), (65, 16763), (66, 16784), (67, 16799), (73, 16886), (79, 16976), (80, 17012), (81, 17021), (83, 17048), (89, 17087), (90, 17096), (94, 17114), (98, 17135), (103, 17177), (104, 17186), (112, 17294), (121, 17399), (130, 17495), (138, 17561), (161, 17711), (175, 17795), (179, 17816), (190, 17858), (212, 17993), (242, 18125), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (392, 18944), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (460, 19274), (464, 19289), (465, 19292), (467, 19304), (477, 19346), (478, 19349), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (539, 19637), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (611, 19994), (613, 20000), (614, 20003), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: Ingrid\_26 Start: 19877, Stop: 24463, Start Num: 20

Candidate Starts for Ingrid\_26:

(Start: 19 @19856 has 2 MA's), (Start: 20 @19877 has 72 MA's), (Start: 25 @19907 has 2 MA's), (33, 19961), (44, 20018), (48, 20066), (57, 20156), (62, 20192), (65, 20222), (73, 20345), (77, 20405), (81, 20480), (89, 20546), (92, 20561), (98, 20594), (107, 20672), (109, 20687), (111, 20708), (112, 20720), (116, 20765), (120, 20792), (123, 20837), (127, 20888), (130, 20921), (135, 20954), (151, 21071), (157, 21119), (158, 21128), (180, 21245), (184, 21257), (185, 21260), (222, 21467), (235, 21527), (253, 21623), (261, 21677), (270, 21725), (271, 21731), (282, 21767), (299, 21911), (306, 21968), (308, 21980), (316, 22034), (318, 22043), (319, 22046), (324, 22067), (325, 22070), (333, 22115), (338, 22133), (349, 22208), (350, 22211), (352, 22223), (360, 22250), (366, 22271), (368, 22289), (369, 22292), (371, 22313), (381, 22373), (383, 22388), (384, 22391), (389, 22415), (390, 22418), (391, 22421), (397, 22448), (400, 22472), (401, 22484), (412, 22550), (414, 22565), (415, 22568), (419, 22586), (420, 22592), (421, 22595), (422, 22598), (434, 22643), (435, 22646), (437, 22652), (439, 22664), (444, 22685), (454, 22739), (455, 22742), (462, 22769), (468, 22799), (472, 22817), (475, 22826), (477, 22838), (482, 22859), (488, 22889), (489, 22898), (494, 22946), (497, 22955), (499, 22961), (503, 22976), (505, 22982), (510, 23006), (513, 23015), (524, 23057), (525, 23066), (533, 23102), (542, 23144), (545, 23162), (547, 23168), (551, 23192), (559, 23228), (568, 23288), (580, 23336), (581, 23345), (587, 23375), (601, 23444), (611, 23486), (614, 23495), (640, 23642), (641, 23654), (647, 23690), (658, 23765), (660, 23807), (664, 23852), (666, 23864), (670, 23906), (683, 24056), (686, 24080), (695, 24125), (696, 24128), (697, 24131), (701, 24155), (703, 24170), (707, 24200), (710, 24227), (739, 24422), (741, 24440),

Gene: Inked\_28 Start: 20894, Stop: 25474, Start Num: 20

Candidate Starts for Inked\_28:

(Start: 19 @20873 has 2 MA's), (Start: 20 @20894 has 72 MA's), (Start: 25 @20924 has 2 MA's), (44, 21035), (57, 21173), (62, 21209), (65, 21239), (73, 21362), (74, 21380), (77, 21422), (89, 21563), (92, 21578), (98, 21611), (107, 21689), (109, 21704), (111, 21725), (112, 21737), (120, 21809), (130, 21938), (135, 21971), (148, 22079), (151, 22088), (164, 22166), (168, 22190), (188, 22292), (193, 22313), (202, 22376), (224, 22493), (235, 22544), (241, 22574), (253, 22640), (270, 22742), (271, 22748), (274, 22763), (275, 22766), (282, 22784), (299, 22928), (305, 22982), (306, 22985), (313, 23030), (318, 23060), (319, 23063), (324, 23084), (325, 23087), (338, 23150), (340, 23156), (348, 23216), (349, 23225), (352, 23240), (360, 23267), (362, 23273), (366, 23288), (369, 23309), (371, 23330), (381, 23390), (383, 23405), (384, 23408), (389, 23432), (390, 23435), (391, 23438), (400, 23489), (406, 23522), (412, 23567), (414, 23582), (415, 23585), (420, 23609), (422, 23615), (425, 23624), (434, 23660), (437, 23669), (444, 23702), (454, 23756), (455, 23759), (459, 23777), (469, 23819), (470, 23828), (472, 23834), (475, 23843), (477, 23855), (478, 23858), (481, 23870), (482, 23876), (484, 23882), (485, 23885), (489, 23915), (496, 23969), (497, 23972), (502, 23990), (503, 23993), (504, 23996), (510, 24023), (511, 24026), (525, 24083), (533, 24119), (540, 24155), (541, 24158), (542, 24161), (547, 24185), (548, 24188), (551, 24209), (560, 24248), (561, 24251), (568, 24305), (580, 24353), (581, 24362), (601, 24461), (611, 24503), (613, 24509), (614, 24512), (621, 24548), (639, 24650), (641, 24671), (647, 24707), (652, 24746), (660, 24824), (666, 24881), (686, 25097), (695, 25142), (707, 25217), (722, 25316), (737, 25424), (741, 25451),

Gene: Issa\_26 Start: 19961, Stop: 24553, Start Num: 20

Candidate Starts for Issa\_26:

(Start: 19 @19940 has 2 MA's), (Start: 20 @19961 has 72 MA's), (Start: 25 @19991 has 2 MA's), (33, 20045), (40, 20066), (44, 20102), (50, 20180), (57, 20240), (61, 20264), (62, 20276), (65, 20306), (68, 20357), (72, 20387), (73, 20429), (74, 20447), (77, 20489), (79, 20519), (81, 20564), (82, 20576), (89, 20630), (92, 20645), (94, 20657), (98, 20678), (109, 20771), (112, 20804), (113, 20819), (119, 20867), (135, 21038), (150, 21152), (151, 21155), (157, 21203), (177, 21317), (184, 21341), (187, 21356), (217, 21536), (222, 21551), (223, 21557), (228, 21575), (241, 21647), (253, 21713), (270, 21815), (271, 21821), (281, 21854), (282, 21857), (288, 21884), (299, 22001), (306, 22058), (308, 22070), (316, 22124), (318, 22133), (319, 22136), (324, 22157), (338, 22223), (358, 22334), (360, 22340),

(366, 22361), (368, 22379), (371, 22403), (381, 22463), (383, 22478), (384, 22481), (390, 22508), (391, 22511), (412, 22640), (414, 22655), (415, 22658), (419, 22676), (420, 22682), (421, 22685), (425, 22697), (434, 22733), (437, 22742), (444, 22775), (454, 22829), (455, 22832), (459, 22850), (463, 22862), (469, 22892), (472, 22907), (475, 22916), (477, 22928), (489, 22988), (497, 23045), (500, 23057), (503, 23066), (513, 23105), (515, 23117), (524, 23147), (525, 23156), (541, 23231), (542, 23234), (545, 23252), (559, 23318), (561, 23324), (562, 23327), (569, 23381), (570, 23384), (595, 23510), (596, 23513), (601, 23534), (609, 23567), (611, 23576), (628, 23657), (633, 23690), (639, 23723), (647, 23780), (655, 23840), (659, 23864), (664, 23942), (666, 23954), (678, 24080), (681, 24122), (686, 24170), (691, 24203), (695, 24215), (697, 24221), (700, 24242), (701, 24245), (702, 24251), (707, 24290), (710, 24317), (737, 24503), (741, 24530),

Gene: JEGGS\_21 Start: 17117, Stop: 21595, Start Num: 20

Candidate Starts for JEGGS\_21:

(Start: 19 @17096 has 2 MA's), (Start: 20 @17117 has 72 MA's), (Start: 25 @17147 has 2 MA's), (29, 17180), (33, 17201), (50, 17336), (51, 17345), (56, 17384), (62, 17432), (65, 17462), (72, 17543), (73, 17585), (74, 17603), (77, 17645), (82, 17732), (89, 17786), (92, 17801), (98, 17834), (107, 17912), (109, 17927), (113, 17975), (120, 18032), (124, 18086), (127, 18128), (130, 18161), (135, 18194), (148, 18302), (158, 18368), (166, 18401), (167, 18410), (169, 18413), (172, 18431), (226, 18713), (234, 18737), (236, 18767), (268, 18926), (282, 18986), (299, 19115), (304, 19163), (311, 19193), (315, 19229), (316, 19238), (318, 19247), (324, 19271), (332, 19316), (338, 19337), (349, 19412), (357, 19445), (366, 19475), (369, 19496), (371, 19517), (381, 19577), (382, 19583), (390, 19622), (391, 19625), (394, 19640), (405, 19703), (409, 19724), (412, 19754), (417, 19784), (422, 19802), (434, 19850), (440, 19874), (444, 19892), (447, 19901), (448, 19910), (450, 19916), (453, 19937), (459, 19967), (467, 20000), (468, 20006), (469, 20009), (472, 20021), (477, 20042), (488, 20093), (489, 20102), (491, 20132), (493, 20138), (500, 20171), (503, 20180), (510, 20210), (513, 20219), (515, 20231), (525, 20270), (530, 20297), (532, 20303), (533, 20306), (536, 20321), (542, 20348), (545, 20366), (549, 20378), (555, 20414), (575, 20516), (587, 20579), (592, 20615), (593, 20618), (595, 20624), (599, 20639), (603, 20657), (609, 20681), (613, 20696), (614, 20699), (618, 20717), (623, 20750), (628, 20771), (638, 20828), (644, 20882), (646, 20891), (654, 20945), (662, 20972), (664, 20990), (669, 21038), (670, 21044), (675, 21116), (683, 21194), (685, 21209), (690, 21248), (697, 21272), (706, 21341), (709, 21362), (723, 21455), (742, 21584),

Gene: Jaylociraptor\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for Jaylociraptor\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (53, 16664), (58, 16703), (62, 16733), (64, 16757), (65, 16763), (66, 16784), (67, 16799), (73, 16886), (79, 16976), (80, 17012), (81, 17021), (83, 17048), (89, 17087), (90, 17096), (94, 17114), (98, 17135), (103, 17177), (104, 17186), (112, 17294), (121, 17399), (130, 17495), (138, 17561), (161, 17711), (175, 17795), (179, 17816), (190, 17858), (212, 17993), (242, 18125), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (392, 18944), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (460, 19274), (464, 19289), (465, 19292), (467, 19304), (477, 19346), (478, 19349), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (539, 19637), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (611, 19994), (613, 20000), (614, 20003), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: Jazzy4900\_24 Start: 18500, Stop: 23560, Start Num: 4

Candidate Starts for Jazzy4900\_24:

(4, 18500), (5, 18530), (8, 18584), (11, 18605), (34, 18812), (38, 18821), (40, 18824), (50, 18941), (54, 18974), (58, 19007), (63, 19046), (66, 19088), (73, 19190), (75, 19226), (79, 19280), (80, 19316), (82, 19337), (89, 19391), (109, 19523), (110, 19535), (111, 19544), (114, 19580), (130, 19757), (135, 19790), (143, 19862), (147, 19895), (148, 19898), (163, 19982), (195, 20207), (198, 20243), (200, 20267), (203, 20279), (219, 20405), (249, 20573), (266, 20726), (267, 20729), (284, 20852), (285, 20858), (292, 20909), (296, 20972), (299, 21026), (302, 21056), (313, 21128), (318, 21158), (320, 21167), (324, 21182), (332, 21227), (338, 21248), (340, 21254), (346, 21299), (366, 21386), (371, 21428), (383, 21503), (398, 21572), (409, 21635), (412, 21665), (422, 21713), (425, 21722), (439, 21782), (459, 21878), (467, 21911), (469, 21920), (472, 21932), (473, 21935), (477, 21953), (482, 21974), (488, 22004), (489, 22013), (490, 22040), (497, 22070), (503, 22091), (514, 22136), (521, 22163), (525, 22181), (542, 22259), (551, 22307), (552, 22310), (560, 22346), (566, 22388), (573, 22418), (574, 22421), (578, 22445), (580, 22451), (581, 22460), (597, 22541), (609, 22592), (614, 22610), (620, 22643), (621, 22646), (632, 22712), (644, 22793), (660, 22922), (664, 22967), (672, 23057), (680, 23138), (681, 23147), (683, 23171), (689, 23216), (692, 23234), (697, 23249), (706, 23318), (726, 23429),

Gene: Kardashian\_22 Start: 16096, Stop: 21585, Start Num: 2

Candidate Starts for Kardashian\_22:

(1, 16075), (Start: 2 @16096 has 30 MA's), (3, 16126), (13, 16270), (21, 16354), (28, 16405), (53, 16612), (62, 16681), (73, 16834), (75, 16870), (80, 16960), (89, 17035), (98, 17083), (103, 17125), (120, 17317), (125, 17383), (138, 17512), (150, 17593), (161, 17662), (176, 17755), (192, 17818), (196, 17845), (216, 17968), (243, 18085), (244, 18088), (246, 18097), (260, 18175), (264, 18205), (282, 18277), (289, 18292), (299, 18367), (307, 18430), (308, 18436), (311, 18445), (318, 18499), (335, 18577), (336, 18580), (355, 18691), (366, 18727), (369, 18745), (380, 18817), (386, 18856), (396, 18898), (404, 18949), (411, 18994), (427, 19072), (444, 19135), (446, 19141), (451, 19165), (452, 19174), (458, 19207), (459, 19210), (490, 19372), (491, 19375), (492, 19378), (494, 19393), (500, 19414), (503, 19423), (518, 19483), (522, 19498), (525, 19513), (532, 19546), (534, 19558), (537, 19567), (546, 19612), (549, 19621), (554, 19654), (555, 19657), (559, 19675), (580, 19783), (594, 19864), (596, 19870), (607, 19915), (614, 19942), (619, 19969), (621, 19978), (632, 20044), (645, 20131), (646, 20134), (651, 20167), (664, 20233), (669, 20281), (670, 20287), (672, 20323), (684, 20446), (717, 20680), (736, 20806), (746, 20893), (750, 20974), (752, 20995), (757, 21037), (758, 21058), (763, 21112), (768, 21163), (772, 21211), (777, 21265), (779, 21280), (792, 21454),

Gene: Kardesai\_20 Start: 16796, Stop: 21274, Start Num: 20

Candidate Starts for Kardesai\_20:

(Start: 19 @16775 has 2 MA's), (Start: 20 @16796 has 72 MA's), (Start: 25 @16826 has 2 MA's), (33, 16880), (44, 16937), (62, 17111), (65, 17141), (72, 17222), (73, 17264), (74, 17282), (77, 17324), (82, 17411), (86, 17450), (89, 17465), (92, 17480), (98, 17513), (107, 17591), (109, 17606), (113, 17654), (115, 17669), (120, 17711), (127, 17807), (130, 17840), (135, 17873), (148, 17981), (158, 18047), (166, 18080), (167, 18089), (169, 18092), (172, 18110), (226, 18392), (234, 18416), (236, 18446), (268, 18605), (282, 18665), (299, 18794), (304, 18842), (311, 18872), (313, 18896), (315, 18908), (316, 18917), (318, 18926), (324, 18950), (332, 18995), (338, 19016), (349, 19091), (357, 19124), (366, 19154), (369, 19175), (371, 19196), (381, 19256), (382, 19262), (390, 19301), (394, 19319), (409, 19403), (412, 19433), (417, 19463), (422, 19481), (434, 19529), (440, 19553), (444, 19571), (447, 19580), (448, 19589), (450, 19595), (453, 19616), (459, 19646), (467, 19679), (468, 19685), (470, 19694), (477, 19721), (484, 19748), (489, 19781), (490, 19808), (492, 19814), (498, 19841), (503, 19859), (510, 19889), (513, 19898), (515, 19910), (517, 19916), (518, 19919), (521, 19931), (525, 19949), (530, 19976), (532, 19982), (547, 20051), (552, 20078), (555, 20093), (575, 20195), (592, 20294), (593, 20297), (595, 20303), (599, 20318), (603, 20336), (613, 20375), (614, 20378), (618, 20396), (623, 20429), (628, 20450), (638, 20507), (644, 20561), (654, 20624), (662, 20651), (664, 20669), (669, 20717), (670, 20723), (675, 20795), (683, 20873), (685, 20888), (690, 20927),



(697, 20951), (701, 20975), (706, 21020), (709, 21041), (742, 21263),

Gene: KeaneyLin\_20 Start: 17193, Stop: 21671, Start Num: 20

Candidate Starts for KeaneyLin\_20:

(Start: 19 @17172 has 2 MA's), (Start: 20 @17193 has 72 MA's), (Start: 25 @17223 has 2 MA's), (33, 17277), (44, 17334), (62, 17508), (65, 17538), (72, 17619), (73, 17661), (74, 17679), (77, 17721), (82, 17808), (89, 17862), (92, 17877), (98, 17910), (107, 17988), (109, 18003), (113, 18051), (120, 18108), (127, 18204), (130, 18237), (135, 18270), (148, 18378), (158, 18444), (166, 18477), (167, 18486), (169, 18489), (172, 18507), (226, 18789), (234, 18813), (236, 18843), (268, 19002), (282, 19062), (299, 19191), (304, 19239), (311, 19269), (313, 19293), (315, 19305), (316, 19314), (318, 19323), (324, 19347), (332, 19392), (338, 19413), (349, 19488), (353, 19509), (354, 19512), (357, 19521), (366, 19551), (371, 19593), (381, 19653), (382, 19659), (383, 19668), (391, 19701), (393, 19713), (394, 19716), (405, 19779), (409, 19800), (412, 19830), (417, 19860), (422, 19878), (434, 19926), (440, 19950), (444, 19968), (447, 19977), (453, 20013), (459, 20043), (467, 20076), (468, 20082), (469, 20085), (472, 20097), (477, 20118), (488, 20169), (489, 20178), (493, 20214), (500, 20247), (503, 20256), (510, 20286), (513, 20295), (515, 20307), (525, 20346), (530, 20373), (532, 20379), (533, 20382), (536, 20397), (542, 20424), (549, 20454), (555, 20490), (575, 20592), (587, 20655), (592, 20691), (599, 20715), (603, 20733), (613, 20772), (615, 20778), (618, 20793), (622, 20814), (623, 20826), (644, 20958), (654, 21021), (662, 21048), (664, 21066), (669, 21114), (670, 21120), (675, 21192), (683, 21270), (687, 21306), (690, 21324), (697, 21348), (701, 21372), (706, 21417), (709, 21438), (742, 21660),

