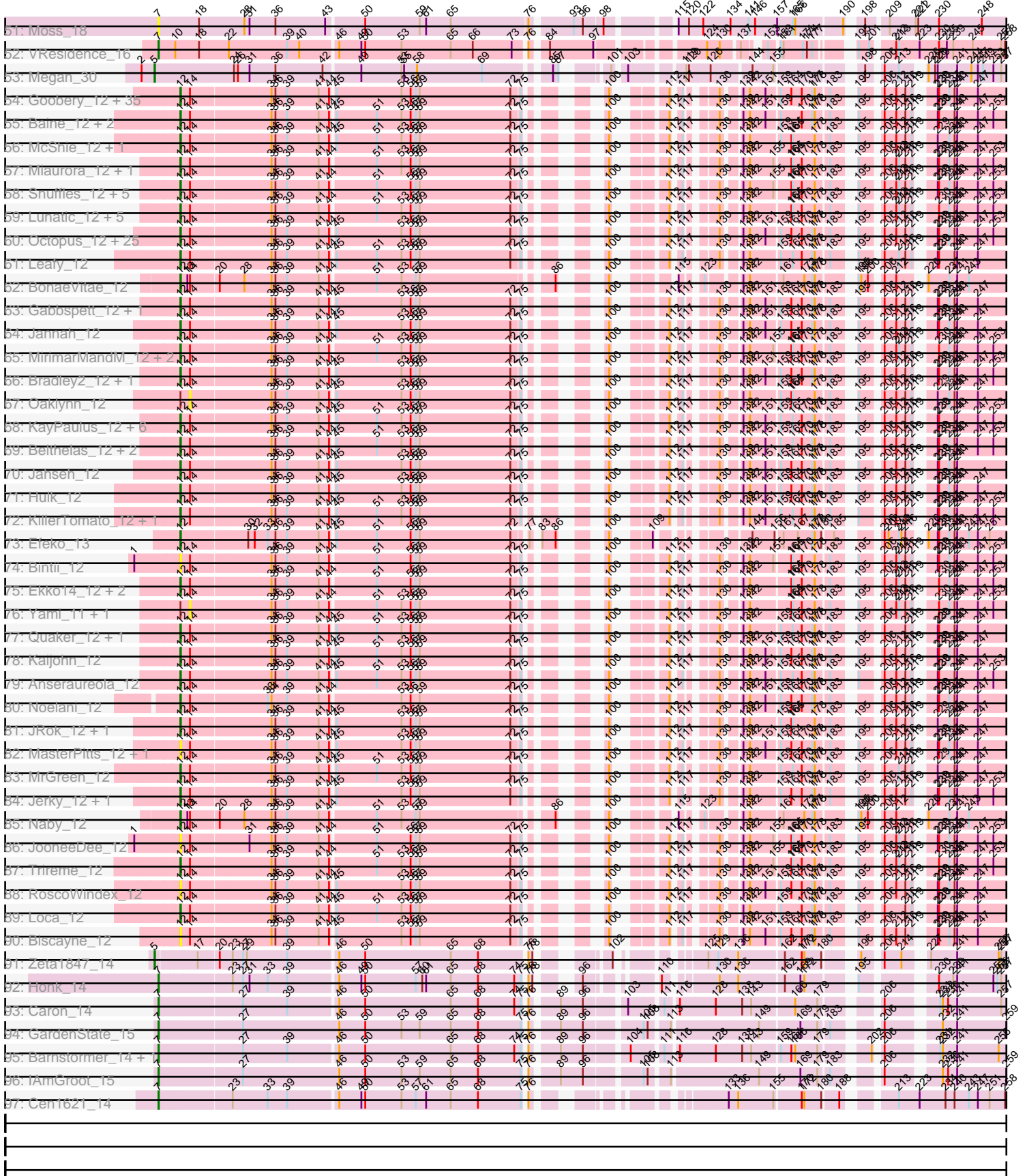




# Zoomed Pham 157566



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 157566 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157566 has 226 members, 31 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, Herb\_14, Temper16\_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 : Potatoes\_18, Cholula\_18, Immaculata\_18
- Track 20 : Urla\_14
- Track 21 : AppleCider\_18
- Track 22 : PinkFriday\_14
- Track 23 : Lakshmi\_18
- Track 24 : GreenHearts\_18
- Track 25 : Fluke\_18, Glenn\_18, TattModd\_18, Savage2526\_18
- Track 26 : Lucy\_14
- Track 27 : Wawa\_18
- Track 28 : Korra\_19
- Track 29 : Gisselle\_14, DreamTeam\_14
- 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 : ChewChew\_14
- Track 43 : Pterodactyl\_14
- Track 44 : Joann\_18
- Track 45 : Preamble\_14
- Track 46 : CallieOMalley\_18
- Track 47 : Supakev\_14
- Track 48 : Misaeng\_18
- Track 49 : WonderBoy\_14
- Track 50 : BrotherBLo\_18
- Track 51 : Moss\_18
- Track 52 : VResidence\_16
- Track 53 : Megan\_30
- Track 54 : Goobery\_12, JaimeB\_12, BurtonThePup\_12, Otwor\_12, Burgy\_12, Rhogar\_12, Slentz\_12, Rhysand\_12, Ciel\_12, NeumannU\_12, BinkBonk\_12, Josuke\_12, SantasSleigh\_13, Owens\_12, Cheesecake\_12, Godfather\_12, Luxx\_12, Scrunchy\_12, Danno\_12, Charbie\_12, Vanisius\_12, LionelHutz\_12, Scamander\_12, Maneater\_12, Aries55\_12, Majesty\_12, BarBear\_12, Kojax4\_12, Astro16\_12, TeddyBoy\_12, Avvas\_12, Yasuo\_12, LaviMo\_12, Eightball\_12, Sage7\_13, TimoTea\_12
- Track 55 : Baine\_12, Lola20\_12, Cayde6\_12
- Track 56 : McShie\_12, BrokMonster\_12
- Track 57 : Miaurora\_12, Stem\_11
- Track 58 : Snuffles\_12, Namsahir\_12, Bullzi2019\_12, TomBrady12\_12, Publix\_12, Slizam\_11
- Track 59 : Lunatic\_12, Nobel\_12, PuffyCat\_12, TinyTruffula\_12, Clownery\_12, Niffler\_12
- Track 60 : Octopus\_12, Alucard\_12, EdElric\_12, Puddles3\_12, Horacetta\_12, SeaWolves\_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, Sara\_12, Witch\_12, Dongwon\_12, YertPhresh\_12, Yubaba\_12
- Track 61 : Leafy\_12
- Track 62 : BonaeVitae\_12
- Track 63 : Gabbspett\_12, Hernandez44\_12
- Track 64 : Jannah\_12
- Track 65 : MirimarMandM\_12, Upsilon\_12, PoRanda\_12
- Track 66 : Bradley2\_12, Gillker\_12
- Track 67 : Oaklynn\_12
- Track 68 : KayPaulus\_12, MelBee03\_12, Bodhi17\_12, Wolfpack\_12, Sippinontea\_12, Douggie\_12, Kevanna\_12
- Track 69 : Belthelas\_12, Concrete\_12, BoomRoasted\_12
- Track 70 : Jahseh\_12
- Track 71 : Hulk\_12
- Track 72 : KillerTomato\_12, Bri160\_12
- Track 73 : Efeko\_13
- Track 74 : Bintii\_12
- Track 75 : Ekko14\_12, HarperAnne\_12, Elspeth\_11
- Track 76 : Yami\_11, Cazares\_11

- Track 77 : Quaker\_12, Livingwater\_12
- Track 78 : Kaijohn\_12
- Track 79 : Anseraureola\_12
- Track 80 : Noelani\_12
- Track 81 : JRok\_12, Azizam\_12
- Track 82 : MasterPitts\_12, DaftyDuck\_12
- Track 83 : MrGreen\_12
- Track 84 : Jerky\_12, VitulaEligans\_12
- Track 85 : Naby\_12
- Track 86 : JooneeDee\_12
- Track 87 : Trireme\_12
- Track 88 : RoscoWindex\_12
- Track 89 : Loca\_12
- Track 90 : Biscayne\_12
- Track 91 : Zeta1847\_14
- Track 92 : Honk\_14
- Track 93 : Caron\_14
- Track 94 : GardenState\_15
- Track 95 : Barnstormer\_14, UtzChips\_14
- Track 96 : IAmGroot\_15
- Track 97 : 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 12, it was called in 105 of the 195 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, Dongwon\_12, Dooby\_12, Duggie\_12, EdElric\_12, Efeko\_13, Eightball\_12, Ekko14\_12, Elspeth\_11, Erin\_12, Gabbspett\_12, Gardevoir\_12, Gillker\_12, Godfather\_12, GoldenBlanche\_12, Goobery\_12, HarperAnne\_12, Hernandez44\_12, Horacetta\_12, Hulk\_12, JRok\_12, Jahseh\_12, JaimeB\_12, Jannah\_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, Majesty\_12, ManAs\_12, Maneater\_12, MasterPitts\_12, McShie\_12, MelBee03\_12, Miaurora\_12, Minima\_12, MirimarMandM\_12, MrGreen\_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\_13, SantasSleigh\_13, Sara\_12, Scamander\_12, Scrunchy\_12, SeaWolves\_12, Sippinontea\_12, Slentz\_12, Slizam\_11, Snuffles\_12, Stem\_11, TeddyBoy\_12, TimoTea\_12, TinyTruffula\_12, TomBrady12\_12, Trireme\_12, Upsilon\_12, Vanisius\_12, VitulaEligans\_12, Witch\_12, Wolfpack\_12, Yasuo\_12, YertPhresh\_12, Yubaba\_12,

