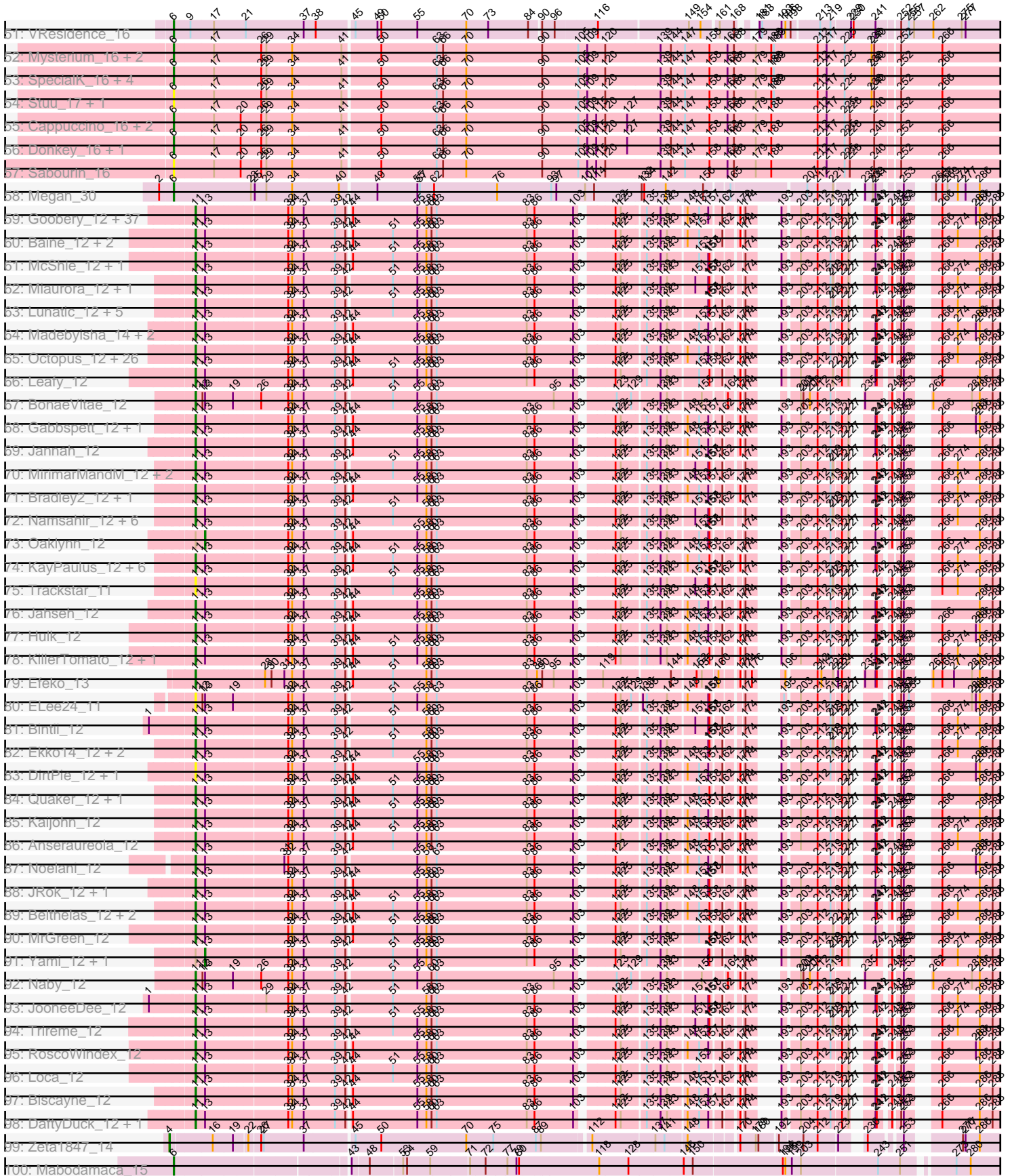
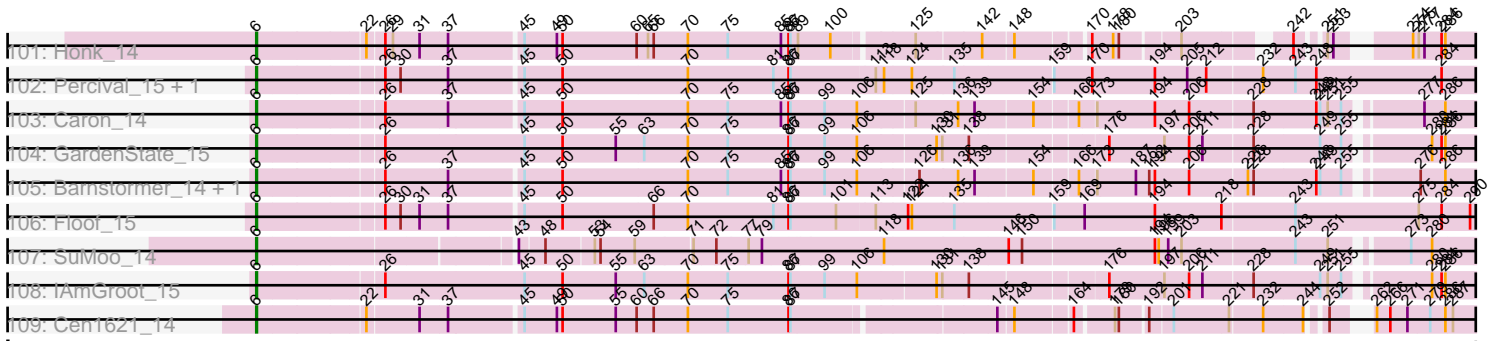




Zoomed Pham 212263



# Zoomed Pham 212263



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 212263 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212263 has 255 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Kittykat\_14
- Track 2 : Makoto\_14
- Track 3 : EstebanJulior\_14, MamaPearl\_14
- Track 4 : BigMack\_14
- Track 5 : OMalley\_14, Eunoia\_14, Aledel\_14, Chridison\_14, Riovina\_14
- Track 6 : Carpal\_18, Dino\_18, Kalizoi\_18, Zorro\_18
- Track 7 : Oxynfrius\_18, Albanese\_18
- Track 8 : CristinaYang\_14, Lasagna\_14, Nancia\_14, Bodacious\_14
- Track 9 : Scuttle\_18
- Track 10 : Suppi\_18, Canowicakte\_18
- Track 11 : Sergei\_14, KingBob\_14, Temper16\_14, Herb\_14, Maria1952\_14, Daiboju\_14
- Track 12 : AustinPowers\_14
- Track 13 : Moki\_14, Bennie\_14, HeadNerd\_14, Huckleberry\_14
- Track 14 : Beethoven\_18
- Track 15 : HunterDalle\_14, Vulture\_14
- Track 16 : RAP15\_18, Vallejo\_18, Jumboset\_18, MeganNoll\_18
- Track 17 : LilStuart\_14, Lennox\_14
- Track 18 : Greenhouse\_18
- Track 19 : Savage2526\_18, Fluke\_18, Glenn\_18, TattModd\_18
- Track 20 : Potatoes\_18, Cholula\_18, Immaculata\_18
- Track 21 : AppleCider\_18
- Track 22 : PinkFriday\_14
- Track 23 : Lakshmi\_18
- Track 24 : Lucy\_14
- Track 25 : Wawa\_18
- Track 26 : Korra\_19
- Track 27 : Gisselle\_14, DreamTeam\_14
- Track 28 : GreenHearts\_18
- Track 29 : CallieOMalley\_18
- Track 30 : DrRobert\_14
- Track 31 : Nubia\_18
- Track 32 : OurGirlNessie\_14
- Track 33 : RcigaStruga\_18, Huntingdon\_18
- Track 34 : Pumancara\_14
- Track 35 : Litotes\_18
- Track 36 : Wayne\_18, PartyCup\_18

- Track 37 : PitaDog\_14
- Track 38 : Rozby\_18
- Track 39 : Christian\_14
- Track 40 : MrGloopy\_18
- Track 41 : Riverdale\_18
- Track 42 : Pterodactyl\_14
- Track 43 : Joann\_18
- Track 44 : Preamble\_14
- Track 45 : ChewChew\_14
- Track 46 : Supakev\_14
- Track 47 : Misaeng\_18
- Track 48 : Urla\_14
- Track 49 : WonderBoy\_14
- Track 50 : BrotherBLo\_18
- Track 51 : VResidence\_16
- Track 52 : Mysterium\_16, Beaupre\_16, Giorgio\_16
- Track 53 : SpecialK\_16, Halsey\_16, Ashes\_16, RockScotty\_16, Moss\_16
- Track 54 : Stuu\_17, Gumpizza\_16
- Track 55 : Cappuccino\_16, Kalimba\_16, Sooty\_16
- Track 56 : Donkey\_16, Gambol\_16
- Track 57 : Sabourin\_16
- Track 58 : Megan\_30
- Track 59 : Goobery\_12, JaimeB\_12, BurtonThePup\_12, Otwor\_12, Burgy\_12, Rhogar\_12, Slentz\_12, HeadMave\_12, Rhysand\_12, Danno\_12, Ciel\_12, NeumannU\_12, BinkBonk\_12, Josuke\_12, SantasSleigh\_12, Owens\_12, Cheesecake\_12, Godfather\_12, Luxx\_12, Scrunchy\_12, Jella\_12, Charbie\_12, Vanisius\_12, LionelHutz\_12, Scamander\_12, Maneater\_12, Aries55\_12, Majesty\_12, Sage7\_12, BarBear\_12, Kojax4\_12, Astro16\_12, TeddyBoy\_12, Avvas\_12, Yasuo\_12, LaviMo\_12, Eightball\_12, TimoTea\_12
- Track 60 : Baine\_12, Lola20\_12, Cayde6\_12
- Track 61 : McShie\_12, BrokMonster\_12
- Track 62 : Miaurora\_12, Stem\_12
- Track 63 : Lunatic\_12, Nobel\_12, PuffyCat\_12, TinyTruffula\_12, Clownery\_12, Niffler\_12
- Track 64 : Madebyisha\_14, Jerky\_12, VitulaEligans\_12
- Track 65 : Octopus\_12, Sara\_12, Alucard\_12, EdElric\_12, Puddles3\_12, Horacetta\_12, Erin\_12, PaoPu\_12, Aztec\_12, Danimal\_12, Gardevoir\_12, Dooby\_12, Chatham\_12, Picnic\_12, GoldenBlanche\_12, Minima\_12, LemonPepper\_12, ManAs\_12, KyriosFaba\_12, Pondwater\_12, JoBros\_12, Dongwon\_12, Witch\_12, Myram\_12, YertPhresh\_12, SeaWolves\_12, Yubaba\_12
- Track 66 : Leafy\_12
- Track 67 : Bonaevitae\_12
- Track 68 : Gabbspett\_12, Hernandez44\_12
- Track 69 : Jannah\_12
- Track 70 : MirimarMandM\_12, Upsilon\_12, PoRanda\_12
- Track 71 : Bradley2\_12, Gillker\_12
- Track 72 : Namsahir\_12, Bullzi2019\_12, TomBrady12\_12, Snuffles\_13, Publix\_12, IzzyPants24\_11, Slizam\_12
- Track 73 : Oaklynn\_12
- Track 74 : KayPaulus\_12, MelBee03\_12, Kevanna\_12, Bodhi17\_12, Wolfpack\_12, Sippinontea\_12, Douggie\_12
- Track 75 : Trackstar\_11
- Track 76 : Jahseh\_12

- Track 77 : Hulk\_12
- Track 78 : KillerTomato\_12, Bri160\_12
- Track 79 : Efeko\_13
- Track 80 : ELee24\_11
- Track 81 : Bintii\_12
- Track 82 : Ekko14\_12, HarperAnne\_12, Elspeth\_12
- Track 83 : DirtPie\_12, Zahlia\_12
- Track 84 : Quaker\_12, Livingwater\_12
- Track 85 : Kaijohn\_12
- Track 86 : Anseraureola\_12
- Track 87 : Noelani\_12
- Track 88 : JRok\_12, Azizam\_12
- Track 89 : Belthelas\_12, Concrete\_12, BoomRoasted\_12
- Track 90 : MrGreen\_12
- Track 91 : Yami\_12, Cazares\_12
- Track 92 : Naby\_12
- Track 93 : JooneeDee\_12
- Track 94 : Trireme\_12
- Track 95 : RoscoWindex\_12
- Track 96 : Loca\_12
- Track 97 : Biscayne\_12
- Track 98 : DaftyDuck\_12, MasterPitts\_12
- Track 99 : Zeta1847\_14
- Track 100 : Mabodamaca\_15
- Track 101 : Honk\_14
- Track 102 : Percival\_15, Gretchen\_15
- Track 103 : Caron\_14
- Track 104 : GardenState\_15
- Track 105 : Barnstormer\_14, UtzChips\_14
- Track 106 : Floof\_15
- Track 107 : SuMoo\_14
- Track 108 : IAmGroot\_15
- Track 109 : Cen1621\_14

***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 124 of the 235 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alucard\_12, Anseraureola\_12, Aries55\_12, Astro16\_12, Avvas\_12, Azizam\_12, Aztec\_12, Baine\_12, BarBear\_12, Belthelas\_12, BinkBonk\_12, Bintii\_12, Biscayne\_12, Bodhi17\_12, BonaeVitae\_12, BoomRoasted\_12, Bradley2\_12, Bri160\_12, BrokMonster\_12, Bullzi2019\_12, Burgy\_12, BurtonThePup\_12, Cayde6\_12, Charbie\_12, Chatham\_12, Cheesecake\_12, Ciel\_12, Clownery\_12, Concrete\_12, DaftyDuck\_12, Danimal\_12, Danno\_12, DirtPie\_12, Dongwon\_12, Dooby\_12, Duggie\_12, ELee24\_11, EdElric\_12, Efeko\_13, Eightball\_12, Ekko14\_12, Elspeth\_12, Erin\_12, Gabbspett\_12, Gardevoir\_12, Gillker\_12, Godfather\_12, GoldenBlanche\_12, Goobery\_12, HarperAnne\_12, HeadMave\_12, Hernandez44\_12, Horacetta\_12, Hulk\_12, IzzyPants24\_11, JRok\_12, Jahseh\_12,

JaimeB\_12, Jannah\_12, Jella\_12, Jerky\_12, JoBros\_12, JooneeDee\_12, Josuke\_12, Kaijohn\_12, KayPaulus\_12, Kevanna\_12, KillerTomato\_12, Kojax4\_12, KyriosFaba\_12, LaviMo\_12, Leafy\_12, LemonPepper\_12, LionelHutz\_12, Livingwater\_12, Loca\_12, Lola20\_12, Lunatic\_12, Luxx\_12, Madebyisha\_14, Majesty\_12, ManAs\_12, Maneater\_12, MasterPitts\_12, McShie\_12, MelBee03\_12, Miaurora\_12, Minima\_12, MirimarMandM\_12, MrGreen\_12, Myram\_12, Naby\_12, Namsahir\_12, NeumannU\_12, Niffler\_12, Nobel\_12, Noelani\_12, Octopus\_12, Otwor\_12, Owens\_12, PaoPu\_12, Picnic\_12, PoRanda\_12, Pondwater\_12, Publix\_12, Puddles3\_12, PuffyCat\_12, Quaker\_12, Rhogar\_12, Rhysand\_12, RoscoWindex\_12, Sage7\_12, SantasSleigh\_12, Sara\_12, Scamander\_12, Scrunchy\_12, SeaWolves\_12, Sippinontea\_12, Slentz\_12, Slizam\_12, Snuffles\_13, Stem\_12, TeddyBoy\_12, TimoTea\_12, TinyTruffula\_12, TomBrady12\_12, Trackstar\_11, Trireme\_12, Upsilon\_12, Vanisius\_12, VitulaEligans\_12, Witch\_12, Wolfpack\_12, Yasuo\_12, YertPhresh\_12, Yubaba\_12, Zahlia\_12,

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

- Cazares\_12, Oaklynn\_12, Yami\_12,

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

- Albanese\_18, Aledel\_14, AppleCider\_18, Ashes\_16, AustinPowers\_14, Barnstormer\_14, Beaupre\_16, Beethoven\_18, Bennie\_14, BigMack\_14, Bodacious\_14, BrotherBLo\_18, CallieOMalley\_18, Canowicakte\_18, Cappuccino\_16, Caron\_14, Carpal\_18, Cen1621\_14, ChewChew\_14, Cholula\_18, Chridison\_14, Christian\_14, CristinaYang\_14, Daiboju\_14, Dino\_18, Donkey\_16, DrRobert\_14, DreamTeam\_14, EstebanJulior\_14, Eunoia\_14, Floof\_15, Fluke\_18, Gambol\_16, GardenState\_15, Giorgio\_16, Gisselle\_14, Glenn\_18, GreenHearts\_18, Greenhouse\_18, Gretchen\_15, Gumpizza\_16, Halsey\_16, HeadNerd\_14, Herb\_14, Honk\_14, Huckleberry\_14, HunterDalle\_14, Huntingdon\_18, IAmGroot\_15, Immaculata\_18, Joann\_18, Jumboset\_18, Kalimba\_16, Kalizoi\_18, KingBob\_14, Kittykat\_14, Korra\_19, Lakshmi\_18, Lasagna\_14, Lennox\_14, LilStuart\_14, Litotes\_18, Lucy\_14, Mabodamaca\_15, Makoto\_14, MamaPearl\_14, Maria1952\_14, MeganNoll\_18, Megan\_30, Misaeng\_18, Moki\_14, Moss\_16, MrGloopy\_18, Mysterium\_16, Nancia\_14, Nubia\_18, OMalley\_14, OurGirlNessie\_14, Oxynfrius\_18, PartyCup\_18, Percival\_15, PinkFriday\_14, PitaDog\_14, Potatoes\_18, Preamble\_14, Pterodactyl\_14, Pumancara\_14, RAP15\_18, RcigaStruga\_18, Riovina\_14, Riverdale\_18, RockScotty\_16, Rozby\_18, Sabourin\_16, Savage2526\_18, Scuttle\_18, Sergei\_14, Sooty\_16, SpecialK\_16, Stuu\_17, SuMoo\_14, Supakev\_14, Suppi\_18, TattModd\_18, Temper16\_14, Urla\_14, UtzChips\_14, VResidence\_16, Vallejo\_18, Vulture\_14, Wawa\_18, Wayne\_18, WonderBoy\_14, Zeta1847\_14, Zorro\_18,

### Summary by start number:

Start 4:

- Found in 1 of 255 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 235
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zeta1847\_14 (EH),

Start 5:

- Found in 84 of 255 ( 32.9% ) of genes in pham
- Manual Annotations of this start: 83 of 235
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Albanese\_18 (AK), Aledel\_14 (AK), AppleCider\_18 (AK), AustinPowers\_14 (AK), Beethoven\_18 (AK), Bennie\_14 (AK), BigMack\_14 (AK), Bodacious\_14 (AK), BrotherBLo\_18 (AK), CallieOMalley\_18 (AK), Canowicakte\_18 (AK), Carpal\_18 (AK), ChewChew\_14 (AK), Cholula\_18 (AK), Chridison\_14 (AK), Christian\_14 (AK), CristinaYang\_14 (AK), Daiboju\_14 (AK), Dino\_18 (AK), DrRobert\_14 (AK), DreamTeam\_14 (AK), EstebanJulior\_14 (AK), Eunoia\_14 (AK), Fluke\_18 (AK), Gisselle\_14 (AK), Glenn\_18 (AK), GreenHearts\_18 (AK), Greenhouse\_18 (AK), HeadNerd\_14 (AK), Herb\_14 (AK), Huckleberry\_14 (AK), HunterDalle\_14 (AK), Huntingdon\_18 (AK), Immaculata\_18 (AK), Joann\_18 (AK), Jumboset\_18 (AK), Kalizoi\_18 (AK), KingBob\_14 (AK), Kittykat\_14 (AK), Korra\_19 (AK), Lakshmi\_18 (AK), Lasagna\_14 (AK), Lennox\_14 (AK), LilStuart\_14 (AK), Litotes\_18 (AK), Lucy\_14 (AK), Makoto\_14 (AK), MamaPearl\_14 (AK), Maria1952\_14 (AK), MeganNoll\_18 (AK), Misaeng\_18 (AK), Moki\_14 (AK), MrGloopy\_18 (AK), Nancia\_14 (AK), Nubia\_18 (AK), OMalley\_14 (AK), OurGirlNessie\_14 (AK), Oxynfrius\_18 (AK), PartyCup\_18 (AK), PinkFriday\_14 (AK), PitaDog\_14 (AK), Potatoes\_18 (AK), Preamble\_14 (AK), Pterodactyl\_14 (AK), Pumancara\_14 (AK), RAP15\_18 (AK), RcigaStruga\_18 (AK), Riovina\_14 (AK), Riverdale\_18 (AK), Rozby\_18 (AK), Savage2526\_18 (AK), Scuttle\_18 (AK), Sergei\_14 (AK), Supakev\_14 (AK), Suppi\_18 (AK), TattModd\_18 (AK), Temper16\_14 (AK), Urla\_14 (AK), Vallejo\_18 (AK), Vulture\_14 (AK), Wawa\_18 (AK), Wayne\_18 (AK), WonderBoy\_14 (AK), Zorro\_18 (AK),

#### Start 6:

- Found in 30 of 255 ( 11.8% ) of genes in pham
- Manual Annotations of this start: 24 of 235
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ashes\_16 (AZ5), Barnstormer\_14 (EH), Beaupre\_16 (AZ5), Cappuccino\_16 (AZ5), Caron\_14 (EH), Cen1621\_14 (EH), Donkey\_16 (AZ5), Floof\_15 (EH), Gambol\_16 (AZ5), GardenState\_15 (EH), Giorgio\_16 (AZ5), Gretchen\_15 (EH), Gumpizza\_16 (AZ5), Halsey\_16 (AZ5), Honk\_14 (EH), IAmGroot\_15 (EH), Kalimba\_16 (AZ5), Mabodamaca\_15 (EH), Megan\_30 (EC), Moss\_16 (AZ5), Mysterium\_16 (AZ5), Percival\_15 (EH), RockScotty\_16 (AZ5), Sabourin\_16 (AZ5), Sooty\_16 (AZ5), SpecialK\_16 (AZ5), Stuu\_17 (AZ5), SuMoo\_14 (EH), UtzChips\_14 (EH), VResidence\_16 (AZ1),

#### Start 11:

- Found in 140 of 255 ( 54.9% ) of genes in pham
- Manual Annotations of this start: 124 of 235
- Called 97.9% of time when present
- Phage (with cluster) where this start called: Alucard\_12 (EE), Anseraureola\_12 (EE), Aries55\_12 (EE), Astro16\_12 (EE), Avvas\_12 (EE), Azizam\_12 (EE), Aztec\_12 (EE), Baine\_12 (EE), BarBear\_12 (EE), Belthelas\_12 (EE), BinkBonk\_12 (EE), Bintii\_12 (EE), Biscayne\_12 (EE), Bodhi17\_12 (EE), BonaeVitae\_12 (EE), BoomRoasted\_12 (EE), Bradley2\_12 (EE), Bri160\_12 (EE), BrokMonster\_12 (EE), Bullzi2019\_12 (EE), Burgy\_12 (EE), BurtonThePup\_12 (EE), Cayde6\_12 (EE), Charbie\_12 (EE), Chatham\_12 (EE), Cheesecake\_12 (EE), Ciel\_12 (EE), Clownery\_12 (EE), Concrete\_12 (EE), DaftyDuck\_12 (EE), Danimal\_12 (EE), Danno\_12 (EE), DirtPie\_12 (EE), Dongwon\_12 (EE), Dooby\_12 (EE), Douggie\_12 (EE), ELee24\_11 (EE), EdElric\_12 (EE), Efeko\_13 (EE), Eightball\_12 (EE), Ekko14\_12 (EE), Elspeth\_12 (EE), Erin\_12 (EE), Gabbspett\_12 (EE), Gardevoir\_12 (EE), Gillker\_12 (EE), Godfather\_12 (EE), GoldenBlanche\_12 (EE), Goobery\_12 (EE), HarperAnne\_12 (EE), HeadMave\_12 (EE), Hernandez44\_12 (EE), Horacetta\_12 (EE), Hulk\_12 (EE), Izzypants24\_11 (EE), JRok\_12 (EE), Jahseh\_12 (EE), JaimeB\_12 (EE), Jannah\_12



(EE), Jella\_12 (EE), Jerky\_12 (EE), JoBros\_12 (EE), JooneeDee\_12 (EE), Josuke\_12 (EE), Kaijohn\_12 (EE), KayPaulus\_12 (EE), Kevanna\_12 (EE), KillerTomato\_12 (EE), Kojax4\_12 (EE), KyriosFaba\_12 (EE), LaviMo\_12 (EE), Leafy\_12 (EE), LemonPepper\_12 (EE), LionelHutz\_12 (EE), Livingwater\_12 (EE), Loca\_12 (EE), Lola20\_12 (EE), Lunatic\_12 (EE), Luxx\_12 (EE), Madebyisha\_14 (EE), Majesty\_12 (EE), ManAs\_12 (EE), Maneater\_12 (EE), MasterPitts\_12 (EE), McShie\_12 (EE), MelBee03\_12 (EE), Miaurora\_12 (EE), Minima\_12 (EE), MirimarMandM\_12 (EE), MrGreen\_12 (EE), Myram\_12 (EE), Naby\_12 (EE), Namsahir\_12 (EE), NeumannU\_12 (EE), Niffler\_12 (EE), Nobel\_12 (EE), Noelani\_12 (EE), Octopus\_12 (EE), Otwor\_12 (EE), Owens\_12 (EE), PaoPu\_12 (EE), Picnic\_12 (EE), PoRanda\_12 (EE), Pondwater\_12 (EE), Publix\_12 (EE), Puddles3\_12 (EE), PuffyCat\_12 (EE), Quaker\_12 (EE), Rhogar\_12 (EE), Rhysand\_12 (EE), RoscoWindex\_12 (EE), Sage7\_12 (EE), SantasSleigh\_12 (EE), Sara\_12 (EE), Scamander\_12 (EE), Scrunchy\_12 (EE), SeaWolves\_12 (EE), Sippinontea\_12 (EE), Slentz\_12 (EE), Slizam\_12 (EE), Snuffles\_13 (EE), Stem\_12 (EE), TeddyBoy\_12 (EE), TimoTea\_12 (EE), TinyTruffula\_12 (EE), TomBrady12\_12 (EE), Trackstar\_11 (EE), Trireme\_12 (EE), Upsilon\_12 (EE), Vanisius\_12 (EE), VitulaEligans\_12 (EE), Witch\_12 (EE), Wolfpack\_12 (EE), Yasuo\_12 (EE), YertPhresh\_12 (EE), Yubaba\_12 (EE), Zahlia\_12 (EE),

Start 13:

- Found in 139 of 255 ( 54.5% ) of genes in pham
- Manual Annotations of this start: 3 of 235
- Called 2.2% of time when present
- Phage (with cluster) where this start called: Cazares\_12 (EE), Oaklynn\_12 (EE), Yami\_12 (EE),

### **Summary by clusters:**

There are 6 clusters represented in this pham: EH, EE, AK, EC, AZ1, AZ5,

Info for manual annotations of cluster AK:

- Start number 5 was manually annotated 83 times for cluster AK.

Info for manual annotations of cluster AZ1:

- Start number 6 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster AZ5:

- Start number 6 was manually annotated 10 times for cluster AZ5.

Info for manual annotations of cluster EC:

- Start number 6 was manually annotated 1 time for cluster EC.

Info for manual annotations of cluster EE:

- Start number 11 was manually annotated 124 times for cluster EE.
- Start number 13 was manually annotated 3 times for cluster EE.

Info for manual annotations of cluster EH:

- Start number 4 was manually annotated 1 time for cluster EH.
- Start number 6 was manually annotated 12 times for cluster EH.