Gene: Leathea\_26 Start: 18979, Stop: 23520, Start Num: 15

Candidate Starts for Leathea\_26:

(12, 18958), (Start: 15 @18979 has 5 MA's), (17, 19009), (23, 19063), (50, 19198), (61, 19282), (65, 19324), (72, 19405), (73, 19447), (77, 19507), (81, 19582), (86, 19633), (89, 19648), (92, 19663), (98, 19696), (101, 19720), (107, 19774), (109, 19789), (113, 19837), (124, 19948), (131, 20035), (135, 20056), (148, 20164), (159, 20233), (168, 20275), (177, 20335), (178, 20341), (181, 20350), (187, 20374), (205, 20473), (206, 20485), (208, 20506), (265, 20791), (282, 20860), (299, 20998), (300, 21010), (311, 21076), (313, 21100), (316, 21121), (317, 21127), (318, 21130), (324, 21154), (328, 21172), (338, 21220), (341, 21229), (344, 21262), (364, 21349), (366, 21358), (369, 21379), (381, 21460), (404, 21583), (405, 21586), (406, 21592), (408, 21604), (409, 21607), (439, 21751), (440, 21754), (452, 21811), (459, 21847), (467, 21880), (469, 21889), (472, 21901), (484, 21949), (488, 21973), (489, 21982), (494, 22030), (500, 22051), (503, 22060), (517, 22117), (518, 22120), (521, 22132), (525, 22150), (544, 22237), (545, 22246), (546, 22249), (547, 22252), (550, 22270), (564, 22339), (568, 22372), (569, 22375), (572, 22384), (575, 22396), (590, 22486), (599, 22519), (603, 22537), (605, 22546), (609, 22561), (610, 22564), (638, 22708), (644, 22762), (647, 22774), (652, 22813), (660, 22891), (664, 22936), (681, 23116), (683, 23140), (686, 23164), (694, 23209), (697, 23215), (703, 23254), (706, 23284), (716, 23362), (718, 23371), (734, 23452),

Gene: Lewando\_29 Start: 20912, Stop: 25555, Start Num: 15

Candidate Starts for Lewando\_29:

(12, 20891), (Start: 15 @20912 has 5 MA's), (17, 20942), (23, 20996), (26, 21017), (30, 21053), (50, 21221), (51, 21230), (57, 21281), (65, 21347), (66, 21368), (73, 21470), (74, 21488), (77, 21530), (81, 21605), (82, 21617), (89, 21671), (92, 21686), (98, 21719), (107, 21797), (109, 21812), (118, 21902), (124, 21971), (135, 22079), (141, 22133), (148, 22187), (159, 22256), (168, 22298), (177, 22358), (178, 22364), (181, 22373), (186, 22388), (187, 22397), (205, 22496), (206, 22508), (208, 22529), (252, 22736), (256, 22760), (265, 22814), (282, 22883), (299, 23024), (309, 23096), (311, 23102), (316, 23147), (317, 23153), (318, 23156), (324, 23180), (328, 23198), (337, 23243), (338, 23246), (340, 23252), (341, 23255), (344, 23288), (347, 23306), (360, 23363), (366, 23384), (369, 23405), (376, 23453), (381, 23486), (383, 23501), (397, 23561), (406, 23618), (414, 23678), (439, 23777), (440, 23780), (452, 23837), (456, 23864), (459, 23873), (467, 23906), (469, 23915), (472, 23927), (477, 23948), (488, 23999), (489, 24008), (494, 24056), (500, 24077), (502, 24083), (503, 24086),

(518, 24146), (525, 24176), (527, 24185), (545, 24272), (546, 24275), (547, 24278), (550, 24296), (553, 24311), (557, 24326), (564, 24365), (568, 24398), (569, 24401), (570, 24404), (572, 24410), (575, 24422), (599, 24545), (603, 24563), (625, 24665), (638, 24734), (644, 24788), (660, 24917), (664, 24962), (671, 25031), (683, 25166), (686, 25190), (694, 25235), (697, 25241), (703, 25280), (706, 25310), (709, 25328),

Gene: LibertyBell\_21 Start: 14934, Stop: 20459, Start Num: 2

Candidate Starts for LibertyBell\_21:

(1, 14913), (Start: 2 @14934 has 30 MA's), (3, 14964), (4, 14988), (31, 15264), (35, 15306), (37, 15309), (41, 15339), (58, 15552), (73, 15735), (80, 15861), (83, 15897), (89, 15936), (96, 15969), (98, 15984), (103, 16026), (120, 16218), (121, 16251), (135, 16380), (161, 16563), (162, 16569), (176, 16656), (192, 16719), (215, 16866), (229, 16899), (241, 16968), (246, 16998), (251, 17022), (264, 17106), (268, 17118), (282, 17178), (294, 17214), (299, 17268), (308, 17337), (317, 17397), (318, 17400), (332, 17469), (336, 17481), (364, 17619), (366, 17628), (369, 17646), (396, 17799), (414, 17919), (419, 17940), (422, 17952), (427, 17973), (428, 17976), (439, 18015), (446, 18042), (449, 18057), (451, 18066), (452, 18075), (458, 18108), (459, 18111), (480, 18195), (490, 18273), (491, 18276), (492, 18279), (494, 18294), (499, 18309), (500, 18315), (501, 18318), (503, 18324), (518, 18384), (522, 18399), (525, 18414), (532, 18447), (536, 18465), (545, 18510), (546, 18513), (552, 18543), (554, 18555), (555, 18558), (559, 18576), (573, 18651), (580, 18684), (587, 18723), (592, 18759), (598, 18780), (608, 18822), (612, 18837), (615, 18846), (617, 18858), (619, 18870), (621, 18879), (623, 18894), (628, 18915), (664, 19134), (684, 19347), (717, 19581), (736, 19707), (748, 19836), (755, 19932), (757, 19938), (758, 19959), (768, 20064), (771, 20103), (773, 20121), (777, 20166), (783, 20211), (788, 20307),

Gene: LilHuddy\_27 Start: 20332, Stop: 24921, Start Num: 20

Candidate Starts for LilHuddy\_27:

(Start: 19 @20311 has 2 MA's), (Start: 20 @20332 has 72 MA's), (Start: 25 @20362 has 2 MA's), (33, 20416), (57, 20611), (61, 20635), (62, 20647), (65, 20677), (72, 20758), (73, 20800), (74, 20818), (77, 20860), (79, 20890), (81, 20935), (82, 20947), (89, 21001), (92, 21016), (93, 21022), (98, 21049), (105, 21112), (107, 21127), (109, 21142), (112, 21175), (113, 21190), (119, 21238), (127, 21343), (135, 21409), (142, 21478), (148, 21517), (151, 21526), (155, 21541), (158, 21583), (159, 21586), (170, 21637), (193, 21751), (201, 21808), (214, 21880), (221, 21919), (228, 21946), (235, 21988), (253, 22084), (270, 22186), (271, 22192), (282, 22228), (299, 22375), (300, 22387), (305, 22429), (306, 22432), (313, 22477), (316, 22498), (318, 22507), (319, 22510), (324, 22531), (338, 22597), (339, 22600), (360, 22714), (366, 22735), (368, 22753), (369, 22756), (383, 22852), (385, 22864), (409, 22984), (412, 23014), (425, 23071), (434, 23107), (437, 23116), (439, 23128), (444, 23149), (447, 23158), (457, 23218), (466, 23251), (468, 23263), (469, 23266), (471, 23278), (479, 23305), (482, 23320), (484, 23326), (485, 23329), (488, 23350), (489, 23359), (500, 23428), (503, 23437), (513, 23476), (525, 23527), (547, 23629), (551, 23653), (552, 23656), (559, 23689), (560, 23692), (561, 23695), (562, 23698), (569, 23752), (570, 23755), (576, 23776), (593, 23875), (601, 23905), (604, 23917), (607, 23929), (611, 23947), (614, 23956), (615, 23959), (641, 24115), (644, 24139), (646, 24148), (655, 24211), (658, 24226), (664, 24313), (666, 24325), (670, 24367), (678, 24451), (683, 24517), (686, 24541), (695, 24586), (696, 24589), (697, 24592), (707, 24661), (708, 24664), (710, 24688), (737, 24871),

Gene: Linda\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for Linda\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118),

(286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (590, 20750), (591, 20756), (593, 20762), (595, 20768), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605), (730, 21683),

Gene: Loretta\_26 Start: 19877, Stop: 24463, Start Num: 20

Candidate Starts for Loretta\_26:

(Start: 19 @19856 has 2 MA's), (Start: 20 @19877 has 72 MA's), (Start: 25 @19907 has 2 MA's), (33, 19961), (44, 20018), (48, 20066), (57, 20156), (62, 20192), (65, 20222), (73, 20345), (77, 20405), (81, 20480), (89, 20546), (92, 20561), (98, 20594), (107, 20672), (109, 20687), (111, 20708), (112, 20720), (116, 20765), (120, 20792), (123, 20837), (127, 20888), (130, 20921), (135, 20954), (151, 21071), (157, 21119), (158, 21128), (180, 21245), (184, 21257), (185, 21260), (222, 21467), (235, 21527), (253, 21623), (261, 21677), (270, 21725), (271, 21731), (282, 21767), (299, 21911), (306, 21968), (308, 21980), (316, 22034), (318, 22043), (319, 22046), (324, 22067), (325, 22070), (333, 22115), (338, 22133), (349, 22208), (350, 22211), (352, 22223), (360, 22250), (366, 22271), (368, 22289), (369, 22292), (371, 22313), (381, 22373), (383, 22388), (384, 22391), (389, 22415), (390, 22418), (391, 22421), (397, 22448), (400, 22472), (401, 22484), (412, 22550), (414, 22565), (415, 22568), (419, 22586), (420, 22592), (421, 22595), (422, 22598), (434, 22643), (435, 22646), (437, 22652), (439, 22664), (444, 22685), (454, 22739), (455, 22742), (462, 22769), (468, 22799), (472, 22817), (475, 22826), (477, 22838), (482, 22859), (488, 22889), (489, 22898), (494, 22946), (497, 22955), (499, 22961), (503, 22976), (505, 22982), (510, 23006), (513, 23015), (524, 23057), (525, 23066), (533, 23102), (542, 23144), (545, 23162), (547, 23168), (551, 23192), (559, 23228), (568, 23288), (580, 23336), (581, 23345), (587, 23375), (601, 23444), (611, 23486), (614, 23495), (640, 23642), (641, 23654), (647, 23690), (658, 23765), (660, 23807), (664, 23852), (666, 23864), (670, 23906), (683, 24056), (686, 24080), (695, 24125), (696, 24128), (697, 24131), (701, 24155), (703, 24170), (707, 24200), (710, 24227), (739, 24422), (741, 24440),

Gene: Madamoto\_23 Start: 16133, Stop: 21622, Start Num: 2

Candidate Starts for Madamoto\_23:

(1, 16112), (Start: 2 @16133 has 30 MA's), (3, 16163), (13, 16307), (27, 16433), (43, 16517), (50, 16610), (51, 16619), (58, 16676), (62, 16706), (65, 16736), (66, 16757), (73, 16859), (80, 16985), (89, 17060), (98, 17108), (103, 17150), (120, 17339), (138, 17534), (145, 17594), (146, 17597), (151, 17618), (161, 17684), (190, 17831), (212, 17966), (243, 18107), (251, 18143), (252, 18152), (259, 18194), (264, 18227), (268, 18239), (278, 18290), (297, 18383), (299, 18404), (308, 18473), (310, 18479), (316, 18527), (318, 18536), (324, 18560), (332, 18605), (335, 18614), (336, 18617), (338, 18626), (355, 18728), (360, 18743), (366, 18764), (371, 18803), (373, 18809), (396, 18935), (404, 18986), (412, 19040), (427, 19109), (428, 19112), (440, 19154), (446, 19178), (451, 19202), (452, 19211), (459, 19247), (465, 19268), (488, 19373), (490, 19409), (492, 19415), (503, 19460), (525, 19550), (528, 19565), (532, 19583), (539, 19613), (542, 19628), (544, 19637), (549, 19658), (552, 19679), (554, 19691), (559, 19712), (573, 19787), (580, 19820), (593, 19898), (607, 19952), (611, 19970), (614, 19979), (621, 20015), (624, 20036), (654, 20225), (664, 20270), (684, 20483), (727, 20756), (757, 21074), (758, 21095), (761, 21143), (763, 21149), (764, 21155), (768, 21200), (772, 21248), (778, 21308), (782, 21338), (785, 21377), (794, 21566), (795, 21575),

Gene: Makai\_26 Start: 20118, Stop: 24710, Start Num: 20

Candidate Starts for Makai\_26:

(Start: 19 @20097 has 2 MA's), (Start: 20 @20118 has 72 MA's), (Start: 25 @20148 has 2 MA's), (33, 20202), (44, 20259), (50, 20337), (57, 20397), (61, 20421), (65, 20463), (73, 20586), (74, 20604), (77, 20646), (81, 20721), (82, 20733), (86, 20772), (89, 20787), (92, 20802), (98, 20835), (107, 20913), (109, 20928), (116, 21006), (124, 21087), (135, 21195), (151, 21312), (153, 21318), (175, 21462), (176, 21471), (193, 21537), (235, 21774), (246, 21834), (252, 21867), (253, 21870), (270, 21972), (271, 21978), (282, 22014), (299, 22158), (304, 22206), (305, 22212), (306, 22215), (313, 22260), (316, 22281), (318, 22290), (319, 22293), (324, 22314), (325, 22317), (338, 22380), (339, 22383), (360, 22497), (366, 22518), (368, 22536), (369, 22539), (377, 22590), (381, 22620), (383, 22635), (385, 22647), (407, 22758), (409, 22767), (412, 22797), (433, 22887), (434, 22890), (437, 22899), (439, 22911), (444, 22932), (448, 22950), (454, 22986), (459, 23007), (467, 23040), (480, 23097), (488, 23139), (489, 23148), (494, 23196), (500, 23217), (503, 23226), (510, 23256), (525, 23316), (533, 23352), (540, 23388), (550, 23436), (560, 23481), (562, 23487), (565, 23508), (568, 23538), (580, 23586), (587, 23625), (588, 23628), (611, 23736), (614, 23745), (620, 23778), (636, 23868), (643, 23916), (655, 24000), (664, 24102), (666, 24114), (670, 24156), (680, 24273), (681, 24282), (686, 24330), (695, 24375), (697, 24381), (707, 24450), (710, 24477), (737, 24660),

Gene: Maya\_23 Start: 16174, Stop: 21660, Start Num: 2

Candidate Starts for Maya\_23:

(1, 16153), (Start: 2 @16174 has 30 MA's), (3, 16204), (13, 16348), (43, 16558), (53, 16678), (58, 16717), (62, 16747), (64, 16771), (65, 16777), (66, 16798), (67, 16813), (73, 16900), (79, 16990), (80, 17026), (81, 17035), (83, 17062), (89, 17101), (90, 17110), (94, 17128), (98, 17149), (103, 17191), (104, 17200), (112, 17308), (121, 17413), (130, 17509), (138, 17575), (161, 17725), (175, 17809), (179, 17830), (190, 17872), (212, 18007), (242, 18139), (243, 18148), (251, 18184), (252, 18193), (259, 18235), (264, 18268), (270, 18298), (297, 18421), (299, 18442), (307, 18505), (308, 18511), (310, 18517), (313, 18544), (316, 18565), (317, 18571), (318, 18574), (324, 18598), (332, 18643), (335, 18652), (336, 18655), (338, 18664), (349, 18739), (355, 18766), (361, 18784), (366, 18802), (369, 18820), (371, 18841), (380, 18892), (392, 18958), (396, 18973), (410, 19060), (412, 19078), (416, 19105), (442, 19198), (451, 19240), (452, 19249), (459, 19285), (460, 19288), (464, 19303), (465, 19306), (467, 19318), (477, 19360), (478, 19363), (488, 19411), (490, 19447), (492, 19453), (496, 19474), (503, 19498), (510, 19528), (525, 19588), (532, 19621), (533, 19624), (536, 19639), (539, 19651), (544, 19675), (552, 19717), (554, 19729), (555, 19732), (565, 19780), (568, 19810), (573, 19825), (580, 19858), (582, 19873), (593, 19936), (611, 20008), (613, 20014), (614, 20017), (621, 20053), (632, 20119), (645, 20206), (646, 20209), (664, 20308), (669, 20356), (670, 20362), (684, 20521), (727, 20794), (731, 20830), (740, 20896), (749, 21019), (757, 21112), (758, 21133), (761, 21181), (763, 21187), (764, 21193), (768, 21238), (778, 21346), (780, 21367), (785, 21415), (790, 21502), (794, 21604), (795, 21613),

Gene: MediumFry\_24 Start: 19326, Stop: 23909, Start Num: 20

Candidate Starts for MediumFry\_24:

(Start: 19 @19305 has 2 MA's), (Start: 20 @19326 has 72 MA's), (Start: 25 @19356 has 2 MA's), (33, 19410), (44, 19467), (48, 19515), (62, 19641), (65, 19671), (72, 19752), (73, 19794), (74, 19812), (77, 19854), (79, 19884), (81, 19929), (82, 19941), (89, 19995), (92, 20010), (93, 20016), (98, 20043), (105, 20106), (107, 20121), (109, 20136), (112, 20169), (113, 20184), (114, 20193), (119, 20232), (127, 20337), (142, 20472), (148, 20511), (151, 20520), (154, 20529), (159, 20580), (160, 20583), (184, 20706), (185, 20709), (193, 20745), (223, 20922), (230, 20943), (235, 20976), (253, 21072), (261, 21126), (270, 21174), (271, 21180), (282, 21216), (299, 21363), (313, 21465), (316, 21486), (318, 21495), (319, 21498), (324, 21519), (325, 21522), (338, 21585), (349, 21660), (352, 21675), (358, 21696), (360, 21702), (366, 21723), (369, 21744), (371, 21765), (381, 21825), (383, 21840), (384, 21843), (389, 21867), (390, 21870), (412, 22002), (414, 22017), (415, 22020), (419, 22038), (420, 22044), (422, 22050), (434, 22095), (435, 22098), (437, 22104), (440, 22119), (444, 22137), (449, 22158), (454, 22191), (455, 22194), (459, 22212), (472, 22269), (475, 22278), (477, 22290), (482, 22311), (484, 22317), (485, 22320), (488, 22341), (489, 22350), (495, 22401), (497, 22407),