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

- Cazares\_11, Oaklynn\_12, Yami\_11,

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

- Albanese\_18, Aledel\_14, AppleCider\_18, AustinPowers\_14, Barnstormer\_14, Beethoven\_18, Bennie\_14, BigMack\_14, Bodacious\_14, BrotherBLo\_18, CallieOMalley\_18, Canowicakte\_18, Caron\_14, Carpal\_18, Cen1621\_14, ChewChew\_14, Cholula\_18, Chridison\_14, Christian\_14, CristinaYang\_14, Daiboju\_14, Dino\_18, DrRobert\_14, DreamTeam\_14, EstebanJulior\_14, Eunoia\_14, Fluke\_18, GardenState\_15, Gisselle\_14, Glenn\_18, GreenHearts\_18, Greenhouse\_18, HeadNerd\_14, Herb\_14, Honk\_14, Huckleberry\_14, HunterDalle\_14, Huntingdon\_18, IAmGroot\_15, Immaculata\_18, Joann\_18, Jumboset\_18, Kalizoi\_18, KingBob\_14, Kittykat\_14, Korra\_19, Lakshmi\_18, Lasagna\_14, Lennox\_14, LilStuart\_14, Litotes\_18, Lucy\_14, Makoto\_14, MamaPearl\_14, Maria1952\_14, MeganNoll\_18, Megan\_30, Misaeng\_18, Moki\_14, Moss\_18, MrGloopy\_18, Nancia\_14, Nubia\_18, OMalley\_14, OurGirlNessie\_14, Oxyfnrius\_18, PartyCup\_18, PinkFriday\_14, PitaDog\_14, Potatoes\_18, Preamble\_14, Pterodactyl\_14, Pumancara\_14, RAP15\_18, RcigaStruga\_18, Riovina\_14, Riverdale\_18, Rozby\_18, Savage2526\_18, Scuttle\_18, Sergei\_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 5:

- Found in 2 of 226 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 195
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Megan\_30 (EC), Zeta1847\_14 (EH),

Start 6:

- Found in 84 of 226 ( 37.2% ) of genes in pham
- Manual Annotations of this start: 80 of 195
- 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), Oxyfnrius\_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 7:

- Found in 9 of 226 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 8 of 195
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnstormer\_14 (EH), Caron\_14 (EH), Cen1621\_14 (EH), GardenState\_15 (EH), Honk\_14 (EH), IAmGroot\_15 (EH), Moss\_18 (AZ), UtzChips\_14 (EH), VResidence\_16 (AZ1),

#### Start 12:

- Found in 131 of 226 ( 58.0% ) of genes in pham
- Manual Annotations of this start: 105 of 195
- Called 97.7% 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), Dongwon\_12 (EE), Dooby\_12 (EE), Douggie\_12 (EE), EdElric\_12 (EE), Efeko\_13 (EE), Eightball\_12 (EE), Ekko14\_12 (EE), Elspeth\_11 (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), Hernandez44\_12 (EE), Horacetta\_12 (EE), Hulk\_12 (EE), JRok\_12 (EE), Jahseh\_12 (EE), JaimeB\_12 (EE), Jannah\_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), 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), 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\_13 (EE), SantasSleigh\_13 (EE), Sara\_12 (EE), Scamander\_12 (EE), Scrunchy\_12 (EE), SeaWolves\_12 (EE), Sippinontea\_12 (EE), Slentz\_12 (EE), Slizam\_11 (EE), Snuffles\_12 (EE), Stem\_11 (EE), TeddyBoy\_12 (EE), TimoTea\_12 (EE), TinyTruffula\_12 (EE), TomBrady12\_12 (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),

#### Start 14:

- Found in 130 of 226 ( 57.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.3% of time when present

- Phage (with cluster) where this start called: Cazares\_11 (EE), Oaklynn\_12 (EE), Yami\_11 (EE),

### **Summary by clusters:**

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

Info for manual annotations of cluster AK:

- Start number 6 was manually annotated 80 times for cluster AK.

Info for manual annotations of cluster AZ1:

- Start number 7 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster EC:

- Start number 5 was manually annotated 1 time for cluster EC.

Info for manual annotations of cluster EE:

- Start number 12 was manually annotated 105 times for cluster EE.

Info for manual annotations of cluster EH:

- Start number 5 was manually annotated 1 time for cluster EH.
- Start number 7 was manually annotated 7 times for cluster EH.

### **Gene Information:**

Gene: Albanese\_18 Start: 12660, Stop: 15221, Start Num: 6

Candidate Starts for Albanese\_18:

(4, 12639), (Start: 6 @12660 has 80 MA's), (16, 12750), (19, 12789), (22, 12825), (32, 12885), (36, 12933), (37, 12948), (49, 13116), (52, 13161), (54, 13212), (55, 13215), (62, 13299), (75, 13485), (80, 13521), (82, 13533), (88, 13575), (99, 13686), (121, 13884), (135, 13977), (139, 14001), (140, 14004), (158, 14082), (159, 14088), (165, 14115), (173, 14145), (184, 14208), (188, 14223), (190, 14232), (191, 14235), (193, 14244), (195, 14268), (197, 14280), (199, 14286), (203, 14301), (204, 14307), (205, 14310), (207, 14331), (210, 14346), (213, 14361), (217, 14379), (218, 14385), (221, 14400), (223, 14409), (224, 14418), (229, 14451), (230, 14454), (233, 14466), (235, 14472), (239, 14484), (248, 14550), (250, 14565), (257, 14595), (258, 14604), (273, 14715), (278, 14751), (281, 14772), (290, 14847), (291, 14850), (297, 14904), (300, 14943), (308, 15000), (310, 15024), (316, 15066), (320, 15093), (330, 15162),

Gene: Aledel\_14 Start: 9738, Stop: 12296, Start Num: 6

Candidate Starts for Aledel\_14:

(Start: 6 @9738 has 80 MA's), (8, 9747), (9, 9777), (19, 9867), (32, 9963), (35, 10008), (37, 10026), (49, 10194), (54, 10290), (55, 10293), (56, 10308), (64, 10395), (80, 10599), (81, 10602), (93, 10686), (124, 10992), (135, 11052), (137, 11070), (139, 11076), (148, 11109), (150, 11121), (158, 11157), (163, 11184), (169, 11208), (171, 11214), (181, 11271), (187, 11295), (189, 11304), (193, 11319), (195, 11343), (197, 11355), (203, 11376), (204, 11382), (206, 11403), (211, 11427), (213, 11436), (217, 11454), (221, 11475), (222, 11481), (224, 11493), (229, 11526), (230, 11529), (233, 11541), (238, 11556), (239, 11559), (252, 11646), (267, 11736), (268, 11739), (273, 11790), (281, 11847), (282, 11856), (285, 11868), (290, 11922), (291, 11925), (297, 11979), (300, 12018), (307, 12066), (308, 12075), (310, 12099), (312, 12111), (327, 12207), (330, 12237),



Gene: Alucard\_12 Start: 7541, Stop: 9646, Start Num: 12

Candidate Starts for Alucard\_12:

(Start: 12 @7541 has 105 MA's), (14, 7562), (34, 7739), (36, 7748), (39, 7772), (41, 7844), (44, 7868), (45, 7874), (53, 8024), (56, 8045), (57, 8057), (59, 8066), (72, 8273), (75, 8291), (100, 8378), (112, 8447), (117, 8459), (130, 8507), (139, 8537), (142, 8552), (151, 8588), (159, 8615), (164, 8636), (170, 8660), (177, 8684), (178, 8690), (183, 8717), (195, 8750), (206, 8789), (212, 8816), (216, 8837), (219, 8852), (229, 8879), (230, 8882), (237, 8903), (240, 8915), (241, 8921), (247, 8969), (253, 9005), (264, 9053), (268, 9080), (270, 9101), (279, 9164), (283, 9188), (289, 9245), (302, 9350), (304, 9371), (306, 9383), (310, 9425), (314, 9446), (316, 9467), (332, 9596),

Gene: Anseraureola\_12 Start: 7563, Stop: 9671, Start Num: 12

Candidate Starts for Anseraureola\_12:

(Start: 12 @7563 has 105 MA's), (14, 7584), (34, 7761), (36, 7770), (39, 7794), (41, 7866), (44, 7890), (45, 7896), (51, 7989), (53, 8046), (56, 8067), (57, 8079), (59, 8088), (72, 8295), (75, 8313), (100, 8400), (112, 8469), (117, 8481), (130, 8529), (139, 8559), (142, 8574), (151, 8610), (159, 8637), (165, 8661), (170, 8682), (177, 8706), (178, 8712), (183, 8739), (195, 8772), (206, 8811), (212, 8838), (216, 8859), (219, 8874), (229, 8901), (230, 8904), (240, 8937), (241, 8943), (247, 8991), (253, 9027), (264, 9075), (268, 9102), (270, 9123), (279, 9186), (283, 9210), (289, 9267), (302, 9372), (304, 9393), (306, 9405), (310, 9447), (316, 9489), (332, 9621),

Gene: AppleCider\_18 Start: 12612, Stop: 15167, Start Num: 6

Candidate Starts for AppleCider\_18:

(4, 12591), (Start: 6 @12612 has 80 MA's), (11, 12660), (19, 12741), (21, 12765), (32, 12837), (36, 12885), (37, 12900), (38, 12906), (49, 13068), (52, 13113), (54, 13164), (55, 13167), (58, 13197), (62, 13251), (67, 13335), (77, 13458), (86, 13518), (90, 13536), (92, 13551), (97, 13602), (121, 13833), (132, 13902), (135, 13926), (137, 13944), (139, 13950), (152, 14004), (154, 14016), (159, 14037), (164, 14061), (182, 14148), (188, 14172), (189, 14178), (190, 14181), (193, 14193), (194, 14214), (195, 14217), (196, 14223), (197, 14229), (202, 14247), (203, 14250), (204, 14256), (207, 14280), (211, 14301), (213, 14310), (217, 14328), (221, 14349), (223, 14358), (224, 14367), (229, 14400), (230, 14403), (232, 14412), (233, 14415), (242, 14466), (273, 14664), (274, 14676), (277, 14697), (278, 14700), (290, 14796), (291, 14799), (297, 14853), (300, 14892), (308, 14949), (313, 14991), (320, 15039), (327, 15081), (330, 15111),

Gene: Aries55\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Aries55\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Astro16\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Astro16\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: AustinPowers\_14 Start: 9739, Stop: 12297, Start Num: 6

Candidate Starts for AustinPowers\_14:

(Start: 6 @9739 has 80 MA's), (8, 9748), (9, 9778), (19, 9868), (32, 9964), (35, 10009), (37, 10027), (49, 10195), (54, 10291), (55, 10294), (56, 10309), (64, 10396), (67, 10462), (80, 10600), (81, 10603), (93, 10687), (124, 10993), (135, 11053), (137, 11071), (139, 11077), (148, 11110), (150, 11122), (158, 11158), (163, 11185), (169, 11209), (171, 11215), (181, 11272), (187, 11296), (189, 11305), (193, 11320), (195, 11344), (197, 11356), (203, 11377), (204, 11383), (206, 11404), (213, 11437), (217, 11455), (221, 11476), (222, 11482), (224, 11494), (229, 11527), (230, 11530), (233, 11542), (238, 11557), (239, 11560), (252, 11647), (267, 11737), (268, 11740), (273, 11791), (277, 11824), (281, 11848), (282, 11857), (290, 11923), (291, 11926), (297, 11980), (300, 12019), (307, 12067), (308, 12076), (310, 12100), (312, 12112), (327, 12208), (330, 12238),

Gene: Avvas\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Avvas\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Azizam\_12 Start: 7534, Stop: 9639, Start Num: 12

Candidate Starts for Azizam\_12:

(Start: 12 @7534 has 105 MA's), (14, 7555), (34, 7732), (36, 7741), (39, 7765), (41, 7837), (44, 7861), (45, 7867), (53, 8017), (56, 8038), (57, 8050), (59, 8059), (72, 8266), (75, 8284), (100, 8371), (112, 8440), (117, 8452), (130, 8500), (139, 8530), (142, 8545), (159, 8608), (164, 8629), (165, 8632), (178, 8683), (183, 8710), (195, 8743), (206, 8782), (212, 8809), (216, 8830), (219, 8845), (229, 8872), (237, 8896), (240, 8908), (241, 8914), (247, 8962), (264, 9046), (268, 9073), (270, 9094), (279, 9157), (283, 9181), (287, 9205), (288, 9226), (302, 9343), (304, 9364), (306, 9376), (310, 9418), (314, 9439), (316, 9460), (332, 9589),

Gene: Aztec\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Aztec\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Baine\_12 Start: 7538, Stop: 9646, Start Num: 12

Candidate Starts for Baine\_12:

(Start: 12 @7538 has 105 MA's), (14, 7559), (34, 7736), (36, 7745), (39, 7769), (41, 7841), (44, 7865), (45, 7871), (51, 7964), (53, 8021), (56, 8042), (57, 8054), (59, 8063), (72, 8270), (75, 8288), (100, 8375), (112, 8444), (117, 8456), (130, 8504), (139, 8534), (142, 8549), (151, 8585), (159, 8612), (170, 8657), (177, 8681), (178, 8687), (183, 8714), (195, 8747), (206, 8786), (212, 8813), (216, 8834), (219, 8849), (229, 8876), (230, 8879), (240, 8912), (241, 8918), (247, 8966), (253, 9002), (264, 9050), (268, 9077), (270, 9098), (279, 9161), (283, 9185), (289, 9242), (302, 9347), (304, 9368), (306, 9380), (310, 9422), (316, 9464), (332, 9596),

Gene: BarBear\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for BarBear\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Barnstormer\_14 Start: 9927, Stop: 12275, Start Num: 7

Candidate Starts for Barnstormer\_14:

(Start: 7 @9927 has 8 MA's), (27, 10110), (39, 10206), (46, 10314), (50, 10374), (65, 10569), (68, 10632), (74, 10716), (75, 10728), (76, 10731), (89, 10782), (96, 10833), (104, 10920), (111, 10980), (116, 11004), (128, 11085), (138, 11145), (143, 11166), (159, 11226), (164, 11247), (166, 11256), (179, 11307), (202, 11394), (206, 11403), (231, 11499), (232, 11505), (241, 11538), (256, 11634), (264, 11673), (283, 11811), (290, 11874), (303, 11985), (316, 12090), (320, 12126),

Gene: Beethoven\_18 Start: 12567, Stop: 15128, Start Num: 6

Candidate Starts for Beethoven\_18:

(4, 12546), (Start: 6 @12567 has 80 MA's), (11, 12615), (15, 12648), (19, 12696), (21, 12720), (22, 12732), (32, 12792), (36, 12840), (37, 12855), (38, 12861), (47, 12981), (49, 13023), (54, 13119), (55, 13122), (58, 13152), (62, 13206), (71, 13347), (72, 13368), (75, 13392), (77, 13413), (79, 13422), (86, 13473), (90, 13491), (106, 13677), (124, 13821), (131, 13854), (135, 13881), (137, 13899), (139, 13905), (145, 13929), (148, 13938), (158, 13986), (163, 14013), (171, 14043), (173, 14049), (181, 14100), (185, 14115), (188, 14127), (189, 14133), (190, 14136), (192, 14145), (195, 14172), (197, 14184), (200, 14193), (203, 14205), (204, 14211), (206, 14232), (211, 14256), (213, 14265), (220, 14301), (221, 14304), (224, 14322), (229, 14355), (230, 14358), (232, 14367), (233, 14370), (238, 14385), (252, 14475), (273, 14619), (278, 14655), (290, 14751), (291, 14754), (297, 14808), (300, 14847), (307, 14895), (308, 14904), (310, 14928), (313, 14946), (320, 14997), (324, 15021), (327, 15039), (330, 15069),

Gene: Belthelas\_12 Start: 7590, Stop: 9695, Start Num: 12

Candidate Starts for Belthelas\_12:

(Start: 12 @7590 has 105 MA's), (14, 7611), (34, 7788), (36, 7797), (39, 7821), (41, 7893), (44, 7917), (45, 7923), (51, 8016), (53, 8073), (56, 8094), (57, 8106), (59, 8115), (72, 8322), (75, 8340), (100, 8427), (112, 8496), (117, 8508), (130, 8556), (139, 8586), (142, 8601), (151, 8637), (159, 8664), (165, 8688), (170, 8709), (177, 8733), (178, 8739), (183, 8766), (195, 8799), (206, 8838), (212, 8865), (216, 8886), (219, 8901), (229, 8928), (230, 8931), (237, 8952), (240, 8964), (241, 8970), (247, 9018), (253, 9054), (264, 9102), (268, 9129), (270, 9150), (279, 9213), (283, 9237), (289, 9294), (302, 9399), (304, 9420), (306, 9432), (310, 9474), (314, 9495), (316, 9516), (332, 9645),

Gene: Bennie\_14 Start: 9720, Stop: 12287, Start Num: 6

Candidate Starts for Bennie\_14:

(4, 9699), (Start: 6 @9720 has 80 MA's), (11, 9768), (19, 9849), (21, 9873), (32, 9945), (36, 9993), (37, 10008), (38, 10014), (49, 10176), (53, 10269), (54, 10272), (55, 10275), (58, 10305), (63, 10362), (71, 10500), (72, 10521), (77, 10566), (82, 10593), (86, 10626), (90, 10644), (96, 10686), (99, 10743), (131, 11007), (135, 11034), (137, 11052), (139, 11058), (145, 11082), (150, 11103), (158, 11139), (163, 11166), (171, 11196), (173, 11202), (181, 11253), (189, 11286), (195, 11325), (196, 11331), (197, 11337), (200, 11346), (203, 11358), (204, 11364), (207, 11388), (211, 11409), (213, 11418), (221, 11457), (224, 11475), (229, 11508), (230, 11511), (233, 11523), (238, 11538), (246, 11589), (250, 11622), (254, 11640), (259, 11664), (266, 11706), (273, 11772), (274, 11784), (281, 11829), (290, 11904), (291, 11907), (297, 11961), (300, 12000), (304, 12027), (308, 12057), (309, 12069), (310, 12081), (311, 12090), (320, 12156), (327, 12198), (330, 12228),

Gene: BigMack\_14 Start: 9716, Stop: 12277, Start Num: 6

Candidate Starts for BigMack\_14:

(4, 9695), (Start: 6 @9716 has 80 MA's), (11, 9764), (19, 9845), (21, 9869), (32, 9941), (36, 9989), (37, 10004), (38, 10010), (47, 10130), (49, 10172), (53, 10265), (54, 10268), (55, 10271), (58, 10301), (71, 10496), (72, 10517), (77, 10562), (86, 10622), (90, 10640), (114, 10892), (131, 11003), (135, 11030), (137, 11048), (139, 11054), (145, 11078), (148, 11087), (158, 11135), (163, 11162), (164, 11165), (171, 11192), (173, 11198), (176, 11210), (181, 11249), (185, 11264), (188, 11276), (189, 11282), (190, 11285), (192, 11294), (195, 11321), (196, 11327), (197, 11333), (200, 11342), (203, 11354), (204, 11360), (205, 11363), (213, 11414), (220, 11450), (221, 11453), (229, 11504), (230, 11507), (232, 11516), (233, 11519), (238, 11534), (250, 11618), (269, 11726), (273, 11768), (290, 11900), (291, 11903), (297, 11957), (300, 11996), (307, 12044), (308, 12053), (310, 12077), (320, 12146), (321, 12152), (330, 12218),

Gene: BinkBonk\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for BinkBonk\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Bintii\_12 Start: 7572, Stop: 9677, Start Num: 12

Candidate Starts for Bintii\_12:

(1, 7476), (Start: 12 @7572 has 105 MA's), (14, 7593), (34, 7770), (36, 7779), (39, 7803), (41, 7875), (44, 7899), (51, 7998), (56, 8076), (57, 8088), (59, 8097), (72, 8304), (75, 8322), (100, 8409), (112, 8478), (117, 8490), (130, 8538), (139, 8568), (142, 8583), (155, 8637), (164, 8667), (165, 8670), (170, 8691), (178, 8721), (183, 8748), (195, 8781), (206, 8820), (212, 8847), (213, 8853), (216, 8868), (219, 8883), (229, 8910), (230, 8913), (237, 8934), (240, 8946), (241, 8952), (247, 9000), (253, 9036), (264, 9084), (268, 9111), (270, 9132), (279, 9195), (283, 9219), (289, 9276), (302, 9381), (304, 9402), (306, 9414), (310, 9456), (314, 9477), (316, 9498),

Gene: Biscayne\_12 Start: 7608, Stop: 9713, Start Num: 12

Candidate Starts for Biscayne\_12:

(Start: 12 @7608 has 105 MA's), (14, 7629), (34, 7806), (36, 7815), (39, 7839), (41, 7911), (44, 7935), (45, 7941), (53, 8091), (56, 8112), (57, 8124), (59, 8133), (72, 8340), (75, 8358), (100, 8445), (112, 8514), (117, 8526), (130, 8574), (139, 8604), (142, 8619), (151, 8655), (159, 8682), (164, 8703), (170, 8727), (177, 8751), (178, 8757), (183, 8784), (195, 8817), (206, 8856), (212, 8883), (216, 8904), (219, 8919), (229, 8946), (230, 8949), (237, 8970), (240, 8982), (241, 8988), (247, 9036), (264, 9120), (268, 9147), (270, 9168), (279, 9231), (283, 9255), (289, 9312), (302, 9417), (304, 9438), (306, 9450), (310, 9492), (314, 9513), (316, 9534), (332, 9663),

Gene: Bodacious\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for Bodacious\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (47, 10131), (49, 10173), (54, 10269), (55, 10272), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283), (190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508),

(233, 11520), (247, 11595), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805),  
(290, 11901), (291, 11904), (295, 11937), (297, 11958), (300, 11997), (303, 12015), (307, 12045),  
(308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: Bodhi17\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for Bodhi17\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860),  
(45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100,  
8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165,  
8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216,  
8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264,  
9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306,  
9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: BonaeVitae\_12 Start: 7240, Stop: 9339, Start Num: 12

Candidate Starts for BonaeVitae\_12:

(Start: 12 @7240 has 105 MA's), (13, 7255), (14, 7261), (20, 7321), (28, 7375), (34, 7438), (36, 7447),  
(39, 7471), (41, 7543), (44, 7567), (51, 7666), (53, 7723), (57, 7756), (59, 7765), (86, 8032), (100,  
8077), (115, 8149), (123, 8179), (139, 8236), (142, 8251), (161, 8320), (172, 8365), (177, 8383), (178,  
8389), (195, 8449), (196, 8455), (200, 8470), (206, 8488), (212, 8515), (226, 8557), (237, 8602), (241,  
8620), (243, 8647), (260, 8734), (264, 8752), (268, 8779), (272, 8821), (279, 8863), (280, 8866), (283,  
8887), (296, 8998), (304, 9070), (306, 9082), (309, 9112), (310, 9124), (314, 9145), (329, 9253), (332,  
9289),

Gene: BoomRoasted\_12 Start: 7587, Stop: 9692, Start Num: 12

Candidate Starts for BoomRoasted\_12:

(Start: 12 @7587 has 105 MA's), (14, 7608), (34, 7785), (36, 7794), (39, 7818), (41, 7890), (44, 7914),  
(45, 7920), (51, 8013), (53, 8070), (56, 8091), (57, 8103), (59, 8112), (72, 8319), (75, 8337), (100,  
8424), (112, 8493), (117, 8505), (130, 8553), (139, 8583), (142, 8598), (151, 8634), (159, 8661), (165,  
8685), (170, 8706), (177, 8730), (178, 8736), (183, 8763), (195, 8796), (206, 8835), (212, 8862), (216,  
8883), (219, 8898), (229, 8925), (230, 8928), (237, 8949), (240, 8961), (241, 8967), (247, 9015), (253,  
9051), (264, 9099), (268, 9126), (270, 9147), (279, 9210), (283, 9234), (289, 9291), (302, 9396), (304,  
9417), (306, 9429), (310, 9471), (314, 9492), (316, 9513), (332, 9642),

Gene: Bradley2\_12 Start: 7539, Stop: 9644, Start Num: 12

Candidate Starts for Bradley2\_12:

(Start: 12 @7539 has 105 MA's), (14, 7560), (34, 7737), (36, 7746), (39, 7770), (41, 7842), (44, 7866),  
(45, 7872), (53, 8022), (56, 8043), (57, 8055), (59, 8064), (72, 8271), (75, 8289), (100, 8376), (112,  
8445), (117, 8457), (130, 8505), (139, 8535), (142, 8550), (151, 8586), (159, 8613), (164, 8634), (170,  
8658), (177, 8682), (178, 8688), (183, 8715), (195, 8748), (206, 8787), (212, 8814), (216, 8835), (219,  
8850), (229, 8877), (230, 8880), (237, 8901), (240, 8913), (241, 8919), (247, 8967), (253, 9003), (264,  
9051), (268, 9078), (270, 9099), (279, 9162), (283, 9186), (289, 9243), (302, 9348), (304, 9369), (306,  
9381), (310, 9423), (314, 9444), (316, 9465), (332, 9594),

Gene: Bri160\_12 Start: 7586, Stop: 9691, Start Num: 12

Candidate Starts for Bri160\_12:

(Start: 12 @7586 has 105 MA's), (14, 7607), (34, 7784), (36, 7793), (39, 7817), (41, 7889), (44, 7913),  
(45, 7919), (51, 8012), (53, 8069), (56, 8090), (57, 8102), (59, 8111), (72, 8318), (75, 8336), (100,  
8423), (112, 8492), (117, 8504), (130, 8552), (139, 8582), (142, 8597), (151, 8633), (159, 8660), (165,  
8684), (170, 8705), (177, 8729), (178, 8735), (183, 8762), (195, 8795), (206, 8834), (212, 8861), (216,  
8882), (219, 8897), (229, 8924), (230, 8927), (237, 8948), (240, 8960), (241, 8966), (247, 9014), (253,  
9050), (264, 9098), (268, 9125), (270, 9146), (279, 9209), (283, 9233), (289, 9290), (302, 9395), (304,  
9416), (306, 9428), (310, 9470), (314, 9491), (316, 9512), (332, 9641),

Gene: BrokMonster\_12 Start: 7529, Stop: 9634, Start Num: 12

Candidate Starts for BrokMonster\_12:

(Start: 12 @7529 has 105 MA's), (14, 7550), (34, 7727), (36, 7736), (39, 7760), (41, 7832), (44, 7856), (45, 7862), (51, 7955), (53, 8012), (56, 8033), (57, 8045), (59, 8054), (72, 8261), (75, 8279), (100, 8366), (112, 8435), (117, 8447), (130, 8495), (139, 8525), (142, 8540), (159, 8603), (164, 8624), (165, 8627), (178, 8678), (183, 8705), (195, 8738), (206, 8777), (212, 8804), (216, 8825), (219, 8840), (229, 8867), (237, 8891), (240, 8903), (241, 8909), (247, 8957), (264, 9041), (268, 9068), (270, 9089), (279, 9152), (283, 9176), (289, 9233), (302, 9338), (304, 9359), (306, 9371), (310, 9413), (314, 9434), (316, 9455), (332, 9584),

Gene: BrotherBLo\_18 Start: 12573, Stop: 15134, Start Num: 6

Candidate Starts for BrotherBLo\_18:

(4, 12552), (Start: 6 @12573 has 80 MA's), (11, 12621), (15, 12654), (19, 12702), (21, 12726), (22, 12738), (32, 12798), (36, 12846), (37, 12861), (38, 12867), (47, 12987), (49, 13029), (54, 13125), (55, 13128), (58, 13158), (62, 13212), (71, 13353), (72, 13374), (75, 13398), (77, 13419), (79, 13428), (86, 13479), (90, 13497), (106, 13683), (124, 13827), (131, 13860), (135, 13887), (137, 13905), (139, 13911), (145, 13935), (148, 13944), (158, 13992), (163, 14019), (164, 14022), (169, 14043), (171, 14049), (173, 14055), (181, 14106), (185, 14121), (188, 14133), (189, 14139), (190, 14142), (192, 14151), (195, 14178), (197, 14190), (200, 14199), (203, 14211), (204, 14217), (206, 14238), (211, 14262), (213, 14271), (221, 14310), (224, 14328), (229, 14361), (230, 14364), (232, 14373), (233, 14376), (238, 14391), (252, 14481), (259, 14517), (273, 14625), (278, 14661), (281, 14682), (290, 14757), (291, 14760), (297, 14814), (300, 14853), (307, 14901), (308, 14910), (310, 14934), (313, 14952), (320, 15003), (324, 15027), (327, 15045), (330, 15075),

Gene: Bullzi2019\_12 Start: 7561, Stop: 9666, Start Num: 12

Candidate Starts for Bullzi2019\_12:

(Start: 12 @7561 has 105 MA's), (14, 7582), (34, 7759), (36, 7768), (39, 7792), (41, 7864), (44, 7888), (51, 7987), (56, 8065), (57, 8077), (59, 8086), (72, 8293), (75, 8311), (100, 8398), (112, 8467), (117, 8479), (130, 8527), (139, 8557), (142, 8572), (155, 8626), (164, 8656), (165, 8659), (170, 8680), (178, 8710), (183, 8737), (195, 8770), (206, 8809), (212, 8836), (213, 8842), (216, 8857), (219, 8872), (229, 8899), (230, 8902), (237, 8923), (240, 8935), (241, 8941), (247, 8989), (253, 9025), (264, 9073), (268, 9100), (270, 9121), (279, 9184), (283, 9208), (289, 9265), (302, 9370), (304, 9391), (310, 9445), (314, 9466), (316, 9487),

Gene: Burgy\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Burgy\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: BurtonThePup\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for BurtonThePup\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306,

9388), (310, 9430), (314, 9451), (316, 9472),

Gene: CallieOMalley\_18 Start: 12612, Stop: 15167, Start Num: 6

Candidate Starts for CallieOMalley\_18:

(4, 12591), (Start: 6 @12612 has 80 MA's), (11, 12660), (19, 12741), (21, 12765), (25, 12795), (32, 12837), (37, 12900), (38, 12906), (49, 13068), (54, 13164), (55, 13167), (58, 13197), (67, 13335), (77, 13458), (86, 13518), (90, 13536), (92, 13551), (97, 13602), (121, 13833), (132, 13902), (135, 13926), (137, 13944), (139, 13950), (152, 14004), (154, 14016), (159, 14037), (164, 14061), (182, 14148), (188, 14172), (189, 14178), (190, 14181), (193, 14193), (194, 14214), (195, 14217), (196, 14223), (197, 14229), (200, 14238), (202, 14247), (203, 14250), (204, 14256), (207, 14280), (211, 14301), (213, 14310), (217, 14328), (221, 14349), (223, 14358), (224, 14367), (229, 14400), (230, 14403), (232, 14412), (233, 14415), (242, 14466), (259, 14556), (273, 14664), (274, 14676), (277, 14697), (278, 14700), (290, 14796), (291, 14799), (297, 14853), (300, 14892), (308, 14949), (313, 14991), (320, 15039), (327, 15081), (330, 15111),

Gene: Canowicakte\_18 Start: 12647, Stop: 15202, Start Num: 6

Candidate Starts for Canowicakte\_18:

(4, 12626), (Start: 6 @12647 has 80 MA's), (11, 12695), (19, 12776), (21, 12800), (32, 12872), (36, 12920), (37, 12935), (38, 12941), (49, 13103), (52, 13148), (54, 13199), (55, 13202), (58, 13232), (67, 13370), (77, 13493), (86, 13553), (90, 13571), (92, 13586), (97, 13637), (121, 13868), (132, 13937), (135, 13961), (137, 13979), (139, 13985), (152, 14039), (154, 14051), (159, 14072), (164, 14096), (182, 14183), (188, 14207), (189, 14213), (190, 14216), (193, 14228), (194, 14249), (195, 14252), (196, 14258), (197, 14264), (200, 14273), (202, 14282), (203, 14285), (204, 14291), (207, 14315), (211, 14336), (213, 14345), (217, 14363), (221, 14384), (223, 14393), (224, 14402), (229, 14435), (230, 14438), (232, 14447), (233, 14450), (242, 14501), (259, 14591), (273, 14699), (274, 14711), (277, 14732), (278, 14735), (290, 14831), (291, 14834), (297, 14888), (300, 14927), (308, 14984), (313, 15026), (320, 15074), (327, 15116), (330, 15146),

Gene: Caron\_14 Start: 9969, Stop: 12317, Start Num: 7

Candidate Starts for Caron\_14:

(Start: 7 @9969 has 8 MA's), (27, 10152), (39, 10248), (46, 10356), (50, 10416), (65, 10611), (68, 10674), (74, 10758), (75, 10770), (76, 10773), (89, 10824), (96, 10875), (103, 10956), (111, 11022), (116, 11046), (128, 11127), (138, 11187), (143, 11208), (166, 11298), (179, 11349), (206, 11445), (231, 11541), (232, 11547), (236, 11559), (241, 11580), (257, 11682), (264, 11715), (270, 11763), (283, 11853), (290, 11916), (292, 11928), (303, 12027), (316, 12132), (320, 12168),

Gene: Carpal\_18 Start: 12574, Stop: 15135, Start Num: 6

Candidate Starts for Carpal\_18:

(4, 12553), (Start: 6 @12574 has 80 MA's), (11, 12622), (15, 12655), (19, 12703), (21, 12727), (22, 12739), (32, 12799), (36, 12847), (37, 12862), (38, 12868), (47, 12988), (49, 13030), (54, 13126), (55, 13129), (58, 13159), (62, 13213), (71, 13354), (72, 13375), (75, 13399), (77, 13420), (79, 13429), (86, 13480), (90, 13498), (106, 13684), (124, 13828), (131, 13861), (135, 13888), (137, 13906), (139, 13912), (145, 13936), (148, 13945), (158, 13993), (163, 14020), (164, 14023), (169, 14044), (173, 14056), (181, 14107), (185, 14122), (188, 14134), (190, 14143), (192, 14152), (195, 14179), (197, 14191), (200, 14200), (203, 14212), (204, 14218), (206, 14239), (211, 14263), (213, 14272), (221, 14311), (229, 14362), (230, 14365), (232, 14374), (233, 14377), (238, 14392), (252, 14482), (259, 14518), (273, 14626), (278, 14662), (290, 14758), (291, 14761), (297, 14815), (300, 14854), (307, 14902), (308, 14911), (310, 14935), (313, 14953), (320, 15004), (324, 15028), (327, 15046), (330, 15076),

Gene: Cayde6\_12 Start: 7538, Stop: 9646, Start Num: 12

Candidate Starts for Cayde6\_12:

(Start: 12 @7538 has 105 MA's), (14, 7559), (34, 7736), (36, 7745), (39, 7769), (41, 7841), (44, 7865), (45, 7871), (51, 7964), (53, 8021), (56, 8042), (57, 8054), (59, 8063), (72, 8270), (75, 8288), (100, 8375), (112, 8444), (117, 8456), (130, 8504), (139, 8534), (142, 8549), (151, 8585), (159, 8612), (170, 8657), (177, 8681), (178, 8687), (183, 8714), (195, 8747), (206, 8786), (212, 8813), (216, 8834), (219, 8849), (229, 8876), (230, 8879), (240, 8912), (241, 8918), (247, 8966), (253, 9002), (264, 9050), (268, 9077), (270, 9098), (279, 9161), (283, 9185), (289, 9242), (302, 9347), (304, 9368), (306, 9380), (310, 9422), (316, 9464), (332, 9596),

