



# Zoomed Pham 19987

51: Deby_10	8	9	26	8	51	88	9	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
52: Berni_9	9	9	9	8	78	78	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
53: Taiwan_Ka	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
54: Rosin_ginn	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
55: Sule_10	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
56: NimBj_60	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
57: Zaval_10	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
58: Tndie_Outp_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
59: Kesh_9	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
60: Macn_ghee_10	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
61: Pipe_9#1	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
62: Hurricane_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
63: TBohd007_52	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
64: Phnrd_9	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
65: JFI_10	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
66: White_m_x_N_+	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
67: Ormionis_52	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
68: Eppinge_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
69: Mttr_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
70: Kraw_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
71: MissDais_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
72: Taquin_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
73: Edugar_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
74: Agentr_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
75: Coliar_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
76: AileyCet_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
77: Henry_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
78: Paola_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
79: Invictu_Maso_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
80: VIVI_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
81: Gengan_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
82: Psychon_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
83: Feyre_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
84: Miryol_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
85: Thyat_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
86: OkR_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
87: Guillis_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
88: Lesto_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
89: Krati_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
90: Dartr_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
91: Amom_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
92: Elle_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
93: Tierra_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
94: Ekdiar_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
95: Amge_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
96: Noveber_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
97: Hamby_9	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
98: Amin_8	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268
99: Bolgale_7	60	60	60	60	51	88	78	78	78	81	88	96	101	112	116	122	133	148	188	188	200	261	268

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 199987 Report

This analysis was run 01/18/25 on database version 583.

Pham number 199987 has 226 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Mowgli\_4, Gomashi\_4, ShaboiShabazz\_4, Cherrybomb426\_4, AzulaCat\_4, Crespo\_4, Darionha\_4, Maliketh\_4, Gideon\_4, JorRay\_4, LouisV14\_4, Hope\_4, Camri\_4, Frosty24\_4, Phish\_4, Avrafan\_4, Jane\_4, TomBrady\_4, Zombie\_4, BPs\_4, CLED96\_4, OctaviousRex\_4, Phreak\_4, Annihilator\_4, Hotshotbaby7\_4, Renaissance\_4, PinkYoshi\_4, Cedasite\_4, Wendigo\_4, Kareem\_4, CassieYates\_4, DNAllI\_004, DMoney\_4, Coleslaw\_4, Olga\_4, BQuat\_4, Marmie\_4
- Track 2 : Sweets\_4, Halo\_4, TinaBug\_4
- Track 3 : Aroostook\_4, Periodt\_4, Sizemore\_4, Angel\_4, BruceB\_4, ECartman\_4, Schiebel\_4, Jolene\_4, Jonghyun\_4, Chance64\_4, ZoMa\_4, Kasen3\_4, Plagueis\_4, Remy19\_4
- Track 4 : Rabbs\_4, Sneeze\_4
- Track 5 : Liefie\_4
- Track 6 : Taheera\_4, Terror\_4
- Track 7 : Barkley26\_4
- Track 8 : GoldenAsh\_4
- Track 9 : Grizzly\_4
- Track 10 : Peeb\_4
- Track 11 : Paito\_4
- Track 12 : Avocado\_4
- Track 13 : Cambiare\_5
- Track 14 : Pace1224\_4, FlagStaff\_4
- Track 15 : Pinnie\_5
- Track 16 : MOOREtheMARYer\_4
- Track 17 : Stargaze\_4
- Track 18 : Antsirabe\_4
- Track 19 : Atiba\_10, Tachez\_10
- Track 20 : Megsy\_10
- Track 21 : Clipper\_11, Boiiii\_10, CaseJules\_10, MacKat\_10, Topper\_10, ShiaSurprise\_10, Lunahalos\_10, Llorens\_10, Emerson\_10, AlishaPH\_10, Jeckyll\_10, BEEST\_10, Padpat\_10
- Track 22 : JAWS\_10, MeaningOfLife\_10
- Track 23 : TruffulaTree\_10, Zabiza\_10, Jayhawk\_10
- Track 24 : Murucutumbu\_10
- Track 25 : Ganymede\_10, QuincyRose\_9
- Track 26 : Ageofdapage\_10, LaterM\_10, Stinson\_10
- Track 27 : Adonis\_10
- Track 28 : Devera\_10, Illumine\_10, Dole\_10

- Track 29 : Ramen\_10, Adephagia\_10, HedwigODU\_10, Slimphazie\_10, ActinUp\_10
- Track 30 : Prithvi\_10, LindNT\_10, TreyKay\_10
- Track 31 : BaghaKamala\_10
- Track 32 : Durfee\_10, BarrelRoll\_10, Blizzard\_10, Homura\_10, CREW\_10, Capricorn\_10, CheetoDust\_10, Belladonna\_10, Piatt\_10, Veliki\_10, Dalmuri\_10, Jarvi\_10, BGlluviae\_10, Asayake\_10, Padfoot\_10, Inky\_10, Hyperbowlee\_10, Spock\_10
- Track 33 : Angelica\_10
- Track 34 : Enkosi\_6, Binglebops\_6, Nutello\_6, Amelie\_6
- Track 35 : Joy99\_10
- Track 36 : Anaya\_11
- Track 37 : DrHayes\_10, Urkel\_10, SamuelLPlaqson\_10
- Track 38 : Mdavu\_6
- Track 39 : CallaLilly\_10
- Track 40 : Beezoo\_10, Geraldini\_10
- Track 41 : Pokerus\_9
- Track 42 : Rapunzel97\_10
- Track 43 : Tiri\_10
- Track 44 : Apocalypse\_10
- Track 45 : Torres\_6, Nikao\_6, SgtBeansprout\_6, LilPharaoh\_6
- Track 46 : Bella96\_10
- Track 47 : YoureAdopted\_9
- Track 48 : Twitch\_10, Peel\_10
- Track 49 : Mynx\_10
- Track 50 : CrimD\_10
- Track 51 : Deby\_10
- Track 52 : Bern\_11
- Track 53 : TaiwanKao\_10
- Track 54 : Rosmarinus\_10
- Track 55 : Sulley\_10
- Track 56 : TiniBug\_10
- Track 57 : Zavala\_10
- Track 58 : TribbleTrouble\_8
- Track 59 : Keshu\_9
- Track 60 : MacnCheese\_10
- Track 61 : Pixie\_9, ShedlockHolmes\_9
- Track 62 : Hurricane\_9
- Track 63 : TBond007\_9
- Track 64 : Pharb\_9
- Track 65 : JF1\_11, Y10\_11, Y2\_11
- Track 66 : Wintermute\_11, Chancellor\_11, Cheetobro\_11, Slarp\_11, Fionnbharth\_11
- Track 67 : OmniCritical\_11
- Track 68 : Eponine\_11, Juliette\_11, Ruthiejr\_10
- Track 69 : Mitti\_11
- Track 70 : Kraw\_11, SamScheppers\_9, Malthus\_11
- Track 71 : MissDaisy\_11, Patt\_11, Reptar3000\_11
- Track 72 : Taquito\_9
- Track 73 : Edugator\_7, Dadosky\_8
- Track 74 : Agent47\_8
- Track 75 : Collard\_8
- Track 76 : AlleyCat\_8
- Track 77 : Heftyboy\_8, SoSeph\_8

- Track 78 : Paola\_8
- Track 79 : InvictusManeo\_8, Larva\_8
- Track 80 : ViviJ\_7, Neighly\_8
- Track 81 : Gengar\_8
- Track 82 : Psycho\_8
- Track 83 : Feyre\_8
- Track 84 : Miryou\_8
- Track 85 : Thyatira\_8, Waterfoul\_8
- Track 86 : OkiRoe\_8
- Track 87 : Guillsminger\_8
- Track 88 : Leston\_8
- Track 89 : Kratio\_7
- Track 90 : DarthP\_9
- Track 91 : Amohnition\_9
- Track 92 : Ellie\_7, Fefferhead\_9
- Track 93 : Tierra\_9
- Track 94 : Ekdilam\_7
- Track 95 : Amgine\_8
- Track 96 : November\_8
- Track 97 : Hammy\_9
- Track 98 : Aminay\_8
- Track 99 : Boilgate\_7

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

The start number called the most often in the published annotations is 11, it was called in 67 of the 210 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angel\_4, Annihilator\_4, Antsirabe\_4, Aroostook\_4, Avocado\_4, Avrafan\_4, AzulaCat\_4, BPs\_4, BQuat\_4, Barkley26\_4, BruceB\_4, CLED96\_4, Cambiare\_5, Camri\_4, CassieYates\_4, Cedasite\_4, Chance64\_4, Cherrybomb426\_4, Coleslaw\_4, Crespo\_4, DMoney\_4, DNAll\_004, Darionha\_4, ECartman\_4, FlagStaff\_4, Frosty24\_4, Gideon\_4, GoldenAsh\_4, Gomashi\_4, Grizzly\_4, Halo\_4, Hope\_4, Hotshotbaby7\_4, Jane\_4, Jolene\_4, Jonghyun\_4, JorRay\_4, Kareem\_4, Kasen3\_4, Liefie\_4, LouisV14\_4, MOOREtheMARYer\_4, Maliketh\_4, Marmie\_4, Mowgli\_4, OctaviousRex\_4, Olga\_4, Pace1224\_4, Paito\_4, Peeb\_4, Periodt\_4, Phish\_4, Phreak\_4, PinkYoshi\_4, Pinnie\_5, Plagueis\_4, Rabbs\_4, Remy19\_4, Renaissance\_4, Schiebel\_4, ShaboiShabazz\_4, Sizemore\_4, Sneeze\_4, Stargaze\_4, Sweets\_4, Taheera\_4, Terror\_4, Tierra\_9, TinaBug\_4, TomBrady\_4, Wendigo\_4, ZoMa\_4, Zombie\_4,

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

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

- ActinUp\_10, Adephegia\_10, Adonis\_10, Agent47\_8, Ageofdapage\_10, AlishaPH\_10, AlleyCat\_8, Amelie\_6, Amgine\_8, Aminay\_8, Amohnition\_9, Anaya\_11, Angelica\_10, Apocalypse\_10, Asayake\_10, Atiba\_10, BEEEST\_10, BGlluviae\_10, BaghaKamala\_10, BarrelRoll\_10, Beezoo\_10, Bella96\_10, Belladonna\_10, Bern\_11,

Biglebops\_6, Blizzard\_10, Boiii\_10, Boilgate\_7, CREW\_10, CallaLilly\_10, Capricorn\_10, CaseJules\_10, Chancellor\_11, CheetoDust\_10, Cheetobro\_11, Clipper\_11, Collard\_8, CrimD\_10, Dadosky\_8, Dalmuri\_10, DarthP\_9, Deby\_10, Devera\_10, Dole\_10, DrHayes\_10, Durfee\_10, Edugator\_7, Ekdilam\_7, Ellie\_7, Emerson\_10, Enkosi\_6, Eponine\_11, Fefferhead\_9, Feyre\_8, Fionnbharth\_11, Ganymede\_10, Gengar\_8, Geraldini\_10, Guillsminger\_8, Hammy\_9, HedwigODU\_10, Heftyboy\_8, Homura\_10, Hurricane\_9, Hyperbowlee\_10, Illumine\_10, Inky\_10, InvictusManeo\_8, JAWS\_10, JF1\_11, Jarvi\_10, Jayhawk\_10, Jeckyll\_10, Joy99\_10, Juliette\_11, Keshu\_9, Kratio\_7, Kraw\_11, Larva\_8, LaterM\_10, Leston\_8, LilPharaoh\_6, LindNT\_10, Llorens\_10, Lunahalos\_10, MacKat\_10, MacnCheese\_10, Malthus\_11, Mdavu\_6, MeaningOfLife\_10, Megsy\_10, Miryou\_8, MissDaisy\_11, Mitti\_11, Murucutumbu\_10, Mynx\_10, Neighly\_8, Nikao\_6, November\_8, Nutello\_6, OkiRoe\_8, OmniCritical\_11, Padfoot\_10, Padpat\_10, Paola\_8, Patt\_11, Peel\_10, Pharb\_9, Piatt\_10, Pixie\_9, Pokerus\_9, Prithvi\_10, Psycho\_8, QuincyRose\_9, Ramen\_10, Rapunzel97\_10, Reptar3000\_11, Rosmarinus\_10, Ruthiejr\_10, SamScheppers\_9, SamuelLPlaqson\_10, SgtBeansprout\_6, ShedlockHolmes\_9, ShiaSurprise\_10, Slarp\_11, Slimphazie\_10, SoSeph\_8, Spock\_10, Stinson\_10, Sulley\_10, TBond007\_9, Tachez\_10, TaiwanKao\_10, Taquito\_9, Thyatira\_8, TiniBug\_10, Tiri\_10, Topper\_10, Torres\_6, TreyKay\_10, TribbleTrouble\_8, TruffulaTree\_10, Twitch\_10, Urkel\_10, Veliki\_10, ViviJ\_7, Waterfoul\_8, Wintermute\_11, Y10\_11, Y2\_11, YoureAdopted\_9, Zabiza\_10, Zavala\_10,

### Summary by start number:

#### Start 8:

- Found in 109 of 226 ( 48.2% ) of genes in pham
- Manual Annotations of this start: 48 of 210
- Called 44.0% of time when present
- Phage (with cluster) where this start called: Adonis\_10 (K1), Amelie\_6 (K1), Anaya\_11 (K1), Asayake\_10 (K1), BGlluviae\_10 (K1), BaghaKamala\_10 (K1), BarrelRoll\_10 (K1), Bella96\_10 (K1), Belladonna\_10 (K1), Biglebops\_6 (K1), Blizzard\_10 (K1), CREW\_10 (K1), Capricorn\_10 (K1), CheetoDust\_10 (K1), CrimD\_10 (K1), Dalmuri\_10 (K1), DarthP\_9 (K6), Durfee\_10 (K1), Ekdilam\_7 (K6), Enkosi\_6 (K1), Hammy\_9 (K6), Homura\_10 (K1), Hurricane\_9 (K3), Hyperbowlee\_10 (K1), Inky\_10 (K1), JAWS\_10 (K1), Jarvi\_10 (K1), Jayhawk\_10 (K1), Keshu\_9 (K3), MacnCheese\_10 (K3), Mdavu\_6 (K1), MeaningOfLife\_10 (K1), Megsy\_10 (K1), Nutello\_6 (K1), Padfoot\_10 (K1), Peel\_10 (K1), Pharb\_9 (K3), Piatt\_10 (K1), Pixie\_9 (K3), ShedlockHolmes\_9 (K3), Spock\_10 (K1), TiniBug\_10 (K1), TribbleTrouble\_8 (K3), TruffulaTree\_10 (K1), Twitch\_10 (K1), Veliki\_10 (K1), YoureAdopted\_9 (K1), Zabiza\_10 (K1),

#### Start 9:

- Found in 22 of 226 ( 9.7% ) of genes in pham
- Manual Annotations of this start: 21 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aminay\_8 (K7), Boilgate\_7 (K8), Chancellor\_11 (K4), Cheetobro\_11 (K4), Eponine\_11 (K4), Fionnbharth\_11 (K4), JF1\_11 (K4), Juliette\_11 (K4), Kraw\_11 (K4), Malthus\_11 (K4), MissDaisy\_11 (K4), Mitti\_11 (K4), OmniCritical\_11 (K4), Patt\_11 (K4), Reptar3000\_11 (K4), Ruthiejr\_10 (K4), SamScheppers\_9 (K4), Slarp\_11 (K4), Taquito\_9 (K4), Wintermute\_11 (K4), Y10\_11 (K4), Y2\_11 (K4),

#### Start 10:

- Found in 22 of 226 ( 9.7% ) of genes in pham
- Manual Annotations of this start: 11 of 210
- Called 59.1% of time when present
- Phage (with cluster) where this start called: Agent47\_8 (K5), Collard\_8 (K5), Dadosky\_8 (K5), Edugator\_7 (K5), Feyre\_8 (K5), Gengar\_8 (K5), Heftyboy\_8 (K5), Leston\_8 (K5), Miryou\_8 (K5), Neighly\_8 (K3), OkiRoe\_8 (K5), SoSeph\_8 (K5), ViviJ\_7 (K5),

#### Start 11:

- Found in 73 of 226 ( 32.3% ) of genes in pham
- Manual Annotations of this start: 67 of 210
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angel\_4 (G1), Annihilator\_4 (G1), Antsirabe\_4 (G5), Aroostook\_4 (G1), Avocado\_4 (G2), Avrafan\_4 (G1), AzulaCat\_4 (G1), BPs\_4 (G1), BQuat\_4 (G1), Barkley26\_4 (G1), BruceB\_4 (G1), CLED96\_4 (G1), Cambiare\_5 (G2), Camri\_4 (G1), CassieYates\_4 (G1), Cedasite\_4 (G1), Chance64\_4 (G1), Cherrybomb426\_4 (G1), Coleslaw\_4 (G1), Crespo\_4 (G1), DMoney\_4 (G1), DNAIII\_004 (G1), Darionha\_4 (G1), ECartman\_4 (G1), FlagStaff\_4 (G2), Frosty24\_4 (G1), Gideon\_4 (G1), GoldenAsh\_4 (G1), Gomashi\_4 (G1), Grizzly\_4 (G1), Halo\_4 (G1), Hope\_4 (G1), Hotshotbaby7\_4 (G1), Jane\_4 (G1), Jolene\_4 (G1), Jonghyun\_4 (G1), JorRay\_4 (G1), Kareem\_4 (G1), Kasen3\_4 (G1), Liefie\_4 (G1), LouisV14\_4 (G1), MOOREtheMARYer\_4 (G3), Maliketh\_4 (G1), Marmie\_4 (G1), Mowgli\_4 (G1), OctaviousRex\_4 (G1), Olga\_4 (G1), Pace1224\_4 (G2), Paito\_4 (G1), Peeb\_4 (G1), Periodt\_4 (G1), Phish\_4 (G1), Phreak\_4 (G1), PinkYoshi\_4 (G1), Pinnie\_5 (G3), Plagueis\_4 (G1), Rabbs\_4 (G1), Remy19\_4 (G1), Renaissance\_4 (G1), Schiebel\_4 (G1), ShaboiShabazz\_4 (G1), Sizemore\_4 (G1), Sneeze\_4 (G1), Stargaze\_4 (G5), Sweets\_4 (G1), Taheera\_4 (G1), Terror\_4 (G1), Tierra\_9 (K6), TinaBug\_4 (G1), TomBrady\_4 (G1), Wendigo\_4 (G1), ZoMa\_4 (G1), Zombie\_4 (G1),

#### Start 12:

- Found in 24 of 226 ( 10.6% ) of genes in pham
- Manual Annotations of this start: 4 of 210
- Called 16.7% of time when present
- Phage (with cluster) where this start called: AlleyCat\_8 (K5), Paola\_8 (K5), Thyatira\_8 (K5), Waterfoul\_8 (K5),

#### Start 16:

- Found in 86 of 226 ( 38.1% ) of genes in pham
- Manual Annotations of this start: 49 of 210
- Called 61.6% of time when present
- Phage (with cluster) where this start called: ActinUp\_10 (K1), Adephegia\_10 (K1), Ageofdapage\_10 (K1), AlishaPH\_10 (K1), Amgine\_8 (K6), Angelica\_10 (K1), Apocalypse\_10 (K1), Atiba\_10 (K1), BEEEST\_10 (K1), Beezoo\_10 (K1), Bern\_11 (K1), Boiii\_10 (K1), CaseJules\_10 (K1), Clipper\_11 (K1), Deby\_10 (K1), Devera\_10 (K1), Dole\_10 (K1), DrHayes\_10 (K1), Ellie\_7 (K6), Emerson\_10 (K1), Fefferhead\_9 (K6), Ganymede\_10 (K1), Geraldini\_10 (K1), HedwigODU\_10 (K1), Illumine\_10 (K1), Jeckyll\_10 (K1), Joy99\_10 (K1), LaterM\_10 (K1), LindNT\_10 (K1), Llorens\_10 (K1), Lunahalos\_10 (K1), MacKat\_10 (K1), Murucutumbu\_10 (K1), Mynx\_10 (K1), Padpat\_10 (K1), Pokerus\_9 (K1), Prithvi\_10 (K1), QuincyRose\_9 (K1), Ramen\_10 (K1), Rapunzel97\_10 (K1), Rosmarinus\_10 (K1), SamuelLPlagson\_10 (K1), ShiaSurprise\_10 (K1), Slimphazie\_10 (K1), Stinson\_10 (K1), Sulley\_10 (K1),



Tachez\_10 (K1), TaiwanKao\_10 (K1), Tiri\_10 (K1), Topper\_10 (K1), TreyKay\_10 (K1), Urkel\_10 (K1), Zavala\_10 (K1),

Start 17:

- Found in 10 of 226 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 4 of 210
- Called 40.0% of time when present
- Phage (with cluster) where this start called: InvictusManeo\_8 (K5), Kratio\_7 (K5), Larva\_8 (K5), Psycho\_8 (K5),

Start 20:

- Found in 146 of 226 ( 64.6% ) of genes in pham
- Manual Annotations of this start: 5 of 210
- Called 4.1% of time when present
- Phage (with cluster) where this start called: Amohnition\_9 (K6), LilPharaoh\_6 (K1), Nikao\_6 (K1), SgtBeansprout\_6 (K1), TBond007\_9 (K3), Torres\_6 (K1),

Start 25:

- Found in 102 of 226 ( 45.1% ) of genes in pham
- Manual Annotations of this start: 1 of 210
- Called 2.0% of time when present
- Phage (with cluster) where this start called: CallaLilly\_10 (K1), Guillsminger\_8 (K5),

Start 35:

- Found in 42 of 226 ( 18.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.4% of time when present
- Phage (with cluster) where this start called: November\_8 (K6),

### **Summary by clusters:**

There are 11 clusters represented in this pham: G5, G3, G2, G1, K3, K1, K7, K6, K5, K4, K8,

Info for manual annotations of cluster G1:

- Start number 11 was manually annotated 60 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 11 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 11 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G5:

- Start number 11 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster K1:

- Start number 8 was manually annotated 38 times for cluster K1.
- Start number 16 was manually annotated 46 times for cluster K1.
- Start number 20 was manually annotated 3 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 8 was manually annotated 7 times for cluster K3.