(500, 22419), (503, 22428), (511, 22461), (525, 22518), (540, 22590), (541, 22593), (542, 22596), (545, 22614), (547, 22620), (551, 22644), (559, 22680), (561, 22686), (563, 22701), (568, 22740), (580, 22788), (587, 22827), (593, 22866), (601, 22896), (611, 22938), (614, 22947), (639, 23085), (640, 23094), (641, 23106), (647, 23142), (660, 23259), (661, 23280), (666, 23316), (670, 23358), (675, 23430), (686, 23532), (695, 23577), (697, 23583), (707, 23652), (710, 23679), (737, 23859), (739, 23868),

Gene: Meibysrarus\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for Meibysrarus\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (53, 16664), (58, 16703), (62, 16733), (64, 16757), (65, 16763), (66, 16784), (67, 16799), (73, 16886), (79, 16976), (80, 17012), (81, 17021), (83, 17048), (89, 17087), (90, 17096), (94, 17114), (98, 17135), (103, 17177), (104, 17186), (112, 17294), (121, 17399), (130, 17495), (138, 17561), (161, 17711), (175, 17795), (190, 17858), (212, 17993), (229, 18047), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (270, 18284), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (392, 18944), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (460, 19274), (464, 19289), (465, 19292), (467, 19304), (477, 19346), (478, 19349), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (539, 19637), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (611, 19994), (613, 20000), (614, 20003), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: Michelle\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for Michelle\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (221, 18827), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (340, 19490), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: Miek\_21 Start: 15072, Stop: 20549, Start Num: 2

Candidate Starts for Miek\_21:

(Start: 2 @15072 has 30 MA's), (3, 15102), (7, 15183), (9, 15213), (10, 15216), (13, 15246), (73, 15798), (80, 15924), (87, 15987), (89, 15999), (97, 16041), (103, 16089), (108, 16173), (120, 16281),

(135, 16443), (138, 16476), (147, 16548), (161, 16626), (190, 16773), (251, 17085), (252, 17094), (263, 17157), (299, 17331), (303, 17373), (308, 17400), (311, 17409), (318, 17463), (324, 17487), (336, 17544), (356, 17658), (366, 17691), (371, 17730), (379, 17772), (380, 17781), (385, 17817), (396, 17862), (404, 17913), (410, 17949), (412, 17967), (417, 17997), (427, 18036), (428, 18039), (439, 18078), (440, 18081), (447, 18108), (451, 18129), (452, 18138), (458, 18171), (459, 18174), (465, 18195), (480, 18258), (490, 18336), (492, 18342), (500, 18378), (501, 18381), (502, 18384), (503, 18387), (518, 18447), (520, 18456), (525, 18477), (531, 18507), (532, 18510), (545, 18573), (546, 18576), (547, 18579), (555, 18621), (559, 18639), (565, 18669), (573, 18714), (575, 18723), (580, 18747), (592, 18822), (594, 18828), (607, 18879), (614, 18906), (617, 18921), (619, 18933), (621, 18942), (625, 18966), (637, 19032), (645, 19095), (650, 19119), (664, 19197), (669, 19245), (672, 19287), (684, 19410), (704, 19527), (717, 19644), (732, 19725), (736, 19770), (744, 19815), (757, 20001), (758, 20022), (759, 20034), (763, 20076), (768, 20127), (772, 20175), (776, 20214), (782, 20265), (789, 20388), (793, 20427),

Gene: MiniBagel\_26 Start: 21214, Stop: 25803, Start Num: 20

Candidate Starts for MiniBagel\_26:

(Start: 19 @21193 has 2 MA's), (Start: 20 @21214 has 72 MA's), (Start: 25 @21244 has 2 MA's), (33, 21298), (40, 21319), (44, 21355), (57, 21493), (62, 21529), (65, 21559), (73, 21682), (74, 21700), (77, 21742), (84, 21850), (89, 21883), (92, 21898), (98, 21931), (107, 22009), (109, 22024), (111, 22045), (112, 22057), (114, 22081), (120, 22129), (127, 22225), (130, 22258), (135, 22291), (144, 22375), (151, 22408), (190, 22621), (202, 22696), (217, 22789), (222, 22804), (223, 22810), (228, 22828), (231, 22837), (235, 22870), (236, 22879), (250, 22951), (257, 22996), (270, 23068), (271, 23074), (281, 23107), (282, 23110), (288, 23137), (299, 23251), (306, 23308), (308, 23320), (316, 23374), (318, 23383), (319, 23386), (324, 23407), (332, 23452), (338, 23473), (358, 23584), (360, 23590), (366, 23611), (368, 23629), (371, 23653), (381, 23713), (383, 23728), (384, 23731), (390, 23758), (391, 23761), (397, 23788), (410, 23872), (412, 23890), (414, 23905), (415, 23908), (419, 23926), (420, 23932), (421, 23935), (425, 23947), (426, 23953), (434, 23983), (437, 23992), (444, 24025), (454, 24079), (455, 24082), (459, 24100), (469, 24142), (472, 24157), (475, 24166), (477, 24178), (489, 24238), (497, 24295), (500, 24307), (503, 24316), (513, 24355), (515, 24367), (517, 24373), (520, 24385), (524, 24397), (525, 24406), (541, 24481), (542, 24484), (545, 24502), (559, 24568), (562, 24577), (569, 24631), (570, 24634), (601, 24784), (609, 24817), (611, 24826), (616, 24841), (619, 24862), (628, 24907), (633, 24940), (639, 24973), (647, 25030), (655, 25090), (661, 25168), (664, 25192), (666, 25204), (678, 25330), (681, 25372), (686, 25420), (691, 25453), (695, 25465), (697, 25471), (700, 25492), (701, 25495), (702, 25501), (707, 25540), (710, 25567), (737, 25753), (741, 25780),

Gene: Mooshroom\_21 Start: 16796, Stop: 21274, Start Num: 20

Candidate Starts for Mooshroom\_21:

(Start: 19 @16775 has 2 MA's), (Start: 20 @16796 has 72 MA's), (Start: 25 @16826 has 2 MA's), (33, 16880), (44, 16937), (62, 17111), (65, 17141), (72, 17222), (73, 17264), (74, 17282), (77, 17324), (82, 17411), (86, 17450), (89, 17465), (92, 17480), (98, 17513), (107, 17591), (109, 17606), (113, 17654), (115, 17669), (120, 17711), (127, 17807), (130, 17840), (135, 17873), (148, 17981), (158, 18047), (166, 18080), (167, 18089), (169, 18092), (172, 18110), (226, 18392), (234, 18416), (236, 18446), (268, 18605), (282, 18665), (299, 18794), (304, 18842), (311, 18872), (313, 18896), (315, 18908), (316, 18917), (318, 18926), (324, 18950), (332, 18995), (338, 19016), (349, 19091), (357, 19124), (366, 19154), (369, 19175), (371, 19196), (381, 19256), (382, 19262), (390, 19301), (394, 19319), (409, 19403), (412, 19433), (417, 19463), (422, 19481), (434, 19529), (440, 19553), (444, 19571), (447, 19580), (448, 19589), (450, 19595), (453, 19616), (459, 19646), (467, 19679), (468, 19685), (470, 19694), (477, 19721), (484, 19748), (489, 19781), (490, 19808), (492, 19814), (498, 19841), (503, 19859), (510, 19889), (513, 19898), (515, 19910), (517, 19916), (518, 19919), (521, 19931), (525, 19949), (530, 19976), (532, 19982), (547, 20051), (552, 20078), (555, 20093), (575, 20195), (592, 20294), (593, 20297), (595, 20303), (599, 20318), (603, 20336), (613, 20375), (614, 20378), (618, 20396), (623, 20429), (628, 20450), (638, 20507), (644, 20561), (654, 20624), (662, 20651),

(664, 20669), (669, 20717), (670, 20723), (675, 20795), (683, 20873), (685, 20888), (690, 20927), (697, 20951), (701, 20975), (706, 21020), (709, 21041), (742, 21263),

Gene: Moozy\_19 Start: 13482, Stop: 18731, Start Num: 19

Candidate Starts for Moozy\_19:

(Start: 19 @13482 has 2 MA's), (Start: 20 @13503 has 72 MA's), (Start: 25 @13533 has 2 MA's), (43, 13635), (47, 13686), (58, 13794), (73, 13977), (80, 14103), (83, 14139), (89, 14178), (103, 14268), (138, 14655), (161, 14805), (166, 14829), (177, 14901), (227, 15132), (241, 15210), (243, 15228), (244, 15231), (251, 15264), (269, 15372), (287, 15432), (299, 15513), (308, 15582), (316, 15636), (335, 15723), (336, 15726), (338, 15735), (355, 15837), (366, 15873), (369, 15891), (377, 15942), (396, 16044), (398, 16056), (400, 16071), (411, 16140), (412, 16149), (417, 16179), (429, 16224), (436, 16245), (443, 16275), (446, 16287), (447, 16290), (451, 16311), (452, 16320), (459, 16356), (467, 16389), (487, 16473), (490, 16518), (491, 16521), (492, 16524), (503, 16569), (510, 16599), (522, 16644), (525, 16659), (532, 16692), (537, 16713), (539, 16722), (540, 16731), (545, 16755), (546, 16758), (549, 16767), (552, 16788), (554, 16800), (561, 16827), (566, 16866), (570, 16887), (578, 16923), (580, 16929), (607, 17061), (609, 17070), (611, 17079), (614, 17088), (615, 17091), (617, 17103), (618, 17106), (619, 17115), (621, 17124), (638, 17217), (644, 17271), (664, 17379), (667, 17394), (670, 17433), (684, 17592), (717, 17826), (731, 17901), (756, 18180), (757, 18183), (758, 18204), (761, 18252), (763, 18258), (773, 18366), (777, 18411), (780, 18438), (787, 18540), (795, 18693),

Gene: MrAaronian\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for MrAaronian\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: Mudcat\_21 Start: 19094, Stop: 23572, Start Num: 20

Candidate Starts for Mudcat\_21:

(Start: 19 @19073 has 2 MA's), (Start: 20 @19094 has 72 MA's), (Start: 25 @19124 has 2 MA's), (29, 19157), (33, 19178), (62, 19409), (65, 19439), (72, 19520), (73, 19562), (74, 19580), (77, 19622), (82, 19709), (89, 19763), (92, 19778), (98, 19811), (107, 19889), (109, 19904), (113, 19952), (115, 19967), (120, 20009), (124, 20063), (127, 20105), (128, 20108), (130, 20138), (135, 20171), (148, 20279), (158, 20345), (166, 20378), (167, 20387), (169, 20390), (172, 20408), (226, 20690), (234, 20714), (236, 20744), (268, 20903), (273, 20936), (282, 20963), (299, 21092), (311, 21170), (316, 21215), (318, 21224), (321, 21236), (324, 21248), (330, 21275), (332, 21293), (338, 21314), (349, 21389), (353, 21410), (354, 21413), (357, 21422), (366, 21452), (369, 21473), (371, 21494), (381, 21554), (382, 21560), (390, 21599), (391, 21602), (394, 21617), (405, 21680), (409, 21701), (412, 21731),

(417, 21761), (422, 21779), (434, 21827), (440, 21851), (444, 21869), (447, 21878), (448, 21887), (450, 21893), (453, 21914), (459, 21944), (467, 21977), (468, 21983), (469, 21986), (472, 21998), (477, 22019), (488, 22070), (489, 22079), (491, 22109), (493, 22115), (500, 22148), (503, 22157), (510, 22187), (513, 22196), (515, 22208), (525, 22247), (530, 22274), (532, 22280), (533, 22283), (536, 22298), (542, 22325), (545, 22343), (549, 22355), (555, 22391), (575, 22493), (587, 22556), (592, 22592), (593, 22595), (595, 22601), (599, 22616), (603, 22634), (609, 22658), (613, 22673), (614, 22676), (618, 22694), (623, 22727), (628, 22748), (638, 22805), (644, 22859), (646, 22868), (654, 22922), (662, 22949), (664, 22967), (669, 23015), (670, 23021), (675, 23093), (683, 23171), (685, 23186), (690, 23225), (697, 23249), (706, 23318), (709, 23339), (742, 23561),

Gene: Namo\_23 Start: 16166, Stop: 21652, Start Num: 2

Candidate Starts for Namo\_23:

(1, 16145), (Start: 2 @16166 has 30 MA's), (3, 16196), (13, 16340), (43, 16550), (52, 16667), (62, 16739), (65, 16769), (73, 16892), (80, 17018), (89, 17093), (98, 17141), (103, 17183), (120, 17372), (138, 17567), (147, 17639), (161, 17717), (179, 17822), (190, 17864), (212, 17999), (229, 18053), (243, 18140), (251, 18176), (252, 18185), (259, 18227), (264, 18260), (270, 18290), (297, 18413), (299, 18434), (307, 18497), (308, 18503), (310, 18509), (313, 18536), (316, 18557), (317, 18563), (318, 18566), (324, 18590), (332, 18635), (335, 18644), (336, 18647), (338, 18656), (349, 18731), (355, 18758), (361, 18776), (366, 18794), (369, 18812), (371, 18833), (380, 18884), (392, 18950), (396, 18965), (410, 19052), (412, 19070), (416, 19097), (441, 19187), (442, 19190), (451, 19232), (452, 19241), (459, 19277), (464, 19295), (465, 19298), (477, 19352), (478, 19355), (488, 19403), (490, 19439), (492, 19445), (496, 19466), (503, 19490), (510, 19520), (525, 19580), (532, 19613), (533, 19616), (536, 19631), (544, 19667), (552, 19709), (554, 19721), (555, 19724), (565, 19772), (568, 19802), (573, 19817), (580, 19850), (582, 19865), (593, 19928), (613, 20006), (614, 20009), (621, 20045), (632, 20111), (645, 20198), (646, 20201), (664, 20300), (669, 20348), (670, 20354), (684, 20513), (727, 20786), (731, 20822), (740, 20888), (749, 21011), (752, 21062), (757, 21104), (758, 21125), (761, 21173), (763, 21179), (764, 21185), (768, 21230), (778, 21338), (780, 21359), (785, 21407), (790, 21494), (794, 21596), (795, 21605),

Gene: NapoleonB\_21 Start: 17193, Stop: 21671, Start Num: 20

Candidate Starts for NapoleonB\_21:

(Start: 19 @17172 has 2 MA's), (Start: 20 @17193 has 72 MA's), (Start: 25 @17223 has 2 MA's), (29, 17256), (33, 17277), (62, 17508), (65, 17538), (66, 17559), (72, 17619), (73, 17661), (74, 17679), (77, 17721), (82, 17808), (89, 17862), (92, 17877), (98, 17910), (109, 18003), (113, 18051), (115, 18066), (120, 18108), (124, 18162), (130, 18237), (135, 18270), (148, 18378), (158, 18444), (166, 18477), (167, 18486), (169, 18489), (172, 18507), (226, 18789), (234, 18813), (236, 18843), (268, 19002), (282, 19062), (299, 19191), (311, 19269), (314, 19299), (316, 19314), (318, 19323), (324, 19347), (330, 19374), (332, 19392), (338, 19413), (349, 19488), (353, 19509), (357, 19521), (366, 19551), (371, 19593), (381, 19653), (382, 19659), (390, 19698), (405, 19779), (409, 19800), (412, 19830), (417, 19860), (422, 19878), (434, 19926), (440, 19950), (444, 19968), (447, 19977), (448, 19986), (450, 19992), (453, 20013), (459, 20043), (467, 20076), (468, 20082), (469, 20085), (472, 20097), (477, 20118), (488, 20169), (489, 20178), (491, 20208), (493, 20214), (500, 20247), (503, 20256), (510, 20286), (513, 20295), (515, 20307), (521, 20328), (525, 20346), (530, 20373), (532, 20379), (533, 20382), (536, 20397), (542, 20424), (545, 20442), (549, 20454), (555, 20490), (575, 20592), (587, 20655), (592, 20691), (593, 20694), (595, 20700), (599, 20715), (603, 20733), (613, 20772), (614, 20775), (618, 20793), (623, 20826), (628, 20847), (638, 20904), (644, 20958), (646, 20967), (654, 21021), (662, 21048), (664, 21066), (669, 21114), (670, 21120), (675, 21192), (683, 21270), (685, 21285), (690, 21324), (697, 21348), (706, 21417), (709, 21438), (723, 21531), (742, 21660),

Gene: Nason\_22 Start: 17670, Stop: 22148, Start Num: 20

Candidate Starts for Nason\_22:

(Start: 19 @17649 has 2 MA's), (Start: 20 @17670 has 72 MA's), (Start: 25 @17700 has 2 MA's), (29, 17733), (33, 17754), (62, 17985), (65, 18015), (72, 18096), (73, 18138), (74, 18156), (77, 18198), (82,



18285), (89, 18339), (92, 18354), (98, 18387), (109, 18480), (113, 18528), (115, 18543), (120, 18585), (124, 18639), (130, 18714), (135, 18747), (148, 18855), (158, 18921), (166, 18954), (167, 18963), (169, 18966), (172, 18984), (226, 19266), (234, 19290), (236, 19320), (268, 19479), (282, 19539), (299, 19668), (304, 19716), (313, 19770), (315, 19782), (316, 19791), (318, 19800), (324, 19824), (332, 19869), (338, 19890), (349, 19965), (357, 19998), (366, 20028), (369, 20049), (371, 20070), (381, 20130), (382, 20136), (390, 20175), (391, 20178), (394, 20193), (405, 20256), (409, 20277), (412, 20307), (417, 20337), (422, 20355), (434, 20403), (440, 20427), (444, 20445), (447, 20454), (448, 20463), (450, 20469), (453, 20490), (459, 20520), (467, 20553), (468, 20559), (469, 20562), (472, 20574), (477, 20595), (488, 20646), (489, 20655), (491, 20685), (493, 20691), (500, 20724), (503, 20733), (510, 20763), (513, 20772), (515, 20784), (525, 20823), (530, 20850), (532, 20856), (533, 20859), (536, 20874), (542, 20901), (545, 20919), (549, 20931), (555, 20967), (575, 21069), (587, 21132), (592, 21168), (593, 21171), (595, 21177), (599, 21192), (603, 21210), (609, 21234), (613, 21249), (614, 21252), (618, 21270), (623, 21303), (628, 21324), (638, 21381), (644, 21435), (646, 21444), (654, 21498), (662, 21525), (664, 21543), (669, 21591), (670, 21597), (675, 21669), (683, 21747), (685, 21762), (690, 21801), (697, 21825), (706, 21894), (709, 21915), (723, 22008), (742, 22137),