Gene: Cazares\_11 Start: 7552, Stop: 9636, Start Num: 14

Candidate Starts for Cazares\_11:

(Start: 12 @7531 has 105 MA's), (14, 7552), (34, 7729), (36, 7738), (39, 7762), (41, 7834), (44, 7858), (51, 7957), (53, 8014), (56, 8035), (57, 8047), (59, 8056), (72, 8263), (75, 8281), (100, 8368), (112, 8437), (117, 8449), (130, 8497), (139, 8527), (142, 8542), (164, 8626), (165, 8629), (170, 8650), (178, 8680), (183, 8707), (195, 8740), (206, 8779), (212, 8806), (213, 8812), (216, 8827), (219, 8842), (230, 8872), (237, 8893), (240, 8905), (241, 8911), (247, 8959), (253, 8995), (264, 9043), (268, 9070), (270, 9091), (279, 9154), (283, 9178), (289, 9235), (302, 9340), (304, 9361), (310, 9415), (314, 9436), (316, 9457),

Gene: Cen1621\_14 Start: 9057, Stop: 11342, Start Num: 7

Candidate Starts for Cen1621\_14:

(Start: 7 @9057 has 8 MA's), (23, 9216), (33, 9294), (39, 9336), (46, 9444), (49, 9495), (50, 9504), (53, 9588), (57, 9621), (61, 9645), (65, 9699), (68, 9762), (75, 9858), (76, 9861), (133, 10152), (136, 10173), (155, 10254), (170, 10308), (172, 10314), (180, 10353), (188, 10386), (213, 10470), (223, 10518), (234, 10578), (240, 10596), (243, 10629), (247, 10650), (251, 10677), (258, 10710), (264, 10734), (265, 10743), (279, 10845), (290, 10932), (301, 11028), (308, 11082), (309, 11094), (322, 11187),

Gene: Charbie\_12 Start: 7528, Stop: 9633, Start Num: 12

Candidate Starts for Charbie\_12:

(Start: 12 @7528 has 105 MA's), (14, 7549), (34, 7726), (36, 7735), (39, 7759), (41, 7831), (44, 7855), (45, 7861), (53, 8011), (56, 8032), (57, 8044), (59, 8053), (72, 8260), (75, 8278), (100, 8365), (112, 8434), (117, 8446), (130, 8494), (139, 8524), (142, 8539), (151, 8575), (159, 8602), (164, 8623), (170, 8647), (177, 8671), (178, 8677), (183, 8704), (195, 8737), (206, 8776), (212, 8803), (216, 8824), (219, 8839), (229, 8866), (230, 8869), (237, 8890), (240, 8902), (241, 8908), (247, 8956), (261, 9031), (264, 9040), (268, 9067), (270, 9088), (279, 9151), (283, 9175), (289, 9232), (302, 9337), (304, 9358), (306, 9370), (310, 9412), (314, 9433), (316, 9454),

Gene: Chatham\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Chatham\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Cheesecake\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Cheesecake\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219,



8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: ChewChew\_14 Start: 9716, Stop: 12277, Start Num: 6

Candidate Starts for ChewChew\_14:

(4, 9695), (Start: 6 @9716 has 80 MA's), (11, 9764), (19, 9845), (21, 9869), (32, 9941), (36, 9989), (37, 10004), (38, 10010), (49, 10172), (54, 10268), (55, 10271), (58, 10301), (67, 10439), (72, 10517), (77, 10562), (79, 10571), (86, 10622), (90, 10640), (91, 10652), (95, 10676), (114, 10892), (127, 10982), (131, 11003), (135, 11030), (137, 11048), (139, 11054), (145, 11078), (148, 11087), (158, 11135), (163, 11162), (171, 11192), (181, 11249), (185, 11264), (188, 11276), (189, 11282), (190, 11285), (192, 11294), (195, 11321), (197, 11333), (200, 11342), (203, 11354), (204, 11360), (207, 11384), (211, 11405), (213, 11414), (216, 11429), (220, 11450), (221, 11453), (229, 11504), (230, 11507), (233, 11519), (247, 11594), (252, 11624), (259, 11660), (273, 11768), (274, 11780), (278, 11804), (290, 11900), (291, 11903), (295, 11936), (297, 11957), (300, 11996), (303, 12014), (307, 12044), (308, 12053), (310, 12077), (321, 12152), (330, 12218),

Gene: Cholula\_18 Start: 12619, Stop: 15180, Start Num: 6

Candidate Starts for Cholula\_18:

(4, 12598), (Start: 6 @12619 has 80 MA's), (11, 12667), (15, 12700), (19, 12748), (21, 12772), (22, 12784), (32, 12844), (36, 12892), (37, 12907), (38, 12913), (47, 13033), (49, 13075), (53, 13168), (54, 13171), (55, 13174), (58, 13204), (62, 13258), (71, 13399), (72, 13420), (75, 13444), (77, 13465), (79, 13474), (86, 13525), (90, 13543), (94, 13567), (106, 13729), (124, 13873), (131, 13906), (135, 13933), (137, 13951), (139, 13957), (145, 13981), (148, 13990), (158, 14038), (163, 14065), (169, 14089), (171, 14095), (173, 14101), (181, 14152), (185, 14167), (188, 14179), (189, 14185), (190, 14188), (192, 14197), (195, 14224), (197, 14236), (200, 14245), (203, 14257), (204, 14263), (206, 14284), (213, 14317), (221, 14356), (229, 14407), (230, 14410), (232, 14419), (233, 14422), (238, 14437), (250, 14521), (252, 14527), (259, 14563), (273, 14671), (274, 14683), (278, 14707), (290, 14803), (291, 14806), (297, 14860), (300, 14899), (307, 14947), (308, 14956), (310, 14980), (313, 14998), (320, 15049), (324, 15073), (327, 15091), (330, 15121),

Gene: Chridison\_14 Start: 9739, Stop: 12297, Start Num: 6

Candidate Starts for Chridison\_14:

(Start: 6 @9739 has 80 MA's), (8, 9748), (9, 9778), (19, 9868), (32, 9964), (35, 10009), (37, 10027), (49, 10195), (54, 10291), (55, 10294), (56, 10309), (64, 10396), (80, 10600), (81, 10603), (93, 10687), (124, 10993), (135, 11053), (137, 11071), (139, 11077), (148, 11110), (150, 11122), (158, 11158), (163, 11185), (169, 11209), (171, 11215), (181, 11272), (187, 11296), (189, 11305), (193, 11320), (195, 11344), (197, 11356), (203, 11377), (204, 11383), (206, 11404), (211, 11428), (213, 11437), (217, 11455), (221, 11476), (222, 11482), (224, 11494), (229, 11527), (230, 11530), (233, 11542), (238, 11557), (239, 11560), (252, 11647), (267, 11737), (268, 11740), (273, 11791), (281, 11848), (282, 11857), (285, 11869), (290, 11923), (291, 11926), (297, 11980), (300, 12019), (307, 12067), (308, 12076), (310, 12100), (312, 12112), (327, 12208), (330, 12238),

Gene: Christian\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for Christian\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (49, 10173), (54, 10269), (55, 10272), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (189, 11283), (192, 11295), (195, 11322), (196, 11328), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508), (233, 11520), (247, 11595), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805), (290, 11901), (291, 11904), (295, 11937),

(297, 11958), (300, 11997), (303, 12015), (307, 12045), (308, 12054), (310, 12078), (321, 12153),  
(330, 12219),

Gene: Ciel\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Ciel\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873),  
(45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112,  
8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170,  
8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219,  
8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264,  
9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306,  
9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Clownery\_12 Start: 7648, Stop: 9753, Start Num: 12

Candidate Starts for Clownery\_12:

(Start: 12 @7648 has 105 MA's), (14, 7669), (34, 7846), (36, 7855), (39, 7879), (41, 7951), (44, 7975),  
(51, 8074), (53, 8131), (56, 8152), (57, 8164), (59, 8173), (72, 8380), (75, 8398), (100, 8485), (112,  
8554), (117, 8566), (130, 8614), (139, 8644), (142, 8659), (164, 8743), (165, 8746), (170, 8767), (178,  
8797), (183, 8824), (195, 8857), (206, 8896), (212, 8923), (213, 8929), (216, 8944), (219, 8959), (230,  
8989), (237, 9010), (240, 9022), (241, 9028), (247, 9076), (253, 9112), (264, 9160), (268, 9187), (270,  
9208), (279, 9271), (283, 9295), (289, 9352), (302, 9457), (304, 9478), (310, 9532), (314, 9553), (316,  
9574),

Gene: Concrete\_12 Start: 7587, Stop: 9692, Start Num: 12

Candidate Starts for Concrete\_12:

(Start: 12 @7587 has 105 MA's), (14, 7608), (34, 7785), (36, 7794), (39, 7818), (41, 7890), (44, 7914),  
(45, 7920), (51, 8013), (53, 8070), (56, 8091), (57, 8103), (59, 8112), (72, 8319), (75, 8337), (100,  
8424), (112, 8493), (117, 8505), (130, 8553), (139, 8583), (142, 8598), (151, 8634), (159, 8661), (165,  
8685), (170, 8706), (177, 8730), (178, 8736), (183, 8763), (195, 8796), (206, 8835), (212, 8862), (216,  
8883), (219, 8898), (229, 8925), (230, 8928), (237, 8949), (240, 8961), (241, 8967), (247, 9015), (253,  
9051), (264, 9099), (268, 9126), (270, 9147), (279, 9210), (283, 9234), (289, 9291), (302, 9396), (304,  
9417), (306, 9429), (310, 9471), (314, 9492), (316, 9513), (332, 9642),

Gene: CristinaYang\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for CristinaYang\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37,  
10005), (38, 10011), (47, 10131), (49, 10173), (54, 10269), (55, 10272), (58, 10302), (67, 10440), (72,  
10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893),  
(127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088),  
(158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283),  
(190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361),  
(207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508),  
(233, 11520), (247, 11595), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805),  
(290, 11901), (291, 11904), (295, 11937), (297, 11958), (300, 11997), (303, 12015), (307, 12045),  
(308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: DaftyDuck\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for DaftyDuck\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873),  
(45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112,  
8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170,  
8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219,  
8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (264, 9058), (268,

9085), (270, 9106), (279, 9169), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472), (332, 9601),

Gene: Daiboju\_14 Start: 9744, Stop: 12302, Start Num: 6

Candidate Starts for Daiboju\_14:

(Start: 6 @9744 has 80 MA's), (8, 9753), (9, 9783), (19, 9873), (22, 9909), (36, 10017), (37, 10032), (49, 10200), (54, 10296), (75, 10569), (77, 10590), (83, 10620), (86, 10650), (97, 10737), (107, 10860), (116, 10935), (124, 10998), (131, 11031), (134, 11052), (135, 11058), (137, 11076), (139, 11082), (145, 11106), (154, 11148), (158, 11163), (159, 11169), (165, 11196), (178, 11247), (182, 11280), (184, 11289), (189, 11310), (192, 11322), (195, 11349), (197, 11361), (200, 11370), (203, 11382), (204, 11388), (205, 11391), (207, 11412), (213, 11442), (217, 11460), (221, 11481), (223, 11490), (224, 11499), (229, 11532), (230, 11535), (233, 11547), (238, 11562), (250, 11646), (252, 11652), (259, 11688), (268, 11745), (269, 11754), (273, 11796), (281, 11853), (290, 11928), (291, 11931), (294, 11961), (297, 11985), (303, 12042), (307, 12072), (308, 12081), (310, 12105), (312, 12117), (330, 12243),

Gene: Danimal\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Danimal\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Danno\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Danno\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Dino\_18 Start: 12572, Stop: 15133, Start Num: 6

Candidate Starts for Dino\_18:

(4, 12551), (Start: 6 @12572 has 80 MA's), (11, 12620), (15, 12653), (19, 12701), (21, 12725), (22, 12737), (32, 12797), (36, 12845), (37, 12860), (38, 12866), (47, 12986), (49, 13028), (54, 13124), (55, 13127), (58, 13157), (62, 13211), (71, 13352), (72, 13373), (75, 13397), (77, 13418), (79, 13427), (86, 13478), (90, 13496), (106, 13682), (124, 13826), (131, 13859), (135, 13886), (137, 13904), (139, 13910), (145, 13934), (148, 13943), (158, 13991), (163, 14018), (164, 14021), (169, 14042), (173, 14054), (181, 14105), (185, 14120), (188, 14132), (190, 14141), (192, 14150), (195, 14177), (197, 14189), (200, 14198), (203, 14210), (204, 14216), (206, 14237), (211, 14261), (213, 14270), (221, 14309), (229, 14360), (230, 14363), (232, 14372), (233, 14375), (238, 14390), (252, 14480), (259, 14516), (273, 14624), (278, 14660), (290, 14756), (291, 14759), (297, 14813), (300, 14852), (307, 14900), (308, 14909), (310, 14933), (313, 14951), (320, 15002), (324, 15026), (327, 15044), (330, 15074),

Gene: Dongwon\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Dongwon\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Dooby\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Dooby\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Douggie\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for Douggie\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: DrRobert\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for DrRobert\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (49, 10173), (54, 10269), (55, 10272), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283), (190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508), (233, 11520), (247, 11595), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (277, 11802), (278, 11805), (290, 11901), (291, 11904), (295, 11937), (297, 11958), (303, 12015), (307, 12045), (308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: DreamTeam\_14 Start: 9784, Stop: 12330, Start Num: 6

Candidate Starts for DreamTeam\_14:

(4, 9763), (Start: 6 @9784 has 80 MA's), (11, 9832), (19, 9913), (25, 9967), (32, 10009), (36, 10057), (37, 10072), (38, 10078), (49, 10240), (52, 10285), (54, 10336), (55, 10339), (71, 10564), (72, 10585), (79, 10639), (82, 10657), (83, 10660), (86, 10690), (124, 11026), (134, 11080), (135, 11086), (137, 11104), (139, 11110), (150, 11155), (157, 11188), (158, 11191), (168, 11239), (169, 11242), (173, 11254), (175, 11263), (182, 11308), (184, 11317), (189, 11338), (192, 11350), (193, 11353), (195, 11377), (196, 11383), (197, 11389), (203, 11410), (204, 11416), (206, 11437), (211, 11461), (213, 11470), (217, 11488), (221, 11509), (222, 11515), (229, 11560), (230, 11563), (232, 11572), (233, 11575), (250, 11674), (252, 11680), (263, 11734), (273, 11824), (290, 11956), (291, 11959), (297, 12013), (300, 12052), (303, 12070), (307, 12100), (308, 12109), (313, 12151), (330, 12271),

Gene: EdElric\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for EdElric\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Efeke\_13 Start: 7413, Stop: 9512, Start Num: 12

Candidate Starts for Efeke\_13:

(Start: 12 @7413 has 105 MA's), (30, 7557), (32, 7572), (33, 7602), (36, 7620), (39, 7644), (41, 7716), (44, 7740), (45, 7746), (51, 7839), (56, 7917), (57, 7929), (59, 7938), (72, 8145), (77, 8169), (83, 8178), (86, 8205), (100, 8250), (109, 8295), (144, 8430), (156, 8478), (161, 8490), (167, 8523), (177, 8556), (178, 8562), (180, 8577), (185, 8598), (206, 8661), (208, 8670), (213, 8694), (214, 8700), (216, 8709), (226, 8730), (229, 8751), (230, 8754), (237, 8775), (240, 8787), (241, 8793), (243, 8820), (247, 8841), (251, 8868), (260, 8907), (264, 8925), (268, 8952), (270, 8973), (279, 9036), (280, 9039), (283, 9060), (288, 9105), (296, 9171), (302, 9222), (304, 9243), (306, 9255), (310, 9297), (328, 9420), (329, 9426),

Gene: Eightball\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Eightball\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Ekko14\_12 Start: 7529, Stop: 9634, Start Num: 12

Candidate Starts for Ekko14\_12:

(Start: 12 @7529 has 105 MA's), (14, 7550), (34, 7727), (36, 7736), (39, 7760), (41, 7832), (44, 7856), (51, 7955), (56, 8033), (57, 8045), (59, 8054), (72, 8261), (75, 8279), (100, 8366), (112, 8435), (117, 8447), (130, 8495), (139, 8525), (142, 8540), (164, 8624), (165, 8627), (170, 8648), (178, 8678), (183, 8705), (195, 8738), (206, 8777), (212, 8804), (213, 8810), (216, 8825), (219, 8840), (230, 8870), (237, 8891), (240, 8903), (241, 8909), (247, 8957), (253, 8993), (264, 9041), (268, 9068), (270, 9089), (279, 9152), (283, 9176), (289, 9233), (302, 9338), (304, 9359), (310, 9413), (314, 9434), (316, 9455),

Gene: Elspeth\_11 Start: 7529, Stop: 9634, Start Num: 12

Candidate Starts for Elspeth\_11:

(Start: 12 @7529 has 105 MA's), (14, 7550), (34, 7727), (36, 7736), (39, 7760), (41, 7832), (44, 7856), (51, 7955), (56, 8033), (57, 8045), (59, 8054), (72, 8261), (75, 8279), (100, 8366), (112, 8435), (117, 8447), (130, 8495), (139, 8525), (142, 8540), (164, 8624), (165, 8627), (170, 8648), (178, 8678), (183, 8705), (195, 8738), (206, 8777), (212, 8804), (213, 8810), (216, 8825), (219, 8840), (230, 8870), (237, 8891), (240, 8903), (241, 8909), (247, 8957), (253, 8993), (264, 9041), (268, 9068), (270, 9089), (279, 9152), (283, 9176), (289, 9233), (302, 9338), (304, 9359), (310, 9413), (314, 9434), (316, 9455),

Gene: Erin\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Erin\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112,