### **Gene Information:**

Gene: Albanese\_18 Start: 12660, Stop: 15221, Start Num: 5

Candidate Starts for Albanese\_18:

(3, 12639), (Start: 5 @12660 has 83 MA's), (15, 12750), (18, 12789), (21, 12825), (30, 12885), (34, 12933), (35, 12948), (49, 13116), (52, 13161), (56, 13212), (57, 13215), (67, 13299), (87, 13485), (93, 13521), (97, 13533), (104, 13575), (126, 13686), (157, 13884), (177, 13977), (184, 14001), (185, 14004), (203, 14082), (204, 14088), (211, 14115), (218, 14145), (231, 14208), (235, 14223), (237, 14232), (238, 14235), (241, 14244), (246, 14268), (248, 14280), (249, 14286), (252, 14301), (253, 14307), (254, 14310), (257, 14331), (258, 14346), (260, 14361), (263, 14379), (265, 14385), (267, 14400), (269, 14409), (270, 14418), (277, 14451), (278, 14454), (281, 14466), (282, 14472), (286, 14484), (294, 14550), (296, 14565), (301, 14595), (304, 14604), (322, 14715), (328, 14751), (331, 14772), (342, 14847), (343, 14850), (349, 14904), (356, 14943), (364, 15000), (368, 15024), (374, 15066), (376, 15093), (384, 15162),

Gene: Aledel\_14 Start: 9738, Stop: 12296, Start Num: 5

Candidate Starts for Aledel\_14:

(Start: 5 @9738 has 83 MA's), (7, 9747), (8, 9777), (18, 9867), (30, 9963), (33, 10008), (35, 10026), (49, 10194), (56, 10290), (57, 10293), (58, 10308), (69, 10395), (93, 10599), (94, 10602), (110, 10686), (163, 10992), (177, 11052), (182, 11070), (184, 11076), (191, 11109), (194, 11121), (203, 11157), (209, 11184), (215, 11208), (216, 11214), (228, 11271), (234, 11295), (236, 11304), (241, 11319), (246, 11343), (248, 11355), (252, 11376), (253, 11382), (256, 11403), (259, 11427), (260, 11436), (263, 11454), (267, 11475), (268, 11481), (270, 11493), (277, 11526), (278, 11529), (281, 11541), (285, 11556), (286, 11559), (297, 11646), (315, 11736), (316, 11739), (322, 11790), (331, 11847), (332, 11856), (334, 11868), (342, 11922), (343, 11925), (349, 11979), (356, 12018), (362, 12066), (364, 12075), (368, 12099), (371, 12111), (382, 12207), (384, 12237),

Gene: Alucard\_12 Start: 7541, Stop: 9646, Start Num: 11

Candidate Starts for Alucard\_12:

(Start: 11 @7541 has 124 MA's), (Start: 13 @7562 has 3 MA's), (32, 7739), (34, 7748), (37, 7772), (39, 7844), (42, 7868), (44, 7874), (55, 8024), (58, 8045), (60, 8057), (63, 8066), (83, 8273), (86, 8291), (103, 8378), (122, 8447), (125, 8459), (135, 8507), (139, 8537), (143, 8552), (148, 8588), (153, 8615), (157, 8636), (162, 8660), (170, 8684), (174, 8690), (193, 8717), (203, 8750), (212, 8789), (219, 8816), (224, 8837), (227, 8852), (241, 8879), (242, 8882), (248, 8903), (252, 8915), (253, 8921), (266, 8969), (274, 9005), (286, 9053), (288, 9080), (291, 9101), (304, 9164), (309, 9188), (318, 9245), (335, 9350), (337, 9371), (340, 9383), (345, 9425), (348, 9446), (351, 9467), (373, 9596),

Gene: Anseraureola\_12 Start: 7563, Stop: 9671, Start Num: 11

Candidate Starts for Anseraureola\_12:

(Start: 11 @7563 has 124 MA's), (Start: 13 @7584 has 3 MA's), (32, 7761), (34, 7770), (37, 7794), (39, 7866), (42, 7890), (44, 7896), (51, 7989), (55, 8046), (58, 8067), (60, 8079), (63, 8088), (83, 8295), (86, 8313), (103, 8400), (122, 8469), (125, 8481), (135, 8529), (139, 8559), (143, 8574), (148, 8610), (153, 8637), (158, 8661), (162, 8682), (170, 8706), (174, 8712), (193, 8739), (203, 8772), (212, 8811), (219, 8838), (224, 8859), (227, 8874), (241, 8901), (242, 8904), (252, 8937), (253, 8943), (266, 8991), (274, 9027), (286, 9075), (288, 9102), (291, 9123), (304, 9186), (309, 9210), (318, 9267), (335, 9372), (337, 9393), (340, 9405), (345, 9447), (351, 9489), (373, 9621),

Gene: AppleCider\_18 Start: 12612, Stop: 15167, Start Num: 5

Candidate Starts for AppleCider\_18:

(3, 12591), (Start: 5 @12612 has 83 MA's), (10, 12660), (18, 12741), (20, 12765), (30, 12837), (34, 12885), (35, 12900), (36, 12906), (49, 13068), (52, 13113), (56, 13164), (57, 13167), (61, 13197), (67, 13251), (74, 13335), (91, 13458), (102, 13518), (106, 13536), (109, 13551), (121, 13602), (157, 13833), (172, 13902), (177, 13926), (182, 13944), (184, 13950), (197, 14004), (200, 14016), (204,

14037), (210, 14061), (229, 14148), (235, 14172), (236, 14178), (237, 14181), (241, 14193), (245, 14214), (246, 14217), (247, 14223), (248, 14229), (251, 14247), (252, 14250), (253, 14256), (257, 14280), (259, 14301), (260, 14310), (263, 14328), (267, 14349), (269, 14358), (270, 14367), (277, 14400), (278, 14403), (280, 14412), (281, 14415), (289, 14466), (322, 14664), (324, 14676), (327, 14697), (328, 14700), (342, 14796), (343, 14799), (349, 14853), (356, 14892), (364, 14949), (372, 14991), (376, 15039), (382, 15081), (384, 15111),

Gene: Aries55\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Aries55\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Ashes\_16 Start: 10335, Stop: 12755, Start Num: 6

Candidate Starts for Ashes\_16:

(Start: 6 @10335 has 24 MA's), (17, 10422), (26, 10527), (29, 10539), (34, 10599), (41, 10710), (50, 10791), (63, 10917), (66, 10932), (70, 10986), (90, 11160), (105, 11244), (109, 11265), (120, 11307), (139, 11433), (144, 11454), (147, 11487), (158, 11544), (163, 11586), (168, 11601), (179, 11652), (188, 11688), (189, 11694), (212, 11796), (217, 11817), (225, 11859), (238, 11919), (240, 11925), (252, 11973), (266, 12069), (297, 12246), (298, 12258), (311, 12309), (322, 12390), (333, 12459), (339, 12495), (350, 12576), (354, 12591), (365, 12663), (369, 12687),

Gene: Astro16\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Astro16\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: AustinPowers\_14 Start: 9739, Stop: 12297, Start Num: 5

Candidate Starts for AustinPowers\_14:

(Start: 5 @9739 has 83 MA's), (7, 9748), (8, 9778), (18, 9868), (30, 9964), (33, 10009), (35, 10027), (49, 10195), (56, 10291), (57, 10294), (58, 10309), (69, 10396), (74, 10462), (93, 10600), (94, 10603), (110, 10687), (163, 10993), (177, 11053), (182, 11071), (184, 11077), (191, 11110), (194, 11122), (203, 11158), (209, 11185), (215, 11209), (216, 11215), (228, 11272), (234, 11296), (236, 11305), (241, 11320), (246, 11344), (248, 11356), (252, 11377), (253, 11383), (256, 11404), (260, 11437), (263, 11455), (267, 11476), (268, 11482), (270, 11494), (277, 11527), (278, 11530), (281, 11542), (285, 11557), (286, 11560), (297, 11647), (315, 11737), (316, 11740), (322, 11791), (327, 11824), (331, 11848), (332, 11857), (342, 11923), (343, 11926), (349, 11980), (356, 12019), (362, 12067), (364, 12076), (368, 12100), (371, 12112), (382, 12208), (384, 12238),

Gene: Avvas\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Avvas\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626),

(157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Azizam\_12 Start: 7534, Stop: 9639, Start Num: 11

Candidate Starts for Azizam\_12:

(Start: 11 @7534 has 124 MA's), (Start: 13 @7555 has 3 MA's), (32, 7732), (34, 7741), (37, 7765), (39, 7837), (42, 7861), (44, 7867), (55, 8017), (58, 8038), (60, 8050), (63, 8059), (83, 8266), (86, 8284), (103, 8371), (122, 8440), (125, 8452), (135, 8500), (139, 8530), (143, 8545), (153, 8608), (157, 8629), (158, 8632), (174, 8683), (193, 8710), (203, 8743), (212, 8782), (219, 8809), (224, 8830), (227, 8845), (241, 8872), (248, 8896), (252, 8908), (253, 8914), (266, 8962), (286, 9046), (288, 9073), (291, 9094), (304, 9157), (309, 9181), (314, 9205), (317, 9226), (335, 9343), (337, 9364), (340, 9376), (345, 9418), (348, 9439), (351, 9460), (373, 9589),

Gene: Aztec\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Aztec\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Baine\_12 Start: 7538, Stop: 9646, Start Num: 11

Candidate Starts for Baine\_12:

(Start: 11 @7538 has 124 MA's), (Start: 13 @7559 has 3 MA's), (32, 7736), (34, 7745), (37, 7769), (39, 7841), (42, 7865), (44, 7871), (51, 7964), (55, 8021), (58, 8042), (60, 8054), (63, 8063), (83, 8270), (86, 8288), (103, 8375), (122, 8444), (125, 8456), (135, 8504), (139, 8534), (143, 8549), (148, 8585), (153, 8612), (162, 8657), (170, 8681), (174, 8687), (193, 8714), (203, 8747), (212, 8786), (219, 8813), (224, 8834), (227, 8849), (241, 8876), (242, 8879), (252, 8912), (253, 8918), (266, 8966), (274, 9002), (286, 9050), (288, 9077), (291, 9098), (304, 9161), (309, 9185), (318, 9242), (335, 9347), (337, 9368), (340, 9380), (345, 9422), (351, 9464), (373, 9596),

Gene: BarBear\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for BarBear\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Barnstormer\_14 Start: 9927, Stop: 12275, Start Num: 6

Candidate Starts for Barnstormer\_14:

(Start: 6 @9927 has 24 MA's), (26, 10110), (37, 10206), (45, 10314), (50, 10374), (70, 10569), (75, 10632), (85, 10716), (86, 10728), (87, 10731), (99, 10782), (106, 10833), (126, 10920), (136, 10980), (139, 11004), (154, 11085), (166, 11145), (173, 11166), (187, 11226), (192, 11247), (194, 11256), (206, 11307), (226, 11394), (228, 11403), (248, 11499), (249, 11505), (255, 11538), (276, 11634), (286, 11673), (309, 11811), (319, 11874), (336, 11985), (351, 12090), (357, 12126),

Gene: Beaupre\_16 Start: 10336, Stop: 12756, Start Num: 6

Candidate Starts for Beaupre\_16:

(Start: 6 @10336 has 24 MA's), (17, 10423), (26, 10528), (29, 10540), (34, 10600), (41, 10711), (50, 10792), (63, 10918), (66, 10933), (70, 10987), (90, 11161), (105, 11245), (109, 11266), (120, 11308), (139, 11434), (144, 11455), (147, 11488), (158, 11545), (163, 11587), (168, 11602), (179, 11653), (188, 11689), (189, 11695), (212, 11797), (217, 11818), (225, 11860), (238, 11920), (240, 11926), (252, 11974), (266, 12070), (294, 12226), (297, 12247), (298, 12259), (311, 12310), (333, 12460), (339, 12496), (350, 12577), (365, 12664), (369, 12688),

Gene: Beethoven\_18 Start: 12567, Stop: 15128, Start Num: 5

Candidate Starts for Beethoven\_18:

(3, 12546), (Start: 5 @12567 has 83 MA's), (10, 12615), (14, 12648), (18, 12696), (20, 12720), (21, 12732), (30, 12792), (34, 12840), (35, 12855), (36, 12861), (46, 12981), (49, 13023), (56, 13119), (57, 13122), (61, 13152), (67, 13206), (79, 13347), (82, 13368), (87, 13392), (91, 13413), (92, 13422), (102, 13473), (106, 13491), (139, 13677), (163, 13821), (171, 13854), (177, 13881), (182, 13899), (184, 13905), (189, 13929), (191, 13938), (203, 13986), (209, 14013), (216, 14043), (218, 14049), (228, 14100), (232, 14115), (235, 14127), (236, 14133), (237, 14136), (240, 14145), (246, 14172), (248, 14184), (250, 14193), (252, 14205), (253, 14211), (256, 14232), (259, 14256), (260, 14265), (266, 14301), (267, 14304), (270, 14322), (277, 14355), (278, 14358), (280, 14367), (281, 14370), (285, 14385), (297, 14475), (322, 14619), (328, 14655), (342, 14751), (343, 14754), (349, 14808), (356, 14847), (362, 14895), (364, 14904), (368, 14928), (372, 14946), (376, 14997), (379, 15021), (382, 15039), (384, 15069),

Gene: Belthelas\_12 Start: 7590, Stop: 9695, Start Num: 11

Candidate Starts for Belthelas\_12:

(Start: 11 @7590 has 124 MA's), (Start: 13 @7611 has 3 MA's), (32, 7788), (34, 7797), (37, 7821), (39, 7893), (42, 7917), (44, 7923), (51, 8016), (55, 8073), (58, 8094), (60, 8106), (63, 8115), (83, 8322), (86, 8340), (103, 8427), (122, 8496), (125, 8508), (135, 8556), (139, 8586), (143, 8601), (148, 8637), (153, 8664), (158, 8688), (162, 8709), (170, 8733), (174, 8739), (193, 8766), (203, 8799), (212, 8838), (219, 8865), (224, 8886), (227, 8901), (241, 8928), (242, 8931), (248, 8952), (252, 8964), (253, 8970), (266, 9018), (274, 9054), (286, 9102), (288, 9129), (291, 9150), (304, 9213), (309, 9237), (318, 9294), (335, 9399), (337, 9420), (340, 9432), (345, 9474), (348, 9495), (351, 9516), (373, 9645),

Gene: Bennie\_14 Start: 9720, Stop: 12287, Start Num: 5

Candidate Starts for Bennie\_14:

(3, 9699), (Start: 5 @9720 has 83 MA's), (10, 9768), (18, 9849), (20, 9873), (30, 9945), (34, 9993), (35, 10008), (36, 10014), (49, 10176), (55, 10269), (56, 10272), (57, 10275), (61, 10305), (68, 10362), (79, 10500), (82, 10521), (91, 10566), (97, 10593), (102, 10626), (106, 10644), (117, 10686), (126, 10743), (171, 11007), (177, 11034), (182, 11052), (184, 11058), (189, 11082), (194, 11103), (203, 11139), (209, 11166), (216, 11196), (218, 11202), (228, 11253), (236, 11286), (246, 11325), (247, 11331), (248, 11337), (250, 11346), (252, 11358), (253, 11364), (257, 11388), (259, 11409), (260, 11418), (267, 11457), (270, 11475), (277, 11508), (278, 11511), (281, 11523), (285, 11538), (291, 11589), (296, 11622), (298, 11640), (305, 11664), (313, 11706), (322, 11772), (324, 11784), (331, 11829), (342, 11904), (343, 11907), (349, 11961), (356, 12000), (360, 12027), (364, 12057), (367, 12069), (368, 12081), (370, 12090), (376, 12156), (382, 12198), (384, 12228),

Gene: BigMack\_14 Start: 9716, Stop: 12277, Start Num: 5

Candidate Starts for BigMack\_14:

(3, 9695), (Start: 5 @9716 has 83 MA's), (10, 9764), (18, 9845), (20, 9869), (30, 9941), (34, 9989), (35, 10004), (36, 10010), (46, 10130), (49, 10172), (55, 10265), (56, 10268), (57, 10271), (61, 10301), (79, 10496), (82, 10517), (91, 10562), (102, 10622), (106, 10640), (149, 10892), (171, 11003), (177, 11030), (182, 11048), (184, 11054), (189, 11078), (191, 11087), (203, 11135), (209, 11162), (210, 11165), (216, 11192), (218, 11198), (221, 11210), (228, 11249), (232, 11264), (235, 11276), (236,

11282), (237, 11285), (240, 11294), (246, 11321), (247, 11327), (248, 11333), (250, 11342), (252, 11354), (253, 11360), (254, 11363), (260, 11414), (266, 11450), (267, 11453), (277, 11504), (278, 11507), (280, 11516), (281, 11519), (285, 11534), (296, 11618), (317, 11726), (322, 11768), (342, 11900), (343, 11903), (349, 11957), (356, 11996), (362, 12044), (364, 12053), (368, 12077), (376, 12146), (377, 12152), (384, 12218),

Gene: BinkBonk\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for BinkBonk\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Bintii\_12 Start: 7572, Stop: 9677, Start Num: 11

Candidate Starts for Bintii\_12:

(1, 7476), (Start: 11 @7572 has 124 MA's), (Start: 13 @7593 has 3 MA's), (32, 7770), (34, 7779), (37, 7803), (39, 7875), (42, 7899), (51, 7998), (58, 8076), (60, 8088), (63, 8097), (83, 8304), (86, 8322), (103, 8409), (122, 8478), (125, 8490), (135, 8538), (139, 8568), (143, 8583), (151, 8637), (157, 8667), (158, 8670), (162, 8691), (174, 8721), (193, 8748), (203, 8781), (212, 8820), (219, 8847), (221, 8853), (224, 8868), (227, 8883), (241, 8910), (242, 8913), (248, 8934), (252, 8946), (253, 8952), (266, 9000), (274, 9036), (286, 9084), (288, 9111), (291, 9132), (304, 9195), (309, 9219), (318, 9276), (335, 9381), (337, 9402), (340, 9414), (345, 9456), (348, 9477), (351, 9498),

Gene: Biscayne\_12 Start: 7608, Stop: 9713, Start Num: 11

Candidate Starts for Biscayne\_12:

(Start: 11 @7608 has 124 MA's), (Start: 13 @7629 has 3 MA's), (32, 7806), (34, 7815), (37, 7839), (39, 7911), (42, 7935), (44, 7941), (55, 8091), (58, 8112), (60, 8124), (63, 8133), (83, 8340), (86, 8358), (103, 8445), (122, 8514), (125, 8526), (135, 8574), (139, 8604), (143, 8619), (148, 8655), (153, 8682), (157, 8703), (162, 8727), (170, 8751), (174, 8757), (193, 8784), (203, 8817), (212, 8856), (219, 8883), (224, 8904), (227, 8919), (241, 8946), (242, 8949), (248, 8970), (252, 8982), (253, 8988), (266, 9036), (286, 9120), (288, 9147), (291, 9168), (304, 9231), (309, 9255), (318, 9312), (335, 9417), (337, 9438), (340, 9450), (345, 9492), (348, 9513), (351, 9534), (373, 9663),

Gene: Bodacious\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for Bodacious\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (46, 10131), (49, 10173), (56, 10269), (57, 10272), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (292, 11595), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: Bodhi17\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Bodhi17\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86,

8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: BonaeVitae\_12 Start: 7240, Stop: 9339, Start Num: 11

Candidate Starts for BonaeVitae\_12:

(Start: 11 @7240 has 124 MA's), (12, 7255), (Start: 13 @7261 has 3 MA's), (19, 7321), (26, 7375), (32, 7438), (34, 7447), (37, 7471), (39, 7543), (42, 7567), (51, 7666), (55, 7723), (60, 7756), (63, 7765), (95, 8032), (103, 8077), (123, 8149), (129, 8179), (139, 8236), (143, 8251), (155, 8320), (164, 8365), (170, 8383), (174, 8389), (203, 8449), (204, 8455), (208, 8470), (212, 8488), (219, 8515), (235, 8557), (248, 8602), (253, 8620), (262, 8647), (281, 8734), (286, 8752), (288, 8779), (295, 8821), (304, 8863), (305, 8866), (309, 8887), (326, 8998), (337, 9070), (340, 9082), (344, 9112), (345, 9124), (348, 9145), (367, 9253), (373, 9289),

Gene: BoomRoasted\_12 Start: 7587, Stop: 9692, Start Num: 11

Candidate Starts for BoomRoasted\_12:

(Start: 11 @7587 has 124 MA's), (Start: 13 @7608 has 3 MA's), (32, 7785), (34, 7794), (37, 7818), (39, 7890), (42, 7914), (44, 7920), (51, 8013), (55, 8070), (58, 8091), (60, 8103), (63, 8112), (83, 8319), (86, 8337), (103, 8424), (122, 8493), (125, 8505), (135, 8553), (139, 8583), (143, 8598), (148, 8634), (153, 8661), (158, 8685), (162, 8706), (170, 8730), (174, 8736), (193, 8763), (203, 8796), (212, 8835), (219, 8862), (224, 8883), (227, 8898), (241, 8925), (242, 8928), (248, 8949), (252, 8961), (253, 8967), (266, 9015), (274, 9051), (286, 9099), (288, 9126), (291, 9147), (304, 9210), (309, 9234), (318, 9291), (335, 9396), (337, 9417), (340, 9429), (345, 9471), (348, 9492), (351, 9513), (373, 9642),

Gene: Bradley2\_12 Start: 7539, Stop: 9644, Start Num: 11

Candidate Starts for Bradley2\_12:

(Start: 11 @7539 has 124 MA's), (Start: 13 @7560 has 3 MA's), (32, 7737), (34, 7746), (37, 7770), (39, 7842), (42, 7866), (44, 7872), (55, 8022), (58, 8043), (60, 8055), (63, 8064), (83, 8271), (86, 8289), (103, 8376), (122, 8445), (125, 8457), (135, 8505), (139, 8535), (143, 8550), (148, 8586), (153, 8613), (157, 8634), (162, 8658), (170, 8682), (174, 8688), (193, 8715), (203, 8748), (212, 8787), (219, 8814), (224, 8835), (227, 8850), (241, 8877), (242, 8880), (248, 8901), (252, 8913), (253, 8919), (266, 8967), (274, 9003), (286, 9051), (288, 9078), (291, 9099), (304, 9162), (309, 9186), (318, 9243), (335, 9348), (337, 9369), (340, 9381), (345, 9423), (348, 9444), (351, 9465), (373, 9594),

Gene: Bri160\_12 Start: 7586, Stop: 9691, Start Num: 11

Candidate Starts for Bri160\_12:

(Start: 11 @7586 has 124 MA's), (Start: 13 @7607 has 3 MA's), (32, 7784), (34, 7793), (37, 7817), (39, 7889), (42, 7913), (44, 7919), (51, 8012), (55, 8069), (58, 8090), (60, 8102), (63, 8111), (83, 8318), (86, 8336), (103, 8423), (122, 8492), (125, 8504), (135, 8552), (139, 8582), (143, 8597), (148, 8633), (153, 8660), (158, 8684), (162, 8705), (170, 8729), (174, 8735), (193, 8762), (203, 8795), (212, 8834), (219, 8861), (224, 8882), (227, 8897), (241, 8924), (242, 8927), (248, 8948), (252, 8960), (253, 8966), (266, 9014), (274, 9050), (286, 9098), (288, 9125), (291, 9146), (304, 9209), (309, 9233), (318, 9290), (335, 9395), (337, 9416), (340, 9428), (345, 9470), (348, 9491), (351, 9512), (373, 9641),

Gene: BrokMonster\_12 Start: 7529, Stop: 9634, Start Num: 11

Candidate Starts for BrokMonster\_12:

(Start: 11 @7529 has 124 MA's), (Start: 13 @7550 has 3 MA's), (32, 7727), (34, 7736), (37, 7760), (39, 7832), (42, 7856), (44, 7862), (51, 7955), (55, 8012), (58, 8033), (60, 8045), (63, 8054), (83, 8261), (86, 8279), (103, 8366), (122, 8435), (125, 8447), (135, 8495), (139, 8525), (143, 8540), (153, 8603), (157, 8624), (158, 8627), (174, 8678), (193, 8705), (203, 8738), (212, 8777), (219, 8804), (224, 8825), (227, 8840), (241, 8867), (248, 8891), (252, 8903), (253, 8909), (266, 8957), (286, 9041), (288, 9068), (291,

9089), (304, 9152), (309, 9176), (318, 9233), (335, 9338), (337, 9359), (340, 9371), (345, 9413), (348, 9434), (351, 9455), (373, 9584),

Gene: BrotherBLo\_18 Start: 12573, Stop: 15134, Start Num: 5

Candidate Starts for BrotherBLo\_18:

(3, 12552), (Start: 5 @12573 has 83 MA's), (10, 12621), (14, 12654), (18, 12702), (20, 12726), (21, 12738), (30, 12798), (34, 12846), (35, 12861), (36, 12867), (46, 12987), (49, 13029), (56, 13125), (57, 13128), (61, 13158), (67, 13212), (79, 13353), (82, 13374), (87, 13398), (91, 13419), (92, 13428), (102, 13479), (106, 13497), (139, 13683), (163, 13827), (171, 13860), (177, 13887), (182, 13905), (184, 13911), (189, 13935), (191, 13944), (203, 13992), (209, 14019), (210, 14022), (215, 14043), (216, 14049), (218, 14055), (228, 14106), (232, 14121), (235, 14133), (236, 14139), (237, 14142), (240, 14151), (246, 14178), (248, 14190), (250, 14199), (252, 14211), (253, 14217), (256, 14238), (259, 14262), (260, 14271), (267, 14310), (270, 14328), (277, 14361), (278, 14364), (280, 14373), (281, 14376), (285, 14391), (297, 14481), (305, 14517), (322, 14625), (328, 14661), (331, 14682), (342, 14757), (343, 14760), (349, 14814), (356, 14853), (362, 14901), (364, 14910), (368, 14934), (372, 14952), (376, 15003), (379, 15027), (382, 15045), (384, 15075),

Gene: Bullzi2019\_12 Start: 7561, Stop: 9666, Start Num: 11

Candidate Starts for Bullzi2019\_12:

(Start: 11 @7561 has 124 MA's), (Start: 13 @7582 has 3 MA's), (32, 7759), (34, 7768), (37, 7792), (39, 7864), (42, 7888), (51, 7987), (58, 8065), (60, 8077), (63, 8086), (83, 8293), (86, 8311), (103, 8398), (122, 8467), (125, 8479), (135, 8527), (139, 8557), (143, 8572), (151, 8626), (157, 8656), (158, 8659), (162, 8680), (174, 8710), (193, 8737), (203, 8770), (212, 8809), (219, 8836), (221, 8842), (224, 8857), (227, 8872), (241, 8899), (242, 8902), (248, 8923), (252, 8935), (253, 8941), (266, 8989), (274, 9025), (286, 9073), (288, 9100), (291, 9121), (304, 9184), (309, 9208), (318, 9265), (335, 9370), (337, 9391), (345, 9445), (348, 9466), (351, 9487),

Gene: Burgy\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Burgy\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: BurtonThePup\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for BurtonThePup\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: CallieOMalley\_18 Start: 12612, Stop: 15167, Start Num: 5

Candidate Starts for CallieOMalley\_18:

(3, 12591), (Start: 5 @12612 has 83 MA's), (10, 12660), (18, 12741), (20, 12765), (24, 12795), (30, 12837), (35, 12900), (36, 12906), (49, 13068), (56, 13164), (57, 13167), (61, 13197), (74, 13335), (91, 13458), (102, 13518), (106, 13536), (109, 13551), (121, 13602), (157, 13833), (172, 13902), (177, 13926), (182, 13944), (184, 13950), (197, 14004), (200, 14016), (204, 14037), (210, 14061), (229,



14148), (235, 14172), (236, 14178), (237, 14181), (241, 14193), (245, 14214), (246, 14217), (247, 14223), (248, 14229), (250, 14238), (251, 14247), (252, 14250), (253, 14256), (257, 14280), (259, 14301), (260, 14310), (263, 14328), (267, 14349), (269, 14358), (270, 14367), (277, 14400), (278, 14403), (280, 14412), (281, 14415), (289, 14466), (305, 14556), (322, 14664), (324, 14676), (327, 14697), (328, 14700), (342, 14796), (343, 14799), (349, 14853), (356, 14892), (364, 14949), (372, 14991), (376, 15039), (382, 15081), (384, 15111),

Gene: Canowicakte\_18 Start: 12647, Stop: 15202, Start Num: 5

Candidate Starts for Canowicakte\_18:

(3, 12626), (Start: 5 @12647 has 83 MA's), (10, 12695), (18, 12776), (20, 12800), (30, 12872), (34, 12920), (35, 12935), (36, 12941), (49, 13103), (52, 13148), (56, 13199), (57, 13202), (61, 13232), (74, 13370), (91, 13493), (102, 13553), (106, 13571), (109, 13586), (121, 13637), (157, 13868), (172, 13937), (177, 13961), (182, 13979), (184, 13985), (197, 14039), (200, 14051), (204, 14072), (210, 14096), (229, 14183), (235, 14207), (236, 14213), (237, 14216), (241, 14228), (245, 14249), (246, 14252), (247, 14258), (248, 14264), (250, 14273), (251, 14282), (252, 14285), (253, 14291), (257, 14315), (259, 14336), (260, 14345), (263, 14363), (267, 14384), (269, 14393), (270, 14402), (277, 14435), (278, 14438), (280, 14447), (281, 14450), (289, 14501), (305, 14591), (322, 14699), (324, 14711), (327, 14732), (328, 14735), (342, 14831), (343, 14834), (349, 14888), (356, 14927), (364, 14984), (372, 15026), (376, 15074), (382, 15116), (384, 15146),

Gene: Cappuccino\_16 Start: 10243, Stop: 12663, Start Num: 6

Candidate Starts for Cappuccino\_16:

(Start: 6 @10243 has 24 MA's), (17, 10330), (20, 10387), (26, 10435), (29, 10447), (34, 10507), (41, 10618), (50, 10699), (63, 10825), (66, 10840), (70, 10894), (90, 11068), (105, 11152), (109, 11173), (115, 11194), (120, 11215), (127, 11266), (139, 11341), (144, 11362), (147, 11395), (158, 11452), (163, 11494), (168, 11509), (179, 11560), (188, 11596), (212, 11704), (217, 11725), (225, 11767), (228, 11779), (240, 11833), (252, 11881), (266, 11977), (294, 12133), (297, 12154), (298, 12166), (311, 12217), (333, 12367), (339, 12403), (344, 12436), (369, 12595),

Gene: Caron\_14 Start: 9969, Stop: 12317, Start Num: 6

Candidate Starts for Caron\_14:

(Start: 6 @9969 has 24 MA's), (26, 10152), (37, 10248), (45, 10356), (50, 10416), (70, 10611), (75, 10674), (85, 10758), (86, 10770), (87, 10773), (99, 10824), (106, 10875), (125, 10956), (136, 11022), (139, 11046), (154, 11127), (166, 11187), (173, 11208), (194, 11298), (206, 11349), (228, 11445), (248, 11541), (249, 11547), (251, 11559), (255, 11580), (277, 11682), (286, 11715), (291, 11763), (309, 11853), (319, 11916), (321, 11928), (336, 12027), (351, 12132), (357, 12168),

Gene: Carpal\_18 Start: 12574, Stop: 15135, Start Num: 5

Candidate Starts for Carpal\_18:

(3, 12553), (Start: 5 @12574 has 83 MA's), (10, 12622), (14, 12655), (18, 12703), (20, 12727), (21, 12739), (30, 12799), (34, 12847), (35, 12862), (36, 12868), (46, 12988), (49, 13030), (56, 13126), (57, 13129), (61, 13159), (67, 13213), (79, 13354), (82, 13375), (87, 13399), (91, 13420), (92, 13429), (102, 13480), (106, 13498), (139, 13684), (163, 13828), (171, 13861), (177, 13888), (182, 13906), (184, 13912), (189, 13936), (191, 13945), (203, 13993), (209, 14020), (210, 14023), (215, 14044), (218, 14056), (228, 14107), (232, 14122), (235, 14134), (237, 14143), (240, 14152), (246, 14179), (248, 14191), (250, 14200), (252, 14212), (253, 14218), (256, 14239), (259, 14263), (260, 14272), (267, 14311), (277, 14362), (278, 14365), (280, 14374), (281, 14377), (285, 14392), (297, 14482), (305, 14518), (322, 14626), (328, 14662), (342, 14758), (343, 14761), (349, 14815), (356, 14854), (362, 14902), (364, 14911), (368, 14935), (372, 14953), (376, 15004), (379, 15028), (382, 15046), (384, 15076),