Gene: Nightmare\_27 Start: 20521, Stop: 25113, Start Num: 20

Candidate Starts for Nightmare\_27:

(Start: 19 @20500 has 2 MA's), (Start: 20 @20521 has 72 MA's), (Start: 25 @20551 has 2 MA's), (33, 20605), (40, 20626), (44, 20662), (50, 20740), (57, 20800), (61, 20824), (62, 20836), (65, 20866), (68, 20917), (72, 20947), (73, 20989), (74, 21007), (77, 21049), (79, 21079), (81, 21124), (82, 21136), (89, 21190), (92, 21205), (94, 21217), (98, 21238), (109, 21331), (112, 21364), (113, 21379), (119, 21427), (135, 21598), (150, 21712), (151, 21715), (157, 21763), (177, 21877), (184, 21901), (217, 22096), (222, 22111), (223, 22117), (228, 22135), (241, 22207), (253, 22273), (270, 22375), (271, 22381), (281, 22414), (282, 22417), (288, 22444), (299, 22561), (306, 22618), (308, 22630), (316, 22684), (318, 22693), (319, 22696), (324, 22717), (332, 22762), (338, 22783), (358, 22894), (360, 22900), (366, 22921), (368, 22939), (371, 22963), (381, 23023), (383, 23038), (384, 23041), (390, 23068), (391, 23071), (412, 23200), (414, 23215), (415, 23218), (419, 23236), (420, 23242), (421, 23245), (425, 23257), (434, 23293), (437, 23302), (444, 23335), (454, 23389), (455, 23392), (459, 23410), (463, 23422), (469, 23452), (472, 23467), (475, 23476), (477, 23488), (489, 23548), (497, 23605), (500, 23617), (503, 23626), (513, 23665), (515, 23677), (524, 23707), (525, 23716), (541, 23791), (542, 23794), (545, 23812), (559, 23878), (561, 23884), (562, 23887), (569, 23941), (570, 23944), (595, 24070), (596, 24073), (601, 24094), (609, 24127), (611, 24136), (628, 24217), (633, 24250), (639, 24283), (647, 24340), (655, 24400), (659, 24424), (664, 24502), (666, 24514), (678, 24640), (681, 24682), (686, 24730), (691, 24763), (695, 24775), (697, 24781), (700, 24802), (701, 24805), (702, 24811), (707, 24850), (710, 24877), (737, 25063), (741, 25090),

Gene: Niktson\_26 Start: 20686, Stop: 25275, Start Num: 20

Candidate Starts for Niktson\_26:

(Start: 19 @20665 has 2 MA's), (Start: 20 @20686 has 72 MA's), (Start: 25 @20716 has 2 MA's), (33, 20770), (40, 20791), (44, 20827), (50, 20905), (57, 20965), (61, 20989), (62, 21001), (65, 21031), (72, 21112), (73, 21154), (74, 21172), (77, 21214), (79, 21244), (81, 21289), (82, 21301), (89, 21355), (92, 21370), (94, 21382), (98, 21403), (109, 21496), (112, 21529), (113, 21544), (119, 21592), (131, 21742), (135, 21763), (148, 21871), (150, 21877), (151, 21880), (157, 21928), (177, 22042), (184, 22066), (187, 22081), (190, 22093), (202, 22168), (208, 22213), (217, 22261), (222, 22276), (223, 22282), (228, 22300), (241, 22372), (248, 22414), (250, 22423), (257, 22468), (270, 22540), (271, 22546), (281, 22579), (282, 22582), (288, 22609), (299, 22723), (304, 22771), (306, 22780), (308, 22792), (316, 22846), (318, 22855), (319, 22858), (324, 22879), (332, 22924), (338, 22945), (358, 23056), (360, 23062), (366, 23083), (368, 23101), (369, 23104), (371, 23125), (381, 23185), (383, 23200), (384, 23203), (390, 23230), (391, 23233), (412, 23362), (414, 23377), (415, 23380), (419, 23398), (420, 23404), (425, 23419), (434, 23455), (437, 23464), (444, 23497), (454, 23551), (455, 23554), (459, 23572), (463, 23584), (469, 23614), (472, 23629), (475, 23638), (477, 23650), (489,

23710), (495, 23761), (497, 23767), (500, 23779), (503, 23788), (513, 23827), (515, 23839), (519, 23851), (524, 23869), (525, 23878), (541, 23953), (542, 23956), (545, 23974), (559, 24040), (561, 24046), (562, 24049), (569, 24103), (570, 24106), (595, 24232), (596, 24235), (601, 24256), (609, 24289), (611, 24298), (628, 24379), (633, 24412), (639, 24445), (647, 24502), (655, 24562), (659, 24586), (664, 24664), (666, 24676), (678, 24802), (681, 24844), (686, 24892), (691, 24925), (695, 24937), (697, 24943), (700, 24964), (701, 24967), (707, 25012), (710, 25039), (712, 25066), (713, 25069), (737, 25225), (741, 25252),

Gene: Nivinsha\_26 Start: 20074, Stop: 24663, Start Num: 20

Candidate Starts for Nivinsha\_26:

(Start: 19 @20053 has 2 MA's), (Start: 20 @20074 has 72 MA's), (Start: 25 @20104 has 2 MA's), (33, 20158), (40, 20179), (44, 20215), (50, 20293), (57, 20353), (61, 20377), (62, 20389), (65, 20419), (68, 20470), (72, 20500), (73, 20542), (74, 20560), (77, 20602), (79, 20632), (81, 20677), (82, 20689), (89, 20743), (92, 20758), (94, 20770), (98, 20791), (109, 20884), (112, 20917), (113, 20932), (119, 20980), (135, 21151), (150, 21265), (151, 21268), (177, 21430), (184, 21454), (187, 21469), (190, 21481), (202, 21556), (217, 21649), (222, 21664), (223, 21670), (228, 21688), (241, 21760), (250, 21811), (253, 21826), (257, 21856), (270, 21928), (271, 21934), (281, 21967), (282, 21970), (288, 21997), (299, 22111), (306, 22168), (308, 22180), (316, 22234), (318, 22243), (319, 22246), (324, 22267), (332, 22312), (338, 22333), (344, 22375), (347, 22393), (360, 22450), (366, 22471), (369, 22492), (381, 22573), (383, 22588), (384, 22591), (390, 22618), (391, 22621), (400, 22672), (412, 22750), (414, 22765), (415, 22768), (419, 22786), (420, 22792), (422, 22798), (425, 22807), (434, 22843), (437, 22852), (444, 22885), (454, 22939), (455, 22942), (459, 22960), (463, 22972), (469, 23002), (472, 23017), (475, 23026), (477, 23038), (482, 23059), (489, 23098), (497, 23155), (500, 23167), (503, 23176), (513, 23215), (515, 23227), (524, 23257), (525, 23266), (533, 23302), (541, 23341), (542, 23344), (545, 23362), (547, 23368), (559, 23428), (562, 23437), (569, 23491), (570, 23494), (573, 23503), (595, 23620), (596, 23623), (601, 23644), (609, 23677), (610, 23680), (611, 23686), (614, 23695), (619, 23722), (628, 23767), (639, 23833), (645, 23884), (647, 23890), (655, 23950), (662, 24034), (664, 24052), (666, 24064), (680, 24223), (681, 24232), (686, 24280), (691, 24313), (695, 24325), (697, 24331), (700, 24352), (701, 24355), (702, 24361), (707, 24400), (710, 24427), (737, 24613), (741, 24640),

Gene: OlympicHelado\_23 Start: 16166, Stop: 21652, Start Num: 2

Candidate Starts for OlympicHelado\_23:

(1, 16145), (Start: 2 @16166 has 30 MA's), (3, 16196), (13, 16340), (43, 16550), (52, 16667), (62, 16739), (65, 16769), (73, 16892), (80, 17018), (89, 17093), (98, 17141), (103, 17183), (120, 17372), (138, 17567), (147, 17639), (161, 17717), (175, 17801), (179, 17822), (190, 17864), (212, 17999), (229, 18053), (243, 18140), (251, 18176), (252, 18185), (259, 18227), (264, 18260), (270, 18290), (297, 18413), (299, 18434), (307, 18497), (308, 18503), (310, 18509), (313, 18536), (316, 18557), (317, 18563), (318, 18566), (324, 18590), (332, 18635), (335, 18644), (336, 18647), (349, 18731), (355, 18758), (360, 18773), (361, 18776), (366, 18794), (369, 18812), (371, 18833), (380, 18884), (392, 18950), (396, 18965), (410, 19052), (412, 19070), (416, 19097), (442, 19190), (451, 19232), (452, 19241), (459, 19277), (464, 19295), (465, 19298), (467, 19310), (477, 19352), (478, 19355), (488, 19403), (490, 19439), (492, 19445), (496, 19466), (503, 19490), (510, 19520), (525, 19580), (532, 19613), (533, 19616), (536, 19631), (544, 19667), (552, 19709), (554, 19721), (555, 19724), (565, 19772), (568, 19802), (573, 19817), (580, 19850), (582, 19865), (593, 19928), (612, 20003), (613, 20006), (614, 20009), (621, 20045), (632, 20111), (645, 20198), (646, 20201), (664, 20300), (669, 20348), (670, 20354), (683, 20504), (684, 20513), (727, 20786), (749, 21011), (757, 21104), (758, 21125), (760, 21149), (761, 21173), (763, 21179), (764, 21185), (768, 21230), (778, 21338), (785, 21407), (790, 21494), (794, 21596), (795, 21605),

Gene: Paella\_40 Start: 29221, Stop: 33771, Start Num: 20

Candidate Starts for Paella\_40:

(Start: 20 @29221 has 72 MA's), (Start: 25 @29251 has 2 MA's), (40, 29326), (44, 29362), (50, 29440), (73, 29689), (80, 29815), (85, 29860), (86, 29875), (89, 29890), (94, 29917), (98, 29938), (101, 29962), (103, 29980), (112, 30097), (116, 30142), (119, 30160), (129, 30283), (131, 30310), (133, 30322), (136, 30343), (166, 30538), (181, 30625), (183, 30631), (193, 30673), (199, 30724), (210, 30787), (232, 30862), (233, 30871), (258, 30991), (273, 31069), (277, 31078), (299, 31246), (311, 31324), (316, 31369), (318, 31378), (324, 31402), (332, 31447), (338, 31468), (353, 31564), (364, 31597), (369, 31627), (381, 31708), (383, 31723), (384, 31726), (400, 31807), (405, 31834), (412, 31885), (416, 31912), (422, 31933), (423, 31936), (434, 31978), (454, 32074), (459, 32095), (463, 32107), (467, 32128), (469, 32137), (472, 32149), (482, 32191), (488, 32221), (489, 32230), (494, 32278), (495, 32281), (500, 32299), (503, 32308), (515, 32359), (518, 32368), (525, 32398), (533, 32434), (539, 32461), (555, 32542), (556, 32545), (570, 32626), (574, 32638), (580, 32668), (582, 32683), (584, 32692), (587, 32707), (593, 32746), (603, 32785), (607, 32800), (609, 32809), (612, 32821), (615, 32830), (616, 32833), (623, 32878), (624, 32884), (634, 32941), (638, 32956), (641, 32986), (655, 33082), (660, 33139), (664, 33184), (671, 33253), (679, 33334), (680, 33355), (683, 33388), (689, 33433), (690, 33442), (694, 33457), (697, 33463), (706, 33532), (709, 33550), (715, 33601),

Gene: Phaby\_27 Start: 20285, Stop: 24850, Start Num: 25

Candidate Starts for Phaby\_27:

(Start: 19 @20234 has 2 MA's), (Start: 20 @20255 has 72 MA's), (Start: 25 @20285 has 2 MA's), (33, 20339), (62, 20570), (65, 20600), (72, 20681), (73, 20723), (74, 20741), (77, 20783), (82, 20870), (89, 20924), (92, 20939), (93, 20945), (98, 20972), (107, 21050), (109, 21065), (112, 21098), (113, 21113), (114, 21122), (117, 21149), (119, 21161), (123, 21215), (131, 21311), (135, 21332), (151, 21449), (158, 21506), (160, 21512), (171, 21569), (186, 21641), (193, 21674), (194, 21677), (235, 21911), (252, 22004), (253, 22007), (270, 22109), (271, 22115), (282, 22151), (299, 22298), (305, 22352), (306, 22355), (316, 22421), (318, 22430), (319, 22433), (324, 22454), (330, 22481), (338, 22520), (339, 22523), (360, 22637), (366, 22658), (368, 22676), (369, 22679), (383, 22775), (385, 22787), (409, 22907), (412, 22937), (414, 22952), (425, 22994), (431, 23015), (434, 23030), (437, 23039), (439, 23051), (444, 23072), (454, 23126), (459, 23147), (467, 23180), (468, 23186), (469, 23189), (473, 23207), (474, 23210), (477, 23228), (488, 23279), (489, 23288), (496, 23342), (503, 23366), (511, 23399), (517, 23423), (525, 23456), (540, 23528), (541, 23531), (545, 23552), (550, 23576), (552, 23585), (559, 23618), (560, 23621), (562, 23627), (567, 23672), (568, 23678), (580, 23726), (601, 23834), (611, 23876), (614, 23885), (641, 24044), (644, 24068), (646, 24077), (652, 24119), (655, 24140), (658, 24155), (664, 24242), (666, 24254), (670, 24296), (678, 24380), (683, 24446), (686, 24470), (695, 24515), (697, 24521), (707, 24590), (708, 24593), (710, 24617), (737, 24800),

Gene: PherryCruz\_18 Start: 13488, Stop: 18716, Start Num: 20

Candidate Starts for PherryCruz\_18:

(Start: 19 @13467 has 2 MA's), (Start: 20 @13488 has 72 MA's), (Start: 25 @13518 has 2 MA's), (43, 13620), (47, 13671), (58, 13779), (73, 13962), (80, 14088), (83, 14124), (89, 14163), (103, 14253), (138, 14640), (161, 14790), (166, 14814), (177, 14886), (227, 15117), (241, 15195), (243, 15213), (244, 15216), (251, 15249), (269, 15357), (287, 15417), (299, 15498), (307, 15561), (308, 15567), (316, 15621), (321, 15642), (335, 15708), (336, 15711), (355, 15822), (366, 15858), (369, 15876), (377, 15927), (396, 16029), (398, 16041), (400, 16056), (411, 16125), (412, 16134), (417, 16164), (429, 16209), (436, 16230), (443, 16260), (446, 16272), (447, 16275), (451, 16296), (452, 16305), (459, 16341), (467, 16374), (486, 16455), (487, 16458), (490, 16503), (491, 16506), (492, 16509), (503, 16554), (510, 16584), (522, 16629), (525, 16644), (532, 16677), (537, 16698), (539, 16707), (540, 16716), (545, 16740), (546, 16743), (549, 16752), (552, 16773), (554, 16785), (561, 16812), (566, 16851), (570, 16872), (576, 16893), (578, 16908), (580, 16914), (607, 17046), (609, 17055), (611, 17064), (614, 17073), (615, 17076), (617, 17088), (618, 17091), (619, 17100), (621, 17109), (638, 17202), (644, 17256), (664, 17364), (667, 17379), (684, 17577), (717, 17811), (731, 17886), (756, 18165), (757, 18168), (758, 18189), (761, 18237), (763, 18243), (773, 18351), (780, 18423), (787, 18525), (795, 18678),

Gene: Popy\_23 Start: 16676, Stop: 22156, Start Num: 2

Candidate Starts for Popy\_23:

(1, 16655), (Start: 2 @16676 has 30 MA's), (3, 16706), (13, 16850), (18, 16901), (28, 16985), (43, 17060), (52, 17177), (53, 17180), (57, 17213), (62, 17249), (65, 17279), (73, 17402), (80, 17528), (83, 17564), (89, 17603), (91, 17615), (98, 17651), (103, 17693), (120, 17885), (125, 17951), (131, 18026), (135, 18047), (138, 18080), (146, 18143), (147, 18152), (161, 18230), (190, 18377), (211, 18509), (229, 18566), (242, 18644), (243, 18653), (245, 18662), (251, 18689), (262, 18764), (264, 18773), (280, 18839), (281, 18842), (293, 18881), (299, 18935), (308, 19004), (316, 19058), (324, 19091), (332, 19136), (335, 19145), (338, 19157), (349, 19232), (363, 19283), (366, 19295), (371, 19334), (377, 19364), (379, 19376), (386, 19424), (396, 19466), (403, 19514), (412, 19571), (442, 19691), (451, 19733), (452, 19742), (459, 19778), (464, 19796), (465, 19799), (467, 19811), (477, 19853), (478, 19856), (488, 19904), (490, 19940), (492, 19946), (496, 19967), (503, 19991), (525, 20081), (532, 20114), (536, 20132), (539, 20144), (540, 20153), (552, 20210), (554, 20222), (555, 20225), (559, 20243), (568, 20303), (573, 20318), (580, 20351), (582, 20366), (596, 20438), (607, 20483), (611, 20501), (614, 20510), (621, 20546), (624, 20567), (625, 20570), (654, 20756), (661, 20777), (662, 20783), (664, 20801), (665, 20804), (667, 20816), (669, 20849), (670, 20855), (683, 21005), (684, 21014), (727, 21287), (740, 21389), (757, 21605), (758, 21626), (761, 21674), (763, 21680), (764, 21686), (768, 21731), (780, 21860), (785, 21908), (794, 22100), (795, 22109),

Gene: ProfFrink\_23 Start: 17270, Stop: 21790, Start Num: 25

Candidate Starts for ProfFrink\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: Qui\_40 Start: 29221, Stop: 33771, Start Num: 20

Candidate Starts for Qui\_40:

(Start: 20 @29221 has 72 MA's), (Start: 25 @29251 has 2 MA's), (40, 29326), (44, 29362), (50, 29440), (73, 29689), (80, 29815), (85, 29860), (86, 29875), (89, 29890), (94, 29917), (98, 29938), (101, 29962), (103, 29980), (112, 30097), (116, 30142), (119, 30160), (129, 30283), (131, 30310), (133, 30322), (136, 30343), (166, 30538), (181, 30625), (183, 30631), (193, 30673), (199, 30724), (210, 30787), (232, 30862), (233, 30871), (258, 30991), (273, 31069), (277, 31078), (299, 31246), (311, 31324), (316, 31369), (318, 31378), (324, 31402), (332, 31447), (338, 31468), (353, 31564), (364, 31597), (369, 31627), (381, 31708), (383, 31723), (384, 31726), (400, 31807), (405, 31834), (412, 31885), (416, 31912), (422, 31933), (423, 31936), (434, 31978), (454, 32074), (459, 32095), (463, 32107), (467, 32128), (469, 32137), (472, 32149), (482, 32191), (488, 32221), (489, 32230), (494, 32278), (495, 32281), (500, 32299), (503, 32308), (515, 32359), (518, 32368), (525, 32398),