- Start number 20 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K4:

- Start number 9 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 10 was manually annotated 11 times for cluster K5.
- Start number 12 was manually annotated 4 times for cluster K5.
- Start number 17 was manually annotated 4 times for cluster K5.
- Start number 25 was manually annotated 1 time for cluster K5.

Info for manual annotations of cluster K6:

- Start number 8 was manually annotated 3 times for cluster K6.
- Start number 11 was manually annotated 1 time for cluster K6.
- Start number 16 was manually annotated 3 times for cluster K6.
- Start number 20 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster K7:

- Start number 9 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 9 was manually annotated 1 time for cluster K8.

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

Gene: ActinUp\_10 Start: 4584, Stop: 7094, Start Num: 16

Candidate Starts for ActinUp\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Adephagia\_10 Start: 4584, Stop: 7094, Start Num: 16

Candidate Starts for Adephagia\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Adonis\_10 Start: 4535, Stop: 7105, Start Num: 8

Candidate Starts for Adonis\_10:

(Start: 8 @4535 has 48 MA's), (Start: 16 @4595 has 49 MA's), (Start: 20 @4619 has 5 MA's), (Start: 25 @4661 has 1 MA's), (27, 4673), (29, 4685), (38, 4757), (51, 4874), (58, 4922), (59, 4946), (64, 5021), (76, 5150), (77, 5156), (79, 5189), (81, 5219), (86, 5273), (96, 5357), (101, 5381), (112, 5456), (116, 5498), (121, 5537), (124, 5558), (128, 5582), (133, 5600), (148, 5699), (152, 5738), (154, 5747), (156,

5759), (162, 5807), (163, 5813), (164, 5825), (166, 5843), (199, 6104), (200, 6125), (215, 6230), (216, 6236), (219, 6245), (226, 6263), (229, 6278), (261, 6380), (269, 6425), (273, 6437), (299, 6584), (321, 6773), (328, 6833), (333, 6893), (337, 6923), (343, 6980), (344, 6992), (350, 7052), (353, 7082),

Gene: Agent47\_8 Start: 4259, Stop: 7129, Start Num: 10

Candidate Starts for Agent47\_8:

(Start: 10 @4259 has 11 MA's), (Start: 12 @4271 has 4 MA's), (Start: 17 @4325 has 4 MA's), (Start: 20 @4337 has 5 MA's), (34, 4433), (37, 4469), (50, 4550), (51, 4553), (52, 4568), (54, 4577), (59, 4625), (62, 4652), (64, 4700), (67, 4718), (76, 4829), (77, 4835), (79, 4868), (81, 4898), (82, 4919), (86, 4952), (87, 4976), (105, 5093), (110, 5135), (115, 5195), (124, 5258), (126, 5273), (128, 5282), (140, 5354), (150, 5417), (152, 5438), (153, 5441), (154, 5447), (160, 5480), (163, 5513), (169, 5585), (172, 5603), (183, 5687), (184, 5693), (185, 5696), (188, 5720), (189, 5729), (191, 5741), (199, 5804), (200, 5825), (205, 5876), (230, 6002), (231, 6008), (232, 6023), (240, 6113), (244, 6146), (246, 6152), (248, 6167), (270, 6314), (292, 6527), (296, 6560), (299, 6584), (314, 6764), (315, 6767), (318, 6788), (321, 6806), (326, 6854), (333, 6926), (340, 6968), (341, 6977), (343, 7004), (344, 7016), (346, 7055), (349, 7073), (353, 7106),

Gene: Ageofdapage\_10 Start: 4527, Stop: 7037, Start Num: 16

Candidate Starts for Ageofdapage\_10:

(2, 4359), (Start: 8 @4467 has 48 MA's), (Start: 16 @4527 has 49 MA's), (19, 4548), (Start: 20 @4551 has 5 MA's), (Start: 25 @4593 has 1 MA's), (29, 4617), (35, 4650), (38, 4689), (58, 4854), (59, 4878), (64, 4953), (81, 5151), (86, 5205), (96, 5289), (101, 5313), (112, 5388), (120, 5460), (124, 5490), (126, 5505), (128, 5514), (133, 5532), (148, 5631), (152, 5670), (154, 5679), (156, 5691), (163, 5745), (164, 5757), (166, 5775), (199, 6036), (200, 6057), (216, 6168), (219, 6177), (226, 6195), (229, 6210), (261, 6315), (273, 6369), (291, 6447), (299, 6516), (308, 6612), (321, 6705), (328, 6765), (333, 6825), (343, 6912), (344, 6924), (350, 6984), (353, 7014),

Gene: AlishaPH\_10 Start: 4586, Stop: 7096, Start Num: 16

Candidate Starts for AlishaPH\_10:

(Start: 8 @4526 has 48 MA's), (Start: 16 @4586 has 49 MA's), (Start: 20 @4610 has 5 MA's), (Start: 25 @4652 has 1 MA's), (27, 4664), (29, 4676), (51, 4865), (58, 4913), (59, 4937), (64, 5012), (76, 5141), (77, 5147), (79, 5180), (81, 5210), (86, 5264), (96, 5348), (101, 5372), (112, 5447), (116, 5489), (121, 5528), (124, 5549), (128, 5573), (133, 5591), (148, 5690), (152, 5729), (154, 5738), (156, 5750), (162, 5798), (163, 5804), (164, 5816), (166, 5834), (199, 6095), (200, 6116), (215, 6221), (216, 6227), (219, 6236), (226, 6254), (229, 6269), (261, 6371), (269, 6416), (273, 6428), (299, 6575), (321, 6764), (328, 6824), (332, 6881), (333, 6884), (337, 6914), (343, 6971), (344, 6983), (350, 7043), (353, 7073),

Gene: AlleyCat\_8 Start: 4289, Stop: 7024, Start Num: 12

Candidate Starts for AlleyCat\_8:

(Start: 10 @4277 has 11 MA's), (Start: 12 @4289 has 4 MA's), (Start: 17 @4343 has 4 MA's), (Start: 20 @4355 has 5 MA's), (Start: 25 @4397 has 1 MA's), (34, 4451), (37, 4487), (50, 4568), (51, 4571), (52, 4586), (54, 4595), (59, 4643), (62, 4670), (64, 4718), (67, 4736), (76, 4847), (77, 4853), (79, 4886), (81, 4916), (82, 4937), (86, 4970), (87, 4994), (105, 5111), (110, 5153), (112, 5174), (115, 5213), (124, 5276), (126, 5291), (128, 5300), (140, 5372), (150, 5435), (152, 5456), (153, 5459), (154, 5465), (158, 5486), (160, 5498), (161, 5507), (163, 5531), (169, 5603), (172, 5621), (183, 5705), (184, 5711), (185, 5714), (188, 5738), (189, 5747), (191, 5759), (199, 5822), (200, 5843), (205, 5894), (210, 5930), (240, 6008), (244, 6041), (246, 6047), (248, 6062), (270, 6209), (292, 6422), (296, 6455), (299, 6479), (314, 6659), (315, 6662), (318, 6683), (321, 6701), (326, 6749), (333, 6821), (340, 6863), (341, 6872), (343, 6899), (344, 6911), (346, 6950), (349, 6968), (353, 7001),

Gene: Amelie\_6 Start: 3784, Stop: 6339, Start Num: 8

Candidate Starts for Amelie\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: Amgine\_8 Start: 4175, Stop: 6667, Start Num: 16

Candidate Starts for Amgine\_8:

(1, 4001), (Start: 8 @4115 has 48 MA's), (Start: 16 @4175 has 49 MA's), (Start: 20 @4199 has 5 MA's), (Start: 25 @4241 has 1 MA's), (35, 4298), (51, 4454), (59, 4526), (62, 4553), (64, 4601), (68, 4625), (71, 4691), (76, 4733), (77, 4739), (79, 4772), (83, 4829), (86, 4856), (98, 4955), (101, 4967), (108, 5018), (112, 5042), (121, 5123), (126, 5159), (128, 5168), (131, 5177), (141, 5243), (152, 5324), (154, 5333), (160, 5366), (163, 5399), (165, 5420), (173, 5507), (181, 5555), (185, 5582), (188, 5606), (189, 5615), (193, 5639), (199, 5690), (200, 5711), (205, 5762), (206, 5768), (250, 5900), (261, 5912), (263, 5915), (265, 5930), (286, 6002), (299, 6122), (308, 6251), (318, 6326), (321, 6344), (323, 6353), (326, 6392), (332, 6461), (333, 6464), (341, 6515), (343, 6542), (344, 6554), (346, 6593), (351, 6629), (353, 6644),

Gene: Aminay\_8 Start: 4299, Stop: 6959, Start Num: 9

Candidate Starts for Aminay\_8:

(Start: 9 @4299 has 21 MA's), (Start: 20 @4377 has 5 MA's), (21, 4386), (36, 4503), (38, 4515), (42, 4536), (50, 4602), (57, 4641), (58, 4653), (62, 4704), (64, 4752), (71, 4836), (77, 4881), (79, 4911), (82, 4962), (86, 4995), (88, 5028), (128, 5376), (131, 5385), (154, 5541), (169, 5679), (171, 5688), (178, 5751), (182, 5772), (188, 5814), (189, 5823), (199, 5898), (203, 5955), (206, 5982), (223, 6060), (249, 6150), (261, 6204), (283, 6279), (299, 6414), (312, 6567), (318, 6618), (321, 6636), (326, 6684), (333, 6756), (341, 6807), (343, 6834), (344, 6846), (346, 6885), (349, 6903),

Gene: Amohnition\_9 Start: 4405, Stop: 6894, Start Num: 20

Candidate Starts for Amohnition\_9:

(Start: 8 @4321 has 48 MA's), (Start: 20 @4405 has 5 MA's), (35, 4504), (40, 4558), (41, 4579), (43, 4591), (44, 4597), (58, 4708), (61, 4747), (64, 4807), (66, 4822), (68, 4831), (73, 4906), (76, 4939), (77, 4945), (79, 4978), (81, 5008), (86, 5062), (87, 5086), (101, 5167), (111, 5230), (112, 5242), (126, 5359), (128, 5368), (141, 5443), (147, 5470), (152, 5524), (154, 5533), (160, 5566), (163, 5599), (165, 5620), (169, 5671), (172, 5689), (181, 5755), (185, 5782), (189, 5815), (193, 5839), (199, 5890), (200, 5911), (205, 5962), (206, 5968), (211, 6001), (264, 6145), (265, 6154), (299, 6349), (300, 6355), (305, 6418), (308, 6478), (309, 6487), (310, 6490), (318, 6553), (321, 6571), (326, 6619), (333, 6691), (334, 6694), (339, 6730), (340, 6733), (341, 6742), (343, 6769), (344, 6781), (346, 6820), (349, 6838), (353, 6871),

Gene: Anaya\_11 Start: 4547, Stop: 7099, Start Num: 8

Candidate Starts for Anaya\_11:

(Start: 8 @4547 has 48 MA's), (Start: 20 @4631 has 5 MA's), (Start: 25 @4673 has 1 MA's), (51, 4886), (58, 4934), (59, 4958), (64, 5033), (76, 5162), (77, 5168), (79, 5201), (81, 5231), (86, 5285), (96, 5369), (101, 5393), (112, 5468), (113, 5486), (124, 5570), (126, 5585), (128, 5594), (133, 5612), (148, 5711), (149, 5717), (152, 5750), (154, 5759), (156, 5771), (160, 5792), (163, 5825), (164, 5837), (166, 5855), (199, 6116), (200, 6137), (208, 6203), (211, 6224), (215, 6242), (216, 6248), (219, 6257), (226, 6275), (229, 6290), (261, 6392), (299, 6578), (321, 6767), (328, 6827), (333, 6887), (343, 6974), (344, 6986), (349, 7043), (353, 7076),

Gene: Angel\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Angel\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Angelica\_10 Start: 4566, Stop: 7073, Start Num: 16

Candidate Starts for Angelica\_10:

(Start: 8 @4506 has 48 MA's), (Start: 16 @4566 has 49 MA's), (Start: 20 @4590 has 5 MA's), (Start: 25 @4632 has 1 MA's), (29, 4656), (38, 4728), (51, 4845), (58, 4893), (59, 4917), (64, 4992), (76, 5121), (77, 5127), (79, 5160), (81, 5190), (86, 5244), (96, 5328), (101, 5352), (112, 5427), (116, 5469), (121, 5508), (124, 5529), (128, 5553), (133, 5571), (148, 5670), (152, 5709), (154, 5718), (156, 5730), (162, 5778), (163, 5784), (164, 5796), (166, 5814), (189, 6000), (198, 6063), (199, 6075), (200, 6096), (215, 6201), (216, 6207), (219, 6216), (226, 6234), (229, 6249), (261, 6351), (269, 6396), (273, 6408), (299, 6552), (308, 6648), (316, 6708), (321, 6741), (328, 6801), (333, 6861), (337, 6891), (343, 6948), (344, 6960), (350, 7020),

Gene: Annihilator\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Annihilator\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Antsirabe\_4 Start: 3504, Stop: 6410, Start Num: 11

Candidate Starts for Antsirabe\_4:

(Start: 11 @3504 has 67 MA's), (24, 3618), (26, 3627), (58, 3843), (64, 3945), (75, 4071), (86, 4200), (90, 4242), (92, 4281), (104, 4305), (109, 4356), (112, 4377), (115, 4416), (116, 4419), (119, 4437), (120, 4449), (130, 4509), (138, 4560), (139, 4563), (142, 4584), (144, 4593), (154, 4668), (156, 4680), (177, 4848), (195, 4968), (197, 4989), (245, 5355), (254, 5424), (267, 5505), (299, 5823), (301, 5832), (303, 5847), (320, 6066), (324, 6090), (325, 6105), (328, 6141), (333, 6201), (334, 6204), (338, 6237), (342, 6276), (343, 6279), (344, 6291), (347, 6336), (348, 6345), (352, 6384),

Gene: Apocalypse\_10 Start: 4562, Stop: 7072, Start Num: 16

Candidate Starts for Apocalypse\_10:

(Start: 8 @4502 has 48 MA's), (Start: 16 @4562 has 49 MA's), (Start: 20 @4586 has 5 MA's), (Start: 25 @4628 has 1 MA's), (27, 4640), (29, 4652), (38, 4724), (51, 4841), (58, 4889), (59, 4913), (64, 4988), (76, 5117), (77, 5123), (79, 5156), (81, 5186), (86, 5240), (96, 5324), (101, 5348), (112, 5423), (116, 5465), (121, 5504), (128, 5549), (133, 5567), (148, 5666), (152, 5705), (154, 5714), (156, 5726), (162, 5774), (163, 5780), (164, 5792), (166, 5810), (199, 6071), (200, 6092), (215, 6197), (216, 6203), (219, 6212), (226, 6230), (229, 6245), (261, 6347), (273, 6404), (299, 6551), (308, 6647), (321, 6740), (328, 6800), (333, 6860), (343, 6947), (344, 6959), (350, 7019),

Gene: Aroostook\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Aroostook\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Asayake\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Asayake\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Atiba\_10 Start: 4550, Stop: 7060, Start Num: 16

Candidate Starts for Atiba\_10:

(Start: 8 @4490 has 48 MA's), (Start: 16 @4550 has 49 MA's), (Start: 20 @4574 has 5 MA's), (Start: 25 @4616 has 1 MA's), (27, 4628), (29, 4640), (51, 4829), (58, 4877), (59, 4901), (64, 4976), (76, 5105), (77, 5111), (79, 5144), (81, 5174), (86, 5228), (96, 5312), (101, 5336), (112, 5411), (116, 5453), (121, 5492), (124, 5513), (128, 5537), (133, 5555), (148, 5654), (152, 5693), (154, 5702), (156, 5714), (162, 5762), (163, 5768), (164, 5780), (166, 5798), (199, 6059), (200, 6080), (215, 6185), (216, 6191), (219, 6200), (261, 6335), (269, 6380), (273, 6392), (299, 6539), (321, 6728), (328, 6788), (333, 6848), (337, 6878), (343, 6935), (344, 6947), (350, 7007),

Gene: Avocado\_4 Start: 3454, Stop: 6372, Start Num: 11

Candidate Starts for Avocado\_4:

(3, 3385), (Start: 11 @3454 has 67 MA's), (Start: 25 @3574 has 1 MA's), (58, 3799), (64, 3898), (75, 4021), (80, 4078), (84, 4135), (86, 4150), (89, 4189), (91, 4213), (92, 4228), (112, 4324), (118, 4378), (139, 4510), (142, 4531), (150, 4585), (151, 4597), (154, 4615), (195, 4915), (206, 5029), (259, 5419), (284, 5611), (285, 5620), (294, 5740), (299, 5785), (301, 5794), (303, 5809), (314, 5986), (319, 6022), (324, 6052), (325, 6067), (328, 6103), (331, 6136), (333, 6163), (343, 6241), (344, 6253), (347, 6298), (348, 6307), (352, 6346), (353, 6349),

Gene: Avrafan\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Avrafan\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: AzulaCat\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for AzulaCat\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: BEEST\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for BEEST\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183),

(77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: BGlluviae\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for BGlluviae\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: BPs\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for BPs\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: BQuat\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for BQuat\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: BaghaKamala\_10 Start: 4500, Stop: 7070, Start Num: 8

Candidate Starts for BaghaKamala\_10:

(Start: 8 @4500 has 48 MA's), (Start: 16 @4560 has 49 MA's), (Start: 20 @4584 has 5 MA's), (Start: 25 @4626 has 1 MA's), (27, 4638), (29, 4650), (51, 4839), (53, 4857), (58, 4887), (59, 4911), (64, 4986), (76, 5115), (77, 5121), (79, 5154), (81, 5184), (86, 5238), (96, 5322), (101, 5346), (112, 5421), (116, 5463), (121, 5502), (124, 5523), (128, 5547), (133, 5565), (148, 5664), (152, 5703), (154, 5712), (156, 5724), (162, 5772), (163, 5778), (164, 5790), (166, 5808), (199, 6069), (200, 6090), (215, 6195), (216, 6201), (219, 6210), (226, 6228), (229, 6243), (261, 6345), (269, 6390), (273, 6402), (299, 6549), (321, 6738), (328, 6798), (333, 6858), (337, 6888), (343, 6945), (344, 6957), (350, 7017),

Gene: Barkley26\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Barkley26\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: BarrelRoll\_10 Start: 4518, Stop: 7088, Start Num: 8

Candidate Starts for BarrelRoll\_10:

(Start: 8 @4518 has 48 MA's), (Start: 16 @4578 has 49 MA's), (Start: 20 @4602 has 5 MA's), (Start: 25 @4644 has 1 MA's), (27, 4656), (29, 4668), (51, 4857), (58, 4905), (59, 4929), (64, 5004), (76, 5133), (77, 5139), (79, 5172), (81, 5202), (86, 5256), (96, 5340), (101, 5364), (112, 5439), (116, 5481), (121, 5520), (124, 5541), (128, 5565), (133, 5583), (148, 5682), (152, 5721), (154, 5730), (156, 5742), (162, 5790), (163, 5796), (164, 5808), (166, 5826), (199, 6087), (200, 6108), (215, 6213), (216, 6219), (219, 6228), (226, 6246), (229, 6261), (261, 6363), (269, 6408), (273, 6420), (299, 6567), (321, 6756), (328, 6816), (332, 6873), (333, 6876), (337, 6906), (343, 6963), (344, 6975), (350, 7035), (353, 7065),

Gene: Beezoo\_10 Start: 4610, Stop: 7120, Start Num: 16

Candidate Starts for Beezoo\_10:

(Start: 8 @4550 has 48 MA's), (Start: 16 @4610 has 49 MA's), (Start: 20 @4634 has 5 MA's), (Start: 25 @4676 has 1 MA's), (27, 4688), (29, 4700), (51, 4889), (58, 4937), (59, 4961), (64, 5036), (76, 5165), (77, 5171), (79, 5204), (81, 5234), (86, 5288), (96, 5372), (101, 5396), (112, 5471), (116, 5513), (121, 5552), (124, 5573), (128, 5597), (133, 5615), (148, 5714), (152, 5753), (154, 5762), (156, 5774), (162, 5822), (163, 5828), (164, 5840), (166, 5858), (199, 6119), (200, 6140), (215, 6245), (216, 6251), (219, 6260), (226, 6278), (229, 6293), (261, 6395), (269, 6440), (273, 6452), (299, 6599), (321, 6788), (328, 6848), (333, 6908), (343, 6995), (344, 7007), (350, 7067),

Gene: Bella96\_10 Start: 4470, Stop: 7025, Start Num: 8

Candidate Starts for Bella96\_10:

(2, 4362), (7, 4461), (Start: 8 @4470 has 48 MA's), (Start: 16 @4530 has 49 MA's), (19, 4551), (22, 4572), (29, 4620), (38, 4692), (54, 4833), (58, 4857), (59, 4881), (64, 4956), (76, 5088), (77, 5094), (79, 5127), (81, 5157), (86, 5211), (96, 5295), (101, 5319), (112, 5394), (121, 5475), (124, 5496), (126, 5511), (128, 5520), (133, 5538), (148, 5637), (152, 5676), (154, 5685), (156, 5697), (162, 5745), (163, 5751), (164, 5763), (166, 5781), (198, 6030), (199, 6042), (200, 6063), (216, 6174), (219, 6183), (226, 6201), (229, 6216), (256, 6297), (261, 6318), (295, 6477), (299, 6504), (308, 6600), (321, 6693), (328, 6753), (333, 6813), (343, 6900), (344, 6912), (349, 6969), (353, 7002),

Gene: Belladonna\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Belladonna\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Bern\_11 Start: 4568, Stop: 7066, Start Num: 16

Candidate Starts for Bern\_11:

(Start: 8 @4508 has 48 MA's), (Start: 16 @4568 has 49 MA's), (Start: 20 @4592 has 5 MA's), (Start: 25 @4634 has 1 MA's), (35, 4691), (38, 4730), (58, 4895), (59, 4919), (64, 4994), (76, 5126), (77, 5132), (81, 5195), (86, 5249), (96, 5333), (101, 5357), (112, 5432), (124, 5534), (126, 5549), (128, 5558), (133, 5576), (148, 5675), (152, 5714), (154, 5723), (156, 5735), (163, 5789), (164, 5801), (166, 5819), (199, 6080), (200, 6101), (216, 6212), (219, 6221), (226, 6239), (229, 6254), (299, 6545), (308, 6641), (310, 6653), (321, 6734), (328, 6794), (332, 6851), (333, 6854), (343, 6941), (344, 6953), (350, 7013),

Gene: Biglebops\_6 Start: 3784, Stop: 6339, Start Num: 8

Candidate Starts for Biglebops\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702),



(116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: Blizzard\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Blizzard\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Boiiii\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for Boiiii\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Boilgate\_7 Start: 4547, Stop: 7030, Start Num: 9

Candidate Starts for Boilgate\_7:

(Start: 9 @4547 has 21 MA's), (15, 4595), (Start: 20 @4625 has 5 MA's), (30, 4694), (31, 4703), (32, 4706), (35, 4724), (36, 4751), (43, 4787), (48, 4829), (56, 4889), (58, 4904), (62, 4955), (63, 4964), (64, 5003), (65, 5006), (70, 5078), (72, 5087), (76, 5120), (79, 5153), (85, 5234), (86, 5237), (87, 5261), (88, 5270), (94, 5348), (95, 5351), (97, 5360), (107, 5402), (116, 5501), (119, 5519), (125, 5573), (127, 5582), (133, 5603), (143, 5669), (154, 5750), (157, 5765), (160, 5783), (169, 5885), (172, 5903), (178, 5957), (182, 5978), (185, 5996), (195, 6068), (199, 6104), (200, 6125), (214, 6233), (221, 6251), (228, 6278), (251, 6347), (255, 6359), (257, 6374), (258, 6377), (283, 6404), (299, 6518), (327, 6758), (328, 6767), (333, 6827), (334, 6830), (340, 6869), (341, 6878), (343, 6905), (344, 6917), (353, 7007),

Gene: BruceB\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for BruceB\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: CLED96\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for CLED96\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333,

5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: CREW\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for CREW\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: CallaLilly\_10 Start: 4623, Stop: 7067, Start Num: 25

Candidate Starts for CallaLilly\_10:

(Start: 8 @4497 has 48 MA's), (Start: 16 @4557 has 49 MA's), (Start: 20 @4581 has 5 MA's), (Start: 25 @4623 has 1 MA's), (27, 4635), (29, 4647), (51, 4836), (58, 4884), (59, 4908), (64, 4983), (76, 5112), (77, 5118), (79, 5151), (81, 5181), (86, 5235), (96, 5319), (101, 5343), (112, 5418), (116, 5460), (121, 5499), (124, 5520), (128, 5544), (133, 5562), (148, 5661), (152, 5700), (154, 5709), (156, 5721), (162, 5769), (163, 5775), (164, 5787), (166, 5805), (199, 6066), (200, 6087), (215, 6192), (216, 6198), (219, 6207), (226, 6225), (229, 6240), (261, 6342), (269, 6387), (273, 6399), (299, 6546), (321, 6735), (328, 6795), (333, 6855), (343, 6942), (344, 6954), (350, 7014),

Gene: Cambiare\_5 Start: 3916, Stop: 6834, Start Num: 11

Candidate Starts for Cambiare\_5:

(3, 3847), (Start: 11 @3916 has 67 MA's), (Start: 25 @4036 has 1 MA's), (49, 4192), (58, 4261), (64, 4360), (75, 4483), (80, 4540), (84, 4597), (86, 4612), (89, 4651), (91, 4675), (92, 4690), (112, 4786), (118, 4840), (139, 4972), (142, 4993), (150, 5047), (151, 5059), (154, 5077), (195, 5377), (206, 5491), (259, 5881), (284, 6073), (285, 6082), (299, 6247), (301, 6256), (303, 6271), (314, 6448), (319, 6484), (324, 6514), (325, 6529), (328, 6565), (331, 6598), (332, 6622), (333, 6625), (343, 6703), (344, 6715), (347, 6760), (348, 6769), (352, 6808), (353, 6811),

Gene: Camri\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Camri\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Capricorn\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Capricorn\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: CaseJules\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for CaseJules\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: CassieYates\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for CassieYates\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Cedasite\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Cedasite\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Chance64\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Chance64\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Chancellor\_11 Start: 5499, Stop: 8258, Start Num: 9

Candidate Starts for Chancellor\_11:

(Start: 9 @5499 has 21 MA's), (14, 5541), (Start: 20 @5577 has 5 MA's), (21, 5586), (35, 5676), (36, 5703), (38, 5715), (50, 5805), (58, 5856), (62, 5907), (64, 5955), (65, 5958), (66, 5970), (68, 5979), (72, 6051), (76, 6084), (77, 6090), (81, 6150), (86, 6204), (114, 6468), (127, 6570), (131, 6582), (156, 6750), (166, 6834), (171, 6885), (174, 6915), (187, 7002), (199, 7095), (209, 7188), (212, 7209), (213, 7221), (222, 7248), (223, 7251), (228, 7269), (249, 7350), (256, 7377), (264, 7413), (266, 7440), (271, 7455), (274, 7464), (275, 7467), (279, 7503), (280, 7530), (281, 7539), (282, 7548), (299, 7713), (314, 7893), (321, 7935), (328, 7995), (333, 8055), (343, 8133),

Gene: CheetoDust\_10 Start: 4544, Stop: 7114, Start Num: 8

Candidate Starts for CheetoDust\_10:

(Start: 8 @4544 has 48 MA's), (Start: 16 @4604 has 49 MA's), (Start: 20 @4628 has 5 MA's), (Start: 25 @4670 has 1 MA's), (27, 4682), (29, 4694), (51, 4883), (58, 4931), (59, 4955), (64, 5030), (76, 5159), (77, 5165), (79, 5198), (81, 5228), (86, 5282), (96, 5366), (101, 5390), (112, 5465), (116, 5507), (121, 5546), (124, 5567), (128, 5591), (133, 5609), (148, 5708), (152, 5747), (154, 5756), (156, 5768), (162, 5816), (163, 5822), (164, 5834), (166, 5852), (199, 6113), (200, 6134), (215, 6239), (216, 6245), (219, 6254), (226, 6272), (229, 6287), (261, 6389), (269, 6434), (273, 6446), (299, 6593), (321, 6782), (328,

6842), (332, 6899), (333, 6902), (337, 6932), (343, 6989), (344, 7001), (350, 7061), (353, 7091),

Gene: Cheetobro\_11 Start: 5499, Stop: 8258, Start Num: 9

Candidate Starts for Cheetobro\_11:

(Start: 9 @5499 has 21 MA's), (14, 5541), (Start: 20 @5577 has 5 MA's), (21, 5586), (35, 5676), (36, 5703), (38, 5715), (50, 5805), (58, 5856), (62, 5907), (64, 5955), (65, 5958), (66, 5970), (68, 5979), (72, 6051), (76, 6084), (77, 6090), (81, 6150), (86, 6204), (114, 6468), (127, 6570), (131, 6582), (156, 6750), (166, 6834), (171, 6885), (174, 6915), (187, 7002), (199, 7095), (209, 7188), (212, 7209), (213, 7221), (222, 7248), (223, 7251), (228, 7269), (249, 7350), (256, 7377), (264, 7413), (266, 7440), (271, 7455), (274, 7464), (275, 7467), (279, 7503), (280, 7530), (281, 7539), (282, 7548), (299, 7713), (314, 7893), (321, 7935), (328, 7995), (333, 8055), (343, 8133),

Gene: Cherrybomb426\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Cherrybomb426\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Clipper\_11 Start: 4604, Stop: 7114, Start Num: 16

Candidate Starts for Clipper\_11:

(Start: 8 @4544 has 48 MA's), (Start: 16 @4604 has 49 MA's), (Start: 20 @4628 has 5 MA's), (Start: 25 @4670 has 1 MA's), (27, 4682), (29, 4694), (51, 4883), (58, 4931), (59, 4955), (64, 5030), (76, 5159), (77, 5165), (79, 5198), (81, 5228), (86, 5282), (96, 5366), (101, 5390), (112, 5465), (116, 5507), (121, 5546), (124, 5567), (128, 5591), (133, 5609), (148, 5708), (152, 5747), (154, 5756), (156, 5768), (162, 5816), (163, 5822), (164, 5834), (166, 5852), (199, 6113), (200, 6134), (215, 6239), (216, 6245), (219, 6254), (226, 6272), (229, 6287), (261, 6389), (269, 6434), (273, 6446), (299, 6593), (321, 6782), (328, 6842), (332, 6899), (333, 6902), (337, 6932), (343, 6989), (344, 7001), (350, 7061), (353, 7091),

Gene: Coleslaw\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Coleslaw\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Collard\_8 Start: 4251, Stop: 7112, Start Num: 10

Candidate Starts for Collard\_8:

(Start: 10 @4251 has 11 MA's), (Start: 12 @4263 has 4 MA's), (Start: 20 @4329 has 5 MA's), (Start: 25 @4371 has 1 MA's), (34, 4425), (37, 4461), (50, 4542), (51, 4545), (57, 4581), (58, 4593), (59, 4617), (62, 4644), (64, 4692), (67, 4710), (76, 4821), (77, 4827), (79, 4860), (82, 4911), (86, 4944), (103, 5073), (105, 5076), (112, 5139), (115, 5178), (116, 5181), (124, 5241), (126, 5256), (128, 5265), (140, 5337), (146, 5364), (150, 5400), (154, 5430), (159, 5457), (160, 5463), (161, 5472), (183, 5670), (184, 5676), (185, 5679), (188, 5703), (189, 5712), (191, 5724), (199, 5787), (200, 5808), (203, 5844), (205, 5859), (206, 5865), (225, 5952), (230, 5985), (231, 5991), (238, 6075), (239, 6078), (243, 6105), (244, 6129), (276, 6315), (288, 6450), (292, 6510), (296, 6543), (299, 6567), (314, 6747), (315, 6750), (317, 6762), (321, 6789), (326, 6837), (333, 6909), (341, 6960), (343, 6987), (344, 6999), (346, 7038), (349, 7056), (353, 7089),

Gene: Crespo\_4 Start: 3404, Stop: 6193, Start Num: 11

Candidate Starts for Crespo\_4:

(Start: 11 @3404 has 67 MA's), (13, 3437), (14, 3446), (19, 3479), (30, 3551), (48, 3671), (59, 3770), (62, 3797), (64, 3845), (78, 4004), (79, 4019), (80, 4031), (86, 4103), (102, 4259), (112, 4334), (116, 4376), (119, 4394), (121, 4415), (124, 4436), (131, 4469), (132, 4475), (141, 4535), (148, 4577), (150, 4595), (154, 4625), (165, 4712), (166, 4721), (188, 4901), (191, 4922), (198, 4973), (199, 4985), (233, 5228), (268, 5465), (287, 5585), (304, 5732), (306, 5774), (307, 5777), (321, 5864), (328, 5924), (333, 5984), (343, 6062), (344, 6074), (347, 6119), (348, 6128), (350, 6134), (355, 6185),

Gene: CrimD\_10 Start: 4493, Stop: 7066, Start Num: 8

Candidate Starts for CrimD\_10:

(Start: 8 @4493 has 48 MA's), (Start: 16 @4553 has 49 MA's), (19, 4574), (Start: 20 @4577 has 5 MA's), (Start: 25 @4619 has 1 MA's), (29, 4643), (35, 4676), (38, 4715), (54, 4856), (58, 4880), (59, 4904), (64, 4979), (76, 5111), (77, 5117), (79, 5150), (81, 5180), (86, 5234), (96, 5318), (101, 5342), (112, 5417), (116, 5459), (121, 5498), (124, 5519), (128, 5543), (133, 5561), (148, 5660), (152, 5699), (154, 5708), (156, 5720), (162, 5768), (163, 5774), (164, 5786), (166, 5804), (199, 6065), (200, 6086), (215, 6191), (216, 6197), (219, 6206), (226, 6224), (229, 6239), (261, 6341), (269, 6386), (273, 6398), (299, 6545), (308, 6641), (321, 6734), (328, 6794), (333, 6854), (336, 6875), (343, 6941), (344, 6953), (349, 7010), (353, 7043),

Gene: DMoney\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for DMoney\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: DNAlll\_004 Start: 3412, Stop: 6201, Start Num: 11

Candidate Starts for DNAlll\_004:

(Start: 11 @3412 has 67 MA's), (13, 3445), (14, 3454), (19, 3487), (30, 3559), (48, 3679), (59, 3778), (62, 3805), (64, 3853), (78, 4012), (79, 4027), (80, 4039), (86, 4111), (102, 4267), (112, 4342), (116, 4384), (119, 4402), (121, 4423), (124, 4444), (131, 4477), (132, 4483), (141, 4543), (148, 4585), (150, 4603), (154, 4633), (165, 4720), (166, 4729), (188, 4909), (191, 4930), (198, 4981), (199, 4993), (233, 5236), (268, 5473), (287, 5593), (304, 5740), (306, 5782), (307, 5785), (321, 5872), (328, 5932), (333, 5992), (343, 6070), (344, 6082), (347, 6127), (348, 6136), (350, 6142), (355, 6193),

Gene: Dadosky\_8 Start: 4277, Stop: 7024, Start Num: 10

Candidate Starts for Dadosky\_8:

(Start: 10 @4277 has 11 MA's), (Start: 12 @4289 has 4 MA's), (Start: 17 @4343 has 4 MA's), (Start: 20 @4355 has 5 MA's), (Start: 25 @4397 has 1 MA's), (34, 4451), (37, 4487), (50, 4568), (51, 4571), (52, 4586), (54, 4595), (59, 4643), (62, 4670), (64, 4718), (67, 4736), (76, 4847), (77, 4853), (79, 4886), (81, 4916), (82, 4937), (86, 4970), (87, 4994), (105, 5111), (110, 5153), (112, 5174), (115, 5213), (124, 5276), (126, 5291), (128, 5300), (140, 5372), (150, 5435), (152, 5456), (153, 5459), (154, 5465), (158, 5486), (160, 5498), (161, 5507), (163, 5531), (169, 5603), (172, 5621), (183, 5705), (184, 5711), (185, 5714), (188, 5738), (189, 5747), (191, 5759), (199, 5822), (200, 5843), (205, 5894), (240, 6008), (244, 6041), (246, 6047), (248, 6062), (270, 6209), (292, 6422), (296, 6455), (299, 6479), (314, 6659), (315, 6662), (318, 6683), (321, 6701), (326, 6749), (333, 6821), (340, 6863), (341, 6872), (343, 6899), (344, 6911), (346, 6950), (349, 6968), (353, 7001),

Gene: Dalmuri\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Dalmuri\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Darionha\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Darionha\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: DARTH\_P\_9 Start: 4321, Stop: 6894, Start Num: 8

Candidate Starts for DARTH\_P\_9:

(Start: 8 @4321 has 48 MA's), (Start: 20 @4405 has 5 MA's), (35, 4504), (40, 4558), (41, 4579), (43, 4591), (44, 4597), (58, 4708), (59, 4732), (61, 4747), (64, 4807), (66, 4822), (68, 4831), (73, 4906), (76, 4939), (77, 4945), (79, 4978), (81, 5008), (86, 5062), (87, 5086), (101, 5167), (112, 5242), (126, 5359), (128, 5368), (141, 5443), (147, 5470), (152, 5524), (154, 5533), (160, 5566), (163, 5599), (165, 5620), (169, 5671), (172, 5689), (181, 5755), (185, 5782), (189, 5815), (193, 5839), (199, 5890), (200, 5911), (205, 5962), (206, 5968), (211, 6001), (265, 6154), (299, 6349), (305, 6418), (308, 6478), (309, 6487), (310, 6490), (318, 6553), (321, 6571), (326, 6619), (329, 6643), (333, 6691), (334, 6694), (339, 6730), (340, 6733), (341, 6742), (343, 6769), (344, 6781), (346, 6820), (349, 6838), (353, 6871),

Gene: Deby\_10 Start: 4566, Stop: 7073, Start Num: 16

Candidate Starts for Deby\_10:

(Start: 8 @4506 has 48 MA's), (Start: 16 @4566 has 49 MA's), (Start: 20 @4590 has 5 MA's), (Start: 25 @4632 has 1 MA's), (29, 4656), (38, 4728), (51, 4845), (58, 4893), (59, 4917), (64, 4992), (76, 5121), (77, 5127), (79, 5160), (81, 5190), (86, 5244), (96, 5328), (101, 5352), (112, 5427), (116, 5469), (121, 5508), (124, 5529), (128, 5553), (133, 5571), (148, 5670), (152, 5709), (154, 5718), (156, 5730), (163, 5784), (164, 5796), (166, 5814), (189, 6000), (198, 6063), (199, 6075), (200, 6096), (215, 6201), (216, 6207), (219, 6216), (226, 6234), (229, 6249), (261, 6351), (269, 6396), (273, 6408), (299, 6552), (308, 6648), (316, 6708), (321, 6741), (328, 6801), (333, 6861), (337, 6891), (343, 6948), (344, 6960), (350, 7020),

Gene: Devera\_10 Start: 4595, Stop: 7105, Start Num: 16

Candidate Starts for Devera\_10:

(Start: 8 @4535 has 48 MA's), (Start: 16 @4595 has 49 MA's), (19, 4616), (Start: 20 @4619 has 5 MA's), (Start: 25 @4661 has 1 MA's), (29, 4685), (35, 4718), (38, 4757), (58, 4922), (59, 4946), (64, 5021), (81, 5219), (86, 5273), (96, 5357), (101, 5381), (112, 5456), (120, 5528), (124, 5558), (126, 5573), (128, 5582), (133, 5600), (148, 5699), (152, 5738), (154, 5747), (156, 5759), (163, 5813), (164, 5825), (166, 5843), (199, 6104), (200, 6125), (216, 6236), (219, 6245), (226, 6263), (229, 6278), (261, 6383), (273, 6437), (299, 6584), (308, 6680), (321, 6773), (328, 6833), (333, 6893), (343, 6980), (344, 6992), (350, 7052), (353, 7082),

Gene: Dole\_10 Start: 4595, Stop: 7105, Start Num: 16

Candidate Starts for Dole\_10:

(Start: 8 @4535 has 48 MA's), (Start: 16 @4595 has 49 MA's), (19, 4616), (Start: 20 @4619 has 5 MA's), (Start: 25 @4661 has 1 MA's), (29, 4685), (35, 4718), (38, 4757), (58, 4922), (59, 4946), (64,

5021), (81, 5219), (86, 5273), (96, 5357), (101, 5381), (112, 5456), (120, 5528), (124, 5558), (126, 5573), (128, 5582), (133, 5600), (148, 5699), (152, 5738), (154, 5747), (156, 5759), (163, 5813), (164, 5825), (166, 5843), (199, 6104), (200, 6125), (216, 6236), (219, 6245), (226, 6263), (229, 6278), (261, 6383), (273, 6437), (299, 6584), (308, 6680), (321, 6773), (328, 6833), (333, 6893), (343, 6980), (344, 6992), (350, 7052), (353, 7082),

Gene: DrHayes\_10 Start: 4551, Stop: 7046, Start Num: 16

Candidate Starts for DrHayes\_10:

(2, 4383), (Start: 8 @4491 has 48 MA's), (Start: 16 @4551 has 49 MA's), (19, 4572), (22, 4593), (29, 4641), (38, 4713), (58, 4878), (59, 4902), (64, 4977), (76, 5109), (77, 5115), (79, 5148), (81, 5178), (86, 5232), (96, 5316), (101, 5340), (112, 5415), (121, 5496), (124, 5517), (126, 5532), (128, 5541), (133, 5559), (148, 5658), (152, 5697), (154, 5706), (156, 5718), (162, 5766), (163, 5772), (164, 5784), (166, 5802), (198, 6051), (199, 6063), (200, 6084), (216, 6195), (219, 6204), (226, 6222), (229, 6237), (261, 6339), (299, 6525), (308, 6621), (321, 6714), (328, 6774), (333, 6834), (343, 6921), (344, 6933), (349, 6990), (353, 7023),