Gene: Cayde6\_12 Start: 7538, Stop: 9646, Start Num: 11

Candidate Starts for Cayde6\_12:

(Start: 11 @7538 has 124 MA's), (Start: 13 @7559 has 3 MA's), (32, 7736), (34, 7745), (37, 7769), (39, 7841), (42, 7865), (44, 7871), (51, 7964), (55, 8021), (58, 8042), (60, 8054), (63, 8063), (83, 8270), (86, 8288), (103, 8375), (122, 8444), (125, 8456), (135, 8504), (139, 8534), (143, 8549), (148, 8585), (153, 8612), (162, 8657), (170, 8681), (174, 8687), (193, 8714), (203, 8747), (212, 8786), (219, 8813), (224, 8834), (227, 8849), (241, 8876), (242, 8879), (252, 8912), (253, 8918), (266, 8966), (274, 9002), (286, 9050), (288, 9077), (291, 9098), (304, 9161), (309, 9185), (318, 9242), (335, 9347), (337, 9368), (340, 9380), (345, 9422), (351, 9464), (373, 9596),

Gene: Cazares\_12 Start: 7552, Stop: 9636, Start Num: 13

Candidate Starts for Cazares\_12:

(Start: 11 @7531 has 124 MA's), (Start: 13 @7552 has 3 MA's), (32, 7729), (34, 7738), (37, 7762), (39, 7834), (42, 7858), (51, 7957), (55, 8014), (58, 8035), (60, 8047), (63, 8056), (83, 8263), (86, 8281), (103, 8368), (122, 8437), (125, 8449), (135, 8497), (139, 8527), (143, 8542), (157, 8626), (158, 8629), (162, 8650), (174, 8680), (193, 8707), (203, 8740), (212, 8779), (219, 8806), (221, 8812), (224, 8827), (227, 8842), (242, 8872), (248, 8893), (252, 8905), (253, 8911), (266, 8959), (274, 8995), (286, 9043), (288, 9070), (291, 9091), (304, 9154), (309, 9178), (318, 9235), (335, 9340), (337, 9361), (345, 9415), (348, 9436), (351, 9457),

Gene: Cen1621\_14 Start: 9057, Stop: 11342, Start Num: 6

Candidate Starts for Cen1621\_14:

(Start: 6 @9057 has 24 MA's), (22, 9216), (31, 9294), (37, 9336), (45, 9444), (49, 9495), (50, 9504), (55, 9588), (60, 9621), (66, 9645), (70, 9699), (75, 9762), (86, 9858), (87, 9861), (145, 10152), (148, 10173), (164, 10254), (179, 10308), (180, 10314), (192, 10353), (201, 10386), (221, 10470), (232, 10518), (244, 10578), (252, 10596), (262, 10629), (266, 10650), (271, 10677), (279, 10710), (286, 10734), (287, 10743), (303, 10845), (319, 10932), (334, 11028), (342, 11082), (344, 11094), (357, 11187),

Gene: Charbie\_12 Start: 7528, Stop: 9633, Start Num: 11

Candidate Starts for Charbie\_12:

(Start: 11 @7528 has 124 MA's), (Start: 13 @7549 has 3 MA's), (32, 7726), (34, 7735), (37, 7759), (39, 7831), (42, 7855), (44, 7861), (55, 8011), (58, 8032), (60, 8044), (63, 8053), (83, 8260), (86, 8278), (103, 8365), (122, 8434), (125, 8446), (135, 8494), (139, 8524), (143, 8539), (148, 8575), (153, 8602), (157, 8623), (162, 8647), (170, 8671), (174, 8677), (193, 8704), (203, 8737), (212, 8776), (219, 8803), (224, 8824), (227, 8839), (241, 8866), (242, 8869), (248, 8890), (252, 8902), (253, 8908), (266, 8956), (283, 9031), (286, 9040), (288, 9067), (291, 9088), (304, 9151), (309, 9175), (318, 9232), (335, 9337), (337, 9358), (340, 9370), (345, 9412), (348, 9433), (351, 9454),

Gene: Chatham\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Chatham\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Cheesecake\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Cheesecake\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827),

(224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: ChewChew\_14 Start: 9716, Stop: 12277, Start Num: 5

Candidate Starts for ChewChew\_14:

(3, 9695), (Start: 5 @9716 has 83 MA's), (10, 9764), (18, 9845), (20, 9869), (30, 9941), (34, 9989), (35, 10004), (36, 10010), (49, 10172), (56, 10268), (57, 10271), (61, 10301), (74, 10439), (82, 10517), (91, 10562), (92, 10571), (102, 10622), (106, 10640), (108, 10652), (115, 10676), (149, 10892), (167, 10982), (171, 11003), (177, 11030), (182, 11048), (184, 11054), (189, 11078), (191, 11087), (203, 11135), (209, 11162), (216, 11192), (228, 11249), (232, 11264), (235, 11276), (236, 11282), (237, 11285), (240, 11294), (246, 11321), (248, 11333), (250, 11342), (252, 11354), (253, 11360), (257, 11384), (259, 11405), (260, 11414), (262, 11429), (266, 11450), (267, 11453), (277, 11504), (278, 11507), (281, 11519), (292, 11594), (297, 11624), (305, 11660), (322, 11768), (324, 11780), (328, 11804), (342, 11900), (343, 11903), (347, 11936), (349, 11957), (356, 11996), (358, 12014), (362, 12044), (364, 12053), (368, 12077), (377, 12152), (384, 12218),

Gene: Cholula\_18 Start: 12619, Stop: 15180, Start Num: 5

Candidate Starts for Cholula\_18:

(3, 12598), (Start: 5 @12619 has 83 MA's), (10, 12667), (14, 12700), (18, 12748), (20, 12772), (21, 12784), (30, 12844), (34, 12892), (35, 12907), (36, 12913), (46, 13033), (49, 13075), (55, 13168), (56, 13171), (57, 13174), (61, 13204), (67, 13258), (79, 13399), (82, 13420), (87, 13444), (91, 13465), (92, 13474), (102, 13525), (106, 13543), (111, 13567), (139, 13729), (163, 13873), (171, 13906), (177, 13933), (182, 13951), (184, 13957), (189, 13981), (191, 13990), (203, 14038), (209, 14065), (215, 14089), (216, 14095), (218, 14101), (228, 14152), (232, 14167), (235, 14179), (236, 14185), (237, 14188), (240, 14197), (246, 14224), (248, 14236), (250, 14245), (252, 14257), (253, 14263), (256, 14284), (260, 14317), (267, 14356), (277, 14407), (278, 14410), (280, 14419), (281, 14422), (285, 14437), (296, 14521), (297, 14527), (305, 14563), (322, 14671), (324, 14683), (328, 14707), (342, 14803), (343, 14806), (349, 14860), (356, 14899), (362, 14947), (364, 14956), (368, 14980), (372, 14998), (376, 15049), (379, 15073), (382, 15091), (384, 15121),

Gene: Chridison\_14 Start: 9739, Stop: 12297, Start Num: 5

Candidate Starts for Chridison\_14:

(Start: 5 @9739 has 83 MA's), (7, 9748), (8, 9778), (18, 9868), (30, 9964), (33, 10009), (35, 10027), (49, 10195), (56, 10291), (57, 10294), (58, 10309), (69, 10396), (93, 10600), (94, 10603), (110, 10687), (163, 10993), (177, 11053), (182, 11071), (184, 11077), (191, 11110), (194, 11122), (203, 11158), (209, 11185), (215, 11209), (216, 11215), (228, 11272), (234, 11296), (236, 11305), (241, 11320), (246, 11344), (248, 11356), (252, 11377), (253, 11383), (256, 11404), (259, 11428), (260, 11437), (263, 11455), (267, 11476), (268, 11482), (270, 11494), (277, 11527), (278, 11530), (281, 11542), (285, 11557), (286, 11560), (297, 11647), (315, 11737), (316, 11740), (322, 11791), (331, 11848), (332, 11857), (334, 11869), (342, 11923), (343, 11926), (349, 11980), (356, 12019), (362, 12067), (364, 12076), (368, 12100), (371, 12112), (382, 12208), (384, 12238),

Gene: Christian\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for Christian\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (49, 10173), (56, 10269), (57, 10272), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (236, 11283), (240, 11295), (246, 11322), (247, 11328), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (292, 11595), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347,

11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: Ciel\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Ciel\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Clownery\_12 Start: 7648, Stop: 9753, Start Num: 11

Candidate Starts for Clownery\_12:

(Start: 11 @7648 has 124 MA's), (Start: 13 @7669 has 3 MA's), (32, 7846), (34, 7855), (37, 7879), (39, 7951), (42, 7975), (51, 8074), (55, 8131), (58, 8152), (60, 8164), (63, 8173), (83, 8380), (86, 8398), (103, 8485), (122, 8554), (125, 8566), (135, 8614), (139, 8644), (143, 8659), (157, 8743), (158, 8746), (162, 8767), (174, 8797), (193, 8824), (203, 8857), (212, 8896), (219, 8923), (221, 8929), (224, 8944), (227, 8959), (242, 8989), (248, 9010), (252, 9022), (253, 9028), (266, 9076), (274, 9112), (286, 9160), (288, 9187), (291, 9208), (304, 9271), (309, 9295), (318, 9352), (335, 9457), (337, 9478), (345, 9532), (348, 9553), (351, 9574),

Gene: Concrete\_12 Start: 7587, Stop: 9692, Start Num: 11

Candidate Starts for Concrete\_12:

(Start: 11 @7587 has 124 MA's), (Start: 13 @7608 has 3 MA's), (32, 7785), (34, 7794), (37, 7818), (39, 7890), (42, 7914), (44, 7920), (51, 8013), (55, 8070), (58, 8091), (60, 8103), (63, 8112), (83, 8319), (86, 8337), (103, 8424), (122, 8493), (125, 8505), (135, 8553), (139, 8583), (143, 8598), (148, 8634), (153, 8661), (158, 8685), (162, 8706), (170, 8730), (174, 8736), (193, 8763), (203, 8796), (212, 8835), (219, 8862), (224, 8883), (227, 8898), (241, 8925), (242, 8928), (248, 8949), (252, 8961), (253, 8967), (266, 9015), (274, 9051), (286, 9099), (288, 9126), (291, 9147), (304, 9210), (309, 9234), (318, 9291), (335, 9396), (337, 9417), (340, 9429), (345, 9471), (348, 9492), (351, 9513), (373, 9642),

Gene: CristinaYang\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for CristinaYang\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (46, 10131), (49, 10173), (56, 10269), (57, 10272), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (292, 11595), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: DaftyDuck\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for DaftyDuck\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974),

(286, 9058), (288, 9085), (291, 9106), (304, 9169), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472), (373, 9601),

Gene: Daiboju\_14 Start: 9744, Stop: 12302, Start Num: 5

Candidate Starts for Daiboju\_14:

(Start: 5 @9744 has 83 MA's), (7, 9753), (8, 9783), (18, 9873), (21, 9909), (34, 10017), (35, 10032), (49, 10200), (56, 10296), (87, 10569), (91, 10590), (98, 10620), (102, 10650), (121, 10737), (140, 10860), (151, 10935), (163, 10998), (171, 11031), (175, 11052), (177, 11058), (182, 11076), (184, 11082), (189, 11106), (200, 11148), (203, 11163), (204, 11169), (211, 11196), (222, 11247), (229, 11280), (231, 11289), (236, 11310), (240, 11322), (246, 11349), (248, 11361), (250, 11370), (252, 11382), (253, 11388), (254, 11391), (257, 11412), (260, 11442), (263, 11460), (267, 11481), (269, 11490), (270, 11499), (277, 11532), (278, 11535), (281, 11547), (285, 11562), (296, 11646), (297, 11652), (305, 11688), (316, 11745), (317, 11754), (322, 11796), (331, 11853), (342, 11928), (343, 11931), (346, 11961), (349, 11985), (358, 12042), (362, 12072), (364, 12081), (368, 12105), (371, 12117), (384, 12243),

Gene: Danimal\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Danimal\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Danno\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Danno\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Dino\_18 Start: 12572, Stop: 15133, Start Num: 5

Candidate Starts for Dino\_18:

(3, 12551), (Start: 5 @12572 has 83 MA's), (10, 12620), (14, 12653), (18, 12701), (20, 12725), (21, 12737), (30, 12797), (34, 12845), (35, 12860), (36, 12866), (46, 12986), (49, 13028), (56, 13124), (57, 13127), (61, 13157), (67, 13211), (79, 13352), (82, 13373), (87, 13397), (91, 13418), (92, 13427), (102, 13478), (106, 13496), (139, 13682), (163, 13826), (171, 13859), (177, 13886), (182, 13904), (184, 13910), (189, 13934), (191, 13943), (203, 13991), (209, 14018), (210, 14021), (215, 14042), (218, 14054), (228, 14105), (232, 14120), (235, 14132), (237, 14141), (240, 14150), (246, 14177), (248, 14189), (250, 14198), (252, 14210), (253, 14216), (256, 14237), (259, 14261), (260, 14270), (267, 14309), (277, 14360), (278, 14363), (280, 14372), (281, 14375), (285, 14390), (297, 14480), (305, 14516), (322, 14624), (328, 14660), (342, 14756), (343, 14759), (349, 14813), (356, 14852), (362, 14900), (364, 14909), (368, 14933), (372, 14951), (376, 15002), (379, 15026), (382, 15044), (384, 15074),

Gene: DirtPie\_12 Start: 7639, Stop: 9744, Start Num: 11

Candidate Starts for DirtPie\_12:

(Start: 11 @7639 has 124 MA's), (Start: 13 @7660 has 3 MA's), (32, 7837), (34, 7846), (37, 7870), (39, 7942), (42, 7966), (44, 7972), (55, 8122), (58, 8143), (60, 8155), (63, 8164), (83, 8371), (86, 8389), (103, 8476), (122, 8545), (125, 8557), (135, 8605), (139, 8635), (143, 8650), (148, 8686), (153, 8713), (157, 8734), (162, 8758), (170, 8782), (174, 8788), (193, 8815), (203, 8848), (212, 8887), (219, 8914), (224, 8935), (227, 8950), (241, 8977), (242, 8980), (248, 9001), (252, 9013), (253, 9019), (266, 9067), (283, 9142), (286, 9151), (288, 9178), (291, 9199), (304, 9262), (309, 9286), (318, 9343), (335, 9448), (337, 9469), (340, 9481), (345, 9523), (348, 9544), (351, 9565), (373, 9694),

Gene: Dongwon\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Dongwon\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Donkey\_16 Start: 10243, Stop: 12663, Start Num: 6

Candidate Starts for Donkey\_16:

(Start: 6 @10243 has 24 MA's), (17, 10330), (20, 10387), (26, 10435), (29, 10447), (34, 10507), (41, 10618), (50, 10699), (63, 10825), (66, 10840), (70, 10894), (90, 11068), (105, 11152), (109, 11173), (115, 11194), (120, 11215), (127, 11266), (139, 11341), (144, 11362), (147, 11395), (158, 11452), (163, 11494), (168, 11509), (179, 11560), (188, 11596), (212, 11704), (217, 11725), (225, 11767), (228, 11779), (240, 11833), (252, 11881), (266, 11977), (294, 12133), (297, 12154), (298, 12166), (311, 12217), (333, 12367), (339, 12403), (350, 12484), (369, 12595),

Gene: Dooby\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Dooby\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Douggie\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Douggie\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: DrRobert\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for DrRobert\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (49, 10173), (56, 10269), (57, 10272), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (189, 11079), (191, 11088), (203, 11136), (209,

11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (292, 11595), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (327, 11802), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: DreamTeam\_14 Start: 9784, Stop: 12330, Start Num: 5

Candidate Starts for DreamTeam\_14:

(3, 9763), (Start: 5 @9784 has 83 MA's), (10, 9832), (18, 9913), (24, 9967), (30, 10009), (34, 10057), (35, 10072), (36, 10078), (49, 10240), (52, 10285), (56, 10336), (57, 10339), (79, 10564), (82, 10585), (92, 10639), (97, 10657), (98, 10660), (102, 10690), (163, 11026), (175, 11080), (177, 11086), (182, 11104), (184, 11110), (194, 11155), (202, 11188), (203, 11191), (214, 11239), (215, 11242), (218, 11254), (220, 11263), (229, 11308), (231, 11317), (236, 11338), (240, 11350), (241, 11353), (246, 11377), (247, 11383), (248, 11389), (252, 11410), (253, 11416), (256, 11437), (259, 11461), (260, 11470), (263, 11488), (267, 11509), (268, 11515), (277, 11560), (278, 11563), (280, 11572), (281, 11575), (296, 11674), (297, 11680), (308, 11734), (322, 11824), (342, 11956), (343, 11959), (349, 12013), (356, 12052), (358, 12070), (362, 12100), (364, 12109), (372, 12151), (384, 12271),

Gene: ELee24\_11 Start: 7568, Stop: 9673, Start Num: 11

Candidate Starts for ELee24\_11:

(Start: 11 @7568 has 124 MA's), (12, 7583), (Start: 13 @7589 has 3 MA's), (19, 7649), (32, 7766), (34, 7775), (37, 7799), (39, 7871), (42, 7895), (51, 7994), (55, 8051), (58, 8072), (63, 8093), (83, 8300), (86, 8318), (103, 8405), (122, 8474), (125, 8486), (129, 8507), (133, 8525), (135, 8534), (143, 8579), (148, 8615), (157, 8663), (158, 8666), (174, 8717), (195, 8750), (203, 8777), (212, 8816), (219, 8843), (224, 8864), (227, 8879), (248, 8930), (252, 8942), (253, 8948), (255, 8960), (281, 9062), (283, 9071), (286, 9080), (288, 9107), (304, 9191), (309, 9215), (337, 9398), (340, 9410), (345, 9452), (348, 9473), (351, 9494), (373, 9623),

Gene: EdElric\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for EdElric\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Efeko\_13 Start: 7413, Stop: 9512, Start Num: 11

Candidate Starts for Efeko\_13:

(Start: 11 @7413 has 124 MA's), (28, 7557), (30, 7572), (31, 7602), (34, 7620), (37, 7644), (39, 7716), (42, 7740), (44, 7746), (51, 7839), (58, 7917), (60, 7929), (63, 7938), (83, 8145), (88, 8169), (90, 8178), (95, 8205), (103, 8250), (119, 8295), (144, 8430), (152, 8478), (155, 8490), (160, 8523), (170, 8556), (174, 8562), (176, 8577), (196, 8598), (212, 8661), (214, 8670), (221, 8694), (223, 8700), (224, 8709), (235, 8730), (241, 8751), (242, 8754), (248, 8775), (252, 8787), (253, 8793), (262, 8820), (266, 8841), (271, 8868), (281, 8907), (286, 8925), (288, 8952), (291, 8973), (304, 9036), (305, 9039), (309, 9060), (317, 9105), (326, 9171), (335, 9222), (337, 9243), (340, 9255), (345, 9297), (366, 9420), (367, 9426),

Gene: Eightball\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Eightball\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296),

(103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Ekko14\_12 Start: 7529, Stop: 9634, Start Num: 11

Candidate Starts for Ekko14\_12:

(Start: 11 @7529 has 124 MA's), (Start: 13 @7550 has 3 MA's), (32, 7727), (34, 7736), (37, 7760), (39, 7832), (42, 7856), (51, 7955), (58, 8033), (60, 8045), (63, 8054), (83, 8261), (86, 8279), (103, 8366), (122, 8435), (125, 8447), (135, 8495), (139, 8525), (143, 8540), (157, 8624), (158, 8627), (162, 8648), (174, 8678), (193, 8705), (203, 8738), (212, 8777), (219, 8804), (221, 8810), (224, 8825), (227, 8840), (242, 8870), (248, 8891), (252, 8903), (253, 8909), (266, 8957), (274, 8993), (286, 9041), (288, 9068), (291, 9089), (304, 9152), (309, 9176), (318, 9233), (335, 9338), (337, 9359), (345, 9413), (348, 9434), (351, 9455),

Gene: Elspeth\_12 Start: 7529, Stop: 9634, Start Num: 11

Candidate Starts for Elspeth\_12:

(Start: 11 @7529 has 124 MA's), (Start: 13 @7550 has 3 MA's), (32, 7727), (34, 7736), (37, 7760), (39, 7832), (42, 7856), (51, 7955), (58, 8033), (60, 8045), (63, 8054), (83, 8261), (86, 8279), (103, 8366), (122, 8435), (125, 8447), (135, 8495), (139, 8525), (143, 8540), (157, 8624), (158, 8627), (162, 8648), (174, 8678), (193, 8705), (203, 8738), (212, 8777), (219, 8804), (221, 8810), (224, 8825), (227, 8840), (242, 8870), (248, 8891), (252, 8903), (253, 8909), (266, 8957), (274, 8993), (286, 9041), (288, 9068), (291, 9089), (304, 9152), (309, 9176), (318, 9233), (335, 9338), (337, 9359), (345, 9413), (348, 9434), (351, 9455),

Gene: Erin\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Erin\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: EstebanJulior\_14 Start: 9752, Stop: 12301, Start Num: 5

Candidate Starts for EstebanJulior\_14:

(2, 9722), (Start: 5 @9752 has 83 MA's), (18, 9881), (21, 9917), (34, 10025), (35, 10040), (47, 10187), (49, 10208), (56, 10304), (68, 10394), (76, 10487), (91, 10598), (102, 10658), (104, 10667), (153, 10940), (163, 10994), (171, 11027), (175, 11048), (177, 11054), (182, 11072), (203, 11159), (218, 11222), (229, 11276), (231, 11285), (236, 11306), (240, 11318), (241, 11321), (246, 11345), (247, 11351), (248, 11357), (250, 11366), (252, 11378), (253, 11384), (256, 11405), (260, 11438), (262, 11453), (263, 11456), (267, 11477), (268, 11483), (270, 11495), (277, 11528), (278, 11531), (280, 11540), (281, 11543), (285, 11558), (296, 11642), (304, 11681), (322, 11792), (324, 11804), (331, 11849), (342, 11924), (343, 11927), (349, 11981), (362, 12068), (364, 12077), (368, 12101), (371, 12113), (376, 12170), (377, 12176), (384, 12242), (386, 12284),

Gene: Eunoia\_14 Start: 9738, Stop: 12296, Start Num: 5

Candidate Starts for Eunoia\_14:

(Start: 5 @9738 has 83 MA's), (7, 9747), (8, 9777), (18, 9867), (30, 9963), (33, 10008), (35, 10026), (49, 10194), (56, 10290), (57, 10293), (58, 10308), (69, 10395), (93, 10599), (94, 10602), (110, 10686), (163, 10992), (177, 11052), (182, 11070), (184, 11076), (191, 11109), (194, 11121), (203, 11157),



(209, 11184), (215, 11208), (216, 11214), (228, 11271), (234, 11295), (236, 11304), (241, 11319), (246, 11343), (248, 11355), (252, 11376), (253, 11382), (256, 11403), (259, 11427), (260, 11436), (263, 11454), (267, 11475), (268, 11481), (270, 11493), (277, 11526), (278, 11529), (281, 11541), (285, 11556), (286, 11559), (297, 11646), (315, 11736), (316, 11739), (322, 11790), (331, 11847), (332, 11856), (334, 11868), (342, 11922), (343, 11925), (349, 11979), (356, 12018), (362, 12066), (364, 12075), (368, 12099), (371, 12111), (382, 12207), (384, 12237),

Gene: Floof\_15 Start: 9530, Stop: 12451, Start Num: 6

Candidate Starts for Floof\_15:

(Start: 6 @9530 has 24 MA's), (26, 9713), (30, 9737), (31, 9767), (37, 9809), (45, 9917), (50, 9977), (66, 10118), (70, 10172), (81, 10307), (86, 10331), (87, 10334), (101, 10403), (113, 10460), (122, 10505), (124, 10511), (135, 10577), (159, 10724), (169, 10772), (194, 10883), (218, 10988), (243, 11099), (275, 11294), (284, 11330), (290, 11372), (293, 11396), (302, 11450), (304, 11456), (306, 11468), (338, 11666), (341, 11678), (343, 11696), (359, 11798), (375, 11900), (378, 11945), (387, 12077), (388, 12179), (389, 12191), (390, 12236), (391, 12245), (392, 12317), (394, 12380), (395, 12416),

Gene: Fluke\_18 Start: 12615, Stop: 15176, Start Num: 5

Candidate Starts for Fluke\_18:

(3, 12594), (Start: 5 @12615 has 83 MA's), (10, 12663), (14, 12696), (18, 12744), (20, 12768), (21, 12780), (30, 12840), (34, 12888), (35, 12903), (36, 12909), (46, 13029), (49, 13071), (56, 13167), (57, 13170), (61, 13200), (67, 13254), (79, 13395), (82, 13416), (87, 13440), (91, 13461), (92, 13470), (102, 13521), (106, 13539), (139, 13725), (163, 13869), (171, 13902), (177, 13929), (182, 13947), (184, 13953), (189, 13977), (191, 13986), (203, 14034), (209, 14061), (216, 14091), (218, 14097), (228, 14148), (232, 14163), (235, 14175), (236, 14181), (237, 14184), (240, 14193), (246, 14220), (248, 14232), (250, 14241), (252, 14253), (253, 14259), (256, 14280), (259, 14304), (260, 14313), (267, 14352), (270, 14370), (277, 14403), (278, 14406), (280, 14415), (281, 14418), (285, 14433), (297, 14523), (305, 14559), (322, 14667), (328, 14703), (342, 14799), (343, 14802), (349, 14856), (356, 14895), (362, 14943), (364, 14952), (368, 14976), (372, 14994), (376, 15045), (379, 15069), (382, 15087), (384, 15117),

Gene: Gabbspett\_12 Start: 7641, Stop: 9746, Start Num: 11

Candidate Starts for Gabbspett\_12:

(Start: 11 @7641 has 124 MA's), (Start: 13 @7662 has 3 MA's), (32, 7839), (34, 7848), (37, 7872), (39, 7944), (42, 7968), (44, 7974), (55, 8124), (58, 8145), (60, 8157), (63, 8166), (83, 8373), (86, 8391), (103, 8478), (122, 8547), (125, 8559), (135, 8607), (139, 8637), (143, 8652), (148, 8688), (153, 8715), (157, 8736), (162, 8760), (170, 8784), (174, 8790), (193, 8817), (203, 8850), (212, 8889), (219, 8916), (224, 8937), (227, 8952), (241, 8979), (242, 8982), (248, 9003), (252, 9015), (253, 9021), (266, 9069), (283, 9144), (286, 9153), (288, 9180), (291, 9201), (304, 9264), (309, 9288), (318, 9345), (335, 9450), (337, 9471), (340, 9483), (345, 9525), (348, 9546), (351, 9567),

Gene: Gambol\_16 Start: 10243, Stop: 12663, Start Num: 6

Candidate Starts for Gambol\_16:

(Start: 6 @10243 has 24 MA's), (17, 10330), (20, 10387), (26, 10435), (29, 10447), (34, 10507), (41, 10618), (50, 10699), (63, 10825), (66, 10840), (70, 10894), (90, 11068), (105, 11152), (109, 11173), (115, 11194), (120, 11215), (127, 11266), (139, 11341), (144, 11362), (147, 11395), (158, 11452), (163, 11494), (168, 11509), (179, 11560), (188, 11596), (212, 11704), (217, 11725), (225, 11767), (228, 11779), (240, 11833), (252, 11881), (266, 11977), (294, 12133), (297, 12154), (298, 12166), (311, 12217), (333, 12367), (339, 12403), (350, 12484), (369, 12595),

Gene: GardenState\_15 Start: 10196, Stop: 12547, Start Num: 6

Candidate Starts for GardenState\_15:

(Start: 6 @10196 has 24 MA's), (26, 10379), (45, 10595), (50, 10655), (55, 10739), (63, 10781), (70, 10850), (75, 10913), (86, 11009), (87, 11012), (99, 11063), (106, 11114), (130, 11228), (131, 11237), (138, 11276), (176, 11465), (197, 11549), (206, 11588), (211, 11609), (228, 11684), (249, 11786), (255, 11819), (280, 11933), (284, 11948), (286, 11954), (312, 12104), (318, 12149), (319, 12155), (336, 12266), (342, 12305), (351, 12371),

Gene: Gardevoir\_12 Start: 7574, Stop: 9679, Start Num: 11

Candidate Starts for Gardevoir\_12:

(Start: 11 @7574 has 124 MA's), (Start: 13 @7595 has 3 MA's), (32, 7772), (34, 7781), (37, 7805), (39, 7877), (42, 7901), (44, 7907), (55, 8057), (58, 8078), (60, 8090), (63, 8099), (83, 8306), (86, 8324), (103, 8411), (122, 8480), (125, 8492), (135, 8540), (139, 8570), (143, 8585), (148, 8621), (153, 8648), (157, 8669), (162, 8693), (170, 8717), (174, 8723), (193, 8750), (203, 8783), (212, 8822), (219, 8849), (224, 8870), (227, 8885), (241, 8912), (242, 8915), (248, 8936), (252, 8948), (253, 8954), (266, 9002), (274, 9038), (286, 9086), (288, 9113), (291, 9134), (304, 9197), (309, 9221), (318, 9278), (335, 9383), (337, 9404), (340, 9416), (345, 9458), (348, 9479), (351, 9500), (373, 9629),

Gene: Gillker\_12 Start: 7539, Stop: 9644, Start Num: 11

Candidate Starts for Gillker\_12:

(Start: 11 @7539 has 124 MA's), (Start: 13 @7560 has 3 MA's), (32, 7737), (34, 7746), (37, 7770), (39, 7842), (42, 7866), (44, 7872), (55, 8022), (58, 8043), (60, 8055), (63, 8064), (83, 8271), (86, 8289), (103, 8376), (122, 8445), (125, 8457), (135, 8505), (139, 8535), (143, 8550), (148, 8586), (153, 8613), (157, 8634), (162, 8658), (170, 8682), (174, 8688), (193, 8715), (203, 8748), (212, 8787), (219, 8814), (224, 8835), (227, 8850), (241, 8877), (242, 8880), (248, 8901), (252, 8913), (253, 8919), (266, 8967), (274, 9003), (286, 9051), (288, 9078), (291, 9099), (304, 9162), (309, 9186), (318, 9243), (335, 9348), (337, 9369), (340, 9381), (345, 9423), (348, 9444), (351, 9465), (373, 9594),

Gene: Giorgio\_16 Start: 10343, Stop: 12763, Start Num: 6

Candidate Starts for Giorgio\_16:

(Start: 6 @10343 has 24 MA's), (17, 10430), (26, 10535), (29, 10547), (34, 10607), (41, 10718), (50, 10799), (63, 10925), (66, 10940), (70, 10994), (90, 11168), (105, 11252), (109, 11273), (120, 11315), (139, 11441), (144, 11462), (147, 11495), (158, 11552), (163, 11594), (168, 11609), (179, 11660), (188, 11696), (189, 11702), (212, 11804), (217, 11825), (225, 11867), (238, 11927), (240, 11933), (252, 11981), (266, 12077), (294, 12233), (297, 12254), (298, 12266), (311, 12317), (333, 12467), (339, 12503), (350, 12584), (365, 12671), (369, 12695),

Gene: Gisselle\_14 Start: 9784, Stop: 12330, Start Num: 5

Candidate Starts for Gisselle\_14:

(3, 9763), (Start: 5 @9784 has 83 MA's), (10, 9832), (18, 9913), (24, 9967), (30, 10009), (34, 10057), (35, 10072), (36, 10078), (49, 10240), (52, 10285), (56, 10336), (57, 10339), (79, 10564), (82, 10585), (92, 10639), (97, 10657), (98, 10660), (102, 10690), (163, 11026), (175, 11080), (177, 11086), (182, 11104), (184, 11110), (194, 11155), (202, 11188), (203, 11191), (214, 11239), (215, 11242), (218, 11254), (220, 11263), (229, 11308), (231, 11317), (236, 11338), (240, 11350), (241, 11353), (246, 11377), (247, 11383), (248, 11389), (252, 11410), (253, 11416), (256, 11437), (259, 11461), (260, 11470), (263, 11488), (267, 11509), (268, 11515), (277, 11560), (278, 11563), (280, 11572), (281, 11575), (296, 11674), (297, 11680), (308, 11734), (322, 11824), (342, 11956), (343, 11959), (349, 12013), (356, 12052), (358, 12070), (362, 12100), (364, 12109), (372, 12151), (384, 12271),

Gene: Glenn\_18 Start: 12624, Stop: 15185, Start Num: 5

Candidate Starts for Glenn\_18:

(3, 12603), (Start: 5 @12624 has 83 MA's), (10, 12672), (14, 12705), (18, 12753), (20, 12777), (21, 12789), (30, 12849), (34, 12897), (35, 12912), (36, 12918), (46, 13038), (49, 13080), (56, 13176), (57, 13179), (61, 13209), (67, 13263), (79, 13404), (82, 13425), (87, 13449), (91, 13470), (92, 13479), (102, 13530), (106, 13548), (139, 13734), (163, 13878), (171, 13911), (177, 13938), (182, 13956), (184,

13962), (189, 13986), (191, 13995), (203, 14043), (209, 14070), (216, 14100), (218, 14106), (228, 14157), (232, 14172), (235, 14184), (236, 14190), (237, 14193), (240, 14202), (246, 14229), (248, 14241), (250, 14250), (252, 14262), (253, 14268), (256, 14289), (259, 14313), (260, 14322), (267, 14361), (270, 14379), (277, 14412), (278, 14415), (280, 14424), (281, 14427), (285, 14442), (297, 14532), (305, 14568), (322, 14676), (328, 14712), (342, 14808), (343, 14811), (349, 14865), (356, 14904), (362, 14952), (364, 14961), (368, 14985), (372, 15003), (376, 15054), (379, 15078), (382, 15096), (384, 15126),

Gene: Godfather\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Godfather\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: GoldenBlanche\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for GoldenBlanche\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Goobery\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Goobery\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: GreenHearts\_18 Start: 12707, Stop: 15268, Start Num: 5

Candidate Starts for GreenHearts\_18:

(3, 12686), (Start: 5 @12707 has 83 MA's), (15, 12797), (18, 12836), (21, 12872), (30, 12932), (34, 12980), (35, 12995), (49, 13163), (52, 13208), (56, 13259), (57, 13262), (67, 13346), (87, 13532), (93, 13568), (97, 13580), (104, 13622), (157, 13931), (177, 14024), (182, 14042), (184, 14048), (203, 14129), (204, 14135), (211, 14162), (218, 14192), (231, 14255), (235, 14270), (237, 14279), (238, 14282), (241, 14291), (246, 14315), (248, 14327), (249, 14333), (252, 14348), (253, 14354), (254, 14357), (257, 14378), (258, 14393), (260, 14408), (263, 14426), (265, 14432), (267, 14447), (269, 14456), (270, 14465), (277, 14498), (278, 14501), (281, 14513), (282, 14519), (286, 14531), (294, 14597), (296, 14612), (301, 14642), (304, 14651), (322, 14762), (328, 14798), (331, 14819), (342, 14894), (343, 14897), (349, 14951), (356, 14990), (364, 15047), (368, 15071), (374, 15113), (376, 15140), (384, 15209),

Gene: Greenhouse\_18 Start: 12631, Stop: 15192, Start Num: 5

Candidate Starts for Greenhouse\_18:

(3, 12610), (Start: 5 @12631 has 83 MA's), (15, 12721), (18, 12760), (25, 12817), (30, 12856), (34, 12904), (35, 12919), (49, 13087), (52, 13132), (56, 13183), (61, 13216), (79, 13411), (91, 13477), (93, 13492), (97, 13504), (104, 13546), (126, 13657), (139, 13744), (157, 13855), (163, 13888), (177, 13948), (184, 13972), (185, 13975), (203, 14053), (204, 14059), (205, 14062), (211, 14086), (218, 14116), (231, 14179), (235, 14194), (236, 14200), (237, 14203), (241, 14215), (246, 14239), (248, 14251), (249, 14257), (252, 14272), (253, 14278), (254, 14281), (257, 14302), (258, 14317), (260, 14332), (263, 14350), (265, 14356), (267, 14371), (269, 14380), (277, 14422), (278, 14425), (281, 14437), (282, 14443), (286, 14455), (291, 14503), (294, 14521), (296, 14536), (301, 14566), (304, 14575), (322, 14686), (328, 14722), (331, 14743), (342, 14818), (343, 14821), (349, 14875), (356, 14914), (364, 14971), (368, 14995), (374, 15037), (376, 15064), (384, 15133),

Gene: Gretchen\_15 Start: 11056, Stop: 13977, Start Num: 6

Candidate Starts for Gretchen\_15:

(Start: 6 @11056 has 24 MA's), (26, 11239), (30, 11263), (37, 11335), (45, 11443), (50, 11503), (70, 11698), (81, 11833), (86, 11857), (87, 11860), (113, 11986), (118, 11995), (124, 12037), (135, 12103), (159, 12250), (170, 12310), (194, 12409), (205, 12460), (212, 12490), (232, 12574), (243, 12625), (248, 12658), (284, 12856), (297, 12949), (302, 12976), (310, 13009), (314, 13030), (318, 13063), (322, 13093), (330, 13141), (338, 13192), (359, 13324), (378, 13471), (387, 13603), (388, 13705), (390, 13762), (391, 13771), (393, 13864), (394, 13906), (395, 13942),

Gene: Gumpizza\_16 Start: 10336, Stop: 12756, Start Num: 6

Candidate Starts for Gumpizza\_16:

(Start: 6 @10336 has 24 MA's), (17, 10423), (26, 10528), (29, 10540), (34, 10600), (41, 10711), (50, 10792), (63, 10918), (66, 10933), (70, 10987), (90, 11161), (105, 11245), (109, 11266), (120, 11308), (139, 11434), (144, 11455), (147, 11488), (158, 11545), (163, 11587), (168, 11602), (179, 11653), (188, 11689), (189, 11695), (212, 11797), (217, 11818), (225, 11860), (238, 11920), (240, 11926), (252, 11974), (266, 12070), (294, 12226), (297, 12247), (298, 12259), (311, 12310), (333, 12460), (339, 12496), (365, 12664), (369, 12688),

Gene: Halsey\_16 Start: 10335, Stop: 12755, Start Num: 6

Candidate Starts for Halsey\_16:

(Start: 6 @10335 has 24 MA's), (17, 10422), (26, 10527), (29, 10539), (34, 10599), (41, 10710), (50, 10791), (63, 10917), (66, 10932), (70, 10986), (90, 11160), (105, 11244), (109, 11265), (120, 11307), (139, 11433), (144, 11454), (147, 11487), (158, 11544), (163, 11586), (168, 11601), (179, 11652), (188, 11688), (189, 11694), (212, 11796), (217, 11817), (225, 11859), (238, 11919), (240, 11925), (252, 11973), (266, 12069), (297, 12246), (298, 12258), (311, 12309), (322, 12390), (333, 12459), (339, 12495), (350, 12576), (354, 12591), (365, 12663), (369, 12687),

Gene: HarperAnne\_12 Start: 7528, Stop: 9633, Start Num: 11

Candidate Starts for HarperAnne\_12:

(Start: 11 @7528 has 124 MA's), (Start: 13 @7549 has 3 MA's), (32, 7726), (34, 7735), (37, 7759), (39, 7831), (42, 7855), (51, 7954), (58, 8032), (60, 8044), (63, 8053), (83, 8260), (86, 8278), (103, 8365), (122, 8434), (125, 8446), (135, 8494), (139, 8524), (143, 8539), (157, 8623), (158, 8626), (162, 8647), (174, 8677), (193, 8704), (203, 8737), (212, 8776), (219, 8803), (221, 8809), (224, 8824), (227, 8839), (242, 8869), (248, 8890), (252, 8902), (253, 8908), (266, 8956), (274, 8992), (286, 9040), (288, 9067), (291, 9088), (304, 9151), (309, 9175), (318, 9232), (335, 9337), (337, 9358), (345, 9412), (348, 9433), (351, 9454),

Gene: HeadMave\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for HeadMave\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620),

(157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: HeadNerd\_14 Start: 9720, Stop: 12287, Start Num: 5

Candidate Starts for HeadNerd\_14:

(3, 9699), (Start: 5 @9720 has 83 MA's), (10, 9768), (18, 9849), (20, 9873), (30, 9945), (34, 9993), (35, 10008), (36, 10014), (49, 10176), (55, 10269), (56, 10272), (57, 10275), (61, 10305), (68, 10362), (79, 10500), (82, 10521), (91, 10566), (97, 10593), (102, 10626), (106, 10644), (117, 10686), (126, 10743), (171, 11007), (177, 11034), (182, 11052), (184, 11058), (189, 11082), (194, 11103), (203, 11139), (209, 11166), (216, 11196), (218, 11202), (228, 11253), (236, 11286), (246, 11325), (247, 11331), (248, 11337), (250, 11346), (252, 11358), (253, 11364), (257, 11388), (259, 11409), (260, 11418), (267, 11457), (270, 11475), (277, 11508), (278, 11511), (281, 11523), (285, 11538), (291, 11589), (296, 11622), (298, 11640), (305, 11664), (313, 11706), (322, 11772), (324, 11784), (331, 11829), (342, 11904), (343, 11907), (349, 11961), (356, 12000), (360, 12027), (364, 12057), (367, 12069), (368, 12081), (370, 12090), (376, 12156), (382, 12198), (384, 12228),

Gene: Herb\_14 Start: 9744, Stop: 12302, Start Num: 5

Candidate Starts for Herb\_14:

(Start: 5 @9744 has 83 MA's), (7, 9753), (8, 9783), (18, 9873), (21, 9909), (34, 10017), (35, 10032), (49, 10200), (56, 10296), (87, 10569), (91, 10590), (98, 10620), (102, 10650), (121, 10737), (140, 10860), (151, 10935), (163, 10998), (171, 11031), (175, 11052), (177, 11058), (182, 11076), (184, 11082), (189, 11106), (200, 11148), (203, 11163), (204, 11169), (211, 11196), (222, 11247), (229, 11280), (231, 11289), (236, 11310), (240, 11322), (246, 11349), (248, 11361), (250, 11370), (252, 11382), (253, 11388), (254, 11391), (257, 11412), (260, 11442), (263, 11460), (267, 11481), (269, 11490), (270, 11499), (277, 11532), (278, 11535), (281, 11547), (285, 11562), (296, 11646), (297, 11652), (305, 11688), (316, 11745), (317, 11754), (322, 11796), (331, 11853), (342, 11928), (343, 11931), (346, 11961), (349, 11985), (358, 12042), (362, 12072), (364, 12081), (368, 12105), (371, 12117), (384, 12243),

Gene: Hernandez44\_12 Start: 7641, Stop: 9746, Start Num: 11

Candidate Starts for Hernandez44\_12:

(Start: 11 @7641 has 124 MA's), (Start: 13 @7662 has 3 MA's), (32, 7839), (34, 7848), (37, 7872), (39, 7944), (42, 7968), (44, 7974), (55, 8124), (58, 8145), (60, 8157), (63, 8166), (83, 8373), (86, 8391), (103, 8478), (122, 8547), (125, 8559), (135, 8607), (139, 8637), (143, 8652), (148, 8688), (153, 8715), (157, 8736), (162, 8760), (170, 8784), (174, 8790), (193, 8817), (203, 8850), (212, 8889), (219, 8916), (224, 8937), (227, 8952), (241, 8979), (242, 8982), (248, 9003), (252, 9015), (253, 9021), (266, 9069), (283, 9144), (286, 9153), (288, 9180), (291, 9201), (304, 9264), (309, 9288), (318, 9345), (335, 9450), (337, 9471), (340, 9483), (345, 9525), (348, 9546), (351, 9567),

Gene: Honk\_14 Start: 9008, Stop: 11266, Start Num: 6

Candidate Starts for Honk\_14:

(Start: 6 @9008 has 24 MA's), (22, 9167), (26, 9191), (29, 9203), (31, 9245), (37, 9287), (45, 9395), (49, 9446), (50, 9455), (60, 9572), (65, 9587), (66, 9596), (70, 9650), (75, 9713), (85, 9797), (86, 9809), (87, 9812), (89, 9821), (100, 9872), (125, 9986), (142, 10082), (148, 10124), (170, 10223), (178, 10256), (180, 10265), (203, 10349), (242, 10481), (251, 10511), (253, 10520), (274, 10604), (275, 10610), (277, 10619), (284, 10646), (286, 10652), (300, 10751), (317, 10832), (336, 10964), (342, 11003), (344, 11015), (351, 11069), (355, 11084), (357, 11111),

Gene: Horacetta\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Horacetta\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Huckleberry\_14 Start: 9720, Stop: 12287, Start Num: 5

Candidate Starts for Huckleberry\_14:

(3, 9699), (Start: 5 @9720 has 83 MA's), (10, 9768), (18, 9849), (20, 9873), (30, 9945), (34, 9993), (35, 10008), (36, 10014), (49, 10176), (55, 10269), (56, 10272), (57, 10275), (61, 10305), (68, 10362), (79, 10500), (82, 10521), (91, 10566), (97, 10593), (102, 10626), (106, 10644), (117, 10686), (126, 10743), (171, 11007), (177, 11034), (182, 11052), (184, 11058), (189, 11082), (194, 11103), (203, 11139), (209, 11166), (216, 11196), (218, 11202), (228, 11253), (236, 11286), (246, 11325), (247, 11331), (248, 11337), (250, 11346), (252, 11358), (253, 11364), (257, 11388), (259, 11409), (260, 11418), (267, 11457), (270, 11475), (277, 11508), (278, 11511), (281, 11523), (285, 11538), (291, 11589), (296, 11622), (298, 11640), (305, 11664), (313, 11706), (322, 11772), (324, 11784), (331, 11829), (342, 11904), (343, 11907), (349, 11961), (356, 12000), (360, 12027), (364, 12057), (367, 12069), (368, 12081), (370, 12090), (376, 12156), (382, 12198), (384, 12228),

Gene: Hulk\_12 Start: 7553, Stop: 9658, Start Num: 11

Candidate Starts for Hulk\_12:

(Start: 11 @7553 has 124 MA's), (Start: 13 @7574 has 3 MA's), (32, 7751), (34, 7760), (37, 7784), (39, 7856), (42, 7880), (44, 7886), (55, 8036), (58, 8057), (60, 8069), (63, 8078), (83, 8285), (86, 8303), (103, 8390), (122, 8459), (125, 8471), (135, 8519), (139, 8549), (143, 8564), (148, 8600), (153, 8627), (157, 8648), (162, 8672), (170, 8696), (174, 8702), (193, 8729), (203, 8762), (212, 8801), (219, 8828), (224, 8849), (227, 8864), (241, 8891), (242, 8894), (248, 8915), (252, 8927), (253, 8933), (266, 8981), (283, 9056), (286, 9065), (288, 9092), (291, 9113), (304, 9176), (318, 9257), (335, 9362), (337, 9383), (340, 9395), (345, 9437), (348, 9458), (351, 9479), (373, 9608),

Gene: HunterDalle\_14 Start: 9738, Stop: 12296, Start Num: 5

Candidate Starts for HunterDalle\_14:

(Start: 5 @9738 has 83 MA's), (7, 9747), (8, 9777), (18, 9867), (30, 9963), (35, 10026), (49, 10194), (56, 10290), (57, 10293), (58, 10308), (69, 10395), (74, 10461), (93, 10599), (94, 10602), (110, 10686), (163, 10992), (177, 11052), (182, 11070), (184, 11076), (191, 11109), (194, 11121), (203, 11157), (209, 11184), (215, 11208), (216, 11214), (228, 11271), (234, 11295), (236, 11304), (241, 11319), (246, 11343), (248, 11355), (252, 11376), (253, 11382), (256, 11403), (259, 11427), (260, 11436), (263, 11454), (267, 11475), (268, 11481), (270, 11493), (277, 11526), (278, 11529), (281, 11541), (285, 11556), (286, 11559), (297, 11646), (315, 11736), (316, 11739), (322, 11790), (331, 11847), (332, 11856), (334, 11868), (342, 11922), (343, 11925), (349, 11979), (356, 12018), (362, 12066), (364, 12075), (368, 12099), (371, 12111), (382, 12207), (384, 12237),

Gene: Huntingdon\_18 Start: 12617, Stop: 15178, Start Num: 5

Candidate Starts for Huntingdon\_18:

(3, 12596), (Start: 5 @12617 has 83 MA's), (15, 12707), (18, 12746), (21, 12782), (30, 12842), (35, 12905), (49, 13073), (52, 13118), (55, 13166), (56, 13169), (57, 13172), (67, 13256), (68, 13259), (79, 13397), (91, 13463), (97, 13490), (104, 13532), (157, 13841), (163, 13874), (177, 13934), (184, 13958), (203, 14039), (204, 14045), (205, 14048), (211, 14072), (218, 14102), (222, 14123), (233, 14171), (236, 14186), (241, 14201), (246, 14225), (248, 14237), (249, 14243), (252, 14258), (253, 14264), (258, 14303), (259, 14309), (260, 14318), (263, 14336), (265, 14342), (266, 14354), (267, 14357), (269, 14366), (272, 14384), (277, 14408), (278, 14411), (281, 14423), (286, 14441), (294, 14507), (296, 14522), (301, 14552), (304, 14561), (316, 14621), (322, 14672), (328, 14708), (342,

14804), (343, 14807), (349, 14861), (356, 14900), (360, 14927), (364, 14957), (368, 14981), (374, 15023), (376, 15050), (384, 15119),

Gene: IAmGroot\_15 Start: 10840, Stop: 13191, Start Num: 6

Candidate Starts for IAmGroot\_15:

(Start: 6 @10840 has 24 MA's), (26, 11023), (45, 11239), (50, 11299), (55, 11383), (63, 11425), (70, 11494), (75, 11557), (86, 11653), (87, 11656), (99, 11707), (106, 11758), (130, 11872), (131, 11881), (138, 11920), (176, 12109), (197, 12193), (206, 12232), (211, 12253), (228, 12328), (249, 12430), (251, 12442), (255, 12463), (280, 12577), (284, 12592), (286, 12598), (319, 12799), (342, 12949), (351, 13015),

Gene: Immaculata\_18 Start: 12618, Stop: 15179, Start Num: 5

Candidate Starts for Immaculata\_18:

(3, 12597), (Start: 5 @12618 has 83 MA's), (10, 12666), (14, 12699), (18, 12747), (20, 12771), (21, 12783), (30, 12843), (34, 12891), (35, 12906), (36, 12912), (46, 13032), (49, 13074), (55, 13167), (56, 13170), (57, 13173), (61, 13203), (67, 13257), (79, 13398), (82, 13419), (87, 13443), (91, 13464), (92, 13473), (102, 13524), (106, 13542), (111, 13566), (139, 13728), (163, 13872), (171, 13905), (177, 13932), (182, 13950), (184, 13956), (189, 13980), (191, 13989), (203, 14037), (209, 14064), (215, 14088), (216, 14094), (218, 14100), (228, 14151), (232, 14166), (235, 14178), (236, 14184), (237, 14187), (240, 14196), (246, 14223), (248, 14235), (250, 14244), (252, 14256), (253, 14262), (256, 14283), (260, 14316), (267, 14355), (277, 14406), (278, 14409), (280, 14418), (281, 14421), (285, 14436), (296, 14520), (297, 14526), (305, 14562), (322, 14670), (324, 14682), (328, 14706), (342, 14802), (343, 14805), (349, 14859), (356, 14898), (362, 14946), (364, 14955), (368, 14979), (372, 14997), (376, 15048), (379, 15072), (382, 15090), (384, 15120),

Gene: IzzyPants24\_11 Start: 7579, Stop: 9684, Start Num: 11

Candidate Starts for IzzyPants24\_11:

(Start: 11 @7579 has 124 MA's), (Start: 13 @7600 has 3 MA's), (32, 7777), (34, 7786), (37, 7810), (39, 7882), (42, 7906), (51, 8005), (58, 8083), (60, 8095), (63, 8104), (83, 8311), (86, 8329), (103, 8416), (122, 8485), (125, 8497), (135, 8545), (139, 8575), (143, 8590), (151, 8644), (157, 8674), (158, 8677), (162, 8698), (174, 8728), (193, 8755), (203, 8788), (212, 8827), (219, 8854), (221, 8860), (224, 8875), (227, 8890), (241, 8917), (242, 8920), (248, 8941), (252, 8953), (253, 8959), (266, 9007), (274, 9043), (286, 9091), (288, 9118), (291, 9139), (304, 9202), (309, 9226), (318, 9283), (335, 9388), (337, 9409), (345, 9463), (348, 9484), (351, 9505),

Gene: JRok\_12 Start: 7531, Stop: 9636, Start Num: 11

Candidate Starts for JRok\_12:

(Start: 11 @7531 has 124 MA's), (Start: 13 @7552 has 3 MA's), (32, 7729), (34, 7738), (37, 7762), (39, 7834), (42, 7858), (44, 7864), (55, 8014), (58, 8035), (60, 8047), (63, 8056), (83, 8263), (86, 8281), (103, 8368), (122, 8437), (125, 8449), (135, 8497), (139, 8527), (143, 8542), (153, 8605), (157, 8626), (158, 8629), (174, 8680), (193, 8707), (203, 8740), (212, 8779), (219, 8806), (224, 8827), (227, 8842), (241, 8869), (248, 8893), (252, 8905), (253, 8911), (266, 8959), (286, 9043), (288, 9070), (291, 9091), (304, 9154), (309, 9178), (314, 9202), (317, 9223), (335, 9340), (337, 9361), (340, 9373), (345, 9415), (348, 9436), (351, 9457), (373, 9586),

Gene: Jahseh\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Jahseh\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382),

(345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: JaimeB\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for JaimeB\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Jannah\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Jannah\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466),

Gene: Jella\_12 Start: 7564, Stop: 9669, Start Num: 11

Candidate Starts for Jella\_12:

(Start: 11 @7564 has 124 MA's), (Start: 13 @7585 has 3 MA's), (32, 7762), (34, 7771), (37, 7795), (39, 7867), (42, 7891), (44, 7897), (55, 8047), (58, 8068), (60, 8080), (63, 8089), (83, 8296), (86, 8314), (103, 8401), (122, 8470), (125, 8482), (135, 8530), (139, 8560), (143, 8575), (148, 8611), (153, 8638), (157, 8659), (162, 8683), (170, 8707), (174, 8713), (193, 8740), (203, 8773), (212, 8812), (219, 8839), (224, 8860), (227, 8875), (241, 8902), (242, 8905), (248, 8926), (252, 8938), (253, 8944), (266, 8992), (283, 9067), (286, 9076), (288, 9103), (291, 9124), (304, 9187), (309, 9211), (318, 9268), (335, 9373), (337, 9394), (340, 9406), (345, 9448), (348, 9469), (351, 9490),

Gene: Jerky\_12 Start: 7627, Stop: 9732, Start Num: 11

Candidate Starts for Jerky\_12:

(Start: 11 @7627 has 124 MA's), (Start: 13 @7648 has 3 MA's), (32, 7825), (34, 7834), (37, 7858), (39, 7930), (42, 7954), (44, 7960), (55, 8110), (58, 8131), (60, 8143), (63, 8152), (83, 8359), (86, 8377), (103, 8464), (122, 8533), (125, 8545), (135, 8593), (139, 8623), (143, 8638), (153, 8701), (157, 8722), (162, 8746), (170, 8770), (174, 8776), (193, 8803), (203, 8836), (212, 8875), (219, 8902), (224, 8923), (227, 8938), (241, 8965), (242, 8968), (248, 8989), (252, 9001), (253, 9007), (266, 9055), (274, 9091), (283, 9130), (286, 9139), (288, 9166), (291, 9187), (304, 9250), (309, 9274), (318, 9331), (335, 9436), (337, 9457), (340, 9469), (345, 9511), (348, 9532), (351, 9553), (373, 9682),

Gene: JoBros\_12 Start: 7541, Stop: 9646, Start Num: 11

Candidate Starts for JoBros\_12:

(Start: 11 @7541 has 124 MA's), (Start: 13 @7562 has 3 MA's), (32, 7739), (34, 7748), (37, 7772), (39, 7844), (42, 7868), (44, 7874), (55, 8024), (58, 8045), (60, 8057), (63, 8066), (83, 8273), (86, 8291), (103, 8378), (122, 8447), (125, 8459), (135, 8507), (139, 8537), (143, 8552), (148, 8588), (153, 8615), (157, 8636), (162, 8660), (170, 8684), (174, 8690), (193, 8717), (203, 8750), (212, 8789), (219, 8816), (224, 8837), (227, 8852), (241, 8879), (242, 8882), (248, 8903), (252, 8915), (253, 8921), (266, 8969), (274, 9005), (286, 9053), (288, 9080), (291, 9101), (304, 9164), (309, 9188), (318, 9245), (335, 9350), (337, 9371), (340, 9383), (345, 9425), (348, 9446), (351, 9467), (373, 9596),

Gene: Joann\_18 Start: 12611, Stop: 15172, Start Num: 5



Candidate Starts for Joann\_18:

(3, 12590), (Start: 5 @12611 has 83 MA's), (15, 12701), (18, 12740), (21, 12776), (30, 12836), (34, 12884), (35, 12899), (49, 13067), (52, 13112), (56, 13163), (57, 13166), (67, 13250), (91, 13457), (92, 13466), (97, 13484), (104, 13526), (157, 13835), (163, 13868), (177, 13928), (184, 13952), (203, 14033), (204, 14039), (205, 14042), (211, 14066), (218, 14096), (222, 14117), (236, 14180), (241, 14195), (246, 14219), (248, 14231), (249, 14237), (252, 14252), (253, 14258), (254, 14261), (257, 14282), (258, 14297), (260, 14312), (263, 14330), (265, 14336), (267, 14351), (269, 14360), (270, 14369), (277, 14402), (278, 14405), (281, 14417), (282, 14423), (286, 14435), (294, 14501), (296, 14516), (316, 14615), (322, 14666), (324, 14678), (327, 14699), (342, 14798), (343, 14801), (349, 14855), (356, 14894), (364, 14951), (368, 14975), (374, 15017), (376, 15044), (384, 15113),

Gene: JooneeDee\_12 Start: 7572, Stop: 9677, Start Num: 11

Candidate Starts for JooneeDee\_12:

(1, 7476), (Start: 11 @7572 has 124 MA's), (Start: 13 @7593 has 3 MA's), (29, 7719), (32, 7770), (34, 7779), (37, 7803), (39, 7875), (42, 7899), (51, 7998), (58, 8076), (60, 8088), (63, 8097), (83, 8304), (86, 8322), (103, 8409), (122, 8478), (125, 8490), (135, 8538), (139, 8568), (143, 8583), (151, 8637), (157, 8667), (158, 8670), (162, 8691), (174, 8721), (193, 8748), (203, 8781), (212, 8820), (219, 8847), (221, 8853), (224, 8868), (227, 8883), (241, 8910), (242, 8913), (248, 8934), (252, 8946), (253, 8952), (266, 9000), (274, 9036), (286, 9084), (288, 9111), (291, 9132), (304, 9195), (309, 9219), (318, 9276), (335, 9381), (337, 9402), (340, 9414), (345, 9456), (348, 9477), (351, 9498),

Gene: Josuke\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Josuke\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Jumboset\_18 Start: 12567, Stop: 15128, Start Num: 5

Candidate Starts for Jumboset\_18:

(3, 12546), (Start: 5 @12567 has 83 MA's), (10, 12615), (14, 12648), (18, 12696), (20, 12720), (21, 12732), (30, 12792), (34, 12840), (35, 12855), (36, 12861), (46, 12981), (49, 13023), (56, 13119), (57, 13122), (61, 13152), (67, 13206), (68, 13209), (79, 13347), (82, 13368), (87, 13392), (91, 13413), (92, 13422), (102, 13473), (106, 13491), (139, 13677), (163, 13821), (171, 13854), (177, 13881), (182, 13899), (184, 13905), (189, 13929), (191, 13938), (203, 13986), (209, 14013), (210, 14016), (215, 14037), (216, 14043), (218, 14049), (228, 14100), (232, 14115), (235, 14127), (236, 14133), (237, 14136), (240, 14145), (246, 14172), (248, 14184), (250, 14193), (252, 14205), (253, 14211), (256, 14232), (260, 14265), (267, 14304), (277, 14355), (278, 14358), (280, 14367), (281, 14370), (285, 14385), (297, 14475), (305, 14511), (322, 14619), (328, 14655), (342, 14751), (343, 14754), (349, 14808), (356, 14847), (362, 14895), (364, 14904), (368, 14928), (372, 14946), (376, 14997), (379, 15021), (382, 15039), (384, 15069),

Gene: Kaijohn\_12 Start: 7545, Stop: 9650, Start Num: 11

Candidate Starts for Kaijohn\_12:

(Start: 11 @7545 has 124 MA's), (Start: 13 @7566 has 3 MA's), (32, 7743), (34, 7752), (37, 7776), (39, 7848), (42, 7872), (44, 7878), (51, 7971), (55, 8028), (58, 8049), (60, 8061), (63, 8070), (83, 8277), (86, 8295), (103, 8382), (122, 8451), (125, 8463), (135, 8511), (139, 8541), (143, 8556), (148, 8592), (153, 8619), (157, 8640), (162, 8664), (170, 8688), (174, 8694), (193, 8721), (203, 8754), (212, 8793), (219, 8820), (224, 8841), (227, 8856), (241, 8883), (242, 8886), (248, 8907), (252, 8919), (253, 8925), (266, 8973), (286, 9057), (288, 9084), (291, 9105), (304, 9168), (318, 9249), (335, 9354), (340, 9387), (345,

9429), (348, 9450), (351, 9471), (373, 9600),

Gene: Kalimba\_16 Start: 10244, Stop: 12664, Start Num: 6

Candidate Starts for Kalimba\_16:

(Start: 6 @10244 has 24 MA's), (17, 10331), (20, 10388), (26, 10436), (29, 10448), (34, 10508), (41, 10619), (50, 10700), (63, 10826), (66, 10841), (70, 10895), (90, 11069), (105, 11153), (109, 11174), (115, 11195), (120, 11216), (127, 11267), (139, 11342), (144, 11363), (147, 11396), (158, 11453), (163, 11495), (168, 11510), (179, 11561), (188, 11597), (212, 11705), (217, 11726), (225, 11768), (228, 11780), (240, 11834), (252, 11882), (266, 11978), (294, 12134), (297, 12155), (298, 12167), (311, 12218), (333, 12368), (339, 12404), (344, 12437), (369, 12596),

Gene: Kalizoi\_18 Start: 12566, Stop: 15127, Start Num: 5

Candidate Starts for Kalizoi\_18:

(3, 12545), (Start: 5 @12566 has 83 MA's), (10, 12614), (14, 12647), (18, 12695), (20, 12719), (21, 12731), (30, 12791), (34, 12839), (35, 12854), (36, 12860), (46, 12980), (49, 13022), (56, 13118), (57, 13121), (61, 13151), (67, 13205), (79, 13346), (82, 13367), (87, 13391), (91, 13412), (92, 13421), (102, 13472), (106, 13490), (139, 13676), (163, 13820), (171, 13853), (177, 13880), (182, 13898), (184, 13904), (189, 13928), (191, 13937), (203, 13985), (209, 14012), (210, 14015), (215, 14036), (218, 14048), (228, 14099), (232, 14114), (235, 14126), (237, 14135), (240, 14144), (246, 14171), (248, 14183), (250, 14192), (252, 14204), (253, 14210), (256, 14231), (259, 14255), (260, 14264), (267, 14303), (277, 14354), (278, 14357), (280, 14366), (281, 14369), (285, 14384), (297, 14474), (305, 14510), (322, 14618), (328, 14654), (342, 14750), (343, 14753), (349, 14807), (356, 14846), (362, 14894), (364, 14903), (368, 14927), (372, 14945), (376, 14996), (379, 15020), (382, 15038), (384, 15068),

Gene: KayPaulus\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for KayPaulus\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: Kevanna\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Kevanna\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: KillerTomato\_12 Start: 7586, Stop: 9691, Start Num: 11

Candidate Starts for KillerTomato\_12:

(Start: 11 @7586 has 124 MA's), (Start: 13 @7607 has 3 MA's), (32, 7784), (34, 7793), (37, 7817), (39, 7889), (42, 7913), (44, 7919), (51, 8012), (55, 8069), (58, 8090), (60, 8102), (63, 8111), (83, 8318), (86, 8336), (103, 8423), (122, 8492), (125, 8504), (135, 8552), (139, 8582), (143, 8597), (148, 8633), (153, 8660), (158, 8684), (162, 8705), (170, 8729), (174, 8735), (193, 8762), (203, 8795), (212, 8834), (219, 8861), (224, 8882), (227, 8897), (241, 8924), (242, 8927), (248, 8948), (252, 8960), (253, 8966), (266, 9014), (274, 9050), (286, 9098), (288, 9125), (291, 9146), (304, 9209), (309, 9233), (318, 9290), (335,

9395), (337, 9416), (340, 9428), (345, 9470), (348, 9491), (351, 9512), (373, 9641),

Gene: KingBob\_14 Start: 9744, Stop: 12302, Start Num: 5

Candidate Starts for KingBob\_14:

(Start: 5 @9744 has 83 MA's), (7, 9753), (8, 9783), (18, 9873), (21, 9909), (34, 10017), (35, 10032), (49, 10200), (56, 10296), (87, 10569), (91, 10590), (98, 10620), (102, 10650), (121, 10737), (140, 10860), (151, 10935), (163, 10998), (171, 11031), (175, 11052), (177, 11058), (182, 11076), (184, 11082), (189, 11106), (200, 11148), (203, 11163), (204, 11169), (211, 11196), (222, 11247), (229, 11280), (231, 11289), (236, 11310), (240, 11322), (246, 11349), (248, 11361), (250, 11370), (252, 11382), (253, 11388), (254, 11391), (257, 11412), (260, 11442), (263, 11460), (267, 11481), (269, 11490), (270, 11499), (277, 11532), (278, 11535), (281, 11547), (285, 11562), (296, 11646), (297, 11652), (305, 11688), (316, 11745), (317, 11754), (322, 11796), (331, 11853), (342, 11928), (343, 11931), (346, 11961), (349, 11985), (358, 12042), (362, 12072), (364, 12081), (368, 12105), (371, 12117), (384, 12243),

Gene: Kittykat\_14 Start: 9756, Stop: 12314, Start Num: 5

Candidate Starts for Kittykat\_14:

(3, 9735), (Start: 5 @9756 has 83 MA's), (10, 9804), (18, 9885), (30, 9981), (33, 10026), (35, 10044), (36, 10050), (47, 10191), (49, 10212), (52, 10257), (56, 10308), (57, 10311), (61, 10341), (67, 10395), (78, 10524), (91, 10602), (92, 10611), (93, 10617), (97, 10629), (102, 10662), (110, 10704), (121, 10749), (139, 10869), (140, 10872), (151, 10947), (163, 11010), (177, 11070), (182, 11088), (184, 11094), (186, 11106), (190, 11124), (203, 11175), (204, 11181), (210, 11205), (214, 11223), (218, 11238), (220, 11247), (229, 11292), (231, 11301), (236, 11322), (240, 11334), (241, 11337), (245, 11358), (246, 11361), (247, 11367), (248, 11373), (252, 11394), (253, 11400), (256, 11421), (259, 11445), (260, 11454), (261, 11466), (263, 11472), (267, 11493), (277, 11544), (278, 11547), (280, 11556), (281, 11559), (297, 11664), (298, 11676), (304, 11697), (317, 11766), (322, 11808), (324, 11820), (325, 11823), (327, 11841), (328, 11844), (342, 11940), (343, 11943), (349, 11997), (356, 12036), (358, 12054), (362, 12084), (364, 12093), (372, 12135), (384, 12255),

Gene: Kojax4\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Kojax4\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Korra\_19 Start: 12572, Stop: 15133, Start Num: 5

Candidate Starts for Korra\_19:

(3, 12551), (Start: 5 @12572 has 83 MA's), (10, 12620), (14, 12653), (18, 12701), (20, 12725), (21, 12737), (30, 12797), (34, 12845), (35, 12860), (36, 12866), (46, 12986), (49, 13028), (56, 13124), (57, 13127), (61, 13157), (67, 13211), (79, 13352), (82, 13373), (87, 13397), (91, 13418), (92, 13427), (102, 13478), (106, 13496), (139, 13682), (163, 13826), (171, 13859), (177, 13886), (182, 13904), (184, 13910), (189, 13934), (191, 13943), (203, 13991), (209, 14018), (210, 14021), (215, 14042), (218, 14054), (228, 14105), (232, 14120), (235, 14132), (237, 14141), (240, 14150), (246, 14177), (248, 14189), (250, 14198), (252, 14210), (253, 14216), (256, 14237), (259, 14261), (260, 14270), (267, 14309), (277, 14360), (278, 14363), (280, 14372), (281, 14375), (285, 14390), (297, 14480), (305, 14516), (322, 14624), (328, 14660), (342, 14756), (343, 14759), (349, 14813), (356, 14852), (362, 14900), (364, 14909), (368, 14933), (372, 14951), (376, 15002), (379, 15026), (384, 15074),

Gene: KyriosFaba\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for KyriosFaba\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Lakshmi\_18 Start: 12636, Stop: 15197, Start Num: 5

Candidate Starts for Lakshmi\_18:

(3, 12615), (Start: 5 @12636 has 83 MA's), (15, 12726), (18, 12765), (21, 12801), (30, 12861), (34, 12909), (35, 12924), (49, 13092), (52, 13137), (56, 13188), (57, 13191), (67, 13275), (87, 13461), (93, 13497), (97, 13509), (104, 13551), (126, 13662), (157, 13860), (177, 13953), (184, 13977), (185, 13980), (203, 14058), (204, 14064), (211, 14091), (218, 14121), (231, 14184), (235, 14199), (237, 14208), (238, 14211), (241, 14220), (246, 14244), (248, 14256), (249, 14262), (252, 14277), (253, 14283), (254, 14286), (257, 14307), (258, 14322), (260, 14337), (263, 14355), (265, 14361), (267, 14376), (269, 14385), (270, 14394), (277, 14427), (278, 14430), (281, 14442), (282, 14448), (286, 14460), (294, 14526), (296, 14541), (301, 14571), (304, 14580), (322, 14691), (328, 14727), (331, 14748), (342, 14823), (343, 14826), (349, 14880), (353, 14895), (356, 14919), (364, 14976), (368, 15000), (374, 15042), (376, 15069), (384, 15138),

Gene: Lasagna\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for Lasagna\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (46, 10131), (49, 10173), (56, 10269), (57, 10272), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (292, 11595), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: LaviMo\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for LaviMo\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Leafy\_12 Start: 7556, Stop: 9661, Start Num: 11

Candidate Starts for Leafy\_12:

(Start: 11 @7556 has 124 MA's), (Start: 13 @7577 has 3 MA's), (32, 7754), (34, 7763), (37, 7787), (39, 7859), (42, 7883), (44, 7889), (51, 7982), (55, 8039), (58, 8060), (60, 8072), (63, 8081), (83, 8288), (86, 8306), (103, 8393), (122, 8462), (125, 8474), (135, 8522), (139, 8552), (143, 8567), (153, 8630), (158, 8654), (162, 8675), (170, 8699), (174, 8705), (193, 8732), (203, 8765), (212, 8804), (221, 8837), (224, 8852), (227, 8867), (241, 8894), (242, 8897), (252, 8930), (253, 8936), (266, 8984), (286, 9068), (288, 9095), (291, 9116), (304, 9179), (309, 9203), (318, 9260), (335, 9365), (337, 9386), (340, 9398), (345,

9440), (348, 9461), (351, 9482), (373, 9611),

Gene: LemonPepper\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for LemonPepper\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Lennox\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for Lennox\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (49, 10173), (56, 10269), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: LilStuart\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for LilStuart\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (49, 10173), (56, 10269), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: LionelHutz\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for LionelHutz\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Litotes\_18 Start: 12597, Stop: 15152, Start Num: 5

Candidate Starts for Litotes\_18:

(3, 12576), (Start: 5 @12597 has 83 MA's), (10, 12645), (18, 12726), (20, 12750), (30, 12822), (34, 12870), (35, 12885), (36, 12891), (49, 13053), (56, 13149), (57, 13152), (61, 13182), (74, 13320), (91, 13443), (102, 13503), (106, 13521), (109, 13536), (121, 13587), (157, 13818), (172, 13887), (177,

13911), (182, 13929), (184, 13935), (197, 13989), (200, 14001), (204, 14022), (210, 14046), (229, 14133), (235, 14157), (236, 14163), (237, 14166), (241, 14178), (245, 14199), (246, 14202), (247, 14208), (248, 14214), (251, 14232), (252, 14235), (253, 14241), (259, 14286), (260, 14295), (263, 14313), (267, 14334), (269, 14343), (270, 14352), (277, 14385), (278, 14388), (280, 14397), (281, 14400), (289, 14451), (322, 14649), (324, 14661), (327, 14682), (328, 14685), (342, 14781), (343, 14784), (349, 14838), (356, 14877), (364, 14934), (372, 14976), (376, 15024), (382, 15066), (384, 15096),

Gene: Livingwater\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Livingwater\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: Loca\_12 Start: 7559, Stop: 9664, Start Num: 11

Candidate Starts for Loca\_12:

(Start: 11 @7559 has 124 MA's), (Start: 13 @7580 has 3 MA's), (32, 7757), (34, 7766), (37, 7790), (39, 7862), (42, 7886), (44, 7892), (51, 7985), (55, 8042), (58, 8063), (60, 8075), (63, 8084), (83, 8291), (86, 8309), (103, 8396), (122, 8465), (125, 8477), (135, 8525), (139, 8555), (143, 8570), (153, 8633), (162, 8678), (170, 8702), (174, 8708), (193, 8735), (203, 8768), (212, 8807), (224, 8855), (227, 8870), (241, 8897), (242, 8900), (252, 8933), (253, 8939), (266, 8987), (286, 9071), (288, 9098), (291, 9119), (304, 9182), (309, 9206), (318, 9263), (335, 9368), (337, 9389), (340, 9401), (345, 9443), (348, 9464), (351, 9485), (373, 9614),

Gene: Lola20\_12 Start: 7538, Stop: 9646, Start Num: 11

Candidate Starts for Lola20\_12:

(Start: 11 @7538 has 124 MA's), (Start: 13 @7559 has 3 MA's), (32, 7736), (34, 7745), (37, 7769), (39, 7841), (42, 7865), (44, 7871), (51, 7964), (55, 8021), (58, 8042), (60, 8054), (63, 8063), (83, 8270), (86, 8288), (103, 8375), (122, 8444), (125, 8456), (135, 8504), (139, 8534), (143, 8549), (148, 8585), (153, 8612), (162, 8657), (170, 8681), (174, 8687), (193, 8714), (203, 8747), (212, 8786), (219, 8813), (224, 8834), (227, 8849), (241, 8876), (242, 8879), (252, 8912), (253, 8918), (266, 8966), (274, 9002), (286, 9050), (288, 9077), (291, 9098), (304, 9161), (309, 9185), (318, 9242), (335, 9347), (337, 9368), (340, 9380), (345, 9422), (351, 9464), (373, 9596),

Gene: Lucy\_14 Start: 9709, Stop: 12270, Start Num: 5

Candidate Starts for Lucy\_14:

(3, 9688), (Start: 5 @9709 has 83 MA's), (10, 9757), (18, 9838), (20, 9862), (30, 9934), (34, 9982), (35, 9997), (36, 10003), (49, 10165), (56, 10261), (57, 10264), (61, 10294), (74, 10432), (82, 10510), (91, 10555), (92, 10564), (102, 10615), (106, 10633), (108, 10645), (115, 10669), (149, 10885), (167, 10975), (171, 10996), (177, 11023), (182, 11041), (184, 11047), (189, 11071), (191, 11080), (203, 11128), (209, 11155), (216, 11185), (228, 11242), (232, 11257), (235, 11269), (236, 11275), (237, 11278), (240, 11287), (246, 11314), (248, 11326), (250, 11335), (252, 11347), (253, 11353), (257, 11377), (259, 11398), (260, 11407), (262, 11422), (267, 11446), (270, 11464), (277, 11497), (278, 11500), (281, 11512), (292, 11587), (297, 11617), (305, 11653), (322, 11761), (324, 11773), (328, 11797), (342, 11893), (343, 11896), (349, 11950), (356, 11989), (358, 12007), (362, 12037), (364, 12046), (368, 12070), (377, 12145), (379, 12163), (384, 12211),

Gene: Lunatic\_12 Start: 7531, Stop: 9636, Start Num: 11

Candidate Starts for Lunatic\_12:

(Start: 11 @7531 has 124 MA's), (Start: 13 @7552 has 3 MA's), (32, 7729), (34, 7738), (37, 7762), (39, 7834), (42, 7858), (51, 7957), (55, 8014), (58, 8035), (60, 8047), (63, 8056), (83, 8263), (86, 8281), (103, 8368), (122, 8437), (125, 8449), (135, 8497), (139, 8527), (143, 8542), (157, 8626), (158, 8629), (162, 8650), (174, 8680), (193, 8707), (203, 8740), (212, 8779), (219, 8806), (221, 8812), (224, 8827), (227, 8842), (242, 8872), (248, 8893), (252, 8905), (253, 8911), (266, 8959), (274, 8995), (286, 9043), (288, 9070), (291, 9091), (304, 9154), (309, 9178), (318, 9235), (335, 9340), (337, 9361), (345, 9415), (348, 9436), (351, 9457),

Gene: Luxx\_12 Start: 7564, Stop: 9669, Start Num: 11

Candidate Starts for Luxx\_12:

(Start: 11 @7564 has 124 MA's), (Start: 13 @7585 has 3 MA's), (32, 7762), (34, 7771), (37, 7795), (39, 7867), (42, 7891), (44, 7897), (55, 8047), (58, 8068), (60, 8080), (63, 8089), (83, 8296), (86, 8314), (103, 8401), (122, 8470), (125, 8482), (135, 8530), (139, 8560), (143, 8575), (148, 8611), (153, 8638), (157, 8659), (162, 8683), (170, 8707), (174, 8713), (193, 8740), (203, 8773), (212, 8812), (219, 8839), (224, 8860), (227, 8875), (241, 8902), (242, 8905), (248, 8926), (252, 8938), (253, 8944), (266, 8992), (283, 9067), (286, 9076), (288, 9103), (291, 9124), (304, 9187), (309, 9211), (318, 9268), (335, 9373), (337, 9394), (340, 9406), (345, 9448), (348, 9469), (351, 9490),

Gene: Mabodamaca\_15 Start: 10264, Stop: 13101, Start Num: 6

Candidate Starts for Mabodamaca\_15:

(Start: 6 @10264 has 24 MA's), (43, 10627), (48, 10660), (53, 10732), (54, 10741), (59, 10795), (71, 10879), (72, 10909), (77, 10957), (79, 10978), (80, 10984), (118, 11158), (128, 11224), (146, 11347), (150, 11368), (194, 11572), (196, 11578), (199, 11593), (203, 11614), (243, 11788), (251, 11839), (273, 11938), (280, 11971), (297, 12079), (304, 12112), (318, 12193), (320, 12202), (375, 12556), (383, 12655), (385, 12685), (386, 12700),

Gene: Madebyisha\_14 Start: 7627, Stop: 9732, Start Num: 11

Candidate Starts for Madebyisha\_14:

(Start: 11 @7627 has 124 MA's), (Start: 13 @7648 has 3 MA's), (32, 7825), (34, 7834), (37, 7858), (39, 7930), (42, 7954), (44, 7960), (55, 8110), (58, 8131), (60, 8143), (63, 8152), (83, 8359), (86, 8377), (103, 8464), (122, 8533), (125, 8545), (135, 8593), (139, 8623), (143, 8638), (153, 8701), (157, 8722), (162, 8746), (170, 8770), (174, 8776), (193, 8803), (203, 8836), (212, 8875), (219, 8902), (224, 8923), (227, 8938), (241, 8965), (242, 8968), (248, 8989), (252, 9001), (253, 9007), (266, 9055), (274, 9091), (283, 9130), (286, 9139), (288, 9166), (291, 9187), (304, 9250), (309, 9274), (318, 9331), (335, 9436), (337, 9457), (340, 9469), (345, 9511), (348, 9532), (351, 9553), (373, 9682),

Gene: Majesty\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Majesty\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Makoto\_14 Start: 9718, Stop: 12279, Start Num: 5

Candidate Starts for Makoto\_14:

(3, 9697), (Start: 5 @9718 has 83 MA's), (10, 9766), (18, 9847), (20, 9871), (30, 9943), (34, 9991), (35, 10006), (36, 10012), (49, 10174), (56, 10270), (61, 10303), (74, 10441), (82, 10519), (91, 10564), (92, 10573), (102, 10624), (106, 10642), (108, 10654), (115, 10678), (149, 10894), (171, 11005), (177, 11032), (182, 11050), (184, 11056), (189, 11080), (191, 11089), (203, 11137), (209, 11164), (216, 11194), (228, 11251), (232, 11266), (235, 11278), (236, 11284), (237, 11287), (240, 11296), (246,

11323), (248, 11335), (250, 11344), (252, 11356), (253, 11362), (257, 11386), (259, 11407), (260, 11416), (262, 11431), (267, 11455), (277, 11506), (278, 11509), (281, 11521), (292, 11596), (297, 11626), (305, 11662), (322, 11770), (324, 11782), (328, 11806), (342, 11902), (343, 11905), (347, 11938), (349, 11959), (358, 12016), (362, 12046), (364, 12055), (368, 12079), (377, 12154), (384, 12220),

Gene: MamaPearl\_14 Start: 9752, Stop: 12301, Start Num: 5

Candidate Starts for MamaPearl\_14:

(2, 9722), (Start: 5 @9752 has 83 MA's), (18, 9881), (21, 9917), (34, 10025), (35, 10040), (47, 10187), (49, 10208), (56, 10304), (68, 10394), (76, 10487), (91, 10598), (102, 10658), (104, 10667), (153, 10940), (163, 10994), (171, 11027), (175, 11048), (177, 11054), (182, 11072), (203, 11159), (218, 11222), (229, 11276), (231, 11285), (236, 11306), (240, 11318), (241, 11321), (246, 11345), (247, 11351), (248, 11357), (250, 11366), (252, 11378), (253, 11384), (256, 11405), (260, 11438), (262, 11453), (263, 11456), (267, 11477), (268, 11483), (270, 11495), (277, 11528), (278, 11531), (280, 11540), (281, 11543), (285, 11558), (296, 11642), (304, 11681), (322, 11792), (324, 11804), (331, 11849), (342, 11924), (343, 11927), (349, 11981), (362, 12068), (364, 12077), (368, 12101), (371, 12113), (376, 12170), (377, 12176), (384, 12242), (386, 12284),

Gene: ManAs\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for ManAs\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Maneater\_12 Start: 7528, Stop: 9633, Start Num: 11

Candidate Starts for Maneater\_12:

(Start: 11 @7528 has 124 MA's), (Start: 13 @7549 has 3 MA's), (32, 7726), (34, 7735), (37, 7759), (39, 7831), (42, 7855), (44, 7861), (55, 8011), (58, 8032), (60, 8044), (63, 8053), (83, 8260), (86, 8278), (103, 8365), (122, 8434), (125, 8446), (135, 8494), (139, 8524), (143, 8539), (148, 8575), (153, 8602), (157, 8623), (162, 8647), (170, 8671), (174, 8677), (193, 8704), (203, 8737), (212, 8776), (219, 8803), (224, 8824), (227, 8839), (241, 8866), (242, 8869), (248, 8890), (252, 8902), (253, 8908), (266, 8956), (283, 9031), (286, 9040), (288, 9067), (291, 9088), (304, 9151), (309, 9175), (318, 9232), (335, 9337), (337, 9358), (340, 9370), (345, 9412), (348, 9433), (351, 9454),

Gene: Maria1952\_14 Start: 9744, Stop: 12302, Start Num: 5

Candidate Starts for Maria1952\_14:

(Start: 5 @9744 has 83 MA's), (7, 9753), (8, 9783), (18, 9873), (21, 9909), (34, 10017), (35, 10032), (49, 10200), (56, 10296), (87, 10569), (91, 10590), (98, 10620), (102, 10650), (121, 10737), (140, 10860), (151, 10935), (163, 10998), (171, 11031), (175, 11052), (177, 11058), (182, 11076), (184, 11082), (189, 11106), (200, 11148), (203, 11163), (204, 11169), (211, 11196), (222, 11247), (229, 11280), (231, 11289), (236, 11310), (240, 11322), (246, 11349), (248, 11361), (250, 11370), (252, 11382), (253, 11388), (254, 11391), (257, 11412), (260, 11442), (263, 11460), (267, 11481), (269, 11490), (270, 11499), (277, 11532), (278, 11535), (281, 11547), (285, 11562), (296, 11646), (297, 11652), (305, 11688), (316, 11745), (317, 11754), (322, 11796), (331, 11853), (342, 11928), (343, 11931), (346, 11961), (349, 11985), (358, 12042), (362, 12072), (364, 12081), (368, 12105), (371, 12117), (384, 12243),

Gene: MasterPitts\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for MasterPitts\_12:



(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472), (373, 9601),

Gene: McShie\_12 Start: 7529, Stop: 9634, Start Num: 11

Candidate Starts for McShie\_12:

(Start: 11 @7529 has 124 MA's), (Start: 13 @7550 has 3 MA's), (32, 7727), (34, 7736), (37, 7760), (39, 7832), (42, 7856), (44, 7862), (51, 7955), (55, 8012), (58, 8033), (60, 8045), (63, 8054), (83, 8261), (86, 8279), (103, 8366), (122, 8435), (125, 8447), (135, 8495), (139, 8525), (143, 8540), (153, 8603), (157, 8624), (158, 8627), (174, 8678), (193, 8705), (203, 8738), (212, 8777), (219, 8804), (224, 8825), (227, 8840), (241, 8867), (248, 8891), (252, 8903), (253, 8909), (266, 8957), (286, 9041), (288, 9068), (291, 9089), (304, 9152), (309, 9176), (318, 9233), (335, 9338), (337, 9359), (340, 9371), (345, 9413), (348, 9434), (351, 9455), (373, 9584),

Gene: Megan\_30 Start: 21999, Stop: 24323, Start Num: 6

Candidate Starts for Megan\_30:

(2, 21969), (Start: 6 @21999 has 24 MA's), (23, 22179), (25, 22188), (29, 22215), (34, 22275), (40, 22383), (49, 22461), (55, 22554), (57, 22560), (62, 22590), (76, 22737), (93, 22860), (97, 22872), (107, 22938), (114, 22959), (132, 23064), (134, 23070), (142, 23118), (156, 23202), (165, 23250), (207, 23409), (212, 23433), (221, 23466), (235, 23502), (239, 23517), (241, 23523), (253, 23565), (264, 23598), (266, 23613), (269, 23625), (274, 23649), (277, 23664), (286, 23697), (291, 23745), (293, 23757), (304, 23808), (305, 23811), (314, 23856), (319, 23895), (323, 23928), (342, 24045), (345, 24069), (346, 24078), (376, 24279), (380, 24309), (381, 24312),

Gene: MeganNoll\_18 Start: 12624, Stop: 15185, Start Num: 5

Candidate Starts for MeganNoll\_18:

(3, 12603), (Start: 5 @12624 has 83 MA's), (10, 12672), (14, 12705), (18, 12753), (20, 12777), (21, 12789), (30, 12849), (34, 12897), (35, 12912), (36, 12918), (46, 13038), (49, 13080), (56, 13176), (57, 13179), (61, 13209), (67, 13263), (68, 13266), (79, 13404), (82, 13425), (87, 13449), (91, 13470), (92, 13479), (102, 13530), (106, 13548), (139, 13734), (163, 13878), (171, 13911), (177, 13938), (182, 13956), (184, 13962), (189, 13986), (191, 13995), (203, 14043), (209, 14070), (210, 14073), (215, 14094), (216, 14100), (218, 14106), (228, 14157), (232, 14172), (235, 14184), (236, 14190), (237, 14193), (240, 14202), (246, 14229), (248, 14241), (250, 14250), (252, 14262), (253, 14268), (256, 14289), (260, 14322), (267, 14361), (277, 14412), (278, 14415), (280, 14424), (281, 14427), (285, 14442), (297, 14532), (305, 14568), (322, 14676), (328, 14712), (342, 14808), (343, 14811), (349, 14865), (356, 14904), (362, 14952), (364, 14961), (368, 14985), (372, 15003), (376, 15054), (379, 15078), (382, 15096), (384, 15126),

Gene: MelBee03\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for MelBee03\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: Miaurora\_12 Start: 7648, Stop: 9753, Start Num: 11

Candidate Starts for Miaurora\_12:

(Start: 11 @7648 has 124 MA's), (Start: 13 @7669 has 3 MA's), (32, 7846), (34, 7855), (37, 7879), (39, 7951), (42, 7975), (51, 8074), (55, 8131), (58, 8152), (60, 8164), (63, 8173), (83, 8380), (86, 8398), (103, 8485), (122, 8554), (125, 8566), (135, 8614), (139, 8644), (143, 8659), (151, 8713), (157, 8743), (158, 8746), (162, 8767), (174, 8797), (193, 8824), (203, 8857), (212, 8896), (219, 8923), (221, 8929), (224, 8944), (227, 8959), (241, 8986), (242, 8989), (248, 9010), (252, 9022), (253, 9028), (266, 9076), (274, 9112), (286, 9160), (288, 9187), (291, 9208), (304, 9271), (309, 9295), (318, 9352), (335, 9457), (337, 9478), (345, 9532), (348, 9553), (351, 9574),

Gene: Minima\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Minima\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: MirimarMandM\_12 Start: 7615, Stop: 9720, Start Num: 11

Candidate Starts for MirimarMandM\_12:

(Start: 11 @7615 has 124 MA's), (Start: 13 @7636 has 3 MA's), (32, 7813), (34, 7822), (37, 7846), (39, 7918), (42, 7942), (51, 8041), (55, 8098), (58, 8119), (60, 8131), (63, 8140), (83, 8347), (86, 8365), (103, 8452), (122, 8521), (125, 8533), (135, 8581), (139, 8611), (143, 8626), (151, 8680), (157, 8710), (158, 8713), (162, 8734), (174, 8764), (193, 8791), (203, 8824), (212, 8863), (219, 8890), (221, 8896), (224, 8911), (227, 8926), (242, 8956), (248, 8977), (252, 8989), (253, 8995), (266, 9043), (274, 9079), (286, 9127), (288, 9154), (291, 9175), (304, 9238), (309, 9262), (318, 9319), (335, 9424), (337, 9445), (340, 9457), (345, 9499), (348, 9520), (351, 9541),

Gene: Misaeng\_18 Start: 12684, Stop: 15242, Start Num: 5

Candidate Starts for Misaeng\_18:

(3, 12663), (Start: 5 @12684 has 83 MA's), (15, 12774), (18, 12813), (21, 12849), (35, 12972), (49, 13140), (52, 13185), (56, 13236), (57, 13239), (67, 13323), (91, 13530), (92, 13539), (97, 13557), (98, 13560), (104, 13599), (140, 13800), (147, 13851), (157, 13905), (177, 13998), (184, 14022), (201, 14091), (203, 14103), (204, 14109), (205, 14112), (211, 14136), (218, 14166), (222, 14187), (233, 14235), (236, 14250), (238, 14256), (241, 14265), (246, 14289), (248, 14301), (249, 14307), (252, 14322), (253, 14328), (254, 14331), (258, 14367), (259, 14373), (260, 14382), (263, 14400), (265, 14406), (267, 14421), (269, 14430), (272, 14448), (277, 14472), (278, 14475), (281, 14487), (286, 14505), (294, 14571), (296, 14586), (301, 14616), (304, 14625), (307, 14640), (316, 14685), (322, 14736), (328, 14772), (342, 14868), (343, 14871), (349, 14925), (356, 14964), (364, 15021), (368, 15045), (374, 15087), (376, 15114), (384, 15183),

Gene: Moki\_14 Start: 9720, Stop: 12287, Start Num: 5

Candidate Starts for Moki\_14:

(3, 9699), (Start: 5 @9720 has 83 MA's), (10, 9768), (18, 9849), (20, 9873), (30, 9945), (34, 9993), (35, 10008), (36, 10014), (49, 10176), (55, 10269), (56, 10272), (57, 10275), (61, 10305), (68, 10362), (79, 10500), (82, 10521), (91, 10566), (97, 10593), (102, 10626), (106, 10644), (117, 10686), (126, 10743), (171, 11007), (177, 11034), (182, 11052), (184, 11058), (189, 11082), (194, 11103), (203, 11139), (209, 11166), (216, 11196), (218, 11202), (228, 11253), (236, 11286), (246, 11325), (247, 11331), (248, 11337), (250, 11346), (252, 11358), (253, 11364), (257, 11388), (259, 11409), (260, 11418), (267, 11457), (270, 11475), (277, 11508), (278, 11511), (281, 11523), (285, 11538), (291, 11589), (296, 11622), (298, 11640), (305, 11664), (313, 11706), (322, 11772), (324, 11784), (331, 11829), (342, 11904), (343, 11907), (349, 11961), (356, 12000), (360, 12027), (364, 12057), (367, 12069),

(368, 12081), (370, 12090), (376, 12156), (382, 12198), (384, 12228),

Gene: Moss\_16 Start: 10335, Stop: 12755, Start Num: 6

Candidate Starts for Moss\_16:

(Start: 6 @10335 has 24 MA's), (17, 10422), (26, 10527), (29, 10539), (34, 10599), (41, 10710), (50, 10791), (63, 10917), (66, 10932), (70, 10986), (90, 11160), (105, 11244), (109, 11265), (120, 11307), (139, 11433), (144, 11454), (147, 11487), (158, 11544), (163, 11586), (168, 11601), (179, 11652), (188, 11688), (189, 11694), (212, 11796), (217, 11817), (225, 11859), (238, 11919), (240, 11925), (252, 11973), (266, 12069), (297, 12246), (298, 12258), (311, 12309), (322, 12390), (333, 12459), (339, 12495), (350, 12576), (354, 12591), (365, 12663), (369, 12687),

Gene: MrGloopy\_18 Start: 12558, Stop: 15119, Start Num: 5

Candidate Starts for MrGloopy\_18:

(3, 12537), (Start: 5 @12558 has 83 MA's), (10, 12606), (14, 12639), (18, 12687), (20, 12711), (21, 12723), (30, 12783), (34, 12831), (35, 12846), (36, 12852), (46, 12972), (49, 13014), (56, 13110), (57, 13113), (61, 13143), (67, 13197), (79, 13338), (82, 13359), (87, 13383), (91, 13404), (92, 13413), (102, 13464), (106, 13482), (139, 13668), (163, 13812), (171, 13845), (177, 13872), (182, 13890), (184, 13896), (189, 13920), (191, 13929), (203, 13977), (209, 14004), (216, 14034), (218, 14040), (228, 14091), (232, 14106), (235, 14118), (236, 14124), (237, 14127), (240, 14136), (246, 14163), (248, 14175), (250, 14184), (252, 14196), (253, 14202), (256, 14223), (260, 14256), (267, 14295), (277, 14346), (278, 14349), (280, 14358), (281, 14361), (285, 14376), (297, 14466), (305, 14502), (322, 14610), (328, 14646), (342, 14742), (343, 14745), (349, 14799), (356, 14838), (362, 14886), (364, 14895), (368, 14919), (372, 14937), (376, 14988), (379, 15012), (382, 15030), (384, 15060),

Gene: MrGreen\_12 Start: 7553, Stop: 9658, Start Num: 11

Candidate Starts for MrGreen\_12:

(Start: 11 @7553 has 124 MA's), (Start: 13 @7574 has 3 MA's), (32, 7751), (34, 7760), (37, 7784), (39, 7856), (42, 7880), (44, 7886), (51, 7979), (55, 8036), (58, 8057), (60, 8069), (63, 8078), (83, 8285), (86, 8303), (103, 8390), (122, 8459), (125, 8471), (135, 8519), (139, 8549), (143, 8564), (153, 8627), (158, 8651), (162, 8672), (170, 8696), (174, 8702), (193, 8729), (203, 8762), (212, 8801), (221, 8834), (224, 8849), (227, 8864), (241, 8891), (252, 8927), (253, 8933), (266, 8981), (286, 9065), (288, 9092), (291, 9113), (304, 9176), (309, 9200), (318, 9257), (335, 9362), (337, 9383), (340, 9395), (345, 9437), (348, 9458), (351, 9479), (373, 9608),

Gene: Myram\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Myram\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Mysterium\_16 Start: 10336, Stop: 12756, Start Num: 6

Candidate Starts for Mysterium\_16:

(Start: 6 @10336 has 24 MA's), (17, 10423), (26, 10528), (29, 10540), (34, 10600), (41, 10711), (50, 10792), (63, 10918), (66, 10933), (70, 10987), (90, 11161), (105, 11245), (109, 11266), (120, 11308), (139, 11434), (144, 11455), (147, 11488), (158, 11545), (163, 11587), (168, 11602), (179, 11653), (188, 11689), (189, 11695), (212, 11797), (217, 11818), (225, 11860), (238, 11920), (240, 11926), (252, 11974), (266, 12070), (294, 12226), (297, 12247), (298, 12259), (311, 12310), (333, 12460), (339, 12496), (350, 12577), (365, 12664), (369, 12688),

Gene: Naby\_12 Start: 7240, Stop: 9339, Start Num: 11

Candidate Starts for Naby\_12:

(Start: 11 @7240 has 124 MA's), (12, 7255), (Start: 13 @7261 has 3 MA's), (19, 7321), (26, 7375), (32, 7438), (34, 7447), (37, 7471), (39, 7543), (42, 7567), (51, 7666), (55, 7723), (60, 7756), (63, 7765), (95, 8032), (103, 8077), (123, 8149), (129, 8179), (139, 8236), (143, 8251), (155, 8320), (164, 8365), (170, 8383), (174, 8389), (203, 8449), (204, 8455), (208, 8470), (212, 8488), (219, 8515), (235, 8557), (248, 8602), (253, 8620), (262, 8647), (281, 8734), (286, 8752), (288, 8779), (295, 8821), (304, 8863), (305, 8866), (309, 8887), (326, 8998), (337, 9070), (340, 9082), (344, 9112), (345, 9124), (348, 9145), (352, 9169), (367, 9253), (373, 9289),

Gene: Namsahir\_12 Start: 7603, Stop: 9708, Start Num: 11

Candidate Starts for Namsahir\_12:

(Start: 11 @7603 has 124 MA's), (Start: 13 @7624 has 3 MA's), (32, 7801), (34, 7810), (37, 7834), (39, 7906), (42, 7930), (51, 8029), (58, 8107), (60, 8119), (63, 8128), (83, 8335), (86, 8353), (103, 8440), (122, 8509), (125, 8521), (135, 8569), (139, 8599), (143, 8614), (151, 8668), (157, 8698), (158, 8701), (162, 8722), (174, 8752), (193, 8779), (203, 8812), (212, 8851), (219, 8878), (221, 8884), (224, 8899), (227, 8914), (241, 8941), (242, 8944), (248, 8965), (252, 8977), (253, 8983), (266, 9031), (274, 9067), (286, 9115), (288, 9142), (291, 9163), (304, 9226), (309, 9250), (318, 9307), (335, 9412), (337, 9433), (345, 9487), (348, 9508), (351, 9529),

Gene: Nancia\_14 Start: 9717, Stop: 12278, Start Num: 5

Candidate Starts for Nancia\_14:

(3, 9696), (Start: 5 @9717 has 83 MA's), (10, 9765), (18, 9846), (20, 9870), (30, 9942), (34, 9990), (35, 10005), (36, 10011), (46, 10131), (49, 10173), (56, 10269), (57, 10272), (61, 10302), (74, 10440), (82, 10518), (91, 10563), (92, 10572), (102, 10623), (106, 10641), (108, 10653), (115, 10677), (149, 10893), (167, 10983), (171, 11004), (177, 11031), (182, 11049), (184, 11055), (189, 11079), (191, 11088), (203, 11136), (209, 11163), (216, 11193), (228, 11250), (232, 11265), (235, 11277), (236, 11283), (237, 11286), (240, 11295), (246, 11322), (248, 11334), (250, 11343), (252, 11355), (253, 11361), (257, 11385), (259, 11406), (260, 11415), (262, 11430), (267, 11454), (277, 11505), (278, 11508), (281, 11520), (292, 11595), (297, 11625), (305, 11661), (322, 11769), (324, 11781), (328, 11805), (342, 11901), (343, 11904), (347, 11937), (349, 11958), (356, 11997), (358, 12015), (362, 12045), (364, 12054), (368, 12078), (377, 12153), (384, 12219),

Gene: NeumannU\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for NeumannU\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Niffler\_12 Start: 7621, Stop: 9726, Start Num: 11

Candidate Starts for Niffler\_12:

(Start: 11 @7621 has 124 MA's), (Start: 13 @7642 has 3 MA's), (32, 7819), (34, 7828), (37, 7852), (39, 7924), (42, 7948), (51, 8047), (55, 8104), (58, 8125), (60, 8137), (63, 8146), (83, 8353), (86, 8371), (103, 8458), (122, 8527), (125, 8539), (135, 8587), (139, 8617), (143, 8632), (157, 8716), (158, 8719), (162, 8740), (174, 8770), (193, 8797), (203, 8830), (212, 8869), (219, 8896), (221, 8902), (224, 8917), (227, 8932), (242, 8962), (248, 8983), (252, 8995), (253, 9001), (266, 9049), (274, 9085), (286, 9133), (288, 9160), (291, 9181), (304, 9244), (309, 9268), (318, 9325), (335, 9430), (337, 9451), (345, 9505), (348, 9526), (351, 9547),

Gene: Nobel\_12 Start: 7648, Stop: 9753, Start Num: 11

Candidate Starts for Nobel\_12:

(Start: 11 @7648 has 124 MA's), (Start: 13 @7669 has 3 MA's), (32, 7846), (34, 7855), (37, 7879), (39, 7951), (42, 7975), (51, 8074), (55, 8131), (58, 8152), (60, 8164), (63, 8173), (83, 8380), (86, 8398), (103, 8485), (122, 8554), (125, 8566), (135, 8614), (139, 8644), (143, 8659), (157, 8743), (158, 8746), (162, 8767), (174, 8797), (193, 8824), (203, 8857), (212, 8896), (219, 8923), (221, 8929), (224, 8944), (227, 8959), (242, 8989), (248, 9010), (252, 9022), (253, 9028), (266, 9076), (274, 9112), (286, 9160), (288, 9187), (291, 9208), (304, 9271), (309, 9295), (318, 9352), (335, 9457), (337, 9478), (345, 9532), (348, 9553), (351, 9574),

Gene: Noelani\_12 Start: 7514, Stop: 9619, Start Num: 11

Candidate Starts for Noelani\_12:

(Start: 11 @7514 has 124 MA's), (Start: 13 @7535 has 3 MA's), (31, 7703), (32, 7712), (37, 7745), (39, 7817), (42, 7841), (55, 7997), (58, 8018), (63, 8039), (83, 8246), (86, 8264), (103, 8351), (122, 8420), (135, 8480), (139, 8510), (143, 8525), (148, 8561), (153, 8588), (157, 8609), (162, 8633), (170, 8657), (174, 8663), (193, 8690), (212, 8762), (219, 8789), (224, 8810), (227, 8825), (241, 8852), (242, 8855), (248, 8876), (252, 8888), (253, 8894), (266, 8942), (283, 9017), (286, 9026), (288, 9053), (291, 9074), (304, 9137), (309, 9161), (314, 9185), (318, 9218), (326, 9272), (337, 9344), (340, 9356), (345, 9398), (348, 9419), (351, 9440), (363, 9518), (373, 9569),

Gene: Nubia\_18 Start: 12596, Stop: 15157, Start Num: 5

Candidate Starts for Nubia\_18:

(3, 12575), (Start: 5 @12596 has 83 MA's), (15, 12686), (18, 12725), (21, 12761), (30, 12821), (34, 12869), (35, 12884), (49, 13052), (52, 13097), (56, 13148), (57, 13151), (67, 13235), (87, 13421), (93, 13457), (97, 13469), (104, 13511), (157, 13820), (177, 13913), (182, 13931), (184, 13937), (203, 14018), (204, 14024), (211, 14051), (218, 14081), (231, 14144), (235, 14159), (236, 14165), (237, 14168), (241, 14180), (246, 14204), (248, 14216), (249, 14222), (252, 14237), (253, 14243), (254, 14246), (257, 14267), (258, 14282), (259, 14288), (260, 14297), (263, 14315), (265, 14321), (267, 14336), (269, 14345), (270, 14354), (277, 14387), (278, 14390), (281, 14402), (282, 14408), (286, 14420), (291, 14468), (294, 14486), (296, 14501), (301, 14531), (304, 14540), (316, 14600), (322, 14651), (328, 14687), (331, 14708), (342, 14783), (343, 14786), (349, 14840), (356, 14879), (364, 14936), (368, 14960), (374, 15002), (376, 15029), (384, 15098),

Gene: OMalley\_14 Start: 9738, Stop: 12296, Start Num: 5

Candidate Starts for OMalley\_14:

(Start: 5 @9738 has 83 MA's), (7, 9747), (8, 9777), (18, 9867), (30, 9963), (33, 10008), (35, 10026), (49, 10194), (56, 10290), (57, 10293), (58, 10308), (69, 10395), (93, 10599), (94, 10602), (110, 10686), (163, 10992), (177, 11052), (182, 11070), (184, 11076), (191, 11109), (194, 11121), (203, 11157), (209, 11184), (215, 11208), (216, 11214), (228, 11271), (234, 11295), (236, 11304), (241, 11319), (246, 11343), (248, 11355), (252, 11376), (253, 11382), (256, 11403), (259, 11427), (260, 11436), (263, 11454), (267, 11475), (268, 11481), (270, 11493), (277, 11526), (278, 11529), (281, 11541), (285, 11556), (286, 11559), (297, 11646), (315, 11736), (316, 11739), (322, 11790), (331, 11847), (332, 11856), (334, 11868), (342, 11922), (343, 11925), (349, 11979), (356, 12018), (362, 12066), (364, 12075), (368, 12099), (371, 12111), (382, 12207), (384, 12237),

Gene: Oaklynn\_12 Start: 7555, Stop: 9639, Start Num: 13

Candidate Starts for Oaklynn\_12:

(Start: 11 @7534 has 124 MA's), (Start: 13 @7555 has 3 MA's), (32, 7732), (34, 7741), (37, 7765), (39, 7837), (42, 7861), (44, 7867), (55, 8017), (58, 8038), (60, 8050), (63, 8059), (83, 8266), (86, 8284), (103, 8371), (122, 8440), (125, 8452), (135, 8500), (139, 8530), (143, 8545), (153, 8608), (157, 8629), (158, 8632), (174, 8683), (193, 8710), (203, 8743), (212, 8782), (219, 8809), (224, 8830), (227, 8845), (241, 8872), (248, 8896), (252, 8908), (253, 8914), (266, 8962), (286, 9046), (288, 9073), (291, 9094), (304, 9157), (309, 9181), (314, 9205), (317, 9226), (335, 9343), (337, 9364), (340, 9376), (345, 9418),

(348, 9439), (351, 9460), (373, 9589),

Gene: Octopus\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Octopus\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Otwor\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Otwor\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: OurGirlNessie\_14 Start: 9709, Stop: 12270, Start Num: 5

Candidate Starts for OurGirlNessie\_14:

(3, 9688), (Start: 5 @9709 has 83 MA's), (10, 9757), (18, 9838), (20, 9862), (30, 9934), (34, 9982), (35, 9997), (36, 10003), (49, 10165), (56, 10261), (61, 10294), (74, 10432), (82, 10510), (87, 10534), (91, 10555), (92, 10564), (102, 10615), (106, 10633), (108, 10645), (115, 10669), (149, 10885), (167, 10975), (171, 10996), (177, 11023), (182, 11041), (184, 11047), (189, 11071), (191, 11080), (203, 11128), (209, 11155), (216, 11185), (228, 11242), (232, 11257), (235, 11269), (236, 11275), (237, 11278), (240, 11287), (246, 11314), (248, 11326), (250, 11335), (252, 11347), (253, 11353), (257, 11377), (259, 11398), (260, 11407), (262, 11422), (267, 11446), (270, 11464), (277, 11497), (278, 11500), (281, 11512), (292, 11587), (297, 11617), (305, 11653), (309, 11674), (322, 11761), (324, 11773), (327, 11794), (328, 11797), (342, 11893), (343, 11896), (347, 11929), (349, 11950), (356, 11989), (358, 12007), (362, 12037), (364, 12046), (377, 12145), (384, 12211),

Gene: Owens\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Owens\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Oxynfrius\_18 Start: 12609, Stop: 15170, Start Num: 5

Candidate Starts for Oxynfrius\_18:

(3, 12588), (Start: 5 @12609 has 83 MA's), (15, 12699), (18, 12738), (21, 12774), (30, 12834), (34, 12882), (35, 12897), (49, 13065), (52, 13110), (56, 13161), (57, 13164), (67, 13248), (87, 13434), (93, 13470), (97, 13482), (104, 13524), (126, 13635), (157, 13833), (177, 13926), (184, 13950), (185, 13953), (203, 14031), (204, 14037), (211, 14064), (218, 14094), (231, 14157), (235, 14172), (237, 14181), (238, 14184), (241, 14193), (246, 14217), (248, 14229), (249, 14235), (252, 14250), (253, 14256), (254, 14259), (257, 14280), (258, 14295), (260, 14310), (263, 14328), (265, 14334), (267,

14349), (269, 14358), (270, 14367), (277, 14400), (278, 14403), (281, 14415), (282, 14421), (286, 14433), (294, 14499), (296, 14514), (301, 14544), (304, 14553), (322, 14664), (328, 14700), (331, 14721), (342, 14796), (343, 14799), (349, 14853), (356, 14892), (364, 14949), (368, 14973), (374, 15015), (376, 15042), (384, 15111),

Gene: PaoPu\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for PaoPu\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: PartyCup\_18 Start: 12644, Stop: 15199, Start Num: 5

Candidate Starts for PartyCup\_18:

(3, 12623), (Start: 5 @12644 has 83 MA's), (10, 12692), (18, 12773), (20, 12797), (30, 12869), (34, 12917), (35, 12932), (36, 12938), (49, 13100), (52, 13145), (56, 13196), (57, 13199), (61, 13229), (74, 13367), (91, 13490), (102, 13550), (106, 13568), (109, 13583), (121, 13634), (157, 13865), (172, 13934), (177, 13958), (182, 13976), (184, 13982), (197, 14036), (200, 14048), (204, 14069), (210, 14093), (229, 14180), (235, 14204), (236, 14210), (237, 14213), (241, 14225), (245, 14246), (246, 14249), (247, 14255), (248, 14261), (251, 14279), (252, 14282), (253, 14288), (259, 14333), (260, 14342), (263, 14360), (267, 14381), (269, 14390), (270, 14399), (277, 14432), (278, 14435), (280, 14444), (281, 14447), (289, 14498), (305, 14588), (322, 14696), (324, 14708), (327, 14729), (328, 14732), (342, 14828), (343, 14831), (349, 14885), (356, 14924), (364, 14981), (372, 15023), (376, 15071), (382, 15113), (384, 15143),

Gene: Percival\_15 Start: 10890, Stop: 13811, Start Num: 6

Candidate Starts for Percival\_15:

(Start: 6 @10890 has 24 MA's), (26, 11073), (30, 11097), (37, 11169), (45, 11277), (50, 11337), (70, 11532), (81, 11667), (86, 11691), (87, 11694), (113, 11820), (118, 11829), (124, 11871), (135, 11937), (159, 12084), (170, 12144), (194, 12243), (205, 12294), (212, 12324), (232, 12408), (243, 12459), (248, 12492), (284, 12690), (297, 12783), (302, 12810), (310, 12843), (314, 12864), (318, 12897), (322, 12927), (330, 12975), (338, 13026), (359, 13158), (378, 13305), (387, 13437), (388, 13539), (390, 13596), (391, 13605), (393, 13698), (394, 13740), (395, 13776),

Gene: Picnic\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Picnic\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: PinkFriday\_14 Start: 9750, Stop: 12308, Start Num: 5

Candidate Starts for PinkFriday\_14:

(Start: 5 @9750 has 83 MA's), (7, 9759), (18, 9879), (34, 10023), (35, 10038), (49, 10206), (56, 10302), (64, 10347), (68, 10392), (87, 10575), (91, 10596), (92, 10605), (93, 10611), (97, 10623), (102, 10656), (121, 10743), (171, 11037), (175, 11058), (177, 11064), (182, 11082), (184, 11088), (189, 11112), (203, 11169), (209, 11196), (216, 11226), (218, 11232), (228, 11283), (232, 11298), (235, 11310),

(237, 11319), (240, 11328), (246, 11355), (248, 11367), (250, 11376), (252, 11388), (253, 11394), (260, 11448), (263, 11466), (266, 11484), (267, 11487), (269, 11496), (270, 11505), (273, 11517), (277, 11538), (278, 11541), (281, 11553), (285, 11568), (296, 11652), (297, 11658), (305, 11694), (316, 11751), (322, 11802), (324, 11814), (331, 11859), (342, 11934), (343, 11937), (346, 11967), (347, 11970), (356, 12030), (358, 12048), (362, 12078), (364, 12087), (368, 12111), (371, 12123), (382, 12219), (384, 12249),

Gene: PitaDog\_14 Start: 9708, Stop: 12269, Start Num: 5

Candidate Starts for PitaDog\_14:

(3, 9687), (Start: 5 @9708 has 83 MA's), (10, 9756), (18, 9837), (20, 9861), (30, 9933), (34, 9981), (35, 9996), (36, 10002), (49, 10164), (56, 10260), (61, 10293), (74, 10431), (82, 10509), (91, 10554), (92, 10563), (102, 10614), (106, 10632), (115, 10668), (149, 10884), (167, 10974), (171, 10995), (177, 11022), (182, 11040), (184, 11046), (189, 11070), (191, 11079), (203, 11127), (209, 11154), (216, 11184), (228, 11241), (232, 11256), (235, 11268), (236, 11274), (237, 11277), (240, 11286), (246, 11313), (248, 11325), (250, 11334), (252, 11346), (253, 11352), (257, 11376), (259, 11397), (260, 11406), (262, 11421), (267, 11445), (270, 11463), (277, 11496), (278, 11499), (281, 11511), (297, 11616), (305, 11652), (322, 11760), (324, 11772), (328, 11796), (342, 11892), (343, 11895), (347, 11928), (349, 11949), (356, 11988), (358, 12006), (362, 12036), (364, 12045), (368, 12069), (377, 12144), (384, 12210),

Gene: PoRanda\_12 Start: 7615, Stop: 9720, Start Num: 11

Candidate Starts for PoRanda\_12:

(Start: 11 @7615 has 124 MA's), (Start: 13 @7636 has 3 MA's), (32, 7813), (34, 7822), (37, 7846), (39, 7918), (42, 7942), (51, 8041), (55, 8098), (58, 8119), (60, 8131), (63, 8140), (83, 8347), (86, 8365), (103, 8452), (122, 8521), (125, 8533), (135, 8581), (139, 8611), (143, 8626), (151, 8680), (157, 8710), (158, 8713), (162, 8734), (174, 8764), (193, 8791), (203, 8824), (212, 8863), (219, 8890), (221, 8896), (224, 8911), (227, 8926), (242, 8956), (248, 8977), (252, 8989), (253, 8995), (266, 9043), (274, 9079), (286, 9127), (288, 9154), (291, 9175), (304, 9238), (309, 9262), (318, 9319), (335, 9424), (337, 9445), (340, 9457), (345, 9499), (348, 9520), (351, 9541),

Gene: Pondwater\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Pondwater\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Potatoes\_18 Start: 12619, Stop: 15180, Start Num: 5

Candidate Starts for Potatoes\_18:

(3, 12598), (Start: 5 @12619 has 83 MA's), (10, 12667), (14, 12700), (18, 12748), (20, 12772), (21, 12784), (30, 12844), (34, 12892), (35, 12907), (36, 12913), (46, 13033), (49, 13075), (55, 13168), (56, 13171), (57, 13174), (61, 13204), (67, 13258), (79, 13399), (82, 13420), (87, 13444), (91, 13465), (92, 13474), (102, 13525), (106, 13543), (111, 13567), (139, 13729), (163, 13873), (171, 13906), (177, 13933), (182, 13951), (184, 13957), (189, 13981), (191, 13990), (203, 14038), (209, 14065), (215, 14089), (216, 14095), (218, 14101), (228, 14152), (232, 14167), (235, 14179), (236, 14185), (237, 14188), (240, 14197), (246, 14224), (248, 14236), (250, 14245), (252, 14257), (253, 14263), (256, 14284), (260, 14317), (267, 14356), (277, 14407), (278, 14410), (280, 14419), (281, 14422), (285, 14437), (296, 14521), (297, 14527), (305, 14563), (322, 14671), (324, 14683), (328, 14707), (342, 14803), (343, 14806), (349, 14860), (356, 14899), (362, 14947), (364, 14956), (368, 14980), (372, 14998), (376, 15049), (379, 15073), (382, 15091), (384, 15121),



Gene: Preamble\_14 Start: 9721, Stop: 12279, Start Num: 5

Candidate Starts for Preamble\_14:

(3, 9700), (Start: 5 @9721 has 83 MA's), (10, 9769), (18, 9850), (30, 9946), (33, 9991), (35, 10009), (36, 10015), (47, 10156), (49, 10177), (52, 10222), (56, 10273), (57, 10276), (61, 10306), (78, 10489), (91, 10567), (92, 10576), (93, 10582), (97, 10594), (102, 10627), (110, 10669), (121, 10714), (139, 10834), (140, 10837), (163, 10975), (177, 11035), (182, 11053), (184, 11059), (190, 11089), (203, 11140), (204, 11146), (214, 11188), (218, 11203), (220, 11212), (229, 11257), (231, 11266), (236, 11287), (240, 11299), (241, 11302), (245, 11323), (246, 11326), (247, 11332), (248, 11338), (252, 11359), (253, 11365), (256, 11386), (259, 11410), (260, 11419), (263, 11437), (267, 11458), (277, 11509), (278, 11512), (280, 11521), (281, 11524), (297, 11629), (299, 11644), (304, 11662), (317, 11731), (322, 11773), (324, 11785), (327, 11806), (328, 11809), (342, 11905), (343, 11908), (349, 11962), (356, 12001), (358, 12019), (362, 12049), (364, 12058), (372, 12100), (384, 12220),

Gene: Pterodactyl\_14 Start: 9710, Stop: 12271, Start Num: 5

Candidate Starts for Pterodactyl\_14:

(3, 9689), (Start: 5 @9710 has 83 MA's), (10, 9758), (18, 9839), (20, 9863), (30, 9935), (34, 9983), (35, 9998), (36, 10004), (49, 10166), (56, 10262), (61, 10295), (74, 10433), (82, 10511), (91, 10556), (92, 10565), (102, 10616), (106, 10634), (108, 10646), (115, 10670), (149, 10886), (171, 10997), (177, 11024), (182, 11042), (184, 11048), (189, 11072), (191, 11081), (203, 11129), (209, 11156), (216, 11186), (228, 11243), (232, 11258), (235, 11270), (236, 11276), (237, 11279), (240, 11288), (246, 11315), (248, 11327), (250, 11336), (252, 11348), (253, 11354), (257, 11378), (259, 11399), (260, 11408), (262, 11423), (267, 11447), (277, 11498), (278, 11501), (281, 11513), (292, 11588), (297, 11618), (305, 11654), (322, 11762), (324, 11774), (328, 11798), (342, 11894), (343, 11897), (347, 11930), (349, 11951), (356, 11990), (358, 12008), (362, 12038), (364, 12047), (377, 12146), (384, 12212),

Gene: Publix\_12 Start: 7603, Stop: 9708, Start Num: 11

Candidate Starts for Publix\_12:

(Start: 11 @7603 has 124 MA's), (Start: 13 @7624 has 3 MA's), (32, 7801), (34, 7810), (37, 7834), (39, 7906), (42, 7930), (51, 8029), (58, 8107), (60, 8119), (63, 8128), (83, 8335), (86, 8353), (103, 8440), (122, 8509), (125, 8521), (135, 8569), (139, 8599), (143, 8614), (151, 8668), (157, 8698), (158, 8701), (162, 8722), (174, 8752), (193, 8779), (203, 8812), (212, 8851), (219, 8878), (221, 8884), (224, 8899), (227, 8914), (241, 8941), (242, 8944), (248, 8965), (252, 8977), (253, 8983), (266, 9031), (274, 9067), (286, 9115), (288, 9142), (291, 9163), (304, 9226), (309, 9250), (318, 9307), (335, 9412), (337, 9433), (345, 9487), (348, 9508), (351, 9529),

Gene: Puddles3\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Puddles3\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: PuffyCat\_12 Start: 7573, Stop: 9678, Start Num: 11

Candidate Starts for PuffyCat\_12:

(Start: 11 @7573 has 124 MA's), (Start: 13 @7594 has 3 MA's), (32, 7771), (34, 7780), (37, 7804), (39, 7876), (42, 7900), (51, 7999), (55, 8056), (58, 8077), (60, 8089), (63, 8098), (83, 8305), (86, 8323), (103, 8410), (122, 8479), (125, 8491), (135, 8539), (139, 8569), (143, 8584), (157, 8668), (158, 8671), (162, 8692), (174, 8722), (193, 8749), (203, 8782), (212, 8821), (219, 8848), (221, 8854), (224, 8869),

(227, 8884), (242, 8914), (248, 8935), (252, 8947), (253, 8953), (266, 9001), (274, 9037), (286, 9085), (288, 9112), (291, 9133), (304, 9196), (309, 9220), (318, 9277), (335, 9382), (337, 9403), (345, 9457), (348, 9478), (351, 9499),

Gene: Pumancara\_14 Start: 9749, Stop: 12307, Start Num: 5

Candidate Starts for Pumancara\_14:

(Start: 5 @9749 has 83 MA's), (7, 9758), (18, 9878), (34, 10022), (35, 10037), (49, 10205), (56, 10301), (64, 10346), (68, 10391), (87, 10574), (91, 10595), (92, 10604), (93, 10610), (97, 10622), (102, 10655), (121, 10742), (140, 10865), (151, 10940), (163, 11003), (171, 11036), (175, 11057), (177, 11063), (182, 11081), (184, 11087), (189, 11111), (200, 11153), (203, 11168), (204, 11174), (222, 11252), (229, 11285), (231, 11294), (236, 11315), (240, 11327), (246, 11354), (248, 11366), (250, 11375), (252, 11387), (253, 11393), (254, 11396), (257, 11417), (260, 11447), (263, 11465), (266, 11483), (267, 11486), (269, 11495), (270, 11504), (277, 11537), (278, 11540), (281, 11552), (285, 11567), (296, 11651), (297, 11657), (305, 11693), (316, 11750), (322, 11801), (324, 11813), (331, 11858), (342, 11933), (343, 11936), (346, 11966), (356, 12029), (362, 12077), (364, 12086), (368, 12110), (371, 12122), (384, 12248),

Gene: Quaker\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Quaker\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: RAP15\_18 Start: 12624, Stop: 15185, Start Num: 5

Candidate Starts for RAP15\_18:

(3, 12603), (Start: 5 @12624 has 83 MA's), (10, 12672), (14, 12705), (18, 12753), (20, 12777), (21, 12789), (30, 12849), (34, 12897), (35, 12912), (36, 12918), (46, 13038), (49, 13080), (56, 13176), (57, 13179), (61, 13209), (67, 13263), (68, 13266), (79, 13404), (82, 13425), (87, 13449), (91, 13470), (92, 13479), (102, 13530), (106, 13548), (139, 13734), (163, 13878), (171, 13911), (177, 13938), (182, 13956), (184, 13962), (189, 13986), (191, 13995), (203, 14043), (209, 14070), (210, 14073), (215, 14094), (216, 14100), (218, 14106), (228, 14157), (232, 14172), (235, 14184), (236, 14190), (237, 14193), (240, 14202), (246, 14229), (248, 14241), (250, 14250), (252, 14262), (253, 14268), (256, 14289), (260, 14322), (267, 14361), (277, 14412), (278, 14415), (280, 14424), (281, 14427), (285, 14442), (297, 14532), (305, 14568), (322, 14676), (328, 14712), (342, 14808), (343, 14811), (349, 14865), (356, 14904), (362, 14952), (364, 14961), (368, 14985), (372, 15003), (376, 15054), (379, 15078), (382, 15096), (384, 15126),

Gene: RcigaStruga\_18 Start: 12617, Stop: 15178, Start Num: 5

Candidate Starts for RcigaStruga\_18:

(3, 12596), (Start: 5 @12617 has 83 MA's), (15, 12707), (18, 12746), (21, 12782), (30, 12842), (35, 12905), (49, 13073), (52, 13118), (55, 13166), (56, 13169), (57, 13172), (67, 13256), (68, 13259), (79, 13397), (91, 13463), (97, 13490), (104, 13532), (157, 13841), (163, 13874), (177, 13934), (184, 13958), (203, 14039), (204, 14045), (205, 14048), (211, 14072), (218, 14102), (222, 14123), (233, 14171), (236, 14186), (241, 14201), (246, 14225), (248, 14237), (249, 14243), (252, 14258), (253, 14264), (258, 14303), (259, 14309), (260, 14318), (263, 14336), (265, 14342), (266, 14354), (267, 14357), (269, 14366), (272, 14384), (277, 14408), (278, 14411), (281, 14423), (286, 14441), (294, 14507), (296, 14522), (301, 14552), (304, 14561), (316, 14621), (322, 14672), (328, 14708), (342, 14804), (343, 14807), (349, 14861), (356, 14900), (360, 14927), (364, 14957), (368, 14981), (374, 15023), (376, 15050), (384, 15119),

Gene: Rhogar\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Rhogar\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Rhysand\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Rhysand\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Riovina\_14 Start: 9738, Stop: 12296, Start Num: 5

Candidate Starts for Riovina\_14:

(Start: 5 @9738 has 83 MA's), (7, 9747), (8, 9777), (18, 9867), (30, 9963), (33, 10008), (35, 10026), (49, 10194), (56, 10290), (57, 10293), (58, 10308), (69, 10395), (93, 10599), (94, 10602), (110, 10686), (163, 10992), (177, 11052), (182, 11070), (184, 11076), (191, 11109), (194, 11121), (203, 11157), (209, 11184), (215, 11208), (216, 11214), (228, 11271), (234, 11295), (236, 11304), (241, 11319), (246, 11343), (248, 11355), (252, 11376), (253, 11382), (256, 11403), (259, 11427), (260, 11436), (263, 11454), (267, 11475), (268, 11481), (270, 11493), (277, 11526), (278, 11529), (281, 11541), (285, 11556), (286, 11559), (297, 11646), (315, 11736), (316, 11739), (322, 11790), (331, 11847), (332, 11856), (334, 11868), (342, 11922), (343, 11925), (349, 11979), (356, 12018), (362, 12066), (364, 12075), (368, 12099), (371, 12111), (382, 12207), (384, 12237),

Gene: Riverdale\_18 Start: 12554, Stop: 15115, Start Num: 5

Candidate Starts for Riverdale\_18:

(3, 12533), (Start: 5 @12554 has 83 MA's), (10, 12602), (14, 12635), (18, 12683), (20, 12707), (21, 12719), (30, 12779), (34, 12827), (35, 12842), (36, 12848), (46, 12968), (49, 13010), (56, 13106), (57, 13109), (61, 13139), (67, 13193), (79, 13334), (82, 13355), (87, 13379), (91, 13400), (92, 13409), (102, 13460), (106, 13478), (163, 13808), (171, 13841), (177, 13868), (182, 13886), (184, 13892), (189, 13916), (191, 13925), (203, 13973), (209, 14000), (216, 14030), (218, 14036), (228, 14087), (232, 14102), (235, 14114), (236, 14120), (237, 14123), (246, 14159), (248, 14171), (250, 14180), (252, 14192), (253, 14198), (256, 14219), (260, 14252), (267, 14291), (270, 14309), (277, 14342), (278, 14345), (280, 14354), (281, 14357), (285, 14372), (297, 14462), (305, 14498), (322, 14606), (328, 14642), (331, 14663), (342, 14738), (343, 14741), (349, 14795), (356, 14834), (362, 14882), (364, 14891), (368, 14915), (372, 14933), (376, 14984), (379, 15008), (382, 15026), (384, 15056),

Gene: RockScotty\_16 Start: 10335, Stop: 12755, Start Num: 6

Candidate Starts for RockScotty\_16:

(Start: 6 @10335 has 24 MA's), (17, 10422), (26, 10527), (29, 10539), (34, 10599), (41, 10710), (50, 10791), (63, 10917), (66, 10932), (70, 10986), (90, 11160), (105, 11244), (109, 11265), (120, 11307), (139, 11433), (144, 11454), (147, 11487), (158, 11544), (163, 11586), (168, 11601), (179, 11652), (188, 11688), (189, 11694), (212, 11796), (217, 11817), (225, 11859), (238, 11919), (240, 11925), (252, 11973), (266, 12069), (297, 12246), (298, 12258), (311, 12309), (322, 12390), (333, 12459),

(339, 12495), (350, 12576), (354, 12591), (365, 12663), (369, 12687),

Gene: RoscoWindex\_12 Start: 7553, Stop: 9658, Start Num: 11

Candidate Starts for RoscoWindex\_12:

(Start: 11 @7553 has 124 MA's), (Start: 13 @7574 has 3 MA's), (32, 7751), (34, 7760), (37, 7784), (39, 7856), (42, 7880), (44, 7886), (55, 8036), (58, 8057), (60, 8069), (63, 8078), (83, 8285), (86, 8303), (103, 8390), (122, 8459), (125, 8471), (135, 8519), (139, 8549), (143, 8564), (148, 8600), (153, 8627), (157, 8648), (162, 8672), (170, 8696), (174, 8702), (193, 8729), (203, 8762), (212, 8801), (219, 8828), (224, 8849), (227, 8864), (241, 8891), (242, 8894), (248, 8915), (252, 8927), (253, 8933), (266, 8981), (283, 9056), (286, 9065), (288, 9092), (291, 9113), (304, 9176), (309, 9200), (318, 9257), (335, 9362), (337, 9383), (340, 9395), (345, 9437), (348, 9458), (351, 9479),

Gene: Rozby\_18 Start: 12555, Stop: 15116, Start Num: 5

Candidate Starts for Rozby\_18:

(3, 12534), (Start: 5 @12555 has 83 MA's), (10, 12603), (14, 12636), (18, 12684), (20, 12708), (21, 12720), (30, 12780), (34, 12828), (35, 12843), (36, 12849), (46, 12969), (49, 13011), (56, 13107), (57, 13110), (61, 13140), (67, 13194), (79, 13335), (82, 13356), (87, 13380), (91, 13401), (92, 13410), (102, 13461), (106, 13479), (139, 13665), (163, 13809), (171, 13842), (177, 13869), (182, 13887), (184, 13893), (189, 13917), (191, 13926), (203, 13974), (209, 14001), (216, 14031), (218, 14037), (228, 14088), (232, 14103), (235, 14115), (236, 14121), (237, 14124), (246, 14160), (248, 14172), (250, 14181), (252, 14193), (253, 14199), (256, 14220), (260, 14253), (267, 14292), (270, 14310), (277, 14343), (278, 14346), (280, 14355), (281, 14358), (285, 14373), (297, 14463), (305, 14499), (322, 14607), (328, 14643), (331, 14664), (342, 14739), (343, 14742), (349, 14796), (356, 14835), (362, 14883), (364, 14892), (368, 14916), (372, 14934), (376, 14985), (379, 15009), (382, 15027), (384, 15057),

Gene: Sabourin\_16 Start: 10242, Stop: 12662, Start Num: 6

Candidate Starts for Sabourin\_16:

(Start: 6 @10242 has 24 MA's), (17, 10329), (20, 10386), (26, 10434), (29, 10446), (34, 10506), (41, 10617), (50, 10698), (63, 10824), (66, 10839), (70, 10893), (90, 11067), (105, 11151), (109, 11172), (115, 11193), (120, 11214), (139, 11340), (144, 11361), (147, 11394), (158, 11451), (163, 11493), (168, 11508), (179, 11559), (188, 11595), (212, 11703), (217, 11724), (225, 11766), (228, 11778), (240, 11832), (252, 11880), (266, 11976), (294, 12132), (297, 12153), (298, 12165), (311, 12216), (333, 12366), (339, 12402), (350, 12483), (369, 12594),

Gene: Sage7\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Sage7\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: SantasSleigh\_12 Start: 7576, Stop: 9681, Start Num: 11

Candidate Starts for SantasSleigh\_12:

(Start: 11 @7576 has 124 MA's), (Start: 13 @7597 has 3 MA's), (32, 7774), (34, 7783), (37, 7807), (39, 7879), (42, 7903), (44, 7909), (55, 8059), (58, 8080), (60, 8092), (63, 8101), (83, 8308), (86, 8326), (103, 8413), (122, 8482), (125, 8494), (135, 8542), (139, 8572), (143, 8587), (148, 8623), (153, 8650), (157, 8671), (162, 8695), (170, 8719), (174, 8725), (193, 8752), (203, 8785), (212, 8824), (219, 8851), (224, 8872), (227, 8887), (241, 8914), (242, 8917), (248, 8938), (252, 8950), (253, 8956), (266, 9004), (283, 9079), (286, 9088), (288, 9115), (291, 9136), (304, 9199), (309, 9223), (318, 9280), (335, 9385),

(337, 9406), (340, 9418), (345, 9460), (348, 9481), (351, 9502),

Gene: Sara\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for Sara\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Savage2526\_18 Start: 12618, Stop: 15179, Start Num: 5

Candidate Starts for Savage2526\_18:

(3, 12597), (Start: 5 @12618 has 83 MA's), (10, 12666), (14, 12699), (18, 12747), (20, 12771), (21, 12783), (30, 12843), (34, 12891), (35, 12906), (36, 12912), (46, 13032), (49, 13074), (56, 13170), (57, 13173), (61, 13203), (67, 13257), (79, 13398), (82, 13419), (87, 13443), (91, 13464), (92, 13473), (102, 13524), (106, 13542), (139, 13728), (163, 13872), (171, 13905), (177, 13932), (182, 13950), (184, 13956), (189, 13980), (191, 13989), (203, 14037), (209, 14064), (216, 14094), (218, 14100), (228, 14151), (232, 14166), (235, 14178), (236, 14184), (237, 14187), (240, 14196), (246, 14223), (248, 14235), (250, 14244), (252, 14256), (253, 14262), (256, 14283), (259, 14307), (260, 14316), (267, 14355), (270, 14373), (277, 14406), (278, 14409), (280, 14418), (281, 14421), (285, 14436), (297, 14526), (305, 14562), (322, 14670), (328, 14706), (342, 14802), (343, 14805), (349, 14859), (356, 14898), (362, 14946), (364, 14955), (368, 14979), (372, 14997), (376, 15048), (379, 15072), (382, 15090), (384, 15120),

Gene: Scamander\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Scamander\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: Scrunchy\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Scrunchy\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Scuttle\_18 Start: 12623, Stop: 15184, Start Num: 5

Candidate Starts for Scuttle\_18:

(3, 12602), (Start: 5 @12623 has 83 MA's), (10, 12671), (14, 12704), (18, 12752), (20, 12776), (21, 12788), (30, 12848), (34, 12896), (35, 12911), (36, 12917), (46, 13037), (49, 13079), (56, 13175), (57, 13178), (61, 13208), (67, 13262), (79, 13403), (82, 13424), (87, 13448), (91, 13469), (92, 13478), (102, 13529), (106, 13547), (111, 13571), (139, 13733), (163, 13877), (171, 13910), (177, 13937), (182, 13955), (184, 13961), (189, 13985), (191, 13994), (203, 14042), (209, 14069), (215, 14093), (216,

14099), (218, 14105), (228, 14156), (232, 14171), (235, 14183), (236, 14189), (237, 14192), (240, 14201), (246, 14228), (248, 14240), (250, 14249), (252, 14261), (253, 14267), (256, 14288), (260, 14321), (267, 14360), (277, 14411), (278, 14414), (280, 14423), (281, 14426), (285, 14441), (296, 14525), (297, 14531), (305, 14567), (322, 14675), (328, 14711), (342, 14807), (343, 14810), (349, 14864), (356, 14903), (362, 14951), (364, 14960), (368, 14984), (372, 15002), (376, 15053), (379, 15077), (382, 15095), (384, 15125),

Gene: SeaWolves\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for SeaWolves\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Sergei\_14 Start: 9744, Stop: 12302, Start Num: 5

Candidate Starts for Sergei\_14:

(Start: 5 @9744 has 83 MA's), (7, 9753), (8, 9783), (18, 9873), (21, 9909), (34, 10017), (35, 10032), (49, 10200), (56, 10296), (87, 10569), (91, 10590), (98, 10620), (102, 10650), (121, 10737), (140, 10860), (151, 10935), (163, 10998), (171, 11031), (175, 11052), (177, 11058), (182, 11076), (184, 11082), (189, 11106), (200, 11148), (203, 11163), (204, 11169), (211, 11196), (222, 11247), (229, 11280), (231, 11289), (236, 11310), (240, 11322), (246, 11349), (248, 11361), (250, 11370), (252, 11382), (253, 11388), (254, 11391), (257, 11412), (260, 11442), (263, 11460), (267, 11481), (269, 11490), (270, 11499), (277, 11532), (278, 11535), (281, 11547), (285, 11562), (296, 11646), (297, 11652), (305, 11688), (316, 11745), (317, 11754), (322, 11796), (331, 11853), (342, 11928), (343, 11931), (346, 11961), (349, 11985), (358, 12042), (362, 12072), (364, 12081), (368, 12105), (371, 12117), (384, 12243),

Gene: Sippinontea\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Sippinontea\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: Slentz\_12 Start: 7546, Stop: 9651, Start Num: 11

Candidate Starts for Slentz\_12:

(Start: 11 @7546 has 124 MA's), (Start: 13 @7567 has 3 MA's), (32, 7744), (34, 7753), (37, 7777), (39, 7849), (42, 7873), (44, 7879), (55, 8029), (58, 8050), (60, 8062), (63, 8071), (83, 8278), (86, 8296), (103, 8383), (122, 8452), (125, 8464), (135, 8512), (139, 8542), (143, 8557), (148, 8593), (153, 8620), (157, 8641), (162, 8665), (170, 8689), (174, 8695), (193, 8722), (203, 8755), (212, 8794), (219, 8821), (224, 8842), (227, 8857), (241, 8884), (242, 8887), (248, 8908), (252, 8920), (253, 8926), (266, 8974), (283, 9049), (286, 9058), (288, 9085), (291, 9106), (304, 9169), (309, 9193), (318, 9250), (335, 9355), (337, 9376), (340, 9388), (345, 9430), (348, 9451), (351, 9472),

Gene: Slizam\_12 Start: 7579, Stop: 9684, Start Num: 11

Candidate Starts for Slizam\_12:

(Start: 11 @7579 has 124 MA's), (Start: 13 @7600 has 3 MA's), (32, 7777), (34, 7786), (37, 7810), (39, 7882), (42, 7906), (51, 8005), (58, 8083), (60, 8095), (63, 8104), (83, 8311), (86, 8329), (103, 8416), (122, 8485), (125, 8497), (135, 8545), (139, 8575), (143, 8590), (151, 8644), (157, 8674), (158, 8677), (162, 8698), (174, 8728), (193, 8755), (203, 8788), (212, 8827), (219, 8854), (221, 8860), (224, 8875), (227, 8890), (241, 8917), (242, 8920), (248, 8941), (252, 8953), (253, 8959), (266, 9007), (274, 9043), (286, 9091), (288, 9118), (291, 9139), (304, 9202), (309, 9226), (318, 9283), (335, 9388), (337, 9409), (345, 9463), (348, 9484), (351, 9505),

Gene: Snuffles\_13 Start: 7751, Stop: 9856, Start Num: 11

Candidate Starts for Snuffles\_13:

(Start: 11 @7751 has 124 MA's), (Start: 13 @7772 has 3 MA's), (32, 7949), (34, 7958), (37, 7982), (39, 8054), (42, 8078), (51, 8177), (58, 8255), (60, 8267), (63, 8276), (83, 8483), (86, 8501), (103, 8588), (122, 8657), (125, 8669), (135, 8717), (139, 8747), (143, 8762), (151, 8816), (157, 8846), (158, 8849), (162, 8870), (174, 8900), (193, 8927), (203, 8960), (212, 8999), (219, 9026), (221, 9032), (224, 9047), (227, 9062), (241, 9089), (242, 9092), (248, 9113), (252, 9125), (253, 9131), (266, 9179), (274, 9215), (286, 9263), (288, 9290), (291, 9311), (304, 9374), (309, 9398), (318, 9455), (335, 9560), (337, 9581), (345, 9635), (348, 9656), (351, 9677),

Gene: Sooty\_16 Start: 10245, Stop: 12665, Start Num: 6

Candidate Starts for Sooty\_16:

(Start: 6 @10245 has 24 MA's), (17, 10332), (20, 10389), (26, 10437), (29, 10449), (34, 10509), (41, 10620), (50, 10701), (63, 10827), (66, 10842), (70, 10896), (90, 11070), (105, 11154), (109, 11175), (115, 11196), (120, 11217), (127, 11268), (139, 11343), (144, 11364), (147, 11397), (158, 11454), (163, 11496), (168, 11511), (179, 11562), (188, 11598), (212, 11706), (217, 11727), (225, 11769), (228, 11781), (240, 11835), (252, 11883), (266, 11979), (294, 12135), (297, 12156), (298, 12168), (311, 12219), (333, 12369), (339, 12405), (344, 12438), (369, 12597),

Gene: SpecialK\_16 Start: 10242, Stop: 12662, Start Num: 6

Candidate Starts for SpecialK\_16:

(Start: 6 @10242 has 24 MA's), (17, 10329), (26, 10434), (29, 10446), (34, 10506), (41, 10617), (50, 10698), (63, 10824), (66, 10839), (70, 10893), (90, 11067), (105, 11151), (109, 11172), (120, 11214), (139, 11340), (144, 11361), (147, 11394), (158, 11451), (163, 11493), (168, 11508), (179, 11559), (188, 11595), (189, 11601), (212, 11703), (217, 11724), (225, 11766), (238, 11826), (240, 11832), (252, 11880), (266, 11976), (297, 12153), (298, 12165), (311, 12216), (322, 12297), (333, 12366), (339, 12402), (350, 12483), (354, 12498), (365, 12570), (369, 12594),

Gene: Stem\_12 Start: 7579, Stop: 9684, Start Num: 11

Candidate Starts for Stem\_12:

(Start: 11 @7579 has 124 MA's), (Start: 13 @7600 has 3 MA's), (32, 7777), (34, 7786), (37, 7810), (39, 7882), (42, 7906), (51, 8005), (55, 8062), (58, 8083), (60, 8095), (63, 8104), (83, 8311), (86, 8329), (103, 8416), (122, 8485), (125, 8497), (135, 8545), (139, 8575), (143, 8590), (151, 8644), (157, 8674), (158, 8677), (162, 8698), (174, 8728), (193, 8755), (203, 8788), (212, 8827), (219, 8854), (221, 8860), (224, 8875), (227, 8890), (241, 8917), (242, 8920), (248, 8941), (252, 8953), (253, 8959), (266, 9007), (274, 9043), (286, 9091), (288, 9118), (291, 9139), (304, 9202), (309, 9226), (318, 9283), (335, 9388), (337, 9409), (345, 9463), (348, 9484), (351, 9505),

Gene: Stuu\_17 Start: 10335, Stop: 12755, Start Num: 6

Candidate Starts for Stuu\_17:

(Start: 6 @10335 has 24 MA's), (17, 10422), (26, 10527), (29, 10539), (34, 10599), (41, 10710), (50, 10791), (63, 10917), (66, 10932), (70, 10986), (90, 11160), (105, 11244), (109, 11265), (120, 11307), (139, 11433), (144, 11454), (147, 11487), (158, 11544), (163, 11586), (168, 11601), (179, 11652), (188, 11688), (189, 11694), (212, 11796), (217, 11817), (225, 11859), (238, 11919), (240, 11925), (252, 11973), (266, 12069), (294, 12225), (297, 12246), (298, 12258), (311, 12309), (333, 12459),

(339, 12495), (365, 12663), (369, 12687),

Gene: SuMoo\_14 Start: 9221, Stop: 12058, Start Num: 6

Candidate Starts for SuMoo\_14:

(Start: 6 @9221 has 24 MA's), (43, 9584), (48, 9617), (53, 9689), (54, 9698), (59, 9752), (71, 9836), (72, 9866), (77, 9914), (79, 9935), (118, 10115), (146, 10304), (150, 10325), (194, 10529), (196, 10535), (199, 10550), (203, 10571), (243, 10745), (251, 10796), (273, 10895), (280, 10928), (293, 11009), (297, 11036), (302, 11063), (304, 11069), (318, 11150), (320, 11159), (322, 11180), (349, 11360), (383, 11612), (385, 11642), (386, 11657),

Gene: Supakev\_14 Start: 9740, Stop: 12298, Start Num: 5

Candidate Starts for Supakev\_14:

(Start: 5 @9740 has 83 MA's), (7, 9749), (8, 9779), (18, 9869), (30, 9965), (33, 10010), (35, 10028), (49, 10196), (56, 10292), (57, 10295), (58, 10310), (69, 10397), (93, 10601), (94, 10604), (110, 10688), (163, 10994), (177, 11054), (182, 11072), (184, 11078), (191, 11111), (194, 11123), (203, 11159), (209, 11186), (215, 11210), (216, 11216), (228, 11273), (234, 11297), (236, 11306), (241, 11321), (246, 11345), (248, 11357), (252, 11378), (253, 11384), (256, 11405), (259, 11429), (260, 11438), (263, 11456), (267, 11477), (268, 11483), (270, 11495), (277, 11528), (278, 11531), (281, 11543), (285, 11558), (286, 11561), (297, 11648), (315, 11738), (316, 11741), (322, 11792), (331, 11849), (332, 11858), (342, 11924), (343, 11927), (349, 11981), (356, 12020), (362, 12068), (364, 12077), (368, 12101), (371, 12113), (382, 12209), (384, 12239),

Gene: Suppi\_18 Start: 12647, Stop: 15202, Start Num: 5

Candidate Starts for Suppi\_18:

(3, 12626), (Start: 5 @12647 has 83 MA's), (10, 12695), (18, 12776), (20, 12800), (30, 12872), (34, 12920), (35, 12935), (36, 12941), (49, 13103), (52, 13148), (56, 13199), (57, 13202), (61, 13232), (74, 13370), (91, 13493), (102, 13553), (106, 13571), (109, 13586), (121, 13637), (157, 13868), (172, 13937), (177, 13961), (182, 13979), (184, 13985), (197, 14039), (200, 14051), (204, 14072), (210, 14096), (229, 14183), (235, 14207), (236, 14213), (237, 14216), (241, 14228), (245, 14249), (246, 14252), (247, 14258), (248, 14264), (250, 14273), (251, 14282), (252, 14285), (253, 14291), (257, 14315), (259, 14336), (260, 14345), (263, 14363), (267, 14384), (269, 14393), (270, 14402), (277, 14435), (278, 14438), (280, 14447), (281, 14450), (289, 14501), (305, 14591), (322, 14699), (324, 14711), (327, 14732), (328, 14735), (342, 14831), (343, 14834), (349, 14888), (356, 14927), (364, 14984), (372, 15026), (376, 15074), (382, 15116), (384, 15146),

Gene: TattModd\_18 Start: 12617, Stop: 15178, Start Num: 5

Candidate Starts for TattModd\_18:

(3, 12596), (Start: 5 @12617 has 83 MA's), (10, 12665), (14, 12698), (18, 12746), (20, 12770), (21, 12782), (30, 12842), (34, 12890), (35, 12905), (36, 12911), (46, 13031), (49, 13073), (56, 13169), (57, 13172), (61, 13202), (67, 13256), (79, 13397), (82, 13418), (87, 13442), (91, 13463), (92, 13472), (102, 13523), (106, 13541), (139, 13727), (163, 13871), (171, 13904), (177, 13931), (182, 13949), (184, 13955), (189, 13979), (191, 13988), (203, 14036), (209, 14063), (216, 14093), (218, 14099), (228, 14150), (232, 14165), (235, 14177), (236, 14183), (237, 14186), (240, 14195), (246, 14222), (248, 14234), (250, 14243), (252, 14255), (253, 14261), (256, 14282), (259, 14306), (260, 14315), (267, 14354), (270, 14372), (277, 14405), (278, 14408), (280, 14417), (281, 14420), (285, 14435), (297, 14525), (305, 14561), (322, 14669), (328, 14705), (342, 14801), (343, 14804), (349, 14858), (356, 14897), (362, 14945), (364, 14954), (368, 14978), (372, 14996), (376, 15047), (379, 15071), (382, 15089), (384, 15119),