(533, 32434), (539, 32461), (555, 32542), (556, 32545), (570, 32626), (574, 32638), (580, 32668), (582, 32683), (584, 32692), (587, 32707), (593, 32746), (603, 32785), (607, 32800), (609, 32809), (612, 32821), (615, 32830), (616, 32833), (623, 32878), (624, 32884), (634, 32941), (638, 32956), (641, 32986), (655, 33082), (660, 33139), (664, 33184), (671, 33253), (679, 33334), (680, 33355), (683, 33388), (689, 33433), (690, 33442), (694, 33457), (697, 33463), (706, 33532), (709, 33550), (715, 33601),

Gene: Rainydai\_21 Start: 15072, Stop: 20549, Start Num: 2

Candidate Starts for Rainydai\_21:

(Start: 2 @15072 has 30 MA's), (3, 15102), (7, 15183), (9, 15213), (10, 15216), (13, 15246), (73, 15798), (80, 15924), (87, 15987), (89, 15999), (97, 16041), (103, 16089), (108, 16173), (120, 16281), (135, 16443), (138, 16476), (147, 16548), (161, 16626), (190, 16773), (251, 17085), (252, 17094), (263, 17157), (299, 17331), (303, 17373), (308, 17400), (311, 17409), (318, 17463), (324, 17487), (336, 17544), (356, 17658), (366, 17691), (371, 17730), (379, 17772), (380, 17781), (385, 17817), (396, 17862), (404, 17913), (410, 17949), (412, 17967), (417, 17997), (427, 18036), (428, 18039), (439, 18078), (440, 18081), (447, 18108), (451, 18129), (452, 18138), (458, 18171), (459, 18174), (465, 18195), (480, 18258), (490, 18336), (492, 18342), (500, 18378), (501, 18381), (502, 18384), (503, 18387), (518, 18447), (520, 18456), (525, 18477), (531, 18507), (532, 18510), (545, 18573), (546, 18576), (547, 18579), (555, 18621), (559, 18639), (565, 18669), (573, 18714), (575, 18723), (580, 18747), (592, 18822), (594, 18828), (607, 18879), (614, 18906), (617, 18921), (619, 18933), (621, 18942), (625, 18966), (637, 19032), (645, 19095), (650, 19119), (664, 19197), (669, 19245), (672, 19287), (684, 19410), (704, 19527), (717, 19644), (732, 19725), (736, 19770), (744, 19815), (757, 20001), (758, 20022), (759, 20034), (763, 20076), (768, 20127), (772, 20175), (776, 20214), (782, 20265), (789, 20388), (793, 20427),

Gene: Raunak\_23 Start: 17270, Stop: 21790, Start Num: 25

Candidate Starts for Raunak\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (311, 19340), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (572, 20648), (575, 20660), (585, 20714), (590, 20750), (593, 20762), (595, 20768), (604, 20804), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605), (730, 21683),

Gene: RavenPuff\_18 Start: 13488, Stop: 18716, Start Num: 20

Candidate Starts for RavenPuff\_18:

(Start: 19 @13467 has 2 MA's), (Start: 20 @13488 has 72 MA's), (Start: 25 @13518 has 2 MA's), (43, 13620), (47, 13671), (58, 13779), (73, 13962), (80, 14088), (83, 14124), (89, 14163), (103, 14253), (138, 14640), (161, 14790), (166, 14814), (177, 14886), (227, 15117), (241, 15195), (243, 15213), (244, 15216), (251, 15249), (269, 15357), (287, 15417), (299, 15498), (307, 15561), (308, 15567), (316, 15621), (321, 15642), (335, 15708), (336, 15711), (355, 15822), (366, 15858), (369, 15876),

(377, 15927), (396, 16029), (398, 16041), (400, 16056), (411, 16125), (412, 16134), (417, 16164), (429, 16209), (436, 16230), (443, 16260), (446, 16272), (447, 16275), (451, 16296), (452, 16305), (459, 16341), (467, 16374), (486, 16455), (487, 16458), (490, 16503), (491, 16506), (492, 16509), (503, 16554), (510, 16584), (522, 16629), (525, 16644), (532, 16677), (537, 16698), (539, 16707), (540, 16716), (545, 16740), (546, 16743), (549, 16752), (552, 16773), (554, 16785), (561, 16812), (566, 16851), (570, 16872), (576, 16893), (578, 16908), (580, 16914), (607, 17046), (609, 17055), (611, 17064), (614, 17073), (615, 17076), (617, 17088), (618, 17091), (619, 17100), (621, 17109), (638, 17202), (644, 17256), (664, 17364), (667, 17379), (684, 17577), (717, 17811), (731, 17886), (756, 18165), (757, 18168), (758, 18189), (761, 18237), (763, 18243), (773, 18351), (780, 18423), (787, 18525), (795, 18678),

Gene: Regigigas\_22 Start: 15072, Stop: 20549, Start Num: 2

Candidate Starts for Regigigas\_22:

(Start: 2 @15072 has 30 MA's), (3, 15102), (7, 15183), (9, 15213), (10, 15216), (13, 15246), (73, 15798), (80, 15924), (87, 15987), (89, 15999), (97, 16041), (103, 16089), (108, 16173), (120, 16281), (135, 16443), (138, 16476), (147, 16548), (161, 16626), (190, 16773), (251, 17085), (252, 17094), (263, 17157), (299, 17331), (303, 17373), (308, 17400), (311, 17409), (318, 17463), (324, 17487), (336, 17544), (356, 17658), (366, 17691), (371, 17730), (379, 17772), (380, 17781), (385, 17817), (396, 17862), (404, 17913), (410, 17949), (412, 17967), (417, 17997), (427, 18036), (428, 18039), (439, 18078), (440, 18081), (447, 18108), (451, 18129), (452, 18138), (458, 18171), (459, 18174), (465, 18195), (480, 18258), (490, 18336), (492, 18342), (500, 18378), (501, 18381), (502, 18384), (503, 18387), (518, 18447), (520, 18456), (525, 18477), (531, 18507), (532, 18510), (545, 18573), (546, 18576), (547, 18579), (555, 18621), (559, 18639), (565, 18669), (573, 18714), (575, 18723), (580, 18747), (592, 18822), (594, 18828), (607, 18879), (614, 18906), (617, 18921), (619, 18933), (621, 18942), (625, 18966), (637, 19032), (645, 19095), (650, 19119), (664, 19197), (669, 19245), (672, 19287), (684, 19410), (704, 19527), (717, 19644), (732, 19725), (736, 19770), (744, 19815), (757, 20001), (758, 20022), (759, 20034), (763, 20076), (768, 20127), (772, 20175), (776, 20214), (782, 20265), (789, 20388), (793, 20427),

Gene: Renaldo\_31 Start: 21026, Stop: 25564, Start Num: 26

Candidate Starts for Renaldo\_31:

(12, 20900), (Start: 15 @20921 has 5 MA's), (17, 20951), (23, 21005), (26, 21026), (30, 21062), (50, 21230), (57, 21290), (65, 21356), (66, 21377), (73, 21479), (74, 21497), (77, 21539), (81, 21614), (82, 21626), (89, 21680), (92, 21695), (98, 21728), (107, 21806), (109, 21821), (118, 21911), (124, 21980), (141, 22142), (148, 22196), (159, 22265), (168, 22307), (177, 22367), (178, 22373), (181, 22382), (186, 22397), (187, 22406), (205, 22505), (206, 22517), (208, 22538), (252, 22745), (256, 22769), (265, 22823), (282, 22892), (299, 23033), (309, 23105), (311, 23111), (316, 23156), (317, 23162), (318, 23165), (324, 23189), (328, 23207), (337, 23252), (338, 23255), (340, 23261), (341, 23264), (344, 23297), (347, 23315), (360, 23372), (366, 23393), (369, 23414), (376, 23462), (381, 23495), (383, 23510), (397, 23570), (439, 23786), (440, 23789), (452, 23846), (454, 23861), (456, 23873), (459, 23882), (467, 23915), (469, 23924), (472, 23936), (477, 23957), (488, 24008), (489, 24017), (494, 24065), (500, 24086), (502, 24092), (503, 24095), (518, 24155), (525, 24185), (527, 24194), (545, 24281), (546, 24284), (547, 24287), (550, 24305), (553, 24320), (557, 24335), (564, 24374), (568, 24407), (569, 24410), (570, 24413), (572, 24419), (575, 24431), (599, 24554), (603, 24572), (625, 24674), (638, 24743), (644, 24797), (660, 24926), (664, 24971), (671, 25040), (683, 25175), (686, 25199), (694, 25244), (697, 25250), (703, 25289), (706, 25319),

Gene: Rima\_23 Start: 16166, Stop: 21652, Start Num: 2

Candidate Starts for Rima\_23:

(1, 16145), (Start: 2 @16166 has 30 MA's), (3, 16196), (13, 16340), (43, 16550), (52, 16667), (62, 16739), (65, 16769), (73, 16892), (80, 17018), (89, 17093), (98, 17141), (103, 17183), (120, 17372), (138, 17567), (147, 17639), (161, 17717), (179, 17822), (190, 17864), (212, 17999), (229, 18053), (243, 18140), (251, 18176), (252, 18185), (259, 18227), (264, 18260), (270, 18290), (297, 18413),

(299, 18434), (307, 18497), (308, 18503), (310, 18509), (313, 18536), (316, 18557), (317, 18563), (318, 18566), (324, 18590), (332, 18635), (335, 18644), (336, 18647), (338, 18656), (349, 18731), (355, 18758), (361, 18776), (366, 18794), (369, 18812), (371, 18833), (380, 18884), (392, 18950), (396, 18965), (410, 19052), (412, 19070), (416, 19097), (441, 19187), (442, 19190), (451, 19232), (452, 19241), (459, 19277), (464, 19295), (465, 19298), (477, 19352), (478, 19355), (488, 19403), (490, 19439), (492, 19445), (496, 19466), (503, 19490), (510, 19520), (525, 19580), (532, 19613), (533, 19616), (536, 19631), (544, 19667), (552, 19709), (554, 19721), (555, 19724), (565, 19772), (568, 19802), (573, 19817), (580, 19850), (582, 19865), (593, 19928), (613, 20006), (614, 20009), (621, 20045), (632, 20111), (645, 20198), (646, 20201), (664, 20300), (669, 20348), (670, 20354), (684, 20513), (727, 20786), (731, 20822), (740, 20888), (749, 21011), (752, 21062), (757, 21104), (758, 21125), (761, 21173), (763, 21179), (764, 21185), (768, 21230), (778, 21338), (780, 21359), (785, 21407), (790, 21494), (794, 21596), (795, 21605),

Gene: RosaAsantewaa\_19 Start: 13292, Stop: 18511, Start Num: 20

Candidate Starts for RosaAsantewaa\_19:

(Start: 19 @13271 has 2 MA's), (Start: 20 @13292 has 72 MA's), (Start: 25 @13322 has 2 MA's), (39, 13397), (42, 13403), (51, 13526), (70, 13703), (73, 13766), (80, 13892), (89, 13967), (96, 14000), (98, 14015), (103, 14057), (120, 14249), (123, 14294), (131, 14390), (138, 14444), (161, 14594), (176, 14687), (192, 14750), (242, 15008), (264, 15137), (280, 15203), (282, 15209), (295, 15257), (299, 15308), (304, 15356), (308, 15377), (318, 15440), (324, 15464), (332, 15509), (335, 15518), (357, 15638), (360, 15647), (366, 15668), (371, 15707), (388, 15803), (393, 15827), (396, 15839), (404, 15890), (411, 15935), (428, 16016), (439, 16055), (440, 16058), (444, 16076), (446, 16082), (447, 16085), (451, 16106), (452, 16115), (457, 16145), (459, 16151), (463, 16163), (490, 16313), (492, 16319), (503, 16364), (525, 16454), (526, 16460), (532, 16487), (546, 16553), (559, 16616), (572, 16688), (580, 16724), (582, 16739), (590, 16790), (611, 16874), (614, 16883), (617, 16898), (621, 16919), (622, 16922), (624, 16940), (637, 17009), (664, 17174), (668, 17198), (684, 17387), (711, 17558), (717, 17621), (731, 17696), (744, 17792), (757, 17978), (758, 17999), (763, 18053), (767, 18095), (769, 18116), (770, 18137), (774, 18173), (775, 18182), (776, 18191), (780, 18233), (786, 18305), (791, 18392),

Gene: Salk\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for Salk\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (590, 20750), (591, 20756), (593, 20762), (595, 20768), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605), (730, 21683),

Gene: Scap1\_19 Start: 13425, Stop: 18671, Start Num: 19

Candidate Starts for Scap1\_19:

(Start: 19 @13425 has 2 MA's), (Start: 20 @13446 has 72 MA's), (Start: 25 @13476 has 2 MA's), (47, 13629), (55, 13716), (58, 13737), (61, 13755), (68, 13848), (73, 13920), (80, 14046), (83, 14082), (89, 14121), (91, 14133), (101, 14193), (103, 14211), (123, 14448), (138, 14598), (161, 14748), (166, 14772), (189, 14889), (227, 15075), (235, 15123), (243, 15171), (251, 15207), (252, 15216), (280, 15357), (282, 15363), (299, 15456), (308, 15525), (318, 15588), (322, 15603), (324, 15612), (325, 15615), (336, 15669), (344, 15720), (361, 15798), (366, 15816), (379, 15897), (396, 15987), (404, 16038), (411, 16083), (412, 16092), (417, 16122), (429, 16167), (436, 16188), (439, 16203), (446, 16230), (447, 16233), (451, 16254), (452, 16263), (459, 16299), (490, 16461), (492, 16467), (500, 16503), (503, 16512), (510, 16542), (515, 16563), (517, 16569), (520, 16581), (522, 16587), (525, 16602), (532, 16635), (537, 16656), (539, 16665), (540, 16674), (546, 16701), (552, 16731), (554, 16743), (555, 16746), (573, 16839), (580, 16872), (582, 16887), (609, 17013), (611, 17022), (614, 17031), (615, 17034), (617, 17046), (621, 17067), (622, 17070), (640, 17178), (662, 17304), (664, 17322), (684, 17535), (688, 17565), (704, 17652), (725, 17796), (735, 17877), (745, 17973), (757, 18126), (758, 18147), (765, 18231), (770, 18285), (772, 18300), (778, 18360), (780, 18381), (781, 18384), (784, 18420), (786, 18453), (795, 18633),

Gene: ScienceWizSam\_28 Start: 20475, Stop: 25064, Start Num: 20

Candidate Starts for ScienceWizSam\_28:

(Start: 19 @20454 has 2 MA's), (Start: 20 @20475 has 72 MA's), (Start: 25 @20505 has 2 MA's), (33, 20559), (40, 20580), (44, 20616), (50, 20694), (57, 20754), (61, 20778), (62, 20790), (65, 20820), (68, 20871), (72, 20901), (73, 20943), (74, 20961), (77, 21003), (79, 21033), (81, 21078), (82, 21090), (89, 21144), (92, 21159), (94, 21171), (98, 21192), (109, 21285), (112, 21318), (113, 21333), (119, 21381), (124, 21444), (135, 21552), (150, 21666), (151, 21669), (157, 21717), (177, 21831), (184, 21855), (187, 21870), (190, 21882), (217, 22050), (222, 22065), (223, 22071), (228, 22089), (241, 22161), (250, 22212), (253, 22227), (257, 22257), (270, 22329), (271, 22335), (275, 22353), (281, 22368), (282, 22371), (288, 22398), (299, 22512), (306, 22569), (308, 22581), (316, 22635), (318, 22644), (319, 22647), (324, 22668), (332, 22713), (338, 22734), (344, 22776), (347, 22794), (360, 22851), (366, 22872), (369, 22893), (381, 22974), (383, 22989), (384, 22992), (390, 23019), (391, 23022), (400, 23073), (412, 23151), (414, 23166), (415, 23169), (419, 23187), (420, 23193), (422, 23199), (425, 23208), (434, 23244), (435, 23247), (437, 23253), (438, 23259), (444, 23286), (454, 23340), (455, 23343), (459, 23361), (463, 23373), (469, 23403), (472, 23418), (475, 23427), (477, 23439), (482, 23460), (489, 23499), (497, 23556), (500, 23568), (503, 23577), (513, 23616), (515, 23628), (524, 23658), (525, 23667), (541, 23742), (542, 23745), (545, 23763), (547, 23769), (559, 23829), (560, 23832), (562, 23838), (565, 23859), (569, 23892), (570, 23895), (595, 24021), (596, 24024), (601, 24045), (609, 24078), (610, 24081), (611, 24087), (614, 24096), (619, 24123), (628, 24168), (639, 24234), (645, 24285), (647, 24291), (655, 24351), (659, 24375), (662, 24435), (664, 24453), (666, 24465), (680, 24624), (681, 24633), (686, 24681), (691, 24714), (695, 24726), (697, 24732), (700, 24753), (701, 24756), (702, 24762), (707, 24801), (710, 24828), (737, 25014), (741, 25041),

Gene: SendItCS\_20 Start: 15072, Stop: 20549, Start Num: 2

Candidate Starts for SendItCS\_20:

(Start: 2 @15072 has 30 MA's), (3, 15102), (7, 15183), (9, 15213), (10, 15216), (13, 15246), (73, 15798), (80, 15924), (87, 15987), (89, 15999), (97, 16041), (103, 16089), (108, 16173), (120, 16281), (135, 16443), (138, 16476), (147, 16548), (161, 16626), (190, 16773), (251, 17085), (252, 17094), (263, 17157), (299, 17331), (303, 17373), (308, 17400), (311, 17409), (318, 17463), (324, 17487), (336, 17544), (356, 17658), (366, 17691), (371, 17730), (379, 17772), (380, 17781), (385, 17817), (396, 17862), (404, 17913), (410, 17949), (412, 17967), (417, 17997), (427, 18036), (428, 18039), (439, 18078), (440, 18081), (447, 18108), (451, 18129), (452, 18138), (458, 18171), (459, 18174), (465, 18195), (480, 18258), (490, 18336), (492, 18342), (500, 18378), (501, 18381), (502, 18384), (503, 18387), (518, 18447), (520, 18456), (525, 18477), (531, 18507), (532, 18510), (545, 18573), (546, 18576), (547, 18579), (555, 18621), (559, 18639), (565, 18669), (573, 18714), (575, 18723), (580, 18747), (592, 18822), (594, 18828), (607, 18879), (614, 18906), (617, 18921), (619, 18933), (621, 18942), (625, 18966), (637, 19032), (645, 19095), (650, 19119), (664, 19197), (669, 19245),