Gene: Durfee\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Durfee\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: ECartman\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for ECartman\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Edugator\_7 Start: 4277, Stop: 7024, Start Num: 10

Candidate Starts for Edugator\_7:

(Start: 10 @4277 has 11 MA's), (Start: 12 @4289 has 4 MA's), (Start: 17 @4343 has 4 MA's), (Start: 20 @4355 has 5 MA's), (Start: 25 @4397 has 1 MA's), (34, 4451), (37, 4487), (50, 4568), (51, 4571), (52, 4586), (54, 4595), (59, 4643), (62, 4670), (64, 4718), (67, 4736), (76, 4847), (77, 4853), (79, 4886), (81, 4916), (82, 4937), (86, 4970), (87, 4994), (105, 5111), (110, 5153), (112, 5174), (115, 5213), (124, 5276), (126, 5291), (128, 5300), (140, 5372), (150, 5435), (152, 5456), (153, 5459), (154, 5465), (158, 5486), (160, 5498), (161, 5507), (163, 5531), (169, 5603), (172, 5621), (183, 5705), (184, 5711), (185, 5714), (188, 5738), (189, 5747), (191, 5759), (199, 5822), (200, 5843), (205, 5894), (240, 6008), (244, 6041), (246, 6047), (248, 6062), (270, 6209), (292, 6422), (296, 6455), (299, 6479), (314, 6659), (315, 6662), (318, 6683), (321, 6701), (326, 6749), (333, 6821), (340, 6863), (341, 6872), (343, 6899), (344, 6911), (346, 6950), (349, 6968), (353, 7001),

Gene: Ekdilam\_7 Start: 4056, Stop: 6641, Start Num: 8

Candidate Starts for Ekdilam\_7:

(Start: 8 @4056 has 48 MA's), (Start: 20 @4140 has 5 MA's), (40, 4293), (41, 4314), (58, 4443), (64, 4542), (72, 4638), (73, 4641), (76, 4674), (77, 4680), (79, 4713), (82, 4764), (86, 4797), (87, 4821), (101, 4914), (111, 4977), (112, 4989), (126, 5106), (128, 5115), (141, 5190), (147, 5217), (152, 5271),



(154, 5280), (160, 5313), (163, 5346), (165, 5367), (169, 5418), (172, 5436), (185, 5529), (189, 5562), (199, 5637), (200, 5658), (205, 5709), (206, 5715), (211, 5748), (264, 5892), (265, 5901), (299, 6096), (305, 6165), (308, 6225), (318, 6300), (321, 6318), (326, 6366), (333, 6438), (339, 6477), (340, 6480), (341, 6489), (343, 6516), (344, 6528), (346, 6567), (353, 6618),

Gene: Ellie\_7 Start: 4207, Stop: 6738, Start Num: 16

Candidate Starts for Ellie\_7:

(Start: 8 @4147 has 48 MA's), (Start: 16 @4207 has 49 MA's), (Start: 20 @4231 has 5 MA's), (Start: 25 @4273 has 1 MA's), (35, 4330), (51, 4486), (59, 4558), (62, 4585), (64, 4633), (68, 4657), (71, 4723), (76, 4765), (77, 4771), (79, 4804), (86, 4888), (98, 4987), (101, 4999), (108, 5050), (112, 5074), (121, 5155), (126, 5191), (128, 5200), (131, 5209), (141, 5275), (152, 5356), (154, 5365), (160, 5398), (163, 5431), (165, 5452), (173, 5539), (181, 5587), (185, 5614), (188, 5638), (189, 5647), (193, 5671), (199, 5722), (200, 5743), (205, 5794), (206, 5800), (299, 6193), (308, 6322), (318, 6397), (321, 6415), (323, 6424), (326, 6463), (332, 6532), (333, 6535), (341, 6586), (343, 6613), (344, 6625), (346, 6664), (351, 6700), (353, 6715),

Gene: Emerson\_10 Start: 4587, Stop: 7097, Start Num: 16

Candidate Starts for Emerson\_10:

(Start: 8 @4527 has 48 MA's), (Start: 16 @4587 has 49 MA's), (Start: 20 @4611 has 5 MA's), (Start: 25 @4653 has 1 MA's), (27, 4665), (29, 4677), (51, 4866), (58, 4914), (59, 4938), (64, 5013), (76, 5142), (77, 5148), (79, 5181), (81, 5211), (86, 5265), (96, 5349), (101, 5373), (112, 5448), (116, 5490), (121, 5529), (124, 5550), (128, 5574), (133, 5592), (148, 5691), (152, 5730), (154, 5739), (156, 5751), (162, 5799), (163, 5805), (164, 5817), (166, 5835), (199, 6096), (200, 6117), (215, 6222), (216, 6228), (219, 6237), (226, 6255), (229, 6270), (261, 6372), (269, 6417), (273, 6429), (299, 6576), (321, 6765), (328, 6825), (332, 6882), (333, 6885), (337, 6915), (343, 6972), (344, 6984), (350, 7044), (353, 7074),

Gene: Enkosi\_6 Start: 3784, Stop: 6339, Start Num: 8

Candidate Starts for Enkosi\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: Eponine\_11 Start: 5488, Stop: 8145, Start Num: 9

Candidate Starts for Eponine\_11:

(4, 5446), (Start: 9 @5488 has 21 MA's), (14, 5530), (Start: 20 @5566 has 5 MA's), (21, 5575), (24, 5602), (32, 5647), (35, 5665), (36, 5692), (38, 5704), (44, 5734), (47, 5752), (50, 5794), (62, 5896), (64, 5944), (65, 5947), (66, 5959), (68, 5968), (69, 5992), (72, 6040), (76, 6073), (77, 6079), (81, 6139), (86, 6193), (114, 6451), (123, 6520), (127, 6553), (131, 6565), (134, 6577), (156, 6733), (166, 6817), (167, 6835), (170, 6865), (171, 6868), (187, 6985), (198, 7066), (199, 7078), (223, 7234), (249, 7321), (266, 7408), (271, 7423), (274, 7432), (289, 7501), (299, 7600), (314, 7780), (328, 7882), (333, 7942), (343, 8020),

Gene: Fefferhead\_9 Start: 4377, Stop: 6908, Start Num: 16

Candidate Starts for Fefferhead\_9:

(Start: 8 @4317 has 48 MA's), (Start: 16 @4377 has 49 MA's), (Start: 20 @4401 has 5 MA's), (Start: 25 @4443 has 1 MA's), (35, 4500), (51, 4656), (59, 4728), (62, 4755), (64, 4803), (68, 4827), (71, 4893), (76, 4935), (77, 4941), (79, 4974), (86, 5058), (98, 5157), (101, 5169), (108, 5220), (112, 5244), (121, 5325), (126, 5361), (128, 5370), (131, 5379), (141, 5445), (152, 5526), (154, 5535), (160, 5568), (163, 5601), (165, 5622), (173, 5709), (181, 5757), (185, 5784), (188, 5808), (189, 5817), (193, 5841), (199,

5892), (200, 5913), (205, 5964), (206, 5970), (299, 6363), (308, 6492), (318, 6567), (321, 6585), (323, 6594), (326, 6633), (332, 6702), (333, 6705), (341, 6756), (343, 6783), (344, 6795), (346, 6834), (351, 6870), (353, 6885),

Gene: Feyre\_8 Start: 4252, Stop: 6927, Start Num: 10

Candidate Starts for Feyre\_8:

(Start: 10 @4252 has 11 MA's), (Start: 12 @4264 has 4 MA's), (Start: 20 @4330 has 5 MA's), (Start: 25 @4372 has 1 MA's), (34, 4426), (37, 4462), (50, 4543), (51, 4546), (57, 4582), (58, 4594), (59, 4618), (62, 4645), (64, 4693), (67, 4711), (76, 4822), (77, 4828), (79, 4861), (82, 4912), (86, 4945), (103, 5074), (105, 5077), (110, 5119), (112, 5140), (115, 5179), (116, 5182), (124, 5242), (126, 5257), (128, 5266), (136, 5308), (140, 5338), (146, 5365), (150, 5401), (154, 5431), (159, 5458), (160, 5464), (161, 5473), (183, 5671), (184, 5677), (185, 5680), (188, 5704), (189, 5713), (191, 5725), (199, 5788), (200, 5809), (203, 5845), (205, 5860), (206, 5866), (224, 5950), (225, 5953), (235, 6004), (239, 6010), (241, 6025), (276, 6130), (292, 6325), (296, 6358), (299, 6382), (314, 6562), (315, 6565), (317, 6577), (321, 6604), (326, 6652), (333, 6724), (341, 6775), (343, 6802), (344, 6814), (346, 6853), (349, 6871), (353, 6904),

Gene: Fionnbharth\_11 Start: 5489, Stop: 8248, Start Num: 9

Candidate Starts for Fionnbharth\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (127, 6560), (131, 6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (264, 7403), (266, 7430), (271, 7445), (274, 7454), (275, 7457), (279, 7493), (280, 7520), (281, 7529), (282, 7538), (299, 7703), (314, 7883), (321, 7925), (328, 7985), (333, 8045), (343, 8123),

Gene: FlagStaff\_4 Start: 3425, Stop: 6340, Start Num: 11

Candidate Starts for FlagStaff\_4:

(Start: 11 @3425 has 67 MA's), (19, 3500), (Start: 25 @3545 has 1 MA's), (49, 3701), (58, 3770), (64, 3869), (75, 3992), (80, 4049), (86, 4121), (92, 4199), (106, 4235), (112, 4295), (119, 4355), (122, 4379), (134, 4442), (139, 4481), (142, 4502), (150, 4556), (151, 4568), (177, 4766), (195, 4886), (236, 5177), (242, 5240), (253, 5327), (264, 5390), (284, 5564), (299, 5738), (301, 5747), (303, 5762), (314, 5939), (324, 6005), (325, 6020), (328, 6056), (330, 6086), (333, 6116), (334, 6119), (338, 6167), (342, 6206), (343, 6209), (344, 6221), (347, 6266), (348, 6275), (352, 6314), (353, 6317),

Gene: Frosty24\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Frosty24\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Ganymede\_10 Start: 4604, Stop: 7114, Start Num: 16

Candidate Starts for Ganymede\_10:

(Start: 8 @4544 has 48 MA's), (Start: 16 @4604 has 49 MA's), (Start: 20 @4628 has 5 MA's), (Start: 25 @4670 has 1 MA's), (27, 4682), (29, 4694), (51, 4883), (58, 4931), (59, 4955), (64, 5030), (76, 5159), (77, 5165), (79, 5198), (81, 5228), (86, 5282), (96, 5366), (101, 5390), (112, 5465), (116, 5507), (121, 5546), (124, 5567), (128, 5591), (133, 5609), (148, 5708), (152, 5747), (154, 5756), (156, 5768), (162, 5816), (163, 5822), (164, 5834), (166, 5852), (199, 6113), (200, 6134), (215, 6239), (216, 6245), (219, 6254), (226, 6272), (229, 6287), (261, 6389), (269, 6434), (273, 6446), (299, 6593), (321, 6782), (328,

6842), (332, 6899), (333, 6902), (337, 6932), (343, 6989), (344, 7001), (350, 7061),

Gene: Gengar\_8 Start: 4277, Stop: 7033, Start Num: 10

Candidate Starts for Gengar\_8:

(Start: 10 @4277 has 11 MA's), (Start: 12 @4289 has 4 MA's), (Start: 20 @4355 has 5 MA's), (Start: 25 @4397 has 1 MA's), (34, 4451), (37, 4487), (50, 4568), (51, 4571), (57, 4607), (58, 4619), (59, 4643), (62, 4670), (64, 4718), (67, 4736), (76, 4847), (77, 4853), (79, 4886), (82, 4937), (86, 4970), (103, 5099), (105, 5102), (110, 5144), (115, 5204), (116, 5207), (124, 5267), (126, 5282), (128, 5291), (136, 5333), (140, 5363), (146, 5390), (150, 5426), (154, 5456), (159, 5483), (160, 5489), (161, 5498), (183, 5696), (184, 5702), (185, 5705), (188, 5729), (189, 5738), (191, 5750), (199, 5813), (200, 5834), (203, 5870), (205, 5885), (206, 5891), (224, 5975), (235, 6029), (239, 6035), (241, 6050), (249, 6104), (252, 6116), (254, 6122), (264, 6173), (270, 6218), (276, 6236), (292, 6431), (296, 6464), (299, 6488), (314, 6668), (315, 6671), (317, 6683), (321, 6710), (326, 6758), (333, 6830), (341, 6881), (343, 6908), (344, 6920), (346, 6959), (353, 7010),

Gene: Geraldini\_10 Start: 4610, Stop: 7120, Start Num: 16

Candidate Starts for Geraldini\_10:

(Start: 8 @4550 has 48 MA's), (Start: 16 @4610 has 49 MA's), (Start: 20 @4634 has 5 MA's), (Start: 25 @4676 has 1 MA's), (27, 4688), (29, 4700), (51, 4889), (58, 4937), (59, 4961), (64, 5036), (76, 5165), (77, 5171), (79, 5204), (81, 5234), (86, 5288), (96, 5372), (101, 5396), (112, 5471), (116, 5513), (121, 5552), (124, 5573), (128, 5597), (133, 5615), (148, 5714), (152, 5753), (154, 5762), (156, 5774), (162, 5822), (163, 5828), (164, 5840), (166, 5858), (199, 6119), (200, 6140), (215, 6245), (216, 6251), (219, 6260), (226, 6278), (229, 6293), (261, 6395), (269, 6440), (273, 6452), (299, 6599), (321, 6788), (328, 6848), (333, 6908), (343, 6995), (344, 7007), (350, 7067),

Gene: Gideon\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Gideon\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: GoldenAsh\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for GoldenAsh\_4:

(Start: 11 @3403 has 67 MA's), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Gomashi\_4 Start: 3404, Stop: 6193, Start Num: 11

Candidate Starts for Gomashi\_4:

(Start: 11 @3404 has 67 MA's), (13, 3437), (14, 3446), (19, 3479), (30, 3551), (48, 3671), (59, 3770), (62, 3797), (64, 3845), (78, 4004), (79, 4019), (80, 4031), (86, 4103), (102, 4259), (112, 4334), (116, 4376), (119, 4394), (121, 4415), (124, 4436), (131, 4469), (132, 4475), (141, 4535), (148, 4577), (150, 4595), (154, 4625), (165, 4712), (166, 4721), (188, 4901), (191, 4922), (198, 4973), (199, 4985), (233, 5228), (268, 5465), (287, 5585), (304, 5732), (306, 5774), (307, 5777), (321, 5864), (328, 5924), (333, 5984), (343, 6062), (344, 6074), (347, 6119), (348, 6128), (350, 6134), (355, 6185),

Gene: Grizzly\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Grizzly\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (141, 4534), (148, 4576), (154, 4624), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Guillsminger\_8 Start: 4372, Stop: 7008, Start Num: 25

Candidate Starts for Guillsminger\_8:

(Start: 10 @4252 has 11 MA's), (Start: 12 @4264 has 4 MA's), (Start: 20 @4330 has 5 MA's), (Start: 25 @4372 has 1 MA's), (34, 4426), (37, 4462), (50, 4543), (51, 4546), (57, 4582), (58, 4594), (59, 4618), (62, 4645), (64, 4693), (67, 4711), (76, 4822), (77, 4828), (79, 4861), (82, 4912), (86, 4945), (103, 5074), (105, 5077), (110, 5119), (115, 5179), (116, 5182), (124, 5242), (126, 5257), (128, 5266), (136, 5308), (140, 5338), (146, 5365), (150, 5401), (154, 5431), (159, 5458), (160, 5464), (161, 5473), (183, 5671), (184, 5677), (185, 5680), (188, 5704), (189, 5713), (191, 5725), (199, 5788), (200, 5809), (203, 5845), (205, 5860), (206, 5866), (224, 5950), (225, 5953), (235, 6004), (239, 6010), (241, 6025), (249, 6079), (252, 6091), (254, 6097), (270, 6193), (276, 6211), (292, 6406), (296, 6439), (299, 6463), (314, 6643), (315, 6646), (317, 6658), (321, 6685), (326, 6733), (333, 6805), (341, 6856), (343, 6883), (344, 6895), (345, 6925), (346, 6934), (353, 6985),

Gene: Halo\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Halo\_4:

(Start: 11 @3403 has 67 MA's), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (51, 3697), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (116, 4375), (119, 4393), (121, 4414), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Hammy\_9 Start: 4318, Stop: 6891, Start Num: 8

Candidate Starts for Hammy\_9:

(Start: 8 @4318 has 48 MA's), (Start: 20 @4402 has 5 MA's), (35, 4501), (40, 4555), (41, 4576), (43, 4588), (44, 4594), (58, 4705), (59, 4729), (61, 4744), (64, 4804), (66, 4819), (68, 4828), (73, 4903), (76, 4936), (77, 4942), (79, 4975), (81, 5005), (86, 5059), (87, 5083), (101, 5164), (111, 5227), (112, 5239), (126, 5356), (128, 5365), (141, 5440), (147, 5467), (152, 5521), (154, 5530), (160, 5563), (163, 5596), (165, 5617), (169, 5668), (172, 5686), (181, 5752), (185, 5779), (189, 5812), (193, 5836), (199, 5887), (200, 5908), (205, 5959), (206, 5965), (211, 5998), (261, 6133), (263, 6136), (265, 6151), (299, 6346), (305, 6415), (308, 6475), (309, 6484), (310, 6487), (318, 6550), (321, 6568), (326, 6616), (329, 6640), (333, 6688), (339, 6727), (340, 6730), (341, 6739), (343, 6766), (344, 6778), (346, 6817), (349, 6835), (353, 6868),

Gene: HedwigODU\_10 Start: 4584, Stop: 7094, Start Num: 16

Candidate Starts for HedwigODU\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Heftyboy\_8 Start: 4274, Stop: 7135, Start Num: 10

Candidate Starts for Heftyboy\_8:

(Start: 10 @4274 has 11 MA's), (Start: 12 @4286 has 4 MA's), (Start: 20 @4352 has 5 MA's), (Start: 25 @4394 has 1 MA's), (34, 4448), (37, 4484), (50, 4565), (51, 4568), (57, 4604), (58, 4616), (59, 4640), (62, 4667), (64, 4715), (67, 4733), (76, 4844), (77, 4850), (79, 4883), (82, 4934), (86, 4967), (103, 5096), (105, 5099), (110, 5141), (112, 5162), (115, 5201), (116, 5204), (124, 5264), (126, 5279), (128, 5288), (136, 5330), (140, 5360), (146, 5387), (150, 5423), (154, 5453), (159, 5480), (160, 5486), (161, 5495), (183, 5693), (184, 5699), (185, 5702), (188, 5726), (189, 5735), (191, 5747), (199, 5810), (200, 5831), (205, 5882), (206, 5888), (225, 5975), (230, 6008), (231, 6014), (234, 6035), (238, 6098), (239, 6101), (243, 6128), (244, 6152), (264, 6272), (276, 6338), (288, 6473), (292, 6533), (296, 6566), (299, 6590), (314, 6770), (315, 6773), (321, 6812), (326, 6860), (333, 6932), (341, 6983), (343, 7010), (344, 7022), (346, 7061), (349, 7079), (353, 7112),

Gene: Homura\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Homura\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Hope\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Hope\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Hotshotbaby7\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Hotshotbaby7\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Hurricane\_9 Start: 4433, Stop: 7027, Start Num: 8

Candidate Starts for Hurricane\_9:

(3, 4376), (Start: 8 @4433 has 48 MA's), (Start: 20 @4520 has 5 MA's), (38, 4658), (39, 4667), (41, 4694), (44, 4709), (58, 4820), (59, 4844), (60, 4856), (62, 4871), (64, 4919), (76, 5051), (77, 5057), (79, 5090), (82, 5141), (86, 5174), (93, 5258), (99, 5291), (101, 5303), (105, 5312), (109, 5357), (111, 5366), (112, 5378), (123, 5468), (126, 5495), (127, 5501), (128, 5504), (141, 5579), (142, 5585), (154, 5669), (160, 5702), (163, 5735), (166, 5765), (181, 5891), (185, 5918), (189, 5951), (199, 6026), (206, 6104), (262, 6272), (272, 6317), (299, 6482), (308, 6611), (318, 6686), (321, 6704), (326, 6752), (332, 6821), (333, 6824), (339, 6863), (340, 6866), (341, 6875), (343, 6902), (344, 6914), (346, 6953), (353, 7004),

Gene: Hyperbowlee\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Hyperbowlee\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Illumine\_10 Start: 4595, Stop: 7105, Start Num: 16

Candidate Starts for Illumine\_10:

(Start: 8 @4535 has 48 MA's), (Start: 16 @4595 has 49 MA's), (19, 4616), (Start: 20 @4619 has 5 MA's), (Start: 25 @4661 has 1 MA's), (29, 4685), (35, 4718), (38, 4757), (58, 4922), (59, 4946), (64, 5021), (81, 5219), (86, 5273), (96, 5357), (101, 5381), (112, 5456), (120, 5528), (124, 5558), (126, 5573), (128, 5582), (133, 5600), (148, 5699), (152, 5738), (154, 5747), (156, 5759), (163, 5813), (164, 5825), (166, 5843), (199, 6104), (200, 6125), (216, 6236), (219, 6245), (226, 6263), (229, 6278), (261, 6383), (273, 6437), (299, 6584), (308, 6680), (321, 6773), (328, 6833), (333, 6893), (343, 6980), (344, 6992), (350, 7052), (353, 7082),