Gene: TeddyBoy\_12 Start: 7547, Stop: 9652, Start Num: 11

Candidate Starts for TeddyBoy\_12:

(Start: 11 @7547 has 124 MA's), (Start: 13 @7568 has 3 MA's), (32, 7745), (34, 7754), (37, 7778), (39, 7850), (42, 7874), (44, 7880), (55, 8030), (58, 8051), (60, 8063), (63, 8072), (83, 8279), (86, 8297),



(103, 8384), (122, 8453), (125, 8465), (135, 8513), (139, 8543), (143, 8558), (148, 8594), (153, 8621), (157, 8642), (162, 8666), (170, 8690), (174, 8696), (193, 8723), (203, 8756), (212, 8795), (219, 8822), (224, 8843), (227, 8858), (241, 8885), (242, 8888), (248, 8909), (252, 8921), (253, 8927), (266, 8975), (283, 9050), (286, 9059), (288, 9086), (291, 9107), (304, 9170), (309, 9194), (318, 9251), (335, 9356), (337, 9377), (340, 9389), (345, 9431), (348, 9452), (351, 9473),

Gene: Temper16\_14 Start: 9744, Stop: 12302, Start Num: 5

Candidate Starts for Temper16\_14:

(Start: 5 @9744 has 83 MA's), (7, 9753), (8, 9783), (18, 9873), (21, 9909), (34, 10017), (35, 10032), (49, 10200), (56, 10296), (87, 10569), (91, 10590), (98, 10620), (102, 10650), (121, 10737), (140, 10860), (151, 10935), (163, 10998), (171, 11031), (175, 11052), (177, 11058), (182, 11076), (184, 11082), (189, 11106), (200, 11148), (203, 11163), (204, 11169), (211, 11196), (222, 11247), (229, 11280), (231, 11289), (236, 11310), (240, 11322), (246, 11349), (248, 11361), (250, 11370), (252, 11382), (253, 11388), (254, 11391), (257, 11412), (260, 11442), (263, 11460), (267, 11481), (269, 11490), (270, 11499), (277, 11532), (278, 11535), (281, 11547), (285, 11562), (296, 11646), (297, 11652), (305, 11688), (316, 11745), (317, 11754), (322, 11796), (331, 11853), (342, 11928), (343, 11931), (346, 11961), (349, 11985), (358, 12042), (362, 12072), (364, 12081), (368, 12105), (371, 12117), (384, 12243),

Gene: TimoTea\_12 Start: 7528, Stop: 9633, Start Num: 11

Candidate Starts for TimoTea\_12:

(Start: 11 @7528 has 124 MA's), (Start: 13 @7549 has 3 MA's), (32, 7726), (34, 7735), (37, 7759), (39, 7831), (42, 7855), (44, 7861), (55, 8011), (58, 8032), (60, 8044), (63, 8053), (83, 8260), (86, 8278), (103, 8365), (122, 8434), (125, 8446), (135, 8494), (139, 8524), (143, 8539), (148, 8575), (153, 8602), (157, 8623), (162, 8647), (170, 8671), (174, 8677), (193, 8704), (203, 8737), (212, 8776), (219, 8803), (224, 8824), (227, 8839), (241, 8866), (242, 8869), (248, 8890), (252, 8902), (253, 8908), (266, 8956), (283, 9031), (286, 9040), (288, 9067), (291, 9088), (304, 9151), (309, 9175), (318, 9232), (335, 9337), (337, 9358), (340, 9370), (345, 9412), (348, 9433), (351, 9454),

Gene: TinyTruffula\_12 Start: 7648, Stop: 9753, Start Num: 11

Candidate Starts for TinyTruffula\_12:

(Start: 11 @7648 has 124 MA's), (Start: 13 @7669 has 3 MA's), (32, 7846), (34, 7855), (37, 7879), (39, 7951), (42, 7975), (51, 8074), (55, 8131), (58, 8152), (60, 8164), (63, 8173), (83, 8380), (86, 8398), (103, 8485), (122, 8554), (125, 8566), (135, 8614), (139, 8644), (143, 8659), (157, 8743), (158, 8746), (162, 8767), (174, 8797), (193, 8824), (203, 8857), (212, 8896), (219, 8923), (221, 8929), (224, 8944), (227, 8959), (242, 8989), (248, 9010), (252, 9022), (253, 9028), (266, 9076), (274, 9112), (286, 9160), (288, 9187), (291, 9208), (304, 9271), (309, 9295), (318, 9352), (335, 9457), (337, 9478), (345, 9532), (348, 9553), (351, 9574),

Gene: TomBrady12\_12 Start: 7580, Stop: 9685, Start Num: 11

Candidate Starts for TomBrady12\_12:

(Start: 11 @7580 has 124 MA's), (Start: 13 @7601 has 3 MA's), (32, 7778), (34, 7787), (37, 7811), (39, 7883), (42, 7907), (51, 8006), (58, 8084), (60, 8096), (63, 8105), (83, 8312), (86, 8330), (103, 8417), (122, 8486), (125, 8498), (135, 8546), (139, 8576), (143, 8591), (151, 8645), (157, 8675), (158, 8678), (162, 8699), (174, 8729), (193, 8756), (203, 8789), (212, 8828), (219, 8855), (221, 8861), (224, 8876), (227, 8891), (241, 8918), (242, 8921), (248, 8942), (252, 8954), (253, 8960), (266, 9008), (274, 9044), (286, 9092), (288, 9119), (291, 9140), (304, 9203), (309, 9227), (318, 9284), (335, 9389), (337, 9410), (345, 9464), (348, 9485), (351, 9506),

Gene: Trackstar\_11 Start: 7648, Stop: 9753, Start Num: 11

Candidate Starts for Trackstar\_11:

(Start: 11 @7648 has 124 MA's), (Start: 13 @7669 has 3 MA's), (32, 7846), (34, 7855), (37, 7879), (39, 7951), (42, 7975), (51, 8074), (55, 8131), (58, 8152), (60, 8164), (63, 8173), (83, 8380), (86, 8398),

(103, 8485), (122, 8554), (125, 8566), (135, 8614), (139, 8644), (143, 8659), (151, 8713), (157, 8743), (158, 8746), (162, 8767), (174, 8797), (193, 8824), (203, 8857), (212, 8896), (219, 8923), (221, 8929), (224, 8944), (227, 8959), (242, 8989), (248, 9010), (252, 9022), (253, 9028), (266, 9076), (274, 9112), (286, 9160), (288, 9187), (291, 9208), (304, 9271), (309, 9295), (318, 9352), (335, 9457), (337, 9478), (345, 9532), (348, 9553), (351, 9574),

Gene: Trireme\_12 Start: 7646, Stop: 9751, Start Num: 11

Candidate Starts for Trireme\_12:

(Start: 11 @7646 has 124 MA's), (Start: 13 @7667 has 3 MA's), (32, 7844), (34, 7853), (37, 7877), (39, 7949), (42, 7973), (51, 8072), (55, 8129), (58, 8150), (60, 8162), (63, 8171), (83, 8378), (86, 8396), (103, 8483), (122, 8552), (125, 8564), (135, 8612), (139, 8642), (143, 8657), (151, 8711), (157, 8741), (158, 8744), (162, 8765), (174, 8795), (193, 8822), (203, 8855), (212, 8894), (219, 8921), (221, 8927), (224, 8942), (227, 8957), (242, 8987), (248, 9008), (252, 9020), (253, 9026), (266, 9074), (274, 9110), (286, 9158), (288, 9185), (291, 9206), (304, 9269), (309, 9293), (318, 9350), (335, 9455), (337, 9476), (345, 9530), (348, 9551), (351, 9572),

Gene: Upsilon\_12 Start: 7615, Stop: 9720, Start Num: 11

Candidate Starts for Upsilon\_12:

(Start: 11 @7615 has 124 MA's), (Start: 13 @7636 has 3 MA's), (32, 7813), (34, 7822), (37, 7846), (39, 7918), (42, 7942), (51, 8041), (55, 8098), (58, 8119), (60, 8131), (63, 8140), (83, 8347), (86, 8365), (103, 8452), (122, 8521), (125, 8533), (135, 8581), (139, 8611), (143, 8626), (151, 8680), (157, 8710), (158, 8713), (162, 8734), (174, 8764), (193, 8791), (203, 8824), (212, 8863), (219, 8890), (221, 8896), (224, 8911), (227, 8926), (242, 8956), (248, 8977), (252, 8989), (253, 8995), (266, 9043), (274, 9079), (286, 9127), (288, 9154), (291, 9175), (304, 9238), (309, 9262), (318, 9319), (335, 9424), (337, 9445), (340, 9457), (345, 9499), (348, 9520), (351, 9541),

Gene: Urla\_14 Start: 9754, Stop: 12303, Start Num: 5

Candidate Starts for Urla\_14:

(Start: 5 @9754 has 83 MA's), (18, 9883), (21, 9919), (34, 10027), (35, 10042), (47, 10189), (49, 10210), (56, 10306), (68, 10396), (91, 10600), (102, 10660), (104, 10669), (163, 10996), (175, 11050), (177, 11056), (182, 11074), (191, 11113), (203, 11161), (218, 11224), (229, 11278), (235, 11302), (236, 11308), (246, 11347), (248, 11359), (251, 11377), (252, 11380), (253, 11386), (254, 11389), (256, 11407), (260, 11440), (263, 11458), (267, 11479), (269, 11488), (270, 11497), (277, 11530), (278, 11533), (280, 11542), (281, 11545), (285, 11560), (296, 11644), (305, 11686), (322, 11794), (324, 11806), (331, 11851), (332, 11860), (342, 11926), (343, 11929), (349, 11983), (356, 12022), (362, 12070), (364, 12079), (368, 12103), (371, 12115), (376, 12172), (377, 12178), (384, 12244), (386, 12286),

Gene: UtzChips\_14 Start: 9915, Stop: 12263, Start Num: 6

Candidate Starts for UtzChips\_14:

(Start: 6 @9915 has 24 MA's), (26, 10098), (37, 10194), (45, 10302), (50, 10362), (70, 10557), (75, 10620), (85, 10704), (86, 10716), (87, 10719), (99, 10770), (106, 10821), (126, 10908), (136, 10968), (139, 10992), (154, 11073), (166, 11133), (173, 11154), (187, 11214), (192, 11235), (194, 11244), (206, 11295), (226, 11382), (228, 11391), (248, 11487), (249, 11493), (255, 11526), (276, 11622), (286, 11661), (309, 11799), (319, 11862), (336, 11973), (351, 12078), (357, 12114),

Gene: VResidence\_16 Start: 10828, Stop: 13143, Start Num: 6

Candidate Starts for VResidence\_16:

(Start: 6 @10828 has 24 MA's), (9, 10861), (17, 10915), (21, 10984), (37, 11116), (38, 11143), (45, 11224), (49, 11275), (50, 11284), (55, 11368), (70, 11479), (73, 11530), (84, 11620), (90, 11644), (96, 11671), (116, 11764), (149, 11956), (154, 11983), (161, 12016), (168, 12049), (181, 12067), (183, 12073), (193, 12115), (196, 12124), (198, 12136), (213, 12190), (219, 12214), (229, 12256), (230, 12262), (241, 12310), (252, 12355), (255, 12373), (257, 12385), (262, 12430), (275, 12496), (277,

12505), (317, 12730), (319, 12748), (320, 12751), (329, 12817), (336, 12862), (339, 12880), (342, 12901), (359, 13012), (369, 13078),

Gene: Vallejo\_18 Start: 12556, Stop: 15117, Start Num: 5

Candidate Starts for Vallejo\_18:

(3, 12535), (Start: 5 @12556 has 83 MA's), (10, 12604), (14, 12637), (18, 12685), (20, 12709), (21, 12721), (30, 12781), (34, 12829), (35, 12844), (36, 12850), (46, 12970), (49, 13012), (56, 13108), (57, 13111), (61, 13141), (67, 13195), (68, 13198), (79, 13336), (82, 13357), (87, 13381), (91, 13402), (92, 13411), (102, 13462), (106, 13480), (139, 13666), (163, 13810), (171, 13843), (177, 13870), (182, 13888), (184, 13894), (189, 13918), (191, 13927), (203, 13975), (209, 14002), (210, 14005), (215, 14026), (216, 14032), (218, 14038), (228, 14089), (232, 14104), (235, 14116), (236, 14122), (237, 14125), (240, 14134), (246, 14161), (248, 14173), (250, 14182), (252, 14194), (253, 14200), (256, 14221), (260, 14254), (267, 14293), (277, 14344), (278, 14347), (280, 14356), (281, 14359), (285, 14374), (297, 14464), (305, 14500), (322, 14608), (328, 14644), (342, 14740), (343, 14743), (349, 14797), (356, 14836), (362, 14884), (364, 14893), (368, 14917), (372, 14935), (376, 14986), (379, 15010), (382, 15028), (384, 15058),

Gene: Vanisius\_12 Start: 7552, Stop: 9657, Start Num: 11

Candidate Starts for Vanisius\_12:

(Start: 11 @7552 has 124 MA's), (Start: 13 @7573 has 3 MA's), (32, 7750), (34, 7759), (37, 7783), (39, 7855), (42, 7879), (44, 7885), (55, 8035), (58, 8056), (60, 8068), (63, 8077), (83, 8284), (86, 8302), (103, 8389), (122, 8458), (125, 8470), (135, 8518), (139, 8548), (143, 8563), (148, 8599), (153, 8626), (157, 8647), (162, 8671), (170, 8695), (174, 8701), (193, 8728), (203, 8761), (212, 8800), (219, 8827), (224, 8848), (227, 8863), (241, 8890), (242, 8893), (248, 8914), (252, 8926), (253, 8932), (266, 8980), (283, 9055), (286, 9064), (288, 9091), (291, 9112), (304, 9175), (309, 9199), (318, 9256), (335, 9361), (337, 9382), (340, 9394), (345, 9436), (348, 9457), (351, 9478),

Gene: VitulaEligans\_12 Start: 7636, Stop: 9741, Start Num: 11

Candidate Starts for VitulaEligans\_12:

(Start: 11 @7636 has 124 MA's), (Start: 13 @7657 has 3 MA's), (32, 7834), (34, 7843), (37, 7867), (39, 7939), (42, 7963), (44, 7969), (55, 8119), (58, 8140), (60, 8152), (63, 8161), (83, 8368), (86, 8386), (103, 8473), (122, 8542), (125, 8554), (135, 8602), (139, 8632), (143, 8647), (153, 8710), (157, 8731), (162, 8755), (170, 8779), (174, 8785), (193, 8812), (203, 8845), (212, 8884), (219, 8911), (224, 8932), (227, 8947), (241, 8974), (242, 8977), (248, 8998), (252, 9010), (253, 9016), (266, 9064), (274, 9100), (283, 9139), (286, 9148), (288, 9175), (291, 9196), (304, 9259), (309, 9283), (318, 9340), (335, 9445), (337, 9466), (340, 9478), (345, 9520), (348, 9541), (351, 9562), (373, 9691),

Gene: Vulture\_14 Start: 9738, Stop: 12296, Start Num: 5

Candidate Starts for Vulture\_14:

(Start: 5 @9738 has 83 MA's), (7, 9747), (8, 9777), (18, 9867), (30, 9963), (35, 10026), (49, 10194), (56, 10290), (57, 10293), (58, 10308), (69, 10395), (74, 10461), (93, 10599), (94, 10602), (110, 10686), (163, 10992), (177, 11052), (182, 11070), (184, 11076), (191, 11109), (194, 11121), (203, 11157), (209, 11184), (215, 11208), (216, 11214), (228, 11271), (234, 11295), (236, 11304), (241, 11319), (246, 11343), (248, 11355), (252, 11376), (253, 11382), (256, 11403), (259, 11427), (260, 11436), (263, 11454), (267, 11475), (268, 11481), (270, 11493), (277, 11526), (278, 11529), (281, 11541), (285, 11556), (286, 11559), (297, 11646), (315, 11736), (316, 11739), (322, 11790), (331, 11847), (332, 11856), (334, 11868), (342, 11922), (343, 11925), (349, 11979), (356, 12018), (362, 12066), (364, 12075), (368, 12099), (371, 12111), (382, 12207), (384, 12237),

Gene: Wawa\_18 Start: 12593, Stop: 15154, Start Num: 5

Candidate Starts for Wawa\_18:

(3, 12572), (Start: 5 @12593 has 83 MA's), (10, 12641), (14, 12674), (18, 12722), (20, 12746), (21, 12758), (30, 12818), (34, 12866), (35, 12881), (36, 12887), (46, 13007), (49, 13049), (56, 13145), (57,

13148), (61, 13178), (67, 13232), (79, 13373), (82, 13394), (87, 13418), (91, 13439), (92, 13448), (102, 13499), (106, 13517), (139, 13703), (163, 13847), (171, 13880), (177, 13907), (182, 13925), (184, 13931), (189, 13955), (191, 13964), (203, 14012), (209, 14039), (210, 14042), (215, 14063), (216, 14069), (218, 14075), (228, 14126), (232, 14141), (235, 14153), (236, 14159), (237, 14162), (240, 14171), (246, 14198), (248, 14210), (250, 14219), (252, 14231), (253, 14237), (256, 14258), (260, 14291), (267, 14330), (277, 14381), (278, 14384), (280, 14393), (281, 14396), (285, 14411), (297, 14501), (305, 14537), (322, 14645), (328, 14681), (342, 14777), (343, 14780), (349, 14834), (356, 14873), (362, 14921), (364, 14930), (368, 14954), (372, 14972), (376, 15023), (379, 15047), (382, 15065), (384, 15095),

Gene: Wayne\_18 Start: 12693, Stop: 15248, Start Num: 5

Candidate Starts for Wayne\_18:

(3, 12672), (Start: 5 @12693 has 83 MA's), (10, 12741), (18, 12822), (20, 12846), (30, 12918), (34, 12966), (35, 12981), (36, 12987), (49, 13149), (52, 13194), (56, 13245), (57, 13248), (61, 13278), (74, 13416), (91, 13539), (102, 13599), (106, 13617), (109, 13632), (121, 13683), (157, 13914), (172, 13983), (177, 14007), (182, 14025), (184, 14031), (197, 14085), (200, 14097), (204, 14118), (210, 14142), (229, 14229), (235, 14253), (236, 14259), (237, 14262), (241, 14274), (245, 14295), (246, 14298), (247, 14304), (248, 14310), (251, 14328), (252, 14331), (253, 14337), (259, 14382), (260, 14391), (263, 14409), (267, 14430), (269, 14439), (270, 14448), (277, 14481), (278, 14484), (280, 14493), (281, 14496), (289, 14547), (305, 14637), (322, 14745), (324, 14757), (327, 14778), (328, 14781), (342, 14877), (343, 14880), (349, 14934), (356, 14973), (364, 15030), (372, 15072), (376, 15120), (382, 15162), (384, 15192),

Gene: Witch\_12 Start: 7541, Stop: 9646, Start Num: 11

Candidate Starts for Witch\_12:

(Start: 11 @7541 has 124 MA's), (Start: 13 @7562 has 3 MA's), (32, 7739), (34, 7748), (37, 7772), (39, 7844), (42, 7868), (44, 7874), (55, 8024), (58, 8045), (60, 8057), (63, 8066), (83, 8273), (86, 8291), (103, 8378), (122, 8447), (125, 8459), (135, 8507), (139, 8537), (143, 8552), (148, 8588), (153, 8615), (157, 8636), (162, 8660), (170, 8684), (174, 8690), (193, 8717), (203, 8750), (212, 8789), (219, 8816), (224, 8837), (227, 8852), (241, 8879), (242, 8882), (248, 8903), (252, 8915), (253, 8921), (266, 8969), (274, 9005), (286, 9053), (288, 9080), (291, 9101), (304, 9164), (309, 9188), (318, 9245), (335, 9350), (337, 9371), (340, 9383), (345, 9425), (348, 9446), (351, 9467), (373, 9596),

Gene: Wolfpack\_12 Start: 7533, Stop: 9638, Start Num: 11

Candidate Starts for Wolfpack\_12:

(Start: 11 @7533 has 124 MA's), (Start: 13 @7554 has 3 MA's), (32, 7731), (34, 7740), (37, 7764), (39, 7836), (42, 7860), (44, 7866), (51, 7959), (55, 8016), (58, 8037), (60, 8049), (63, 8058), (83, 8265), (86, 8283), (103, 8370), (122, 8439), (125, 8451), (135, 8499), (139, 8529), (143, 8544), (148, 8580), (153, 8607), (158, 8631), (162, 8652), (170, 8676), (174, 8682), (193, 8709), (203, 8742), (212, 8781), (219, 8808), (224, 8829), (227, 8844), (241, 8871), (242, 8874), (252, 8907), (253, 8913), (266, 8961), (274, 8997), (286, 9045), (288, 9072), (291, 9093), (304, 9156), (309, 9180), (318, 9237), (335, 9342), (337, 9363), (340, 9375), (345, 9417), (348, 9438), (351, 9459), (373, 9588),

Gene: WonderBoy\_14 Start: 9710, Stop: 12271, Start Num: 5

Candidate Starts for WonderBoy\_14:

(3, 9689), (Start: 5 @9710 has 83 MA's), (10, 9758), (18, 9839), (20, 9863), (30, 9935), (34, 9983), (35, 9998), (36, 10004), (49, 10166), (56, 10262), (57, 10265), (61, 10295), (74, 10433), (82, 10511), (91, 10556), (92, 10565), (102, 10616), (106, 10634), (108, 10646), (115, 10670), (149, 10886), (167, 10976), (171, 10997), (177, 11024), (182, 11042), (184, 11048), (189, 11072), (191, 11081), (203, 11129), (209, 11156), (216, 11186), (228, 11243), (232, 11258), (235, 11270), (236, 11276), (237, 11279), (240, 11288), (246, 11315), (248, 11327), (250, 11336), (252, 11348), (253, 11354), (257, 11378), (259, 11399), (260, 11408), (262, 11423), (267, 11447), (277, 11498), (278, 11501), (281, 11513), (286, 11531), (297, 11618), (305, 11654), (322, 11762), (324, 11774), (327, 11795), (328,

11798), (331, 11819), (342, 11894), (343, 11897), (347, 11930), (349, 11951), (356, 11990), (358, 12008), (362, 12038), (364, 12047), (377, 12146), (384, 12212),

Gene: Yami\_12 Start: 7552, Stop: 9636, Start Num: 13

Candidate Starts for Yami\_12:

(Start: 11 @7531 has 124 MA's), (Start: 13 @7552 has 3 MA's), (32, 7729), (34, 7738), (37, 7762), (39, 7834), (42, 7858), (51, 7957), (55, 8014), (58, 8035), (60, 8047), (63, 8056), (83, 8263), (86, 8281), (103, 8368), (122, 8437), (125, 8449), (135, 8497), (139, 8527), (143, 8542), (157, 8626), (158, 8629), (162, 8650), (174, 8680), (193, 8707), (203, 8740), (212, 8779), (219, 8806), (221, 8812), (224, 8827), (227, 8842), (242, 8872), (248, 8893), (252, 8905), (253, 8911), (266, 8959), (274, 8995), (286, 9043), (288, 9070), (291, 9091), (304, 9154), (309, 9178), (318, 9235), (335, 9340), (337, 9361), (345, 9415), (348, 9436), (351, 9457),

Gene: Yasuo\_12 Start: 7537, Stop: 9642, Start Num: 11

Candidate Starts for Yasuo\_12:

(Start: 11 @7537 has 124 MA's), (Start: 13 @7558 has 3 MA's), (32, 7735), (34, 7744), (37, 7768), (39, 7840), (42, 7864), (44, 7870), (55, 8020), (58, 8041), (60, 8053), (63, 8062), (83, 8269), (86, 8287), (103, 8374), (122, 8443), (125, 8455), (135, 8503), (139, 8533), (143, 8548), (148, 8584), (153, 8611), (157, 8632), (162, 8656), (170, 8680), (174, 8686), (193, 8713), (203, 8746), (212, 8785), (219, 8812), (224, 8833), (227, 8848), (241, 8875), (242, 8878), (248, 8899), (252, 8911), (253, 8917), (266, 8965), (283, 9040), (286, 9049), (288, 9076), (291, 9097), (304, 9160), (309, 9184), (318, 9241), (335, 9346), (337, 9367), (340, 9379), (345, 9421), (348, 9442), (351, 9463),

Gene: YertPhresh\_12 Start: 7540, Stop: 9645, Start Num: 11

Candidate Starts for YertPhresh\_12:

(Start: 11 @7540 has 124 MA's), (Start: 13 @7561 has 3 MA's), (32, 7738), (34, 7747), (37, 7771), (39, 7843), (42, 7867), (44, 7873), (55, 8023), (58, 8044), (60, 8056), (63, 8065), (83, 8272), (86, 8290), (103, 8377), (122, 8446), (125, 8458), (135, 8506), (139, 8536), (143, 8551), (148, 8587), (153, 8614), (157, 8635), (162, 8659), (170, 8683), (174, 8689), (193, 8716), (203, 8749), (212, 8788), (219, 8815), (224, 8836), (227, 8851), (241, 8878), (242, 8881), (248, 8902), (252, 8914), (253, 8920), (266, 8968), (274, 9004), (286, 9052), (288, 9079), (291, 9100), (304, 9163), (309, 9187), (318, 9244), (335, 9349), (337, 9370), (340, 9382), (345, 9424), (348, 9445), (351, 9466), (373, 9595),

Gene: Yubaba\_12 Start: 7574, Stop: 9679, Start Num: 11

Candidate Starts for Yubaba\_12:

(Start: 11 @7574 has 124 MA's), (Start: 13 @7595 has 3 MA's), (32, 7772), (34, 7781), (37, 7805), (39, 7877), (42, 7901), (44, 7907), (55, 8057), (58, 8078), (60, 8090), (63, 8099), (83, 8306), (86, 8324), (103, 8411), (122, 8480), (125, 8492), (135, 8540), (139, 8570), (143, 8585), (148, 8621), (153, 8648), (157, 8669), (162, 8693), (170, 8717), (174, 8723), (193, 8750), (203, 8783), (212, 8822), (219, 8849), (224, 8870), (227, 8885), (241, 8912), (242, 8915), (248, 8936), (252, 8948), (253, 8954), (266, 9002), (274, 9038), (286, 9086), (288, 9113), (291, 9134), (304, 9197), (309, 9221), (318, 9278), (335, 9383), (337, 9404), (340, 9416), (345, 9458), (348, 9479), (351, 9500), (373, 9629),

Gene: Zahlia\_12 Start: 7645, Stop: 9750, Start Num: 11

Candidate Starts for Zahlia\_12:

(Start: 11 @7645 has 124 MA's), (Start: 13 @7666 has 3 MA's), (32, 7843), (34, 7852), (37, 7876), (39, 7948), (42, 7972), (44, 7978), (55, 8128), (58, 8149), (60, 8161), (63, 8170), (83, 8377), (86, 8395), (103, 8482), (122, 8551), (125, 8563), (135, 8611), (139, 8641), (143, 8656), (148, 8692), (153, 8719), (157, 8740), (162, 8764), (170, 8788), (174, 8794), (193, 8821), (203, 8854), (212, 8893), (219, 8920), (224, 8941), (227, 8956), (241, 8983), (242, 8986), (248, 9007), (252, 9019), (253, 9025), (266, 9073), (283, 9148), (286, 9157), (288, 9184), (291, 9205), (304, 9268), (309, 9292), (318, 9349), (335, 9454), (337, 9475), (340, 9487), (345, 9529), (348, 9550), (351, 9571), (373, 9700),

Gene: Zeta1847\_14 Start: 9068, Stop: 11329, Start Num: 4

Candidate Starts for Zeta1847\_14:

(Start: 4 @9068 has 1 MA's), (16, 9158), (19, 9203), (22, 9230), (26, 9254), (27, 9260), (37, 9350), (45, 9458), (50, 9518), (70, 9713), (75, 9776), (87, 9875), (89, 9884), (112, 9986), (137, 10118), (141, 10139), (148, 10184), (170, 10283), (179, 10319), (180, 10325), (192, 10364), (204, 10415), (212, 10448), (223, 10487), (236, 10523), (253, 10580), (276, 10673), (277, 10679), (286, 10712), (291, 10760), (319, 10910), (321, 10922), (334, 11006), (361, 11186),

Gene: Zorro\_18 Start: 12572, Stop: 15133, Start Num: 5

Candidate Starts for Zorro\_18:

(3, 12551), (Start: 5 @12572 has 83 MA's), (10, 12620), (14, 12653), (18, 12701), (20, 12725), (21, 12737), (30, 12797), (34, 12845), (35, 12860), (36, 12866), (46, 12986), (49, 13028), (56, 13124), (57, 13127), (61, 13157), (67, 13211), (79, 13352), (82, 13373), (87, 13397), (91, 13418), (92, 13427), (102, 13478), (106, 13496), (139, 13682), (163, 13826), (171, 13859), (177, 13886), (182, 13904), (184, 13910), (189, 13934), (191, 13943), (203, 13991), (209, 14018), (210, 14021), (215, 14042), (218, 14054), (228, 14105), (232, 14120), (235, 14132), (237, 14141), (240, 14150), (246, 14177), (248, 14189), (250, 14198), (252, 14210), (253, 14216), (256, 14237), (259, 14261), (260, 14270), (267, 14309), (277, 14360), (278, 14363), (280, 14372), (281, 14375), (285, 14390), (297, 14480), (305, 14516), (322, 14624), (328, 14660), (342, 14756), (343, 14759), (349, 14813), (356, 14852), (362, 14900), (364, 14909), (368, 14933), (372, 14951), (376, 15002), (379, 15026), (382, 15044), (384, 15074),