(672, 19287), (684, 19410), (704, 19527), (717, 19644), (732, 19725), (736, 19770), (744, 19815), (757, 20001), (758, 20022), (759, 20034), (763, 20076), (768, 20127), (772, 20175), (776, 20214), (782, 20265), (789, 20388), (793, 20427),

Gene: Serenabean\_24 Start: 18537, Stop: 23141, Start Num: 20

Candidate Starts for Serenabean\_24:

(Start: 20 @18537 has 72 MA's), (Start: 25 @18570 has 2 MA's), (40, 18645), (45, 18693), (47, 18717), (56, 18807), (58, 18825), (60, 18837), (65, 18882), (69, 18939), (73, 19005), (77, 19065), (85, 19176), (89, 19206), (92, 19221), (108, 19344), (109, 19347), (111, 19368), (113, 19395), (120, 19452), (123, 19497), (126, 19542), (134, 19611), (136, 19626), (138, 19647), (141, 19668), (164, 19809), (167, 19830), (172, 19851), (180, 19905), (205, 20043), (213, 20094), (225, 20139), (279, 20445), (282, 20463), (299, 20607), (302, 20637), (316, 20730), (317, 20736), (318, 20739), (321, 20751), (330, 20790), (334, 20814), (345, 20877), (366, 20967), (369, 20988), (373, 21015), (379, 21051), (401, 21180), (416, 21273), (421, 21291), (430, 21324), (434, 21342), (439, 21363), (441, 21369), (444, 21384), (452, 21423), (459, 21459), (461, 21465), (467, 21492), (480, 21549), (488, 21591), (489, 21600), (490, 21627), (491, 21630), (497, 21657), (500, 21669), (503, 21678), (506, 21687), (518, 21738), (519, 21741), (525, 21768), (530, 21795), (563, 21951), (572, 22002), (580, 22038), (587, 22077), (590, 22104), (593, 22116), (598, 22134), (603, 22155), (610, 22182), (615, 22200), (623, 22248), (635, 22314), (653, 22434), (657, 22458), (658, 22467), (659, 22476), (660, 22509), (664, 22554), (670, 22608), (683, 22758), (686, 22782), (687, 22794), (689, 22803), (694, 22824), (707, 22902), (708, 22905), (716, 22977), (742, 23130),

Gene: SheRa\_19 Start: 13487, Stop: 18715, Start Num: 20

Candidate Starts for SheRa\_19:

(Start: 19 @13466 has 2 MA's), (Start: 20 @13487 has 72 MA's), (Start: 25 @13517 has 2 MA's), (43, 13619), (47, 13670), (58, 13778), (73, 13961), (80, 14087), (83, 14123), (89, 14162), (103, 14252), (138, 14639), (161, 14789), (166, 14813), (177, 14885), (227, 15116), (241, 15194), (243, 15212), (244, 15215), (251, 15248), (269, 15356), (287, 15416), (299, 15497), (308, 15566), (316, 15620), (321, 15641), (335, 15707), (336, 15710), (355, 15821), (366, 15857), (369, 15875), (377, 15926), (396, 16028), (398, 16040), (400, 16055), (411, 16124), (412, 16133), (417, 16163), (436, 16229), (443, 16259), (446, 16271), (447, 16274), (451, 16295), (452, 16304), (459, 16340), (460, 16343), (467, 16373), (487, 16457), (490, 16502), (491, 16505), (492, 16508), (503, 16553), (510, 16583), (522, 16628), (525, 16643), (532, 16676), (537, 16697), (539, 16706), (540, 16715), (545, 16739), (546, 16742), (552, 16772), (554, 16784), (566, 16850), (570, 16871), (576, 16892), (578, 16907), (580, 16913), (607, 17045), (609, 17054), (611, 17063), (614, 17072), (615, 17075), (617, 17087), (618, 17090), (619, 17099), (621, 17108), (638, 17201), (644, 17255), (664, 17363), (667, 17378), (670, 17417), (684, 17576), (717, 17810), (731, 17885), (756, 18164), (757, 18167), (758, 18188), (761, 18236), (763, 18242), (773, 18350), (780, 18422), (784, 18461), (785, 18470), (787, 18524), (795, 18677),

Gene: Shepard\_27 Start: 20329, Stop: 24918, Start Num: 20

Candidate Starts for Shepard\_27:

(Start: 19 @20308 has 2 MA's), (Start: 20 @20329 has 72 MA's), (Start: 25 @20359 has 2 MA's), (33, 20413), (57, 20608), (61, 20632), (62, 20644), (65, 20674), (72, 20755), (73, 20797), (74, 20815), (77, 20857), (79, 20887), (81, 20932), (82, 20944), (89, 20998), (92, 21013), (93, 21019), (98, 21046), (105, 21109), (107, 21124), (109, 21139), (112, 21172), (113, 21187), (119, 21235), (127, 21340), (135, 21406), (142, 21475), (148, 21514), (151, 21523), (155, 21538), (158, 21580), (159, 21583), (170, 21634), (193, 21748), (201, 21805), (214, 21877), (221, 21916), (228, 21943), (235, 21985), (253, 22081), (270, 22183), (271, 22189), (282, 22225), (299, 22372), (300, 22384), (305, 22426), (306, 22429), (313, 22474), (316, 22495), (318, 22504), (319, 22507), (324, 22528), (338, 22594), (339, 22597), (360, 22711), (366, 22732), (368, 22750), (369, 22753), (383, 22849), (385, 22861), (409, 22981), (412, 23011), (425, 23068), (434, 23104), (437, 23113), (439, 23125), (444, 23146), (447, 23155), (457, 23215), (466, 23248), (468, 23260), (469, 23263), (471, 23275), (479, 23302),

(482, 23317), (484, 23323), (485, 23326), (488, 23347), (489, 23356), (500, 23425), (503, 23434), (513, 23473), (525, 23524), (538, 23581), (547, 23626), (551, 23650), (552, 23653), (559, 23686), (560, 23689), (561, 23692), (562, 23695), (569, 23749), (570, 23752), (576, 23773), (593, 23872), (601, 23902), (604, 23914), (607, 23926), (611, 23944), (614, 23953), (615, 23956), (641, 24112), (644, 24136), (646, 24145), (655, 24208), (658, 24223), (664, 24310), (666, 24322), (670, 24364), (678, 24448), (683, 24514), (686, 24538), (695, 24583), (696, 24586), (697, 24589), (707, 24658), (708, 24661), (710, 24685), (737, 24868),

Gene: Shiba\_23 Start: 17270, Stop: 21790, Start Num: 25

Candidate Starts for Shiba\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (221, 18827), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: Sloopyjoe\_23 Start: 17241, Stop: 21791, Start Num: 20

Candidate Starts for Sloopyjoe\_23:

(Start: 19 @17220 has 2 MA's), (Start: 20 @17241 has 72 MA's), (Start: 25 @17271 has 2 MA's), (29, 17304), (50, 17460), (61, 17544), (62, 17556), (65, 17586), (72, 17667), (73, 17709), (74, 17727), (77, 17769), (79, 17799), (81, 17844), (82, 17856), (89, 17910), (92, 17925), (98, 17958), (105, 18021), (109, 18051), (112, 18084), (113, 18099), (119, 18147), (131, 18297), (135, 18318), (148, 18426), (151, 18435), (157, 18483), (183, 18618), (193, 18660), (209, 18774), (220, 18825), (223, 18837), (237, 18918), (253, 19002), (255, 19020), (262, 19065), (271, 19110), (272, 19113), (273, 19119), (286, 19152), (299, 19263), (308, 19332), (309, 19335), (315, 19377), (316, 19386), (318, 19395), (326, 19425), (332, 19464), (334, 19470), (338, 19485), (344, 19527), (366, 19623), (369, 19644), (370, 19647), (372, 19668), (381, 19725), (383, 19740), (390, 19770), (392, 19782), (398, 19809), (400, 19824), (409, 19872), (412, 19902), (414, 19917), (422, 19950), (424, 19956), (434, 19995), (437, 20004), (439, 20016), (444, 20037), (456, 20103), (459, 20112), (467, 20145), (468, 20151), (469, 20154), (472, 20166), (473, 20169), (478, 20190), (483, 20211), (489, 20247), (494, 20295), (503, 20325), (525, 20415), (538, 20472), (547, 20517), (550, 20535), (556, 20562), (558, 20571), (559, 20577), (568, 20637), (572, 20649), (575, 20661), (585, 20715), (591, 20757), (593, 20763), (595, 20769), (603, 20802), (604, 20805), (610, 20829), (611, 20835), (613, 20841), (614, 20844), (623, 20895), (626, 20907), (632, 20946), (652, 21078), (658, 21114), (660, 21156), (664, 21201), (672, 21291), (681, 21381), (683, 21405), (686, 21429), (687, 21441), (689, 21450), (691, 21462), (695, 21474), (703, 21519), (707, 21549), (709, 21567), (713, 21606), (730, 21684),

Gene: Soshi\_23 Start: 16685, Stop: 22165, Start Num: 2

Candidate Starts for Soshi\_23:

(1, 16664), (Start: 2 @16685 has 30 MA's), (3, 16715), (13, 16859), (28, 16994), (43, 17069), (52, 17186), (53, 17189), (57, 17222), (62, 17258), (65, 17288), (71, 17360), (73, 17411), (80, 17537), (83, 17573), (89, 17612), (91, 17624), (98, 17660), (103, 17702), (120, 17894), (125, 17960), (131, 18035), (135, 18056), (138, 18089), (146, 18152), (147, 18161), (161, 18239), (190, 18386), (211, 18518), (229, 18575), (242, 18653), (243, 18662), (245, 18671), (251, 18698), (262, 18773), (264, 18782), (280, 18848), (281, 18851), (293, 18890), (299, 18944), (308, 19013), (316, 19067), (324, 19100), (332, 19145), (335, 19154), (338, 19166), (349, 19241), (351, 19253), (363, 19292), (366, 19304), (371, 19343), (377, 19373), (386, 19433), (396, 19475), (403, 19523), (404, 19526), (412, 19580), (442, 19700), (451, 19742), (452, 19751), (459, 19787), (465, 19808), (467, 19820), (477, 19862), (478, 19865), (482, 19883), (488, 19913), (490, 19949), (492, 19955), (496, 19976), (503, 20000), (510, 20030), (525, 20090), (532, 20123), (536, 20141), (539, 20153), (540, 20162), (552, 20219), (554, 20231), (555, 20234), (559, 20252), (565, 20282), (568, 20312), (580, 20360), (582, 20375), (596, 20447), (607, 20492), (611, 20510), (614, 20519), (621, 20555), (624, 20576), (625, 20579), (654, 20765), (661, 20786), (662, 20792), (664, 20810), (667, 20825), (669, 20858), (670, 20864), (683, 21014), (684, 21023), (727, 21296), (728, 21305), (749, 21521), (757, 21614), (758, 21635), (761, 21683), (763, 21689), (764, 21695), (768, 21740), (785, 21917), (794, 22109), (795, 22118),

Gene: Spectropatronm\_23 Start: 16160, Stop: 21646, Start Num: 2

Candidate Starts for Spectropatronm\_23:

(1, 16139), (Start: 2 @16160 has 30 MA's), (3, 16190), (13, 16334), (43, 16544), (53, 16664), (58, 16703), (62, 16733), (64, 16757), (65, 16763), (66, 16784), (67, 16799), (73, 16886), (79, 16976), (80, 17012), (81, 17021), (83, 17048), (89, 17087), (90, 17096), (94, 17114), (98, 17135), (103, 17177), (104, 17186), (112, 17294), (121, 17399), (130, 17495), (138, 17561), (161, 17711), (175, 17795), (179, 17816), (190, 17858), (212, 17993), (242, 18125), (243, 18134), (251, 18170), (252, 18179), (259, 18221), (264, 18254), (297, 18407), (299, 18428), (307, 18491), (308, 18497), (310, 18503), (313, 18530), (316, 18551), (317, 18557), (318, 18560), (324, 18584), (332, 18629), (335, 18638), (336, 18641), (338, 18650), (349, 18725), (355, 18752), (360, 18767), (361, 18770), (366, 18788), (369, 18806), (371, 18827), (380, 18878), (396, 18959), (410, 19046), (412, 19064), (416, 19091), (442, 19184), (451, 19226), (452, 19235), (459, 19271), (464, 19289), (465, 19292), (477, 19346), (488, 19397), (490, 19433), (492, 19439), (496, 19460), (503, 19484), (510, 19514), (525, 19574), (532, 19607), (533, 19610), (536, 19625), (544, 19661), (552, 19703), (554, 19715), (555, 19718), (565, 19766), (568, 19796), (573, 19811), (580, 19844), (582, 19859), (593, 19922), (613, 20000), (621, 20039), (632, 20105), (645, 20192), (646, 20195), (664, 20294), (669, 20342), (670, 20348), (684, 20507), (727, 20780), (731, 20816), (740, 20882), (749, 21005), (757, 21098), (758, 21119), (761, 21167), (763, 21173), (764, 21179), (768, 21224), (778, 21332), (780, 21353), (785, 21401), (790, 21488), (794, 21590), (795, 21599),

Gene: Sporto\_24 Start: 18451, Stop: 23001, Start Num: 20

Candidate Starts for Sporto\_24:

(Start: 19 @18430 has 2 MA's), (Start: 20 @18451 has 72 MA's), (Start: 25 @18481 has 2 MA's), (33, 18535), (47, 18628), (51, 18679), (53, 18697), (62, 18766), (65, 18796), (72, 18877), (73, 18919), (74, 18937), (77, 18979), (79, 19009), (81, 19054), (82, 19066), (89, 19120), (92, 19135), (93, 19141), (98, 19168), (105, 19231), (107, 19246), (109, 19261), (112, 19294), (113, 19309), (119, 19357), (124, 19420), (131, 19507), (132, 19516), (142, 19597), (143, 19600), (144, 19612), (148, 19636), (151, 19645), (156, 19687), (159, 19705), (181, 19822), (235, 20095), (253, 20191), (255, 20209), (262, 20254), (271, 20299), (282, 20335), (297, 20449), (299, 20470), (300, 20482), (301, 20497), (316, 20593), (318, 20602), (322, 20617), (324, 20626), (330, 20653), (333, 20674), (335, 20680), (338, 20692), (347, 20752), (349, 20767), (366, 20830), (369, 20851), (372, 20875), (381, 20932), (383, 20947), (384, 20950), (391, 20980), (392, 20989), (398, 21016), (400, 21031), (410, 21091), (412, 21109), (414, 21124), (422, 21157), (424, 21163), (434, 21202), (437, 21211), (439, 21223), (444, 21244), (449, 21265), (456, 21310), (459, 21319), (467, 21352), (468, 21358), (469, 21361), (472, 21373), (477, 21394), (480, 21403), (487, 21436), (489, 21454), (493, 21490), (494, 21502), (500, 21523), (503, 21532), (507, 21544), (515, 21583), (525, 21622), (533, 21658), (537, 21676), (547,

21724), (553, 21757), (556, 21769), (559, 21784), (568, 21844), (575, 21868), (584, 21916), (585, 21922), (589, 21952), (598, 21988), (610, 22036), (611, 22042), (613, 22048), (614, 22051), (623, 22102), (631, 22144), (638, 22180), (639, 22189), (641, 22210), (660, 22363), (664, 22408), (672, 22498), (679, 22558), (681, 22588), (686, 22636), (687, 22648), (695, 22681), (701, 22711), (713, 22816), (720, 22852), (742, 22990),

Gene: StarLord\_23 Start: 17241, Stop: 21791, Start Num: 20

Candidate Starts for StarLord\_23:

(Start: 19 @17220 has 2 MA's), (Start: 20 @17241 has 72 MA's), (Start: 25 @17271 has 2 MA's), (29, 17304), (50, 17460), (61, 17544), (62, 17556), (65, 17586), (72, 17667), (73, 17709), (74, 17727), (77, 17769), (79, 17799), (81, 17844), (82, 17856), (89, 17910), (92, 17925), (98, 17958), (105, 18021), (109, 18051), (112, 18084), (113, 18099), (119, 18147), (131, 18297), (135, 18318), (148, 18426), (151, 18435), (157, 18483), (183, 18618), (193, 18660), (209, 18774), (220, 18825), (223, 18837), (237, 18918), (253, 19002), (255, 19020), (262, 19065), (271, 19110), (272, 19113), (273, 19119), (286, 19152), (299, 19263), (308, 19332), (309, 19335), (315, 19377), (316, 19386), (318, 19395), (326, 19425), (332, 19464), (334, 19470), (338, 19485), (344, 19527), (366, 19623), (369, 19644), (370, 19647), (372, 19668), (381, 19725), (383, 19740), (390, 19770), (392, 19782), (398, 19809), (400, 19824), (409, 19872), (412, 19902), (414, 19917), (422, 19950), (424, 19956), (434, 19995), (437, 20004), (439, 20016), (444, 20037), (456, 20103), (459, 20112), (467, 20145), (468, 20151), (469, 20154), (472, 20166), (473, 20169), (478, 20190), (483, 20211), (489, 20247), (494, 20295), (503, 20325), (525, 20415), (538, 20472), (547, 20517), (550, 20535), (556, 20562), (558, 20571), (559, 20577), (568, 20637), (572, 20649), (575, 20661), (585, 20715), (591, 20757), (593, 20763), (595, 20769), (603, 20802), (604, 20805), (610, 20829), (611, 20835), (613, 20841), (614, 20844), (623, 20895), (626, 20907), (632, 20946), (652, 21078), (658, 21114), (660, 21156), (664, 21201), (672, 21291), (681, 21381), (683, 21405), (686, 21429), (687, 21441), (689, 21450), (691, 21462), (695, 21474), (703, 21519), (707, 21549), (709, 21567), (713, 21606), (730, 21684),

Gene: Stayer\_23 Start: 17240, Stop: 21790, Start Num: 20

Candidate Starts for Stayer\_23:

(Start: 19 @17219 has 2 MA's), (Start: 20 @17240 has 72 MA's), (Start: 25 @17270 has 2 MA's), (29, 17303), (50, 17459), (61, 17543), (62, 17555), (65, 17585), (72, 17666), (73, 17708), (74, 17726), (77, 17768), (79, 17798), (81, 17843), (82, 17855), (89, 17909), (92, 17924), (98, 17957), (105, 18020), (109, 18050), (112, 18083), (113, 18098), (119, 18146), (131, 18296), (135, 18317), (148, 18425), (151, 18434), (157, 18482), (183, 18617), (193, 18659), (209, 18773), (220, 18824), (221, 18827), (223, 18836), (237, 18917), (253, 19001), (255, 19019), (262, 19064), (271, 19109), (272, 19112), (273, 19118), (286, 19151), (299, 19262), (308, 19331), (309, 19334), (315, 19376), (316, 19385), (318, 19394), (326, 19424), (332, 19463), (334, 19469), (338, 19484), (344, 19526), (366, 19622), (369, 19643), (370, 19646), (372, 19667), (381, 19724), (383, 19739), (390, 19769), (392, 19781), (398, 19808), (400, 19823), (409, 19871), (412, 19901), (414, 19916), (422, 19949), (424, 19955), (434, 19994), (437, 20003), (439, 20015), (444, 20036), (456, 20102), (459, 20111), (467, 20144), (468, 20150), (469, 20153), (472, 20165), (473, 20168), (478, 20189), (483, 20210), (489, 20246), (494, 20294), (503, 20324), (525, 20414), (538, 20471), (547, 20516), (550, 20534), (556, 20561), (558, 20570), (559, 20576), (568, 20636), (572, 20648), (575, 20660), (585, 20714), (591, 20756), (593, 20762), (595, 20768), (603, 20801), (604, 20804), (610, 20828), (611, 20834), (613, 20840), (614, 20843), (623, 20894), (626, 20906), (632, 20945), (652, 21077), (658, 21113), (660, 21155), (664, 21200), (672, 21290), (681, 21380), (683, 21404), (686, 21428), (687, 21440), (689, 21449), (691, 21461), (695, 21473), (703, 21518), (707, 21548), (709, 21566), (713, 21605),

Gene: Sunny4976\_23 Start: 18500, Stop: 23560, Start Num: 4

Candidate Starts for Sunny4976\_23:

(4, 18500), (5, 18530), (8, 18584), (11, 18605), (34, 18812), (38, 18821), (40, 18824), (50, 18941), (54, 18974), (58, 19007), (63, 19046), (66, 19088), (73, 19190), (75, 19226), (79, 19280), (80, 19316), (82, 19337), (89, 19391), (109, 19523), (110, 19535), (111, 19544), (114, 19580), (130, 19757), (135,

19790), (143, 19862), (147, 19895), (148, 19898), (163, 19982), (195, 20207), (198, 20243), (200, 20267), (203, 20279), (219, 20405), (249, 20573), (266, 20726), (267, 20729), (284, 20852), (285, 20858), (292, 20909), (296, 20972), (299, 21026), (302, 21056), (313, 21128), (318, 21158), (320, 21167), (324, 21182), (332, 21227), (338, 21248), (340, 21254), (346, 21299), (366, 21386), (371, 21428), (383, 21503), (398, 21572), (409, 21635), (412, 21665), (422, 21713), (425, 21722), (439, 21782), (459, 21878), (467, 21911), (469, 21920), (472, 21932), (473, 21935), (477, 21953), (482, 21974), (488, 22004), (489, 22013), (490, 22040), (497, 22070), (503, 22091), (514, 22136), (521, 22163), (525, 22181), (542, 22259), (551, 22307), (552, 22310), (560, 22346), (566, 22388), (573, 22418), (574, 22421), (578, 22445), (580, 22451), (581, 22460), (597, 22541), (609, 22592), (614, 22610), (620, 22643), (621, 22646), (632, 22712), (644, 22793), (660, 22922), (664, 22967), (672, 23057), (680, 23138), (681, 23147), (683, 23171), (689, 23216), (692, 23234), (697, 23249), (706, 23318), (726, 23429),

Gene: Synopsis\_25 Start: 20138, Stop: 24727, Start Num: 20

Candidate Starts for Synopsis\_25:

(Start: 19 @20117 has 2 MA's), (Start: 20 @20138 has 72 MA's), (Start: 25 @20168 has 2 MA's), (33, 20222), (40, 20243), (44, 20279), (50, 20357), (57, 20417), (61, 20441), (62, 20453), (65, 20483), (68, 20534), (72, 20564), (73, 20606), (74, 20624), (77, 20666), (79, 20696), (81, 20741), (82, 20753), (89, 20807), (92, 20822), (94, 20834), (98, 20855), (109, 20948), (112, 20981), (113, 20996), (119, 21044), (131, 21194), (135, 21215), (150, 21329), (151, 21332), (157, 21380), (177, 21494), (184, 21518), (187, 21533), (190, 21545), (217, 21713), (222, 21728), (223, 21734), (228, 21752), (241, 21824), (250, 21875), (253, 21890), (257, 21920), (270, 21992), (271, 21998), (281, 22031), (282, 22034), (288, 22061), (299, 22175), (306, 22232), (308, 22244), (316, 22298), (318, 22307), (319, 22310), (324, 22331), (332, 22376), (338, 22397), (347, 22457), (360, 22514), (366, 22535), (369, 22556), (381, 22637), (383, 22652), (384, 22655), (390, 22682), (391, 22685), (400, 22736), (412, 22814), (414, 22829), (415, 22832), (419, 22850), (420, 22856), (422, 22862), (425, 22871), (434, 22907), (437, 22916), (444, 22949), (454, 23003), (455, 23006), (459, 23024), (463, 23036), (469, 23066), (472, 23081), (475, 23090), (477, 23102), (482, 23123), (489, 23162), (497, 23219), (500, 23231), (503, 23240), (513, 23279), (515, 23291), (524, 23321), (525, 23330), (533, 23366), (541, 23405), (542, 23408), (545, 23426), (547, 23432), (559, 23492), (562, 23501), (565, 23522), (569, 23555), (570, 23558), (573, 23567), (595, 23684), (596, 23687), (601, 23708), (609, 23741), (610, 23744), (611, 23750), (614, 23759), (619, 23786), (628, 23831), (639, 23897), (645, 23948), (647, 23954), (655, 24014), (659, 24038), (662, 24098), (664, 24116), (666, 24128), (680, 24287), (681, 24296), (686, 24344), (691, 24377), (695, 24389), (697, 24395), (700, 24416), (701, 24419), (702, 24425), (707, 24464), (710, 24491), (737, 24677), (741, 24704),

Gene: TaidaOne\_23 Start: 16808, Stop: 22294, Start Num: 2

Candidate Starts for TaidaOne\_23:

(1, 16787), (Start: 2 @16808 has 30 MA's), (3, 16838), (13, 16982), (43, 17192), (52, 17309), (62, 17381), (65, 17411), (73, 17534), (80, 17660), (89, 17735), (98, 17783), (103, 17825), (120, 18014), (138, 18209), (147, 18281), (161, 18359), (179, 18464), (190, 18506), (212, 18641), (242, 18773), (243, 18782), (251, 18818), (252, 18827), (259, 18869), (264, 18902), (270, 18932), (297, 19055), (299, 19076), (307, 19139), (308, 19145), (310, 19151), (313, 19178), (316, 19199), (317, 19205), (318, 19208), (324, 19232), (332, 19277), (335, 19286), (336, 19289), (349, 19373), (355, 19400), (360, 19415), (361, 19418), (366, 19436), (369, 19454), (371, 19475), (380, 19526), (392, 19592), (396, 19607), (410, 19694), (412, 19712), (416, 19739), (442, 19832), (451, 19874), (452, 19883), (459, 19919), (464, 19937), (465, 19940), (467, 19952), (477, 19994), (478, 19997), (488, 20045), (490, 20081), (492, 20087), (496, 20108), (503, 20132), (510, 20162), (525, 20222), (532, 20255), (533, 20258), (536, 20273), (539, 20285), (544, 20309), (552, 20351), (554, 20363), (555, 20366), (565, 20414), (568, 20444), (573, 20459), (580, 20492), (582, 20507), (593, 20570), (611, 20642), (613, 20648), (614, 20651), (621, 20687), (632, 20753), (645, 20840), (646, 20843), (664, 20942), (669, 20990), (670, 20996), (683, 21146), (684, 21155), (727, 21428), (749, 21653), (757, 21746), (758, 21767), (760, 21791), (761, 21815), (763, 21821), (764, 21827), (768, 21872), (778, 21980),

(785, 22049), (790, 22136), (794, 22238), (795, 22247),

Gene: Tatanka\_26 Start: 20622, Stop: 25211, Start Num: 20

Candidate Starts for Tatanka\_26:

(Start: 19 @20601 has 2 MA's), (Start: 20 @20622 has 72 MA's), (Start: 25 @20652 has 2 MA's), (33, 20706), (40, 20727), (44, 20763), (50, 20841), (57, 20901), (61, 20925), (62, 20937), (65, 20967), (68, 21018), (72, 21048), (73, 21090), (74, 21108), (77, 21150), (79, 21180), (81, 21225), (82, 21237), (89, 21291), (92, 21306), (94, 21318), (98, 21339), (109, 21432), (112, 21465), (113, 21480), (119, 21528), (131, 21678), (135, 21699), (150, 21813), (151, 21816), (157, 21864), (177, 21978), (184, 22002), (187, 22017), (190, 22029), (217, 22197), (222, 22212), (223, 22218), (228, 22236), (241, 22308), (250, 22359), (253, 22374), (257, 22404), (270, 22476), (271, 22482), (275, 22500), (281, 22515), (282, 22518), (288, 22545), (299, 22659), (306, 22716), (308, 22728), (316, 22782), (318, 22791), (319, 22794), (324, 22815), (332, 22860), (338, 22881), (360, 22998), (366, 23019), (369, 23040), (371, 23061), (381, 23121), (383, 23136), (384, 23139), (390, 23166), (391, 23169), (410, 23280), (412, 23298), (414, 23313), (415, 23316), (419, 23334), (420, 23340), (421, 23343), (425, 23355), (434, 23391), (437, 23400), (444, 23433), (454, 23487), (455, 23490), (459, 23508), (463, 23520), (469, 23550), (472, 23565), (475, 23574), (477, 23586), (489, 23646), (495, 23697), (497, 23703), (500, 23715), (503, 23724), (513, 23763), (515, 23775), (524, 23805), (525, 23814), (541, 23889), (542, 23892), (545, 23910), (559, 23976), (561, 23982), (562, 23985), (569, 24039), (570, 24042), (595, 24168), (596, 24171), (601, 24192), (609, 24225), (611, 24234), (628, 24315), (633, 24348), (639, 24381), (647, 24438), (655, 24498), (664, 24600), (666, 24612), (680, 24771), (681, 24780), (686, 24828), (691, 24861), (695, 24873), (697, 24879), (700, 24900), (701, 24903), (702, 24909), (707, 24948), (710, 24975), (737, 25161), (741, 25188),

Gene: Teacup\_26 Start: 19991, Stop: 24583, Start Num: 20

Candidate Starts for Teacup\_26:

(Start: 19 @19970 has 2 MA's), (Start: 20 @19991 has 72 MA's), (Start: 25 @20021 has 2 MA's), (33, 20075), (40, 20096), (44, 20132), (57, 20270), (62, 20306), (65, 20336), (73, 20459), (74, 20477), (77, 20519), (84, 20627), (89, 20660), (92, 20675), (98, 20708), (105, 20771), (107, 20786), (109, 20801), (111, 20822), (112, 20834), (120, 20906), (123, 20951), (127, 21002), (130, 21035), (135, 21068), (140, 21116), (151, 21185), (157, 21233), (177, 21347), (184, 21371), (190, 21398), (202, 21473), (217, 21566), (222, 21581), (223, 21587), (228, 21605), (235, 21647), (250, 21728), (257, 21773), (270, 21845), (271, 21851), (281, 21884), (282, 21887), (288, 21914), (299, 22031), (306, 22088), (308, 22100), (316, 22154), (318, 22163), (319, 22166), (324, 22187), (332, 22232), (338, 22253), (360, 22370), (366, 22391), (368, 22409), (369, 22412), (371, 22433), (381, 22493), (383, 22508), (384, 22511), (390, 22538), (391, 22541), (412, 22670), (414, 22685), (415, 22688), (419, 22706), (420, 22712), (421, 22715), (425, 22727), (434, 22763), (437, 22772), (444, 22805), (454, 22859), (455, 22862), (459, 22880), (463, 22892), (469, 22922), (472, 22937), (475, 22946), (477, 22958), (489, 23018), (495, 23069), (497, 23075), (500, 23087), (503, 23096), (513, 23135), (515, 23147), (517, 23153), (519, 23159), (524, 23177), (525, 23186), (541, 23261), (542, 23264), (545, 23282), (559, 23348), (561, 23354), (562, 23357), (568, 23408), (595, 23540), (596, 23543), (601, 23564), (609, 23597), (611, 23606), (628, 23687), (633, 23720), (639, 23753), (647, 23810), (655, 23870), (659, 23894), (664, 23972), (666, 23984), (678, 24110), (681, 24152), (686, 24200), (691, 24233), (695, 24245), (697, 24251), (700, 24272), (701, 24275), (702, 24281), (707, 24320), (710, 24347), (712, 24374), (737, 24533), (741, 24560),

Gene: Tenno\_27 Start: 21223, Stop: 25812, Start Num: 20

Candidate Starts for Tenno\_27:

(Start: 19 @21202 has 2 MA's), (Start: 20 @21223 has 72 MA's), (Start: 25 @21253 has 2 MA's), (33, 21307), (40, 21328), (44, 21364), (57, 21502), (62, 21538), (65, 21568), (73, 21691), (74, 21709), (77, 21751), (84, 21859), (89, 21892), (92, 21907), (98, 21940), (107, 22018), (109, 22033), (111, 22054), (112, 22066), (114, 22090), (120, 22138), (127, 22234), (130, 22267), (135, 22300), (144, 22384), (148, 22408), (151, 22417), (183, 22600), (190, 22630), (202, 22705), (204, 22711), (217, 22798),

(222, 22813), (223, 22819), (228, 22837), (231, 22846), (235, 22879), (236, 22888), (250, 22960), (257, 23005), (270, 23077), (271, 23083), (281, 23116), (282, 23119), (288, 23146), (299, 23260), (306, 23317), (308, 23329), (316, 23383), (318, 23392), (319, 23395), (324, 23416), (332, 23461), (338, 23482), (358, 23593), (360, 23599), (366, 23620), (368, 23638), (371, 23662), (381, 23722), (383, 23737), (384, 23740), (390, 23767), (391, 23770), (397, 23797), (410, 23881), (412, 23899), (414, 23914), (415, 23917), (419, 23935), (420, 23941), (421, 23944), (425, 23956), (426, 23962), (434, 23992), (437, 24001), (444, 24034), (454, 24088), (455, 24091), (459, 24109), (469, 24151), (472, 24166), (475, 24175), (477, 24187), (489, 24247), (497, 24304), (500, 24316), (503, 24325), (513, 24364), (515, 24376), (517, 24382), (520, 24394), (524, 24406), (525, 24415), (541, 24490), (542, 24493), (545, 24511), (559, 24577), (562, 24586), (569, 24640), (570, 24643), (595, 24769), (601, 24793), (609, 24826), (611, 24835), (616, 24850), (619, 24871), (628, 24916), (633, 24949), (639, 24982), (647, 25039), (655, 25099), (661, 25177), (664, 25201), (666, 25213), (678, 25339), (681, 25381), (686, 25429), (691, 25462), (695, 25474), (697, 25480), (700, 25501), (701, 25504), (702, 25510), (707, 25549), (710, 25576), (737, 25762), (741, 25789),

Gene: Thiqqums\_21 Start: 15072, Stop: 20549, Start Num: 2

Candidate Starts for Thiqqums\_21:

(Start: 2 @15072 has 30 MA's), (3, 15102), (7, 15183), (9, 15213), (10, 15216), (13, 15246), (73, 15798), (80, 15924), (87, 15987), (89, 15999), (97, 16041), (103, 16089), (108, 16173), (120, 16281), (135, 16443), (138, 16476), (147, 16548), (161, 16626), (190, 16773), (251, 17085), (252, 17094), (263, 17157), (299, 17331), (303, 17373), (308, 17400), (311, 17409), (318, 17463), (324, 17487), (336, 17544), (356, 17658), (366, 17691), (371, 17730), (379, 17772), (380, 17781), (385, 17817), (396, 17862), (404, 17913), (410, 17949), (412, 17967), (417, 17997), (427, 18036), (428, 18039), (439, 18078), (440, 18081), (447, 18108), (451, 18129), (452, 18138), (458, 18171), (459, 18174), (465, 18195), (480, 18258), (490, 18336), (492, 18342), (500, 18378), (501, 18381), (502, 18384), (503, 18387), (518, 18447), (520, 18456), (525, 18477), (531, 18507), (532, 18510), (545, 18573), (546, 18576), (547, 18579), (555, 18621), (559, 18639), (565, 18669), (573, 18714), (575, 18723), (580, 18747), (592, 18822), (594, 18828), (607, 18879), (614, 18906), (617, 18921), (619, 18933), (621, 18942), (625, 18966), (637, 19032), (645, 19095), (650, 19119), (664, 19197), (669, 19245), (672, 19287), (684, 19410), (704, 19527), (717, 19644), (732, 19725), (736, 19770), (744, 19815), (757, 20001), (758, 20022), (759, 20034), (763, 20076), (768, 20127), (772, 20175), (776, 20214), (782, 20265), (789, 20388), (793, 20427),

Gene: TieDye\_22 Start: 15852, Stop: 21338, Start Num: 2

Candidate Starts for TieDye\_22:

(1, 15831), (Start: 2 @15852 has 30 MA's), (3, 15882), (13, 16026), (43, 16236), (53, 16356), (58, 16395), (62, 16425), (64, 16449), (65, 16455), (66, 16476), (67, 16491), (73, 16578), (76, 16620), (79, 16668), (80, 16704), (81, 16713), (83, 16740), (89, 16779), (90, 16788), (98, 16827), (100, 16836), (103, 16869), (104, 16878), (112, 16986), (121, 17091), (130, 17187), (138, 17253), (161, 17403), (175, 17487), (179, 17508), (190, 17550), (212, 17685), (229, 17739), (243, 17826), (251, 17862), (252, 17871), (259, 17913), (264, 17946), (270, 17976), (297, 18099), (299, 18120), (307, 18183), (308, 18189), (310, 18195), (313, 18222), (316, 18243), (317, 18249), (318, 18252), (324, 18276), (332, 18321), (335, 18330), (336, 18333), (349, 18417), (355, 18444), (360, 18459), (361, 18462), (366, 18480), (369, 18498), (371, 18519), (380, 18570), (392, 18636), (396, 18651), (410, 18738), (412, 18756), (416, 18783), (442, 18876), (451, 18918), (452, 18927), (459, 18963), (464, 18981), (465, 18984), (467, 18996), (477, 19038), (478, 19041), (488, 19089), (490, 19125), (492, 19131), (496, 19152), (503, 19176), (510, 19206), (525, 19266), (532, 19299), (533, 19302), (536, 19317), (539, 19329), (544, 19353), (552, 19395), (554, 19407), (555, 19410), (565, 19458), (568, 19488), (573, 19503), (580, 19536), (582, 19551), (593, 19614), (611, 19686), (613, 19692), (614, 19695), (621, 19731), (632, 19797), (645, 19884), (646, 19887), (664, 19986), (669, 20034), (670, 20040), (683, 20190), (684, 20199), (727, 20472), (749, 20697), (757, 20790), (758, 20811), (760, 20835), (761, 20859), (763, 20865), (764, 20871), (768, 20916), (778, 21024), (785, 21093), (790, 21180), (794, 21282), (795, 21291),

Gene: Tokki\_27 Start: 20280, Stop: 24866, Start Num: 20

Candidate Starts for Tokki\_27:

(Start: 19 @20259 has 2 MA's), (Start: 20 @20280 has 72 MA's), (Start: 25 @20310 has 2 MA's), (33, 20364), (62, 20595), (65, 20625), (72, 20706), (73, 20748), (74, 20766), (77, 20808), (82, 20895), (89, 20949), (92, 20964), (93, 20970), (98, 20997), (107, 21075), (109, 21090), (112, 21123), (113, 21138), (114, 21147), (117, 21174), (119, 21186), (123, 21240), (135, 21357), (150, 21471), (151, 21474), (158, 21531), (160, 21537), (186, 21666), (193, 21699), (235, 21936), (253, 22032), (270, 22134), (271, 22140), (282, 22176), (299, 22320), (305, 22374), (306, 22377), (316, 22443), (318, 22452), (319, 22455), (324, 22476), (338, 22542), (340, 22548), (347, 22602), (360, 22659), (366, 22680), (368, 22698), (369, 22701), (371, 22722), (373, 22728), (377, 22752), (383, 22797), (385, 22809), (407, 22920), (409, 22929), (410, 22941), (412, 22959), (425, 23016), (434, 23052), (435, 23055), (437, 23061), (439, 23073), (440, 23076), (444, 23094), (447, 23103), (456, 23160), (469, 23211), (471, 23223), (478, 23247), (479, 23250), (488, 23295), (489, 23304), (500, 23373), (503, 23382), (513, 23421), (515, 23433), (525, 23472), (547, 23574), (551, 23598), (552, 23601), (559, 23634), (560, 23637), (561, 23640), (562, 23643), (569, 23697), (570, 23700), (576, 23721), (593, 23820), (601, 23850), (604, 23862), (607, 23874), (611, 23892), (614, 23901), (615, 23904), (641, 24060), (644, 24084), (646, 24093), (655, 24156), (658, 24171), (664, 24258), (666, 24270), (670, 24312), (678, 24396), (683, 24462), (686, 24486), (695, 24531), (697, 24537), (707, 24606), (708, 24609), (710, 24633), (737, 24816),

Gene: TonyStarch\_23 Start: 16166, Stop: 21652, Start Num: 2

Candidate Starts for TonyStarch\_23:

(1, 16145), (Start: 2 @16166 has 30 MA's), (3, 16196), (13, 16340), (43, 16550), (52, 16667), (62, 16739), (65, 16769), (73, 16892), (80, 17018), (89, 17093), (98, 17141), (103, 17183), (120, 17372), (138, 17567), (147, 17639), (161, 17717), (175, 17801), (190, 17864), (212, 17999), (229, 18053), (243, 18140), (251, 18176), (252, 18185), (259, 18227), (264, 18260), (270, 18290), (297, 18413), (299, 18434), (307, 18497), (308, 18503), (310, 18509), (313, 18536), (316, 18557), (317, 18563), (318, 18566), (324, 18590), (332, 18635), (335, 18644), (336, 18647), (338, 18656), (349, 18731), (355, 18758), (361, 18776), (366, 18794), (369, 18812), (371, 18833), (380, 18884), (392, 18950), (396, 18965), (410, 19052), (412, 19070), (416, 19097), (442, 19190), (451, 19232), (452, 19241), (459, 19277), (460, 19280), (464, 19295), (465, 19298), (467, 19310), (477, 19352), (478, 19355), (488, 19403), (490, 19439), (492, 19445), (496, 19466), (503, 19490), (510, 19520), (525, 19580), (532, 19613), (533, 19616), (536, 19631), (539, 19643), (544, 19667), (552, 19709), (554, 19721), (555, 19724), (565, 19772), (568, 19802), (573, 19817), (580, 19850), (582, 19865), (593, 19928), (611, 20000), (613, 20006), (614, 20009), (621, 20045), (632, 20111), (645, 20198), (646, 20201), (664, 20300), (669, 20348), (670, 20354), (684, 20513), (727, 20786), (731, 20822), (740, 20888), (749, 21011), (757, 21104), (758, 21125), (761, 21173), (763, 21179), (764, 21185), (768, 21230), (778, 21338), (780, 21359), (785, 21407), (790, 21494), (794, 21596), (795, 21605),

Gene: Tribby\_22 Start: 17385, Stop: 21863, Start Num: 20

Candidate Starts for Tribby\_22:

(Start: 19 @17364 has 2 MA's), (Start: 20 @17385 has 72 MA's), (Start: 25 @17415 has 2 MA's), (29, 17448), (33, 17469), (62, 17700), (65, 17730), (72, 17811), (73, 17853), (74, 17871), (77, 17913), (82, 18000), (89, 18054), (92, 18069), (98, 18102), (107, 18180), (109, 18195), (113, 18243), (115, 18258), (120, 18300), (124, 18354), (130, 18429), (135, 18462), (148, 18570), (158, 18636), (166, 18669), (167, 18678), (169, 18681), (172, 18699), (226, 18981), (234, 19005), (236, 19035), (242, 19065), (268, 19194), (282, 19254), (299, 19383), (311, 19461), (315, 19497), (316, 19506), (318, 19515), (324, 19539), (330, 19566), (332, 19584), (338, 19605), (349, 19680), (357, 19713), (366, 19743), (371, 19785), (381, 19845), (382, 19851), (390, 19890), (391, 19893), (394, 19908), (405, 19971), (409, 19992), (412, 20022), (417, 20052), (422, 20070), (434, 20118), (440, 20142), (444, 20160), (447, 20169), (450, 20184), (453, 20205), (459, 20235), (467, 20268), (468, 20274), (469, 20277), (472, 20289), (477, 20310), (488, 20361), (489, 20370), (491, 20400), (493, 20406), (500, 20439),



(503, 20448), (510, 20478), (515, 20499), (525, 20538), (530, 20565), (532, 20571), (533, 20574), (536, 20589), (542, 20616), (549, 20646), (555, 20682), (575, 20784), (583, 20829), (592, 20883), (593, 20886), (595, 20892), (603, 20925), (613, 20964), (615, 20970), (618, 20985), (623, 21018), (644, 21150), (654, 21213), (662, 21240), (664, 21258), (669, 21306), (670, 21312), (675, 21384), (683, 21462), (687, 21498), (690, 21516), (697, 21540), (701, 21564), (706, 21609), (709, 21630), (742, 21852),

Gene: Truckee\_25 Start: 20163, Stop: 24755, Start Num: 20

Candidate Starts for Truckee\_25:

(Start: 19 @20142 has 2 MA's), (Start: 20 @20163 has 72 MA's), (Start: 25 @20193 has 2 MA's), (33, 20247), (44, 20304), (50, 20382), (57, 20442), (61, 20466), (65, 20508), (73, 20631), (74, 20649), (77, 20691), (81, 20766), (82, 20778), (86, 20817), (89, 20832), (92, 20847), (98, 20880), (107, 20958), (109, 20973), (116, 21051), (124, 21132), (135, 21240), (151, 21357), (153, 21363), (175, 21507), (176, 21516), (193, 21582), (235, 21819), (246, 21879), (252, 21912), (253, 21915), (270, 22017), (271, 22023), (282, 22059), (299, 22203), (304, 22251), (305, 22257), (306, 22260), (313, 22305), (316, 22326), (318, 22335), (319, 22338), (324, 22359), (325, 22362), (338, 22425), (339, 22428), (360, 22542), (366, 22563), (368, 22581), (369, 22584), (377, 22635), (381, 22665), (383, 22680), (385, 22692), (407, 22803), (409, 22812), (412, 22842), (433, 22932), (434, 22935), (437, 22944), (439, 22956), (444, 22977), (448, 22995), (454, 23031), (459, 23052), (467, 23085), (480, 23142), (488, 23184), (489, 23193), (494, 23241), (500, 23262), (503, 23271), (510, 23301), (525, 23361), (533, 23397), (540, 23433), (550, 23481), (560, 23526), (562, 23532), (565, 23553), (568, 23583), (580, 23631), (587, 23670), (588, 23673), (611, 23781), (614, 23790), (620, 23823), (636, 23913), (643, 23961), (655, 24045), (664, 24147), (666, 24159), (670, 24201), (680, 24318), (681, 24327), (686, 24375), (695, 24420), (697, 24426), (707, 24495), (710, 24522), (737, 24705),

Gene: Trustiboi\_27 Start: 20688, Stop: 25280, Start Num: 20

Candidate Starts for Trustiboi\_27:

(Start: 19 @20667 has 2 MA's), (Start: 20 @20688 has 72 MA's), (Start: 25 @20718 has 2 MA's), (33, 20772), (40, 20793), (44, 20829), (50, 20907), (57, 20967), (61, 20991), (62, 21003), (65, 21033), (68, 21084), (72, 21114), (73, 21156), (74, 21174), (77, 21216), (79, 21246), (81, 21291), (82, 21303), (89, 21357), (92, 21372), (94, 21384), (98, 21405), (109, 21498), (112, 21531), (113, 21546), (119, 21594), (131, 21744), (135, 21765), (150, 21879), (151, 21882), (177, 22044), (184, 22068), (187, 22083), (190, 22095), (217, 22263), (222, 22278), (223, 22284), (228, 22302), (241, 22374), (250, 22425), (253, 22440), (257, 22470), (270, 22542), (271, 22548), (281, 22581), (282, 22584), (299, 22728), (304, 22776), (306, 22785), (308, 22797), (316, 22851), (318, 22860), (319, 22863), (324, 22884), (332, 22929), (338, 22950), (344, 22992), (347, 23010), (360, 23067), (366, 23088), (369, 23109), (381, 23190), (383, 23205), (384, 23208), (390, 23235), (400, 23289), (412, 23367), (414, 23382), (415, 23385), (419, 23403), (420, 23409), (422, 23415), (425, 23424), (434, 23460), (437, 23469), (444, 23502), (454, 23556), (455, 23559), (459, 23577), (463, 23589), (469, 23619), (472, 23634), (475, 23643), (477, 23655), (482, 23676), (489, 23715), (497, 23772), (500, 23784), (503, 23793), (513, 23832), (515, 23844), (524, 23874), (525, 23883), (533, 23919), (541, 23958), (542, 23961), (545, 23979), (547, 23985), (559, 24045), (562, 24054), (569, 24108), (570, 24111), (573, 24120), (595, 24237), (596, 24240), (601, 24261), (609, 24294), (610, 24297), (611, 24303), (614, 24312), (619, 24339), (639, 24450), (645, 24501), (647, 24507), (655, 24567), (659, 24591), (662, 24651), (664, 24669), (666, 24681), (680, 24840), (681, 24849), (686, 24897), (691, 24930), (695, 24942), (697, 24948), (700, 24969), (701, 24972), (702, 24978), (707, 25017), (710, 25044), (737, 25230), (741, 25257),

Gene: Uzumaki\_26 Start: 19821, Stop: 24458, Start Num: 15

Candidate Starts for Uzumaki\_26:

(12, 19800), (Start: 15 @19821 has 5 MA's), (17, 19851), (23, 19905), (24, 19914), (58, 20184), (59, 20187), (65, 20244), (66, 20265), (72, 20325), (73, 20367), (77, 20427), (82, 20514), (86, 20553), (89, 20568), (92, 20583), (98, 20616), (102, 20655), (103, 20658), (107, 20694), (109, 20709), (113,

20757), (147, 21081), (151, 21093), (159, 21153), (165, 21174), (168, 21195), (177, 21255), (178, 21261), (181, 21270), (186, 21285), (187, 21294), (205, 21393), (206, 21405), (207, 21414), (208, 21426), (265, 21711), (278, 21771), (282, 21780), (299, 21921), (304, 21969), (305, 21975), (309, 21993), (311, 21999), (316, 22044), (318, 22053), (324, 22077), (328, 22095), (337, 22140), (338, 22143), (341, 22152), (349, 22218), (360, 22260), (366, 22281), (369, 22302), (377, 22353), (381, 22383), (383, 22398), (392, 22440), (397, 22458), (404, 22506), (405, 22509), (413, 22566), (439, 22674), (442, 22683), (452, 22734), (454, 22749), (459, 22770), (467, 22803), (469, 22812), (472, 22824), (477, 22845), (479, 22851), (484, 22872), (488, 22896), (489, 22905), (500, 22974), (501, 22977), (502, 22980), (503, 22983), (510, 23013), (515, 23034), (521, 23055), (525, 23073), (527, 23082), (530, 23100), (544, 23160), (550, 23193), (553, 23208), (554, 23214), (555, 23217), (564, 23262), (569, 23298), (570, 23301), (572, 23307), (575, 23319), (576, 23322), (598, 23439), (599, 23442), (603, 23460), (612, 23496), (621, 23538), (625, 23562), (638, 23631), (644, 23685), (647, 23697), (660, 23814), (664, 23859), (669, 23907), (682, 24042), (683, 24063), (686, 24087), (697, 24138), (706, 24207), (707, 24210), (709, 24225),

Gene: Xenomorph\_20 Start: 17403, Stop: 21881, Start Num: 20

Candidate Starts for Xenomorph\_20:

(Start: 19 @17382 has 2 MA's), (Start: 20 @17403 has 72 MA's), (Start: 25 @17433 has 2 MA's), (29, 17466), (33, 17487), (50, 17622), (51, 17631), (62, 17718), (65, 17748), (73, 17871), (74, 17889), (77, 17931), (82, 18018), (86, 18057), (89, 18072), (92, 18087), (98, 18120), (107, 18198), (109, 18213), (113, 18261), (115, 18276), (120, 18318), (122, 18360), (124, 18372), (127, 18414), (130, 18447), (135, 18480), (148, 18588), (158, 18654), (166, 18687), (167, 18696), (169, 18699), (172, 18717), (176, 18756), (226, 18999), (236, 19053), (268, 19212), (273, 19245), (282, 19272), (299, 19401), (311, 19479), (316, 19524), (317, 19530), (318, 19533), (321, 19545), (324, 19557), (330, 19584), (332, 19602), (338, 19623), (349, 19698), (353, 19719), (354, 19722), (357, 19731), (366, 19761), (371, 19803), (372, 19806), (381, 19863), (382, 19869), (383, 19878), (391, 19911), (393, 19923), (394, 19926), (403, 19983), (405, 19989), (409, 20010), (412, 20040), (417, 20070), (422, 20088), (434, 20136), (440, 20160), (444, 20178), (447, 20187), (450, 20202), (453, 20223), (459, 20253), (467, 20286), (468, 20292), (469, 20295), (472, 20307), (477, 20328), (488, 20379), (489, 20388), (491, 20418), (493, 20424), (500, 20457), (503, 20466), (510, 20496), (513, 20505), (515, 20517), (520, 20535), (525, 20556), (530, 20583), (532, 20589), (533, 20592), (536, 20607), (542, 20634), (549, 20664), (555, 20700), (575, 20802), (587, 20865), (592, 20901), (593, 20904), (599, 20925), (603, 20943), (613, 20982), (615, 20988), (618, 21003), (622, 21024), (623, 21036), (644, 21168), (654, 21231), (662, 21258), (664, 21276), (669, 21324), (670, 21330), (675, 21402), (683, 21480), (687, 21516), (690, 21534), (697, 21558), (701, 21582), (706, 21627), (709, 21648), (742, 21870),

Gene: Zeina\_26 Start: 19202, Stop: 23839, Start Num: 15

Candidate Starts for Zeina\_26:

(12, 19181), (Start: 15 @19202 has 5 MA's), (17, 19232), (23, 19286), (24, 19295), (58, 19565), (59, 19568), (65, 19625), (66, 19646), (72, 19706), (73, 19748), (77, 19808), (81, 19883), (89, 19949), (92, 19964), (98, 19997), (102, 20036), (103, 20039), (107, 20075), (109, 20090), (113, 20138), (141, 20411), (148, 20465), (151, 20474), (159, 20534), (168, 20576), (177, 20636), (178, 20642), (181, 20651), (186, 20666), (187, 20675), (205, 20774), (206, 20786), (207, 20795), (208, 20807), (265, 21092), (278, 21152), (282, 21161), (299, 21302), (304, 21350), (309, 21374), (311, 21380), (316, 21425), (318, 21434), (324, 21458), (328, 21476), (337, 21521), (338, 21524), (341, 21533), (349, 21599), (360, 21641), (364, 21653), (366, 21662), (369, 21683), (377, 21734), (381, 21764), (383, 21779), (392, 21821), (397, 21839), (404, 21887), (405, 21890), (418, 21974), (439, 22055), (442, 22064), (452, 22115), (459, 22151), (467, 22184), (469, 22193), (472, 22205), (477, 22226), (479, 22232), (484, 22253), (488, 22277), (489, 22286), (490, 22313), (500, 22355), (501, 22358), (502, 22361), (503, 22364), (515, 22415), (521, 22436), (525, 22454), (530, 22481), (547, 22556), (550, 22574), (555, 22598), (564, 22643), (568, 22676), (569, 22679), (570, 22682), (575, 22700), (598, 22820), (599, 22823), (603, 22841), (621, 22919), (625, 22943), (638, 23012), (644, 23066), (658, 23153), (660, 23195), (664, 23240), (669, 23288), (682, 23423), (683, 23444), (686, 23468), (697,

23519), (706, 23588), (709, 23606),