Gene: Inky\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Inky\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: InvictusManeo\_8 Start: 4325, Stop: 7132, Start Num: 17

Candidate Starts for InvictusManeo\_8:

(Start: 10 @4259 has 11 MA's), (Start: 12 @4271 has 4 MA's), (Start: 17 @4325 has 4 MA's), (Start: 20 @4337 has 5 MA's), (34, 4433), (37, 4469), (50, 4550), (51, 4553), (52, 4568), (54, 4577), (59, 4625), (62, 4652), (64, 4700), (67, 4718), (76, 4829), (77, 4835), (79, 4868), (81, 4898), (82, 4919), (86, 4952), (87, 4976), (105, 5093), (110, 5135), (115, 5195), (124, 5258), (126, 5273), (128, 5282), (140, 5354), (150, 5417), (152, 5438), (153, 5441), (154, 5447), (160, 5480), (163, 5513), (169, 5585), (172, 5603), (183, 5687), (184, 5693), (185, 5696), (188, 5720), (189, 5729), (191, 5741), (199, 5804), (200, 5825), (205, 5876), (230, 6002), (231, 6008), (232, 6023), (240, 6116), (244, 6149), (246, 6155), (248, 6170), (270, 6317), (278, 6350), (292, 6530), (296, 6563), (299, 6587), (314, 6767), (315, 6770), (318, 6791), (321, 6809), (326, 6857), (333, 6929), (340, 6971), (341, 6980), (343, 7007), (344, 7019), (346, 7058), (349, 7076), (353, 7109),

Gene: JAWS\_10 Start: 4521, Stop: 7091, Start Num: 8

Candidate Starts for JAWS\_10:

(Start: 8 @4521 has 48 MA's), (Start: 16 @4581 has 49 MA's), (Start: 20 @4605 has 5 MA's), (Start: 25 @4647 has 1 MA's), (27, 4659), (29, 4671), (51, 4860), (58, 4908), (59, 4932), (64, 5007), (76, 5136), (77, 5142), (79, 5175), (81, 5205), (86, 5259), (96, 5343), (101, 5367), (112, 5442), (116, 5484), (121, 5523), (124, 5544), (128, 5568), (133, 5586), (148, 5685), (152, 5724), (154, 5733), (156, 5745), (162, 5793), (163, 5799), (164, 5811), (166, 5829), (199, 6090), (200, 6111), (215, 6216), (216, 6222), (219, 6231), (226, 6249), (229, 6264), (261, 6366), (269, 6411), (273, 6423), (299, 6570), (321, 6759), (328, 6819), (333, 6879), (337, 6909), (343, 6966), (344, 6978), (350, 7038),

Gene: JF1\_11 Start: 5489, Stop: 8248, Start Num: 9

Candidate Starts for JF1\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (123, 6527), (127, 6560), (131, 6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (264, 7403), (266, 7430), (271, 7445), (274, 7454), (275, 7457), (279, 7493), (280, 7520), (281, 7529), (282, 7538), (299, 7703), (314, 7883), (321, 7925), (328, 7985), (333, 8045), (343, 8123),

Gene: Jane\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Jane\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Jarvi\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Jarvi\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Jayhawk\_10 Start: 4524, Stop: 7094, Start Num: 8

Candidate Starts for Jayhawk\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Jeckyll\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for Jeckyll\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Jolene\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Jolene\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199,



4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Jonghyun\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Jonghyun\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: JorRay\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for JorRay\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Joy99\_10 Start: 4560, Stop: 7070, Start Num: 16

Candidate Starts for Joy99\_10:

(Start: 8 @4500 has 48 MA's), (Start: 16 @4560 has 49 MA's), (Start: 20 @4584 has 5 MA's), (Start: 25 @4626 has 1 MA's), (27, 4638), (29, 4650), (51, 4839), (53, 4857), (58, 4887), (59, 4911), (64, 4986), (76, 5115), (77, 5121), (79, 5154), (81, 5184), (86, 5238), (96, 5322), (101, 5346), (112, 5421), (116, 5463), (121, 5502), (124, 5523), (128, 5547), (133, 5565), (148, 5664), (152, 5703), (154, 5712), (156, 5724), (162, 5772), (163, 5778), (164, 5790), (166, 5808), (199, 6069), (200, 6090), (215, 6195), (216, 6201), (219, 6210), (226, 6228), (229, 6243), (261, 6345), (269, 6390), (273, 6402), (299, 6549), (321, 6738), (328, 6798), (333, 6858), (337, 6888), (343, 6945), (344, 6957), (349, 7014), (353, 7047),

Gene: Juliette\_11 Start: 5488, Stop: 8145, Start Num: 9

Candidate Starts for Juliette\_11:

(4, 5446), (Start: 9 @5488 has 21 MA's), (14, 5530), (Start: 20 @5566 has 5 MA's), (21, 5575), (24, 5602), (32, 5647), (35, 5665), (36, 5692), (38, 5704), (44, 5734), (47, 5752), (50, 5794), (62, 5896), (64, 5944), (65, 5947), (66, 5959), (68, 5968), (69, 5992), (72, 6040), (76, 6073), (77, 6079), (81, 6139), (86, 6193), (114, 6451), (123, 6520), (127, 6553), (131, 6565), (134, 6577), (156, 6733), (166, 6817), (167, 6835), (170, 6865), (171, 6868), (187, 6985), (198, 7066), (199, 7078), (223, 7234), (249, 7321), (266, 7408), (271, 7423), (274, 7432), (289, 7501), (299, 7600), (314, 7780), (328, 7882), (333, 7942), (343, 8020),

Gene: Kareem\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Kareem\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Kasen3\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Kasen3\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Keshu\_9 Start: 4415, Stop: 7015, Start Num: 8

Candidate Starts for Keshu\_9:

(Start: 8 @4415 has 48 MA's), (Start: 20 @4502 has 5 MA's), (38, 4640), (39, 4649), (44, 4691), (51, 4754), (58, 4802), (59, 4826), (64, 4901), (76, 5033), (77, 5039), (79, 5072), (82, 5123), (86, 5156), (93, 5243), (99, 5276), (101, 5288), (105, 5297), (109, 5342), (111, 5351), (112, 5363), (123, 5453), (126, 5480), (127, 5486), (128, 5489), (141, 5564), (142, 5570), (154, 5654), (160, 5687), (163, 5720), (166, 5750), (181, 5876), (185, 5903), (189, 5936), (199, 6011), (206, 6089), (262, 6257), (272, 6302), (299, 6470), (308, 6599), (321, 6692), (326, 6740), (332, 6809), (333, 6812), (339, 6851), (340, 6854), (341, 6863), (343, 6890), (344, 6902), (346, 6941), (353, 6992),

Gene: Kratio\_7 Start: 4082, Stop: 6760, Start Num: 17

Candidate Starts for Kratio\_7:

(6, 3998), (Start: 10 @4016 has 11 MA's), (Start: 12 @4028 has 4 MA's), (Start: 17 @4082 has 4 MA's), (Start: 20 @4094 has 5 MA's), (34, 4190), (37, 4226), (50, 4307), (51, 4310), (52, 4325), (54, 4334), (59, 4382), (62, 4409), (64, 4457), (67, 4475), (76, 4586), (77, 4592), (79, 4625), (81, 4655), (82, 4676), (86, 4709), (87, 4733), (105, 4850), (110, 4892), (115, 4952), (124, 5015), (126, 5030), (128, 5039), (140, 5111), (150, 5174), (152, 5195), (153, 5198), (154, 5204), (160, 5237), (163, 5270), (169, 5342), (172, 5360), (184, 5450), (185, 5453), (188, 5477), (189, 5486), (191, 5498), (199, 5561), (200, 5582), (205, 5633), (206, 5639), (209, 5654), (240, 5744), (244, 5777), (246, 5783), (248, 5798), (270, 5945), (292, 6158), (296, 6191), (299, 6215), (314, 6395), (315, 6398), (318, 6419), (321, 6437), (326, 6485), (333, 6557), (340, 6599), (341, 6608), (343, 6635), (344, 6647), (346, 6686), (349, 6704), (353, 6737),

Gene: Kraw\_11 Start: 5489, Stop: 8167, Start Num: 9

Candidate Starts for Kraw\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (127, 6560), (131, 6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (266, 7430), (271, 7445), (274, 7454), (275, 7457), (299, 7622), (314, 7802), (321, 7844), (328, 7904), (333, 7964), (343, 8042),

Gene: Larva\_8 Start: 4084, Stop: 6891, Start Num: 17

Candidate Starts for Larva\_8:

(Start: 10 @4018 has 11 MA's), (Start: 12 @4030 has 4 MA's), (Start: 17 @4084 has 4 MA's), (Start: 20 @4096 has 5 MA's), (34, 4192), (37, 4228), (50, 4309), (51, 4312), (52, 4327), (54, 4336), (59, 4384), (62, 4411), (64, 4459), (67, 4477), (76, 4588), (77, 4594), (79, 4627), (81, 4657), (82, 4678), (86, 4711), (87, 4735), (105, 4852), (110, 4894), (115, 4954), (124, 5017), (126, 5032), (128, 5041), (140, 5113), (150, 5176), (152, 5197), (153, 5200), (154, 5206), (160, 5239), (163, 5272), (169, 5344), (172, 5362), (183, 5446), (184, 5452), (185, 5455), (188, 5479), (189, 5488), (191, 5500), (199, 5563), (200, 5584), (205, 5635), (230, 5761), (231, 5767), (232, 5782), (240, 5875), (244, 5908), (246, 5914), (248, 5929), (270, 6076), (278, 6109), (292, 6289), (296, 6322), (299, 6346), (314, 6526), (315, 6529), (318, 6550), (321, 6568), (326, 6616), (333, 6688), (340, 6730), (341, 6739), (343, 6766), (344, 6778), (346, 6817), (349, 6835), (353, 6868),

Gene: LaterM\_10 Start: 4559, Stop: 7063, Start Num: 16

Candidate Starts for LaterM\_10:

(2, 4391), (Start: 8 @4499 has 48 MA's), (Start: 16 @4559 has 49 MA's), (19, 4580), (Start: 20 @4583 has 5 MA's), (Start: 25 @4625 has 1 MA's), (29, 4649), (35, 4682), (38, 4721), (58, 4886), (59, 4910), (64, 4985), (81, 5183), (86, 5237), (96, 5321), (101, 5345), (112, 5420), (120, 5492), (124, 5522), (126, 5537), (128, 5546), (133, 5564), (148, 5663), (152, 5702), (154, 5711), (156, 5723), (163, 5777), (164, 5789), (166, 5807), (199, 6068), (200, 6089), (216, 6200), (219, 6209), (226, 6227), (229, 6242), (261, 6347), (273, 6401), (291, 6473), (299, 6542), (308, 6638), (321, 6731), (328, 6791), (333, 6851), (343, 6938), (344, 6950), (350, 7010), (353, 7040),

Gene: Leston\_8 Start: 4277, Stop: 7138, Start Num: 10

Candidate Starts for Leston\_8:

(Start: 10 @4277 has 11 MA's), (Start: 12 @4289 has 4 MA's), (Start: 20 @4355 has 5 MA's), (Start: 25 @4397 has 1 MA's), (34, 4451), (37, 4487), (50, 4568), (51, 4571), (57, 4607), (58, 4619), (59, 4643), (62, 4670), (64, 4718), (67, 4736), (76, 4847), (77, 4853), (79, 4886), (82, 4937), (86, 4970), (103, 5099), (105, 5102), (112, 5165), (115, 5204), (116, 5207), (124, 5267), (126, 5282), (128, 5291), (140, 5363), (146, 5390), (150, 5426), (154, 5456), (159, 5483), (160, 5489), (161, 5498), (170, 5600), (183, 5696), (184, 5702), (185, 5705), (188, 5729), (189, 5738), (191, 5750), (199, 5813), (200, 5834), (203, 5870), (205, 5885), (206, 5891), (224, 5975), (225, 5978), (230, 6011), (231, 6017), (238, 6101), (239, 6104), (243, 6131), (244, 6155), (276, 6341), (288, 6476), (292, 6536), (296, 6569), (299, 6593), (314, 6773), (315, 6776), (321, 6815), (326, 6863), (333, 6935), (341, 6986), (343, 7013), (344, 7025), (346, 7064), (349, 7082), (353, 7115),

Gene: Liefie\_4 Start: 3402, Stop: 6191, Start Num: 11

Candidate Starts for Liefie\_4:

(Start: 11 @3402 has 67 MA's), (13, 3435), (14, 3444), (19, 3477), (26, 3525), (30, 3549), (48, 3669), (59, 3768), (62, 3795), (64, 3843), (78, 4002), (79, 4017), (80, 4029), (86, 4101), (102, 4257), (112, 4332), (116, 4374), (119, 4392), (121, 4413), (124, 4434), (141, 4533), (148, 4575), (150, 4593), (154, 4623), (166, 4719), (188, 4899), (191, 4920), (198, 4971), (199, 4983), (233, 5226), (268, 5463), (287, 5583), (304, 5730), (306, 5772), (307, 5775), (321, 5862), (328, 5922), (333, 5982), (343, 6060), (344, 6072), (347, 6117), (348, 6126), (350, 6132), (355, 6183),

Gene: LilPharaoh\_6 Start: 3868, Stop: 6339, Start Num: 20

Candidate Starts for LilPharaoh\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: LindNT\_10 Start: 4553, Stop: 7063, Start Num: 16

Candidate Starts for LindNT\_10:

(Start: 8 @4493 has 48 MA's), (Start: 16 @4553 has 49 MA's), (19, 4574), (Start: 20 @4577 has 5 MA's), (Start: 25 @4619 has 1 MA's), (29, 4643), (35, 4676), (38, 4715), (58, 4880), (59, 4904), (64, 4979), (76, 5108), (81, 5177), (86, 5231), (96, 5315), (101, 5339), (112, 5414), (116, 5456), (121, 5495), (124, 5516), (128, 5540), (133, 5558), (148, 5657), (152, 5696), (154, 5705), (156, 5717), (162, 5765), (163, 5771), (164, 5783), (166, 5801), (199, 6062), (200, 6083), (215, 6188), (216, 6194), (219, 6203), (226, 6221), (229, 6236), (261, 6338), (269, 6383), (273, 6395), (299, 6542), (308, 6638), (321, 6731), (328, 6791), (333, 6851), (336, 6872), (343, 6938), (344, 6950), (349, 7007), (353, 7040),

Gene: Llorens\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for Llorens\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: LouisV14\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for LouisV14\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Lunahalos\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for Lunahalos\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: MOOREtheMARYer\_4 Start: 3465, Stop: 6362, Start Num: 11

Candidate Starts for MOOREtheMARYer\_4:

(Start: 11 @3465 has 67 MA's), (55, 3783), (64, 3906), (75, 4032), (86, 4161), (90, 4203), (92, 4242), (109, 4317), (112, 4338), (115, 4377), (116, 4380), (119, 4398), (120, 4410), (131, 4473), (142, 4545), (155, 4632), (177, 4809), (195, 4929), (197, 4950), (217, 5094), (236, 5214), (237, 5241), (245, 5307), (253, 5364), (254, 5376), (299, 5775), (301, 5784), (314, 5976), (319, 6012), (324, 6042), (325, 6057), (328, 6093), (333, 6153), (342, 6228), (343, 6231), (344, 6243), (347, 6288), (348, 6297), (352, 6336),

Gene: MacKat\_10 Start: 4604, Stop: 7114, Start Num: 16

Candidate Starts for MacKat\_10:

(Start: 8 @4544 has 48 MA's), (Start: 16 @4604 has 49 MA's), (Start: 20 @4628 has 5 MA's), (Start: 25 @4670 has 1 MA's), (27, 4682), (29, 4694), (51, 4883), (58, 4931), (59, 4955), (64, 5030), (76, 5159), (77, 5165), (79, 5198), (81, 5228), (86, 5282), (96, 5366), (101, 5390), (112, 5465), (116, 5507), (121, 5546), (124, 5567), (128, 5591), (133, 5609), (148, 5708), (152, 5747), (154, 5756), (156, 5768), (162, 5816), (163, 5822), (164, 5834), (166, 5852), (199, 6113), (200, 6134), (215, 6239), (216, 6245), (219, 6254), (226, 6272), (229, 6287), (261, 6389), (269, 6434), (273, 6446), (299, 6593), (321, 6782), (328, 6842), (332, 6899), (333, 6902), (337, 6932), (343, 6989), (344, 7001), (350, 7061), (353, 7091),

Gene: MacnCheese\_10 Start: 4634, Stop: 7237, Start Num: 8

Candidate Starts for MacnCheese\_10:

(Start: 8 @4634 has 48 MA's), (Start: 20 @4721 has 5 MA's), (38, 4859), (39, 4868), (44, 4910), (46, 4922), (58, 5021), (59, 5045), (64, 5120), (73, 5219), (76, 5252), (77, 5258), (79, 5291), (86, 5375), (88, 5408), (99, 5495), (101, 5507), (111, 5570), (112, 5582), (121, 5663), (124, 5684), (126, 5699), (127, 5705), (128, 5708), (141, 5783), (142, 5789), (154, 5873), (160, 5906), (163, 5939), (183, 6113), (185, 6122), (189, 6155), (199, 6230), (205, 6302), (206, 6308), (262, 6476), (272, 6521), (298, 6683), (299, 6692), (308, 6821), (309, 6830), (310, 6833), (316, 6881), (318, 6896), (321, 6914), (326, 6962), (333,

7034), (335, 7052), (339, 7073), (340, 7076), (341, 7085), (343, 7112), (344, 7124), (346, 7163), (353, 7214),

Gene: Maliketh\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Maliketh\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Malthus\_11 Start: 5489, Stop: 8167, Start Num: 9

Candidate Starts for Malthus\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (127, 6560), (131, 6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (266, 7430), (271, 7445), (274, 7454), (275, 7457), (299, 7622), (314, 7802), (321, 7844), (328, 7904), (333, 7964), (343, 8042),

Gene: Marmie\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Marmie\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Mdavu\_6 Start: 3784, Stop: 6327, Start Num: 8

Candidate Starts for Mdavu\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (166, 5077), (180, 5200), (182, 5212), (192, 5284), (204, 5386), (216, 5461), (218, 5467), (219, 5470), (226, 5488), (229, 5503), (259, 5602), (261, 5611), (270, 5659), (277, 5683), (290, 5737), (308, 5911), (310, 5923), (314, 5962), (321, 6004), (328, 6064), (332, 6121), (333, 6124), (335, 6142), (343, 6202), (344, 6214), (350, 6274),

Gene: MeaningOfLife\_10 Start: 4497, Stop: 7067, Start Num: 8

Candidate Starts for MeaningOfLife\_10:

(Start: 8 @4497 has 48 MA's), (Start: 16 @4557 has 49 MA's), (Start: 20 @4581 has 5 MA's), (Start: 25 @4623 has 1 MA's), (27, 4635), (29, 4647), (51, 4836), (58, 4884), (59, 4908), (64, 4983), (76, 5112), (77, 5118), (79, 5151), (81, 5181), (86, 5235), (96, 5319), (101, 5343), (112, 5418), (116, 5460), (121, 5499), (124, 5520), (128, 5544), (133, 5562), (148, 5661), (152, 5700), (154, 5709), (156, 5721), (162, 5769), (163, 5775), (164, 5787), (166, 5805), (199, 6066), (200, 6087), (215, 6192), (216, 6198), (219, 6207), (226, 6225), (229, 6240), (261, 6342), (269, 6387), (273, 6399), (299, 6546), (321, 6735), (328, 6795), (333, 6855), (337, 6885), (343, 6942), (344, 6954), (350, 7014),

Gene: Megsy\_10 Start: 4493, Stop: 7066, Start Num: 8

Candidate Starts for Megsy\_10:

(Start: 8 @4493 has 48 MA's), (Start: 16 @4553 has 49 MA's), (Start: 25 @4619 has 1 MA's), (35, 4676), (54, 4856), (58, 4880), (59, 4904), (64, 4979), (76, 5111), (77, 5117), (79, 5150), (81, 5180), (86, 5234), (96, 5318), (101, 5342), (112, 5417), (116, 5459), (118, 5471), (121, 5498), (124, 5519), (128, 5543), (133, 5561), (148, 5660), (152, 5699), (154, 5708), (156, 5720), (162, 5768), (163, 5774), (164, 5786), (166, 5804), (199, 6065), (200, 6086), (215, 6191), (216, 6197), (219, 6206), (226, 6224), (229, 6239), (261, 6341), (269, 6386), (273, 6398), (299, 6545), (308, 6641), (321, 6734), (328, 6794), (333, 6854), (336, 6875), (343, 6941), (344, 6953), (349, 7010), (353, 7043),

Gene: Miryou\_8 Start: 4252, Stop: 7008, Start Num: 10

Candidate Starts for Miryou\_8:

(Start: 10 @4252 has 11 MA's), (Start: 12 @4264 has 4 MA's), (Start: 20 @4330 has 5 MA's), (Start: 25 @4372 has 1 MA's), (34, 4426), (37, 4462), (50, 4543), (51, 4546), (57, 4582), (58, 4594), (59, 4618), (62, 4645), (64, 4693), (67, 4711), (76, 4822), (77, 4828), (79, 4861), (82, 4912), (86, 4945), (103, 5074), (105, 5077), (110, 5119), (112, 5140), (115, 5179), (116, 5182), (124, 5242), (126, 5257), (128, 5266), (136, 5308), (140, 5338), (146, 5365), (150, 5401), (154, 5431), (159, 5458), (160, 5464), (161, 5473), (183, 5671), (184, 5677), (188, 5704), (189, 5713), (191, 5725), (199, 5788), (200, 5809), (203, 5845), (205, 5860), (206, 5866), (224, 5950), (225, 5953), (235, 6004), (239, 6010), (241, 6025), (249, 6079), (252, 6091), (254, 6097), (292, 6406), (296, 6439), (299, 6463), (314, 6643), (315, 6646), (317, 6658), (321, 6685), (326, 6733), (333, 6805), (341, 6856), (343, 6883), (344, 6895), (346, 6934), (349, 6952), (353, 6985),

Gene: MissDaisy\_11 Start: 5445, Stop: 8033, Start Num: 9

Candidate Starts for MissDaisy\_11:

(Start: 9 @5445 has 21 MA's), (14, 5487), (Start: 20 @5523 has 5 MA's), (21, 5532), (35, 5622), (36, 5649), (38, 5661), (50, 5751), (58, 5802), (62, 5853), (64, 5901), (65, 5904), (66, 5916), (68, 5925), (72, 5997), (76, 6030), (77, 6036), (81, 6096), (86, 6150), (114, 6414), (127, 6516), (131, 6528), (156, 6696), (166, 6780), (171, 6831), (174, 6861), (199, 7041), (209, 7134), (212, 7155), (213, 7167), (222, 7194), (223, 7197), (228, 7215), (249, 7296), (256, 7323), (299, 7488), (314, 7668), (321, 7710), (328, 7770), (333, 7830), (343, 7908),

Gene: Mitti\_11 Start: 5502, Stop: 8171, Start Num: 9

Candidate Starts for Mitti\_11:

(Start: 9 @5502 has 21 MA's), (14, 5544), (Start: 20 @5580 has 5 MA's), (21, 5589), (35, 5679), (36, 5706), (38, 5718), (50, 5808), (58, 5859), (62, 5910), (64, 5958), (65, 5961), (66, 5973), (68, 5982), (72, 6054), (76, 6087), (77, 6093), (81, 6153), (86, 6207), (114, 6471), (127, 6573), (131, 6585), (156, 6753), (166, 6837), (171, 6888), (174, 6918), (187, 7005), (199, 7098), (209, 7191), (212, 7212), (213, 7224), (222, 7251), (223, 7254), (228, 7272), (249, 7353), (256, 7380), (264, 7416), (280, 7443), (281, 7452), (282, 7461), (299, 7626), (314, 7806), (321, 7848), (328, 7908), (333, 7968), (343, 8046),

Gene: Mowgli\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Mowgli\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Murucutumbu\_10 Start: 4553, Stop: 7057, Start Num: 16

Candidate Starts for Murucutumbu\_10:

(2, 4385), (Start: 8 @4493 has 48 MA's), (Start: 16 @4553 has 49 MA's), (19, 4574), (Start: 20 @4577 has 5 MA's), (Start: 25 @4619 has 1 MA's), (29, 4643), (35, 4676), (38, 4715), (58, 4880), (59, 4904), (64, 4979), (81, 5177), (86, 5231), (96, 5315), (101, 5339), (112, 5414), (120, 5486), (124, 5516), (126,

5531), (128, 5540), (133, 5558), (148, 5657), (152, 5696), (154, 5705), (156, 5717), (163, 5771), (164, 5783), (166, 5801), (183, 5945), (199, 6062), (200, 6083), (216, 6194), (219, 6203), (226, 6221), (229, 6236), (261, 6341), (273, 6395), (291, 6467), (299, 6536), (308, 6632), (321, 6725), (328, 6785), (333, 6845), (343, 6932), (344, 6944), (350, 7004), (353, 7034),

Gene: Mynx\_10 Start: 4607, Stop: 7117, Start Num: 16

Candidate Starts for Mynx\_10:

(Start: 8 @4547 has 48 MA's), (Start: 16 @4607 has 49 MA's), (Start: 20 @4631 has 5 MA's), (Start: 25 @4673 has 1 MA's), (27, 4685), (29, 4697), (38, 4769), (51, 4886), (58, 4934), (59, 4958), (64, 5033), (76, 5162), (77, 5168), (79, 5201), (81, 5231), (86, 5285), (96, 5369), (101, 5393), (112, 5468), (116, 5510), (121, 5549), (124, 5570), (128, 5594), (133, 5612), (148, 5711), (152, 5750), (154, 5759), (156, 5771), (162, 5819), (163, 5825), (164, 5837), (166, 5855), (199, 6116), (200, 6137), (215, 6242), (216, 6248), (219, 6257), (226, 6275), (229, 6290), (261, 6392), (269, 6437), (273, 6449), (299, 6596), (321, 6785), (328, 6845), (332, 6902), (333, 6905), (337, 6935), (343, 6992), (344, 7004), (350, 7064),

Gene: Neighly\_8 Start: 4017, Stop: 6890, Start Num: 10

Candidate Starts for Neighly\_8:

(Start: 10 @4017 has 11 MA's), (Start: 12 @4029 has 4 MA's), (Start: 17 @4083 has 4 MA's), (Start: 20 @4095 has 5 MA's), (34, 4191), (37, 4227), (50, 4308), (51, 4311), (52, 4326), (54, 4335), (59, 4383), (62, 4410), (64, 4458), (67, 4476), (76, 4587), (77, 4593), (79, 4626), (81, 4656), (82, 4677), (86, 4710), (87, 4734), (105, 4851), (110, 4893), (115, 4953), (124, 5016), (126, 5031), (128, 5040), (140, 5112), (150, 5175), (152, 5196), (153, 5199), (154, 5205), (160, 5238), (163, 5271), (169, 5343), (172, 5361), (183, 5445), (184, 5451), (185, 5454), (188, 5478), (189, 5487), (191, 5499), (199, 5562), (200, 5583), (205, 5634), (230, 5760), (231, 5766), (232, 5781), (240, 5874), (244, 5907), (246, 5913), (248, 5928), (270, 6075), (278, 6108), (292, 6288), (296, 6321), (299, 6345), (314, 6525), (315, 6528), (318, 6549), (321, 6567), (326, 6615), (333, 6687), (340, 6729), (341, 6738), (343, 6765), (344, 6777), (346, 6816), (349, 6834), (353, 6867),

Gene: Nikao\_6 Start: 3868, Stop: 6339, Start Num: 20

Candidate Starts for Nikao\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: November\_8 Start: 4355, Stop: 6742, Start Num: 35

Candidate Starts for November\_8:

(Start: 8 @4172 has 48 MA's), (35, 4355), (40, 4409), (45, 4454), (54, 4532), (59, 4580), (64, 4655), (66, 4670), (68, 4679), (72, 4751), (74, 4778), (76, 4784), (77, 4790), (79, 4820), (81, 4850), (86, 4904), (88, 4937), (101, 5015), (111, 5078), (112, 5090), (126, 5207), (128, 5216), (132, 5231), (141, 5291), (152, 5372), (154, 5381), (161, 5423), (163, 5447), (165, 5468), (181, 5603), (185, 5630), (189, 5663), (193, 5687), (199, 5738), (200, 5759), (205, 5810), (206, 5816), (211, 5849), (243, 5936), (261, 5984), (263, 5987), (265, 6002), (299, 6197), (300, 6203), (305, 6266), (308, 6326), (309, 6335), (310, 6338), (318, 6401), (321, 6419), (322, 6425), (326, 6467), (333, 6539), (339, 6578), (340, 6581), (341, 6590), (343, 6617), (344, 6629), (346, 6668), (349, 6686), (353, 6719),

Gene: Nutello\_6 Start: 3784, Stop: 6339, Start Num: 8

Candidate Starts for Nutello\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702),



(116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: OctaviousRex\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for OctaviousRex\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: OkiRoe\_8 Start: 4253, Stop: 7009, Start Num: 10

Candidate Starts for OkiRoe\_8:

(5, 4232), (Start: 10 @4253 has 11 MA's), (Start: 12 @4265 has 4 MA's), (Start: 20 @4331 has 5 MA's), (Start: 25 @4373 has 1 MA's), (34, 4427), (37, 4463), (50, 4544), (51, 4547), (57, 4583), (58, 4595), (59, 4619), (62, 4646), (64, 4694), (67, 4712), (76, 4823), (77, 4829), (79, 4862), (82, 4913), (86, 4946), (103, 5075), (105, 5078), (110, 5120), (115, 5180), (116, 5183), (124, 5243), (126, 5258), (128, 5267), (136, 5309), (140, 5339), (146, 5366), (150, 5402), (154, 5432), (159, 5459), (160, 5465), (161, 5474), (183, 5672), (184, 5678), (185, 5681), (188, 5705), (189, 5714), (191, 5726), (199, 5789), (200, 5810), (203, 5846), (205, 5861), (206, 5867), (224, 5951), (235, 6005), (239, 6011), (241, 6026), (249, 6080), (252, 6092), (254, 6098), (270, 6194), (292, 6407), (296, 6440), (299, 6464), (314, 6644), (315, 6647), (317, 6659), (321, 6686), (326, 6734), (333, 6806), (341, 6857), (343, 6884), (344, 6896), (346, 6935), (353, 6986),

Gene: Olga\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Olga\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: OmniCritical\_11 Start: 5489, Stop: 8158, Start Num: 9

Candidate Starts for OmniCritical\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (127, 6560), (131, 6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (264, 7403), (280, 7430), (281, 7439), (282, 7448), (292, 7556), (299, 7613), (314, 7793), (321, 7835), (328, 7895), (333, 7955), (343, 8033),

Gene: Pace1224\_4 Start: 3425, Stop: 6340, Start Num: 11

Candidate Starts for Pace1224\_4:

(Start: 11 @3425 has 67 MA's), (19, 3500), (Start: 25 @3545 has 1 MA's), (49, 3701), (58, 3770), (64, 3869), (75, 3992), (80, 4049), (86, 4121), (92, 4199), (106, 4235), (112, 4295), (119, 4355), (122, 4379), (134, 4442), (139, 4481), (142, 4502), (150, 4556), (151, 4568), (177, 4766), (195, 4886), (236, 5177), (242, 5240), (253, 5327), (264, 5390), (284, 5564), (299, 5738), (301, 5747), (303, 5762), (314,

5939), (324, 6005), (325, 6020), (328, 6056), (330, 6086), (333, 6116), (334, 6119), (338, 6167), (342, 6206), (343, 6209), (344, 6221), (347, 6266), (348, 6275), (352, 6314), (353, 6317),

Gene: Padfoot\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Padfoot\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Padpat\_10 Start: 4587, Stop: 7097, Start Num: 16

Candidate Starts for Padpat\_10:

(Start: 8 @4527 has 48 MA's), (Start: 16 @4587 has 49 MA's), (Start: 20 @4611 has 5 MA's), (Start: 25 @4653 has 1 MA's), (27, 4665), (29, 4677), (51, 4866), (58, 4914), (59, 4938), (64, 5013), (76, 5142), (77, 5148), (79, 5181), (81, 5211), (86, 5265), (96, 5349), (101, 5373), (112, 5448), (116, 5490), (121, 5529), (124, 5550), (128, 5574), (133, 5592), (148, 5691), (152, 5730), (154, 5739), (156, 5751), (162, 5799), (163, 5805), (164, 5817), (166, 5835), (199, 6096), (200, 6117), (215, 6222), (216, 6228), (219, 6237), (226, 6255), (229, 6270), (261, 6372), (269, 6417), (273, 6429), (299, 6576), (321, 6765), (328, 6825), (332, 6882), (333, 6885), (337, 6915), (343, 6972), (344, 6984), (350, 7044), (353, 7074),

Gene: Paito\_4 Start: 3440, Stop: 6253, Start Num: 11

Candidate Starts for Paito\_4:

(Start: 11 @3440 has 67 MA's), (14, 3482), (19, 3515), (23, 3551), (30, 3587), (48, 3707), (50, 3731), (51, 3734), (58, 3782), (59, 3806), (62, 3833), (64, 3881), (86, 4139), (100, 4283), (107, 4313), (109, 4349), (116, 4412), (119, 4430), (121, 4451), (131, 4505), (139, 4556), (141, 4571), (148, 4613), (150, 4631), (154, 4661), (188, 4937), (191, 4958), (198, 5009), (199, 5021), (202, 5069), (227, 5213), (233, 5264), (287, 5645), (297, 5744), (304, 5792), (307, 5837), (311, 5879), (321, 5924), (333, 6044), (343, 6122), (347, 6179), (348, 6188), (352, 6227), (354, 6233), (355, 6245),

Gene: Paola\_8 Start: 4264, Stop: 7008, Start Num: 12

Candidate Starts for Paola\_8:

(Start: 10 @4252 has 11 MA's), (Start: 12 @4264 has 4 MA's), (Start: 20 @4330 has 5 MA's), (Start: 25 @4372 has 1 MA's), (34, 4426), (37, 4462), (50, 4543), (51, 4546), (57, 4582), (58, 4594), (59, 4618), (62, 4645), (64, 4693), (67, 4711), (76, 4822), (77, 4828), (79, 4861), (82, 4912), (86, 4945), (103, 5074), (105, 5077), (110, 5119), (115, 5179), (116, 5182), (124, 5242), (126, 5257), (128, 5266), (136, 5308), (140, 5338), (146, 5365), (150, 5401), (154, 5431), (159, 5458), (160, 5464), (161, 5473), (183, 5671), (184, 5677), (185, 5680), (188, 5704), (189, 5713), (191, 5725), (199, 5788), (200, 5809), (203, 5845), (205, 5860), (206, 5866), (224, 5950), (225, 5953), (235, 6004), (239, 6010), (241, 6025), (249, 6079), (252, 6091), (254, 6097), (270, 6193), (276, 6211), (292, 6406), (296, 6439), (299, 6463), (314, 6643), (315, 6646), (317, 6658), (321, 6685), (326, 6733), (333, 6805), (341, 6856), (343, 6883), (344, 6895), (345, 6925), (346, 6934), (353, 6985),

Gene: Patt\_11 Start: 5421, Stop: 8009, Start Num: 9

Candidate Starts for Patt\_11:

(Start: 9 @5421 has 21 MA's), (14, 5463), (Start: 20 @5499 has 5 MA's), (21, 5508), (35, 5598), (36, 5625), (38, 5637), (50, 5727), (58, 5778), (62, 5829), (64, 5877), (65, 5880), (66, 5892), (68, 5901), (72, 5973), (76, 6006), (77, 6012), (81, 6072), (86, 6126), (114, 6390), (127, 6492), (131, 6504), (156, 6672), (166, 6756), (171, 6807), (174, 6837), (199, 7017), (209, 7110), (212, 7131), (213, 7143), (222, 7170), (223, 7173), (228, 7191), (249, 7272), (256, 7299), (299, 7464), (314, 7644), (321, 7686), (328, 7746), (333, 7806), (343, 7884),

Gene: Peeb\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Peeb\_4:

(Start: 11 @3403 has 67 MA's), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (51, 3697), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (166, 4720), (188, 4900), (191, 4921), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Peel\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Peel\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (172, 5936), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Periodt\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Periodt\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Pharb\_9 Start: 4219, Stop: 6870, Start Num: 8

Candidate Starts for Pharb\_9:

(Start: 8 @4219 has 48 MA's), (Start: 20 @4306 has 5 MA's), (22, 4324), (33, 4393), (38, 4444), (39, 4453), (41, 4480), (59, 4633), (62, 4660), (64, 4708), (76, 4840), (77, 4846), (79, 4879), (86, 4963), (99, 5089), (101, 5101), (111, 5164), (112, 5176), (124, 5278), (126, 5293), (127, 5299), (128, 5302), (139, 5362), (141, 5377), (142, 5383), (154, 5467), (160, 5500), (163, 5533), (185, 5716), (186, 5719), (188, 5740), (189, 5749), (199, 5824), (205, 5896), (260, 6100), (262, 6109), (272, 6154), (299, 6322), (308, 6451), (321, 6544), (326, 6592), (333, 6664), (339, 6703), (340, 6706), (341, 6715), (343, 6742), (344, 6754), (346, 6793), (353, 6847),

Gene: Phish\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Phish\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Phreak\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Phreak\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116,

4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Piatt\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Piatt\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: PinkYoshi\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for PinkYoshi\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Pinnie\_5 Start: 3932, Stop: 6832, Start Num: 11

Candidate Starts for Pinnie\_5:

(Start: 11 @3932 has 67 MA's), (55, 4250), (64, 4373), (75, 4499), (86, 4628), (90, 4670), (92, 4709), (109, 4784), (112, 4805), (115, 4844), (116, 4847), (119, 4865), (120, 4877), (131, 4940), (142, 5012), (155, 5099), (177, 5276), (195, 5396), (197, 5417), (217, 5564), (236, 5684), (245, 5777), (253, 5834), (299, 6245), (301, 6254), (309, 6395), (313, 6425), (314, 6446), (320, 6488), (324, 6512), (325, 6527), (328, 6563), (333, 6623), (342, 6698), (343, 6701), (344, 6713), (347, 6758), (348, 6767),

Gene: Pixie\_9 Start: 4178, Stop: 6769, Start Num: 8

Candidate Starts for Pixie\_9:

(Start: 8 @4178 has 48 MA's), (Start: 20 @4265 has 5 MA's), (38, 4403), (39, 4412), (51, 4517), (59, 4589), (62, 4616), (64, 4664), (72, 4760), (76, 4793), (77, 4799), (79, 4832), (82, 4883), (86, 4916), (93, 5000), (99, 5033), (101, 5045), (105, 5054), (111, 5108), (112, 5120), (123, 5210), (126, 5237), (127, 5243), (128, 5246), (141, 5321), (142, 5327), (154, 5411), (160, 5444), (163, 5477), (166, 5507), (181, 5633), (185, 5660), (189, 5693), (199, 5768), (206, 5846), (262, 6014), (272, 6059), (299, 6224), (308, 6353), (318, 6428), (321, 6446), (326, 6494), (332, 6563), (333, 6566), (339, 6605), (340, 6608), (341, 6617), (343, 6644), (344, 6656), (346, 6695), (353, 6746),

Gene: Plagueis\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Plagueis\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Pokerus\_9 Start: 4541, Stop: 7051, Start Num: 16

Candidate Starts for Pokerus\_9:

(Start: 8 @4481 has 48 MA's), (Start: 16 @4541 has 49 MA's), (Start: 20 @4565 has 5 MA's), (Start: 25 @4607 has 1 MA's), (27, 4619), (29, 4631), (51, 4820), (58, 4868), (59, 4892), (64, 4967), (76, 5096), (77, 5102), (79, 5135), (81, 5165), (86, 5219), (96, 5303), (101, 5327), (112, 5402), (116, 5444), (121, 5483), (124, 5504), (128, 5528), (133, 5546), (148, 5645), (152, 5684), (154, 5693), (156, 5705), (162, 5753), (163, 5759), (164, 5771), (166, 5789), (199, 6050), (200, 6071), (215, 6176), (216, 6182), (219, 6191), (226, 6209), (229, 6224), (261, 6326), (269, 6371), (273, 6383), (293, 6479), (299, 6530), (321, 6719), (328, 6779), (333, 6839), (343, 6926), (344, 6938), (350, 6998),

Gene: Prithvi\_10 Start: 4553, Stop: 7063, Start Num: 16

Candidate Starts for Prithvi\_10:

(Start: 8 @4493 has 48 MA's), (Start: 16 @4553 has 49 MA's), (19, 4574), (Start: 20 @4577 has 5 MA's), (Start: 25 @4619 has 1 MA's), (29, 4643), (35, 4676), (38, 4715), (58, 4880), (59, 4904), (64, 4979), (76, 5108), (81, 5177), (86, 5231), (96, 5315), (101, 5339), (112, 5414), (116, 5456), (121, 5495), (124, 5516), (128, 5540), (133, 5558), (148, 5657), (152, 5696), (154, 5705), (156, 5717), (162, 5765), (163, 5771), (164, 5783), (166, 5801), (199, 6062), (200, 6083), (215, 6188), (216, 6194), (219, 6203), (226, 6221), (229, 6236), (261, 6338), (269, 6383), (273, 6395), (299, 6542), (308, 6638), (321, 6731), (328, 6791), (333, 6851), (336, 6872), (343, 6938), (344, 6950), (349, 7007), (353, 7040),

Gene: Psycho\_8 Start: 4343, Stop: 7021, Start Num: 17

Candidate Starts for Psycho\_8:

(Start: 10 @4277 has 11 MA's), (Start: 12 @4289 has 4 MA's), (Start: 17 @4343 has 4 MA's), (Start: 20 @4355 has 5 MA's), (Start: 25 @4397 has 1 MA's), (34, 4451), (37, 4487), (50, 4568), (51, 4571), (52, 4586), (54, 4595), (59, 4643), (62, 4670), (64, 4718), (67, 4736), (76, 4847), (77, 4853), (81, 4916), (82, 4937), (86, 4970), (87, 4994), (105, 5111), (110, 5153), (112, 5174), (115, 5213), (124, 5276), (126, 5291), (128, 5300), (140, 5372), (150, 5435), (152, 5456), (153, 5459), (154, 5465), (160, 5498), (161, 5507), (163, 5531), (169, 5603), (183, 5705), (184, 5711), (185, 5714), (188, 5738), (189, 5747), (191, 5759), (199, 5822), (200, 5843), (205, 5894), (243, 6014), (244, 6038), (246, 6044), (248, 6059), (270, 6206), (292, 6419), (296, 6452), (299, 6476), (314, 6656), (315, 6659), (318, 6680), (321, 6698), (326, 6746), (333, 6818), (340, 6860), (341, 6869), (343, 6896), (344, 6908), (346, 6947), (349, 6965), (353, 6998),

Gene: QuincyRose\_9 Start: 4604, Stop: 7114, Start Num: 16

Candidate Starts for QuincyRose\_9:

(Start: 8 @4544 has 48 MA's), (Start: 16 @4604 has 49 MA's), (Start: 20 @4628 has 5 MA's), (Start: 25 @4670 has 1 MA's), (27, 4682), (29, 4694), (51, 4883), (58, 4931), (59, 4955), (64, 5030), (76, 5159), (77, 5165), (79, 5198), (81, 5228), (86, 5282), (96, 5366), (101, 5390), (112, 5465), (116, 5507), (121, 5546), (124, 5567), (128, 5591), (133, 5609), (148, 5708), (152, 5747), (154, 5756), (156, 5768), (162, 5816), (163, 5822), (164, 5834), (166, 5852), (199, 6113), (200, 6134), (215, 6239), (216, 6245), (219, 6254), (226, 6272), (229, 6287), (261, 6389), (269, 6434), (273, 6446), (299, 6593), (321, 6782), (328, 6842), (332, 6899), (333, 6902), (337, 6932), (343, 6989), (344, 7001), (350, 7061),

Gene: Rabbs\_4 Start: 3404, Stop: 6193, Start Num: 11

Candidate Starts for Rabbs\_4:

(Start: 11 @3404 has 67 MA's), (13, 3437), (14, 3446), (19, 3479), (26, 3527), (30, 3551), (59, 3770), (62, 3797), (64, 3845), (86, 4103), (102, 4259), (107, 4277), (116, 4376), (119, 4394), (121, 4415), (143, 4544), (148, 4577), (150, 4595), (154, 4625), (166, 4721), (186, 4880), (188, 4901), (191, 4922), (198, 4973), (199, 4985), (220, 5144), (233, 5228), (247, 5357), (268, 5465), (287, 5585), (304, 5732), (321, 5864), (328, 5924), (333, 5984), (343, 6062), (347, 6119), (348, 6128), (350, 6134), (355, 6185),

Gene: Ramen\_10 Start: 4584, Stop: 7094, Start Num: 16

Candidate Starts for Ramen\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139),

(77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Rapunzel97\_10 Start: 4584, Stop: 7094, Start Num: 16

Candidate Starts for Rapunzel97\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (44, 4800), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Remy19\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Remy19\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Renaissance\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Renaissance\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Reptar3000\_11 Start: 5420, Stop: 8008, Start Num: 9

Candidate Starts for Reptar3000\_11:

(Start: 9 @5420 has 21 MA's), (14, 5462), (Start: 20 @5498 has 5 MA's), (21, 5507), (35, 5597), (36, 5624), (38, 5636), (50, 5726), (58, 5777), (62, 5828), (64, 5876), (65, 5879), (66, 5891), (68, 5900), (72, 5972), (76, 6005), (77, 6011), (81, 6071), (86, 6125), (114, 6389), (127, 6491), (131, 6503), (156, 6671), (166, 6755), (171, 6806), (174, 6836), (199, 7016), (209, 7109), (212, 7130), (213, 7142), (222, 7169), (223, 7172), (228, 7190), (249, 7271), (256, 7298), (299, 7463), (314, 7643), (321, 7685), (328, 7745), (333, 7805), (343, 7883),

Gene: Rosmarinus\_10 Start: 4628, Stop: 7126, Start Num: 16

Candidate Starts for Rosmarinus\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (137, 5669), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6794), (328, 6854), (332, 6911), (333, 6914), (337, 6944), (343, 7001), (344, 7013), (350, 7073), (353, 7103),

Gene: Ruthiejr\_10 Start: 5219, Stop: 7876, Start Num: 9

Candidate Starts for Ruthiejr\_10:

(4, 5177), (Start: 9 @5219 has 21 MA's), (14, 5261), (Start: 20 @5297 has 5 MA's), (21, 5306), (24, 5333), (32, 5378), (35, 5396), (36, 5423), (38, 5435), (44, 5465), (47, 5483), (50, 5525), (62, 5627), (64, 5675), (65, 5678), (66, 5690), (68, 5699), (69, 5723), (72, 5771), (76, 5804), (77, 5810), (81, 5870), (86, 5924), (114, 6182), (123, 6251), (127, 6284), (131, 6296), (134, 6308), (156, 6464), (166, 6548), (167, 6566), (170, 6596), (171, 6599), (187, 6716), (198, 6797), (199, 6809), (223, 6965), (249, 7052), (266, 7139), (271, 7154), (274, 7163), (289, 7232), (299, 7331), (314, 7511), (328, 7613), (333, 7673), (343, 7751),

Gene: SamScheppers\_9 Start: 5096, Stop: 7774, Start Num: 9

Candidate Starts for SamScheppers\_9:

(Start: 9 @5096 has 21 MA's), (14, 5138), (Start: 20 @5174 has 5 MA's), (21, 5183), (35, 5273), (36, 5300), (38, 5312), (50, 5402), (58, 5453), (62, 5504), (64, 5552), (65, 5555), (66, 5567), (68, 5576), (72, 5648), (76, 5681), (77, 5687), (81, 5747), (86, 5801), (114, 6065), (127, 6167), (131, 6179), (156, 6347), (166, 6431), (171, 6482), (174, 6512), (187, 6599), (199, 6692), (209, 6785), (212, 6806), (213, 6818), (222, 6845), (223, 6848), (228, 6866), (249, 6947), (256, 6974), (266, 7037), (271, 7052), (274, 7061), (275, 7064), (299, 7229), (314, 7409), (321, 7451), (328, 7511), (333, 7571), (343, 7649),

Gene: SamuelLPlaqson\_10 Start: 4551, Stop: 7046, Start Num: 16

Candidate Starts for SamuelLPlaqson\_10:

(2, 4383), (Start: 8 @4491 has 48 MA's), (Start: 16 @4551 has 49 MA's), (19, 4572), (22, 4593), (29, 4641), (38, 4713), (58, 4878), (59, 4902), (64, 4977), (76, 5109), (77, 5115), (79, 5148), (81, 5178), (86, 5232), (96, 5316), (101, 5340), (112, 5415), (121, 5496), (124, 5517), (126, 5532), (128, 5541), (133, 5559), (148, 5658), (152, 5697), (154, 5706), (156, 5718), (162, 5766), (163, 5772), (164, 5784), (166, 5802), (198, 6051), (199, 6063), (200, 6084), (216, 6195), (219, 6204), (226, 6222), (229, 6237), (261, 6339), (299, 6525), (308, 6621), (321, 6714), (328, 6774), (333, 6834), (343, 6921), (344, 6933), (349, 6990), (353, 7023),

Gene: Schiebel\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Schiebel\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: SgtBeansprout\_6 Start: 3868, Stop: 6339, Start Num: 20

Candidate Starts for SgtBeansprout\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: ShaboiShabazz\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for ShaboiShabazz\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116,

4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: ShedlockHolmes\_9 Start: 4427, Stop: 7018, Start Num: 8

Candidate Starts for ShedlockHolmes\_9:

(Start: 8 @4427 has 48 MA's), (Start: 20 @4514 has 5 MA's), (38, 4652), (39, 4661), (51, 4766), (59, 4838), (62, 4865), (64, 4913), (72, 5009), (76, 5042), (77, 5048), (79, 5081), (82, 5132), (86, 5165), (93, 5249), (99, 5282), (101, 5294), (105, 5303), (111, 5357), (112, 5369), (123, 5459), (126, 5486), (127, 5492), (128, 5495), (141, 5570), (142, 5576), (154, 5660), (160, 5693), (163, 5726), (166, 5756), (181, 5882), (185, 5909), (189, 5942), (199, 6017), (206, 6095), (262, 6263), (272, 6308), (299, 6473), (308, 6602), (318, 6677), (321, 6695), (326, 6743), (332, 6812), (333, 6815), (339, 6854), (340, 6857), (341, 6866), (343, 6893), (344, 6905), (346, 6944), (353, 6995),

Gene: ShiaSurprise\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for ShiaSurprise\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Sizemore\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Sizemore\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Slarp\_11 Start: 5499, Stop: 8258, Start Num: 9

Candidate Starts for Slarp\_11:

(Start: 9 @5499 has 21 MA's), (14, 5541), (Start: 20 @5577 has 5 MA's), (21, 5586), (35, 5676), (36, 5703), (38, 5715), (50, 5805), (58, 5856), (62, 5907), (64, 5955), (65, 5958), (66, 5970), (68, 5979), (72, 6051), (76, 6084), (77, 6090), (81, 6150), (86, 6204), (114, 6468), (127, 6570), (131, 6582), (156, 6750), (166, 6834), (171, 6885), (174, 6915), (187, 7002), (199, 7095), (209, 7188), (212, 7209), (213, 7221), (222, 7248), (223, 7251), (228, 7269), (249, 7350), (256, 7377), (264, 7413), (266, 7440), (271, 7455), (274, 7464), (275, 7467), (279, 7503), (280, 7530), (281, 7539), (282, 7548), (299, 7713), (314, 7893), (321, 7935), (328, 7995), (333, 8055), (343, 8133),

Gene: Slimphazie\_10 Start: 4584, Stop: 7094, Start Num: 16

Candidate Starts for Slimphazie\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),



Gene: Sneeze\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Sneeze\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (59, 3769), (62, 3796), (64, 3844), (86, 4102), (102, 4258), (107, 4276), (116, 4375), (119, 4393), (121, 4414), (143, 4543), (148, 4576), (150, 4594), (154, 4624), (166, 4720), (186, 4879), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (220, 5143), (233, 5227), (247, 5356), (268, 5464), (287, 5584), (304, 5731), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: SoSeph\_8 Start: 4274, Stop: 7135, Start Num: 10

Candidate Starts for SoSeph\_8:

(Start: 10 @4274 has 11 MA's), (Start: 12 @4286 has 4 MA's), (Start: 20 @4352 has 5 MA's), (Start: 25 @4394 has 1 MA's), (34, 4448), (37, 4484), (50, 4565), (51, 4568), (57, 4604), (58, 4616), (59, 4640), (62, 4667), (64, 4715), (67, 4733), (76, 4844), (77, 4850), (79, 4883), (82, 4934), (86, 4967), (103, 5096), (105, 5099), (110, 5141), (112, 5162), (115, 5201), (116, 5204), (124, 5264), (126, 5279), (128, 5288), (136, 5330), (140, 5360), (146, 5387), (150, 5423), (154, 5453), (159, 5480), (160, 5486), (161, 5495), (183, 5693), (184, 5699), (185, 5702), (188, 5726), (189, 5735), (191, 5747), (199, 5810), (200, 5831), (205, 5882), (206, 5888), (225, 5975), (230, 6008), (231, 6014), (234, 6035), (238, 6098), (239, 6101), (243, 6128), (244, 6152), (264, 6272), (276, 6338), (288, 6473), (292, 6533), (296, 6566), (299, 6590), (314, 6770), (315, 6773), (321, 6812), (326, 6860), (333, 6932), (341, 6983), (343, 7010), (344, 7022), (346, 7061), (349, 7079), (353, 7112),

Gene: Spock\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Spock\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Stargaze\_4 Start: 3494, Stop: 6403, Start Num: 11

Candidate Starts for Stargaze\_4:

(Start: 11 @3494 has 67 MA's), (24, 3608), (26, 3617), (58, 3833), (64, 3935), (75, 4061), (81, 4136), (86, 4190), (90, 4232), (92, 4271), (109, 4346), (112, 4367), (115, 4406), (116, 4409), (120, 4439), (124, 4469), (127, 4490), (131, 4502), (139, 4553), (142, 4574), (152, 4649), (154, 4658), (155, 4661), (177, 4838), (195, 4958), (197, 4979), (236, 5252), (253, 5405), (267, 5498), (299, 5816), (301, 5825), (303, 5840), (311, 5987), (319, 6053), (320, 6059), (324, 6083), (325, 6098), (328, 6134), (333, 6194), (341, 6245), (342, 6269), (343, 6272), (344, 6284), (347, 6329), (348, 6338), (352, 6377), (353, 6380),

Gene: Stinson\_10 Start: 4559, Stop: 7069, Start Num: 16

Candidate Starts for Stinson\_10:

(2, 4391), (Start: 8 @4499 has 48 MA's), (Start: 16 @4559 has 49 MA's), (19, 4580), (Start: 20 @4583 has 5 MA's), (Start: 25 @4625 has 1 MA's), (29, 4649), (35, 4682), (38, 4721), (58, 4886), (59, 4910), (64, 4985), (81, 5183), (86, 5237), (96, 5321), (101, 5345), (112, 5420), (120, 5492), (124, 5522), (126, 5537), (128, 5546), (133, 5564), (148, 5663), (152, 5702), (154, 5711), (156, 5723), (163, 5777), (164, 5789), (166, 5807), (199, 6068), (200, 6089), (216, 6200), (219, 6209), (226, 6227), (229, 6242), (261, 6347), (273, 6401), (291, 6479), (299, 6548), (308, 6644), (321, 6737), (328, 6797), (333, 6857), (343, 6944), (344, 6956), (350, 7016), (353, 7046),

Gene: Sulley\_10 Start: 4566, Stop: 7073, Start Num: 16

Candidate Starts for Sulley\_10:

(Start: 8 @4506 has 48 MA's), (Start: 16 @4566 has 49 MA's), (Start: 20 @4590 has 5 MA's), (Start: 25 @4632 has 1 MA's), (29, 4656), (38, 4728), (51, 4845), (58, 4893), (59, 4917), (64, 4992), (76, 5121), (77, 5127), (79, 5160), (81, 5190), (86, 5244), (96, 5328), (101, 5352), (112, 5427), (116, 5469), (121, 5508), (124, 5529), (128, 5553), (133, 5571), (148, 5670), (152, 5709), (154, 5718), (156, 5730), (163, 5784), (164, 5796), (166, 5814), (198, 6063), (199, 6075), (200, 6096), (208, 6162), (215, 6201), (216, 6207), (219, 6216), (226, 6234), (229, 6249), (261, 6351), (269, 6396), (273, 6408), (299, 6552), (308, 6648), (321, 6741), (328, 6801), (333, 6861), (337, 6891), (343, 6948), (344, 6960), (350, 7020),

Gene: Sweets\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Sweets\_4:

(Start: 11 @3403 has 67 MA's), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (51, 3697), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (116, 4375), (119, 4393), (121, 4414), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: TBond007\_9 Start: 4264, Stop: 6768, Start Num: 20

Candidate Starts for TBond007\_9:

(Start: 8 @4177 has 48 MA's), (Start: 20 @4264 has 5 MA's), (38, 4402), (39, 4411), (51, 4516), (59, 4588), (62, 4615), (64, 4663), (72, 4759), (76, 4792), (77, 4798), (79, 4831), (82, 4882), (86, 4915), (93, 4999), (99, 5032), (101, 5044), (105, 5053), (111, 5107), (112, 5119), (123, 5209), (126, 5236), (127, 5242), (128, 5245), (141, 5320), (142, 5326), (154, 5410), (160, 5443), (163, 5476), (166, 5506), (181, 5632), (185, 5659), (189, 5692), (199, 5767), (206, 5845), (262, 6013), (272, 6058), (299, 6223), (308, 6352), (318, 6427), (321, 6445), (326, 6493), (332, 6562), (333, 6565), (339, 6604), (340, 6607), (341, 6616), (343, 6643), (344, 6655), (346, 6694), (353, 6745),

Gene: Tachez\_10 Start: 4550, Stop: 7060, Start Num: 16

Candidate Starts for Tachez\_10:

(Start: 8 @4490 has 48 MA's), (Start: 16 @4550 has 49 MA's), (Start: 20 @4574 has 5 MA's), (Start: 25 @4616 has 1 MA's), (27, 4628), (29, 4640), (51, 4829), (58, 4877), (59, 4901), (64, 4976), (76, 5105), (77, 5111), (79, 5144), (81, 5174), (86, 5228), (96, 5312), (101, 5336), (112, 5411), (116, 5453), (121, 5492), (124, 5513), (128, 5537), (133, 5555), (148, 5654), (152, 5693), (154, 5702), (156, 5714), (162, 5762), (163, 5768), (164, 5780), (166, 5798), (199, 6059), (200, 6080), (215, 6185), (216, 6191), (219, 6200), (261, 6335), (269, 6380), (273, 6392), (299, 6539), (321, 6728), (328, 6788), (333, 6848), (337, 6878), (343, 6935), (344, 6947), (350, 7007),

Gene: Taheera\_4 Start: 3413, Stop: 6202, Start Num: 11

Candidate Starts for Taheera\_4:

(Start: 11 @3413 has 67 MA's), (14, 3455), (19, 3488), (30, 3560), (51, 3707), (59, 3779), (62, 3806), (64, 3854), (86, 4112), (102, 4268), (107, 4286), (115, 4382), (116, 4385), (119, 4403), (121, 4424), (124, 4445), (148, 4586), (150, 4604), (154, 4634), (166, 4730), (188, 4910), (191, 4931), (198, 4982), (199, 4994), (220, 5153), (233, 5237), (247, 5366), (268, 5474), (287, 5594), (304, 5741), (321, 5873), (328, 5933), (333, 5993), (343, 6071), (347, 6128), (348, 6137), (350, 6143), (355, 6194),

Gene: TaiwanKao\_10 Start: 4556, Stop: 7069, Start Num: 16

Candidate Starts for TaiwanKao\_10:

(2, 4388), (Start: 8 @4496 has 48 MA's), (Start: 16 @4556 has 49 MA's), (Start: 25 @4622 has 1 MA's), (35, 4679), (38, 4718), (54, 4859), (58, 4883), (59, 4907), (64, 4982), (76, 5114), (77, 5120), (79, 5153), (81, 5183), (86, 5237), (96, 5321), (101, 5345), (112, 5420), (116, 5462), (121, 5501), (124, 5522), (128, 5546), (133, 5564), (148, 5663), (152, 5702), (154, 5711), (156, 5723), (162, 5771), (163, 5777), (164, 5789), (166, 5807), (199, 6068), (200, 6089), (215, 6194), (216, 6200), (219, 6209), (226, 6227), (229, 6242), (261, 6344), (269, 6389), (273, 6401), (299, 6548), (308, 6644), (321, 6737), (328,

6797), (333, 6857), (336, 6878), (343, 6944), (344, 6956), (349, 7013), (353, 7046),

Gene: Taquito\_9 Start: 5100, Stop: 7850, Start Num: 9

Candidate Starts for Taquito\_9:

(Start: 9 @5100 has 21 MA's), (14, 5142), (Start: 20 @5178 has 5 MA's), (21, 5187), (35, 5277), (36, 5304), (38, 5316), (50, 5406), (58, 5457), (62, 5508), (64, 5556), (65, 5559), (66, 5571), (68, 5580), (72, 5652), (76, 5685), (77, 5691), (81, 5751), (86, 5805), (114, 6069), (127, 6171), (131, 6183), (156, 6351), (166, 6435), (171, 6486), (174, 6516), (187, 6603), (199, 6696), (209, 6789), (212, 6810), (213, 6822), (222, 6849), (223, 6852), (228, 6870), (249, 6951), (256, 6978), (264, 7014), (266, 7041), (271, 7056), (274, 7065), (275, 7068), (279, 7104), (280, 7131), (282, 7140), (299, 7305), (314, 7485), (321, 7527), (328, 7587), (333, 7647), (343, 7725),

Gene: Terror\_4 Start: 3413, Stop: 6202, Start Num: 11

Candidate Starts for Terror\_4:

(Start: 11 @3413 has 67 MA's), (14, 3455), (19, 3488), (30, 3560), (51, 3707), (59, 3779), (62, 3806), (64, 3854), (86, 4112), (102, 4268), (107, 4286), (115, 4382), (116, 4385), (119, 4403), (121, 4424), (124, 4445), (148, 4586), (150, 4604), (154, 4634), (166, 4730), (188, 4910), (191, 4931), (198, 4982), (199, 4994), (220, 5153), (233, 5237), (247, 5366), (268, 5474), (287, 5594), (304, 5741), (321, 5873), (328, 5933), (333, 5993), (343, 6071), (347, 6128), (348, 6137), (350, 6143), (355, 6194),

Gene: Thyatira\_8 Start: 4264, Stop: 7008, Start Num: 12

Candidate Starts for Thyatira\_8:

(Start: 10 @4252 has 11 MA's), (Start: 12 @4264 has 4 MA's), (Start: 20 @4330 has 5 MA's), (Start: 25 @4372 has 1 MA's), (34, 4426), (37, 4462), (50, 4543), (51, 4546), (57, 4582), (58, 4594), (59, 4618), (62, 4645), (64, 4693), (67, 4711), (76, 4822), (77, 4828), (79, 4861), (82, 4912), (86, 4945), (103, 5074), (105, 5077), (110, 5119), (112, 5140), (115, 5179), (116, 5182), (124, 5242), (126, 5257), (128, 5266), (136, 5308), (140, 5338), (146, 5365), (150, 5401), (154, 5431), (159, 5458), (160, 5464), (161, 5473), (183, 5671), (184, 5677), (185, 5680), (188, 5704), (189, 5713), (191, 5725), (199, 5788), (200, 5809), (203, 5845), (205, 5860), (206, 5866), (224, 5950), (225, 5953), (235, 6004), (239, 6010), (241, 6025), (249, 6079), (252, 6091), (254, 6097), (276, 6211), (292, 6406), (296, 6439), (299, 6463), (314, 6643), (315, 6646), (317, 6658), (321, 6685), (326, 6733), (333, 6805), (341, 6856), (343, 6883), (344, 6895), (346, 6934), (349, 6952), (353, 6985),

Gene: Tierra\_9 Start: 4466, Stop: 6649, Start Num: 11

Candidate Starts for Tierra\_9:

(Start: 11 @4466 has 67 MA's), (18, 4538), (Start: 20 @4544 has 5 MA's), (24, 4580), (28, 4607), (54, 4778), (58, 4802), (59, 4826), (64, 4901), (66, 4916), (68, 4925), (76, 5030), (79, 5075), (84, 5144), (86, 5159), (117, 5333), (128, 5411), (129, 5414), (135, 5438), (168, 5636), (176, 5690), (179, 5708), (190, 5762), (194, 5783), (201, 5858), (207, 5909), (292, 6080), (299, 6137), (308, 6233), (317, 6299), (321, 6326), (329, 6398), (333, 6446), (343, 6524), (344, 6536),

Gene: TinaBug\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for TinaBug\_4:

(Start: 11 @3403 has 67 MA's), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (51, 3697), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (116, 4375), (119, 4393), (121, 4414), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: TiniBug\_10 Start: 4491, Stop: 7046, Start Num: 8

Candidate Starts for TiniBug\_10:

(2, 4383), (Start: 8 @4491 has 48 MA's), (Start: 16 @4551 has 49 MA's), (19, 4572), (22, 4593), (29, 4641), (38, 4713), (58, 4878), (59, 4902), (64, 4977), (76, 5109), (77, 5115), (79, 5148), (81, 5178), (86, 5232), (96, 5316), (101, 5340), (112, 5415), (121, 5496), (124, 5517), (126, 5532), (128, 5541), (133, 5559), (148, 5658), (152, 5697), (154, 5706), (156, 5718), (162, 5766), (163, 5772), (164, 5784), (166, 5802), (196, 6042), (198, 6051), (199, 6063), (200, 6084), (216, 6195), (219, 6204), (226, 6222), (229, 6237), (261, 6339), (299, 6525), (302, 6540), (308, 6621), (321, 6714), (328, 6774), (332, 6831), (333, 6834), (340, 6885), (343, 6921), (344, 6933), (349, 6990), (353, 7023),

Gene: Tiri\_10 Start: 4595, Stop: 7105, Start Num: 16

Candidate Starts for Tiri\_10:

(Start: 8 @4535 has 48 MA's), (Start: 16 @4595 has 49 MA's), (Start: 20 @4619 has 5 MA's), (Start: 25 @4661 has 1 MA's), (27, 4673), (29, 4685), (51, 4874), (58, 4922), (59, 4946), (64, 5021), (76, 5150), (77, 5156), (79, 5189), (81, 5219), (86, 5273), (96, 5357), (101, 5381), (112, 5456), (116, 5498), (120, 5528), (121, 5537), (124, 5558), (127, 5579), (128, 5582), (133, 5600), (148, 5699), (152, 5738), (154, 5747), (156, 5759), (162, 5807), (163, 5813), (164, 5825), (166, 5843), (199, 6104), (200, 6125), (215, 6230), (216, 6236), (219, 6245), (226, 6263), (229, 6278), (261, 6380), (269, 6425), (273, 6437), (299, 6584), (321, 6773), (328, 6833), (333, 6893), (337, 6923), (343, 6980), (344, 6992), (350, 7052), (353, 7082),

Gene: TomBrady\_4 Start: 3404, Stop: 6193, Start Num: 11

Candidate Starts for TomBrady\_4:

(Start: 11 @3404 has 67 MA's), (13, 3437), (14, 3446), (19, 3479), (30, 3551), (48, 3671), (59, 3770), (62, 3797), (64, 3845), (78, 4004), (79, 4019), (80, 4031), (86, 4103), (102, 4259), (112, 4334), (116, 4376), (119, 4394), (121, 4415), (124, 4436), (131, 4469), (132, 4475), (141, 4535), (148, 4577), (150, 4595), (154, 4625), (165, 4712), (166, 4721), (188, 4901), (191, 4922), (198, 4973), (199, 4985), (233, 5228), (268, 5465), (287, 5585), (304, 5732), (306, 5774), (307, 5777), (321, 5864), (328, 5924), (333, 5984), (343, 6062), (344, 6074), (347, 6119), (348, 6128), (350, 6134), (355, 6185),

Gene: Topper\_10 Start: 4628, Stop: 7138, Start Num: 16

Candidate Starts for Topper\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Torres\_6 Start: 3868, Stop: 6339, Start Num: 20

Candidate Starts for Torres\_6:

(Start: 8 @3784 has 48 MA's), (Start: 20 @3868 has 5 MA's), (29, 3934), (38, 4006), (44, 4060), (58, 4171), (59, 4195), (64, 4270), (76, 4396), (77, 4402), (79, 4435), (86, 4519), (99, 4615), (112, 4702), (116, 4744), (124, 4804), (128, 4828), (133, 4846), (145, 4921), (148, 4945), (152, 4984), (154, 4993), (156, 5005), (160, 5026), (161, 5035), (163, 5059), (164, 5071), (166, 5089), (180, 5212), (182, 5224), (192, 5296), (204, 5398), (216, 5473), (218, 5479), (219, 5482), (226, 5500), (229, 5515), (259, 5614), (261, 5623), (270, 5671), (277, 5695), (290, 5749), (308, 5923), (310, 5935), (314, 5974), (321, 6016), (328, 6076), (332, 6133), (333, 6136), (335, 6154), (343, 6214), (344, 6226), (350, 6286),

Gene: TreyKay\_10 Start: 4553, Stop: 7063, Start Num: 16

Candidate Starts for TreyKay\_10:

(Start: 8 @4493 has 48 MA's), (Start: 16 @4553 has 49 MA's), (19, 4574), (Start: 20 @4577 has 5 MA's), (Start: 25 @4619 has 1 MA's), (29, 4643), (35, 4676), (38, 4715), (58, 4880), (59, 4904), (64, 4979), (76, 5108), (81, 5177), (86, 5231), (96, 5315), (101, 5339), (112, 5414), (116, 5456), (121,

5495), (124, 5516), (128, 5540), (133, 5558), (148, 5657), (152, 5696), (154, 5705), (156, 5717), (162, 5765), (163, 5771), (164, 5783), (166, 5801), (199, 6062), (200, 6083), (215, 6188), (216, 6194), (219, 6203), (226, 6221), (229, 6236), (261, 6338), (269, 6383), (273, 6395), (299, 6542), (308, 6638), (321, 6731), (328, 6791), (333, 6851), (336, 6872), (343, 6938), (344, 6950), (349, 7007), (353, 7040),

Gene: TribbleTrouble\_8 Start: 4252, Stop: 6822, Start Num: 8

Candidate Starts for TribbleTrouble\_8:

(Start: 8 @4252 has 48 MA's), (Start: 12 @4273 has 4 MA's), (Start: 20 @4339 has 5 MA's), (38, 4477), (39, 4486), (44, 4528), (51, 4591), (58, 4639), (59, 4663), (64, 4738), (76, 4864), (77, 4870), (79, 4903), (82, 4954), (86, 4987), (93, 5074), (99, 5107), (101, 5119), (105, 5128), (109, 5173), (111, 5182), (112, 5194), (121, 5275), (126, 5311), (127, 5317), (132, 5335), (141, 5395), (142, 5401), (154, 5485), (160, 5518), (163, 5551), (189, 5767), (199, 5842), (206, 5920), (299, 6277), (308, 6406), (309, 6415), (318, 6481), (321, 6499), (326, 6547), (333, 6619), (335, 6637), (341, 6670), (343, 6697), (344, 6709), (346, 6748), (349, 6766), (353, 6799),

Gene: TruffulaTree\_10 Start: 4521, Stop: 7091, Start Num: 8

Candidate Starts for TruffulaTree\_10:

(Start: 8 @4521 has 48 MA's), (Start: 16 @4581 has 49 MA's), (Start: 20 @4605 has 5 MA's), (Start: 25 @4647 has 1 MA's), (27, 4659), (29, 4671), (51, 4860), (58, 4908), (59, 4932), (64, 5007), (76, 5136), (77, 5142), (79, 5175), (81, 5205), (86, 5259), (96, 5343), (101, 5367), (112, 5442), (116, 5484), (121, 5523), (124, 5544), (128, 5568), (133, 5586), (148, 5685), (152, 5724), (154, 5733), (156, 5745), (162, 5793), (163, 5799), (164, 5811), (166, 5829), (175, 5913), (199, 6090), (200, 6111), (215, 6216), (216, 6222), (219, 6231), (226, 6249), (229, 6264), (261, 6366), (269, 6411), (273, 6423), (299, 6570), (321, 6759), (328, 6819), (333, 6879), (337, 6909), (343, 6966), (344, 6978), (350, 7038),

Gene: Twitch\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Twitch\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (172, 5936), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219, 6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: Urkel\_10 Start: 4551, Stop: 7046, Start Num: 16

Candidate Starts for Urkel\_10:

(2, 4383), (Start: 8 @4491 has 48 MA's), (Start: 16 @4551 has 49 MA's), (19, 4572), (22, 4593), (29, 4641), (38, 4713), (58, 4878), (59, 4902), (64, 4977), (76, 5109), (77, 5115), (79, 5148), (81, 5178), (86, 5232), (96, 5316), (101, 5340), (112, 5415), (121, 5496), (124, 5517), (126, 5532), (128, 5541), (133, 5559), (148, 5658), (152, 5697), (154, 5706), (156, 5718), (162, 5766), (163, 5772), (164, 5784), (166, 5802), (198, 6051), (199, 6063), (200, 6084), (216, 6195), (219, 6204), (226, 6222), (229, 6237), (261, 6339), (299, 6525), (308, 6621), (321, 6714), (328, 6774), (333, 6834), (343, 6921), (344, 6933), (349, 6990), (353, 7023),

Gene: Veliki\_10 Start: 4568, Stop: 7138, Start Num: 8

Candidate Starts for Veliki\_10:

(Start: 8 @4568 has 48 MA's), (Start: 16 @4628 has 49 MA's), (Start: 20 @4652 has 5 MA's), (Start: 25 @4694 has 1 MA's), (27, 4706), (29, 4718), (51, 4907), (58, 4955), (59, 4979), (64, 5054), (76, 5183), (77, 5189), (79, 5222), (81, 5252), (86, 5306), (96, 5390), (101, 5414), (112, 5489), (116, 5531), (121, 5570), (124, 5591), (128, 5615), (133, 5633), (148, 5732), (152, 5771), (154, 5780), (156, 5792), (162, 5840), (163, 5846), (164, 5858), (166, 5876), (199, 6137), (200, 6158), (215, 6263), (216, 6269), (219,

6278), (226, 6296), (229, 6311), (261, 6413), (269, 6458), (273, 6470), (299, 6617), (321, 6806), (328, 6866), (332, 6923), (333, 6926), (337, 6956), (343, 7013), (344, 7025), (350, 7085), (353, 7115),

Gene: ViviJ\_7 Start: 4017, Stop: 6890, Start Num: 10

Candidate Starts for ViviJ\_7:

(Start: 10 @4017 has 11 MA's), (Start: 12 @4029 has 4 MA's), (Start: 17 @4083 has 4 MA's), (Start: 20 @4095 has 5 MA's), (34, 4191), (37, 4227), (50, 4308), (51, 4311), (52, 4326), (54, 4335), (59, 4383), (62, 4410), (64, 4458), (67, 4476), (76, 4587), (77, 4593), (79, 4626), (81, 4656), (82, 4677), (86, 4710), (87, 4734), (105, 4851), (110, 4893), (115, 4953), (124, 5016), (126, 5031), (128, 5040), (140, 5112), (150, 5175), (152, 5196), (153, 5199), (154, 5205), (160, 5238), (163, 5271), (169, 5343), (172, 5361), (183, 5445), (184, 5451), (185, 5454), (188, 5478), (189, 5487), (191, 5499), (199, 5562), (200, 5583), (205, 5634), (230, 5760), (231, 5766), (232, 5781), (240, 5874), (244, 5907), (246, 5913), (248, 5928), (270, 6075), (278, 6108), (292, 6288), (296, 6321), (299, 6345), (314, 6525), (315, 6528), (318, 6549), (321, 6567), (326, 6615), (333, 6687), (340, 6729), (341, 6738), (343, 6765), (344, 6777), (346, 6816), (349, 6834), (353, 6867),

Gene: Waterfoul\_8 Start: 4286, Stop: 7030, Start Num: 12

Candidate Starts for Waterfoul\_8:

(Start: 10 @4274 has 11 MA's), (Start: 12 @4286 has 4 MA's), (Start: 20 @4352 has 5 MA's), (Start: 25 @4394 has 1 MA's), (34, 4448), (37, 4484), (50, 4565), (51, 4568), (57, 4604), (58, 4616), (59, 4640), (62, 4667), (64, 4715), (67, 4733), (76, 4844), (77, 4850), (79, 4883), (82, 4934), (86, 4967), (103, 5096), (105, 5099), (110, 5141), (112, 5162), (115, 5201), (116, 5204), (124, 5264), (126, 5279), (128, 5288), (136, 5330), (140, 5360), (146, 5387), (150, 5423), (154, 5453), (159, 5480), (160, 5486), (161, 5495), (183, 5693), (184, 5699), (185, 5702), (188, 5726), (189, 5735), (191, 5747), (199, 5810), (200, 5831), (203, 5867), (205, 5882), (206, 5888), (224, 5972), (225, 5975), (235, 6026), (239, 6032), (241, 6047), (249, 6101), (252, 6113), (254, 6119), (276, 6233), (292, 6428), (296, 6461), (299, 6485), (314, 6665), (315, 6668), (317, 6680), (321, 6707), (326, 6755), (333, 6827), (341, 6878), (343, 6905), (344, 6917), (346, 6956), (349, 6974), (353, 7007),

Gene: Wendigo\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Wendigo\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Wintermute\_11 Start: 5488, Stop: 8247, Start Num: 9

Candidate Starts for Wintermute\_11:

(Start: 9 @5488 has 21 MA's), (14, 5530), (Start: 20 @5566 has 5 MA's), (21, 5575), (35, 5665), (36, 5692), (38, 5704), (50, 5794), (58, 5845), (62, 5896), (64, 5944), (65, 5947), (66, 5959), (68, 5968), (72, 6040), (76, 6073), (77, 6079), (81, 6139), (86, 6193), (114, 6457), (127, 6559), (131, 6571), (156, 6739), (166, 6823), (171, 6874), (174, 6904), (187, 6991), (199, 7084), (209, 7177), (212, 7198), (213, 7210), (222, 7237), (223, 7240), (228, 7258), (249, 7339), (256, 7366), (264, 7402), (266, 7429), (271, 7444), (274, 7453), (275, 7456), (279, 7492), (280, 7519), (281, 7528), (282, 7537), (299, 7702), (314, 7882), (321, 7924), (328, 7984), (333, 8044), (343, 8122),

Gene: Y10\_11 Start: 5489, Stop: 8248, Start Num: 9

Candidate Starts for Y10\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (123, 6527), (127, 6560), (131,

6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (264, 7403), (266, 7430), (271, 7445), (274, 7454), (275, 7457), (279, 7493), (280, 7520), (281, 7529), (282, 7538), (299, 7703), (314, 7883), (321, 7925), (328, 7985), (333, 8045), (343, 8123),

Gene: Y2\_11 Start: 5489, Stop: 8248, Start Num: 9

Candidate Starts for Y2\_11:

(Start: 9 @5489 has 21 MA's), (14, 5531), (Start: 20 @5567 has 5 MA's), (21, 5576), (35, 5666), (36, 5693), (38, 5705), (50, 5795), (58, 5846), (62, 5897), (64, 5945), (65, 5948), (66, 5960), (68, 5969), (72, 6041), (76, 6074), (77, 6080), (81, 6140), (86, 6194), (114, 6458), (123, 6527), (127, 6560), (131, 6572), (156, 6740), (166, 6824), (171, 6875), (174, 6905), (187, 6992), (199, 7085), (209, 7178), (212, 7199), (213, 7211), (222, 7238), (223, 7241), (228, 7259), (249, 7340), (256, 7367), (264, 7403), (266, 7430), (271, 7445), (274, 7454), (275, 7457), (279, 7493), (280, 7520), (281, 7529), (282, 7538), (299, 7703), (314, 7883), (321, 7925), (328, 7985), (333, 8045), (343, 8123),

Gene: YoureAdopted\_9 Start: 4497, Stop: 7067, Start Num: 8

Candidate Starts for YoureAdopted\_9:

(Start: 8 @4497 has 48 MA's), (Start: 12 @4515 has 4 MA's), (Start: 16 @4557 has 49 MA's), (Start: 20 @4581 has 5 MA's), (Start: 25 @4623 has 1 MA's), (27, 4635), (29, 4647), (51, 4836), (58, 4884), (59, 4908), (64, 4983), (76, 5112), (77, 5118), (79, 5151), (81, 5181), (86, 5235), (96, 5319), (101, 5343), (112, 5418), (116, 5460), (121, 5499), (124, 5520), (128, 5544), (133, 5562), (148, 5661), (152, 5700), (154, 5709), (156, 5721), (162, 5769), (163, 5775), (164, 5787), (166, 5805), (199, 6066), (200, 6087), (215, 6192), (216, 6198), (219, 6207), (226, 6225), (229, 6240), (261, 6342), (269, 6387), (273, 6399), (299, 6546), (321, 6735), (328, 6795), (333, 6855), (337, 6885), (343, 6942), (344, 6954), (350, 7014),

Gene: Zabiza\_10 Start: 4524, Stop: 7094, Start Num: 8

Candidate Starts for Zabiza\_10:

(Start: 8 @4524 has 48 MA's), (Start: 16 @4584 has 49 MA's), (Start: 20 @4608 has 5 MA's), (Start: 25 @4650 has 1 MA's), (27, 4662), (29, 4674), (51, 4863), (58, 4911), (59, 4935), (64, 5010), (76, 5139), (77, 5145), (79, 5178), (81, 5208), (86, 5262), (96, 5346), (101, 5370), (112, 5445), (116, 5487), (121, 5526), (124, 5547), (128, 5571), (133, 5589), (148, 5688), (152, 5727), (154, 5736), (156, 5748), (162, 5796), (163, 5802), (164, 5814), (166, 5832), (175, 5916), (199, 6093), (200, 6114), (215, 6219), (216, 6225), (219, 6234), (226, 6252), (229, 6267), (261, 6369), (269, 6414), (273, 6426), (299, 6573), (321, 6762), (328, 6822), (333, 6882), (337, 6912), (343, 6969), (344, 6981), (350, 7041),

Gene: Zavala\_10 Start: 4566, Stop: 7076, Start Num: 16

Candidate Starts for Zavala\_10:

(Start: 8 @4506 has 48 MA's), (Start: 16 @4566 has 49 MA's), (Start: 20 @4590 has 5 MA's), (Start: 25 @4632 has 1 MA's), (27, 4644), (29, 4656), (51, 4845), (58, 4893), (59, 4917), (64, 4992), (76, 5121), (77, 5127), (79, 5160), (81, 5190), (86, 5244), (96, 5328), (101, 5352), (112, 5427), (116, 5469), (121, 5508), (124, 5529), (128, 5553), (133, 5571), (148, 5670), (152, 5709), (154, 5718), (156, 5730), (162, 5778), (163, 5784), (164, 5796), (166, 5814), (199, 6075), (200, 6096), (215, 6201), (216, 6207), (219, 6216), (226, 6234), (229, 6249), (261, 6351), (269, 6396), (273, 6408), (299, 6555), (321, 6744), (328, 6804), (332, 6861), (333, 6864), (337, 6894), (343, 6951), (344, 6963), (350, 7023),

Gene: ZoMa\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for ZoMa\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (26, 3526), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),

Gene: Zombie\_4 Start: 3403, Stop: 6192, Start Num: 11

Candidate Starts for Zombie\_4:

(Start: 11 @3403 has 67 MA's), (13, 3436), (14, 3445), (19, 3478), (30, 3550), (48, 3670), (59, 3769), (62, 3796), (64, 3844), (78, 4003), (79, 4018), (80, 4030), (86, 4102), (102, 4258), (112, 4333), (116, 4375), (119, 4393), (121, 4414), (124, 4435), (131, 4468), (132, 4474), (141, 4534), (148, 4576), (150, 4594), (154, 4624), (165, 4711), (166, 4720), (188, 4900), (191, 4921), (198, 4972), (199, 4984), (233, 5227), (268, 5464), (287, 5584), (304, 5731), (306, 5773), (307, 5776), (321, 5863), (328, 5923), (333, 5983), (343, 6061), (344, 6073), (347, 6118), (348, 6127), (350, 6133), (355, 6184),