8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: EstebanJulior\_14 Start: 9752, Stop: 12301, Start Num: 6

Candidate Starts for EstebanJulior\_14:

(3, 9722), (Start: 6 @9752 has 80 MA's), (19, 9881), (22, 9917), (36, 10025), (37, 10040), (48, 10187), (49, 10208), (54, 10304), (63, 10394), (69, 10487), (77, 10598), (86, 10658), (88, 10667), (118, 10940), (124, 10994), (131, 11027), (134, 11048), (135, 11054), (137, 11072), (158, 11159), (173, 11222), (182, 11276), (184, 11285), (189, 11306), (192, 11318), (193, 11321), (195, 11345), (196, 11351), (197, 11357), (200, 11366), (203, 11378), (204, 11384), (206, 11405), (213, 11438), (216, 11453), (217, 11456), (221, 11477), (222, 11483), (224, 11495), (229, 11528), (230, 11531), (232, 11540), (233, 11543), (238, 11558), (250, 11642), (258, 11681), (273, 11792), (274, 11804), (281, 11849), (290, 11924), (291, 11927), (297, 11981), (307, 12068), (308, 12077), (310, 12101), (312, 12113), (320, 12170), (321, 12176), (330, 12242), (333, 12284),

Gene: Eunoia\_14 Start: 9738, Stop: 12296, Start Num: 6

Candidate Starts for Eunoia\_14:

(Start: 6 @9738 has 80 MA's), (8, 9747), (9, 9777), (19, 9867), (32, 9963), (35, 10008), (37, 10026), (49, 10194), (54, 10290), (55, 10293), (56, 10308), (64, 10395), (80, 10599), (81, 10602), (93, 10686), (124, 10992), (135, 11052), (137, 11070), (139, 11076), (148, 11109), (150, 11121), (158, 11157), (163, 11184), (169, 11208), (171, 11214), (181, 11271), (187, 11295), (189, 11304), (193, 11319), (195, 11343), (197, 11355), (203, 11376), (204, 11382), (206, 11403), (211, 11427), (213, 11436), (217, 11454), (221, 11475), (222, 11481), (224, 11493), (229, 11526), (230, 11529), (233, 11541), (238, 11556), (239, 11559), (252, 11646), (267, 11736), (268, 11739), (273, 11790), (281, 11847), (282, 11856), (285, 11868), (290, 11922), (291, 11925), (297, 11979), (300, 12018), (307, 12066), (308, 12075), (310, 12099), (312, 12111), (327, 12207), (330, 12237),

Gene: Fluke\_18 Start: 12615, Stop: 15176, Start Num: 6

Candidate Starts for Fluke\_18:

(4, 12594), (Start: 6 @12615 has 80 MA's), (11, 12663), (15, 12696), (19, 12744), (21, 12768), (22, 12780), (32, 12840), (36, 12888), (37, 12903), (38, 12909), (47, 13029), (49, 13071), (54, 13167), (55, 13170), (58, 13200), (62, 13254), (71, 13395), (72, 13416), (75, 13440), (77, 13461), (79, 13470), (86, 13521), (90, 13539), (106, 13725), (124, 13869), (131, 13902), (135, 13929), (137, 13947), (139, 13953), (145, 13977), (148, 13986), (158, 14034), (163, 14061), (171, 14091), (173, 14097), (181, 14148), (185, 14163), (188, 14175), (189, 14181), (190, 14184), (192, 14193), (195, 14220), (197, 14232), (200, 14241), (203, 14253), (204, 14259), (206, 14280), (211, 14304), (213, 14313), (221, 14352), (224, 14370), (229, 14403), (230, 14406), (232, 14415), (233, 14418), (238, 14433), (252, 14523), (259, 14559), (273, 14667), (278, 14703), (290, 14799), (291, 14802), (297, 14856), (300, 14895), (307, 14943), (308, 14952), (310, 14976), (313, 14994), (320, 15045), (324, 15069), (327, 15087), (330, 15117),

Gene: Gabbspett\_12 Start: 7641, Stop: 9746, Start Num: 12

Candidate Starts for Gabbspett\_12:

(Start: 12 @7641 has 105 MA's), (14, 7662), (34, 7839), (36, 7848), (39, 7872), (41, 7944), (44, 7968), (45, 7974), (53, 8124), (56, 8145), (57, 8157), (59, 8166), (72, 8373), (75, 8391), (100, 8478), (112, 8547), (117, 8559), (130, 8607), (139, 8637), (142, 8652), (151, 8688), (159, 8715), (164, 8736), (170, 8760), (177, 8784), (178, 8790), (183, 8817), (195, 8850), (206, 8889), (212, 8916), (216, 8937), (219, 8952), (229, 8979), (230, 8982), (237, 9003), (240, 9015), (241, 9021), (247, 9069), (261, 9144), (264, 9153), (268, 9180), (270, 9201), (279, 9264), (283, 9288), (289, 9345), (302, 9450), (304, 9471), (306, 9483), (310, 9525), (314, 9546), (316, 9567),

Gene: GardenState\_15 Start: 10196, Stop: 12547, Start Num: 7

Candidate Starts for GardenState\_15:

(Start: 7 @10196 has 8 MA's), (27, 10379), (46, 10595), (50, 10655), (53, 10739), (59, 10781), (65, 10850), (68, 10913), (75, 11009), (76, 11012), (89, 11063), (96, 11114), (105, 11228), (108, 11237), (113, 11276), (149, 11465), (169, 11549), (179, 11588), (183, 11609), (206, 11684), (232, 11786), (241, 11819), (259, 11933), (262, 11948), (264, 11954), (286, 12104), (289, 12149), (290, 12155), (303, 12266), (308, 12305), (316, 12371),

Gene: Gardevoir\_12 Start: 7574, Stop: 9679, Start Num: 12

Candidate Starts for Gardevoir\_12:

(Start: 12 @7574 has 105 MA's), (14, 7595), (34, 7772), (36, 7781), (39, 7805), (41, 7877), (44, 7901), (45, 7907), (53, 8057), (56, 8078), (57, 8090), (59, 8099), (72, 8306), (75, 8324), (100, 8411), (112, 8480), (117, 8492), (130, 8540), (139, 8570), (142, 8585), (151, 8621), (159, 8648), (164, 8669), (170, 8693), (177, 8717), (178, 8723), (183, 8750), (195, 8783), (206, 8822), (212, 8849), (216, 8870), (219, 8885), (229, 8912), (230, 8915), (237, 8936), (240, 8948), (241, 8954), (247, 9002), (253, 9038), (264, 9086), (268, 9113), (270, 9134), (279, 9197), (283, 9221), (289, 9278), (302, 9383), (304, 9404), (306, 9416), (310, 9458), (314, 9479), (316, 9500), (332, 9629),

Gene: Gillker\_12 Start: 7539, Stop: 9644, Start Num: 12

Candidate Starts for Gillker\_12:

(Start: 12 @7539 has 105 MA's), (14, 7560), (34, 7737), (36, 7746), (39, 7770), (41, 7842), (44, 7866), (45, 7872), (53, 8022), (56, 8043), (57, 8055), (59, 8064), (72, 8271), (75, 8289), (100, 8376), (112, 8445), (117, 8457), (130, 8505), (139, 8535), (142, 8550), (151, 8586), (159, 8613), (164, 8634), (170, 8658), (177, 8682), (178, 8688), (183, 8715), (195, 8748), (206, 8787), (212, 8814), (216, 8835), (219, 8850), (229, 8877), (230, 8880), (237, 8901), (240, 8913), (241, 8919), (247, 8967), (253, 9003), (264, 9051), (268, 9078), (270, 9099), (279, 9162), (283, 9186), (289, 9243), (302, 9348), (304, 9369), (306, 9381), (310, 9423), (314, 9444), (316, 9465), (332, 9594),

Gene: Gisselle\_14 Start: 9784, Stop: 12330, Start Num: 6

Candidate Starts for Gisselle\_14:

(4, 9763), (Start: 6 @9784 has 80 MA's), (11, 9832), (19, 9913), (25, 9967), (32, 10009), (36, 10057), (37, 10072), (38, 10078), (49, 10240), (52, 10285), (54, 10336), (55, 10339), (71, 10564), (72, 10585), (79, 10639), (82, 10657), (83, 10660), (86, 10690), (124, 11026), (134, 11080), (135, 11086), (137, 11104), (139, 11110), (150, 11155), (157, 11188), (158, 11191), (168, 11239), (169, 11242), (173, 11254), (175, 11263), (182, 11308), (184, 11317), (189, 11338), (192, 11350), (193, 11353), (195, 11377), (196, 11383), (197, 11389), (203, 11410), (204, 11416), (206, 11437), (211, 11461), (213, 11470), (217, 11488), (221, 11509), (222, 11515), (229, 11560), (230, 11563), (232, 11572), (233, 11575), (250, 11674), (252, 11680), (263, 11734), (273, 11824), (290, 11956), (291, 11959), (297, 12013), (300, 12052), (303, 12070), (307, 12100), (308, 12109), (313, 12151), (330, 12271),

Gene: Glenn\_18 Start: 12624, Stop: 15185, Start Num: 6

Candidate Starts for Glenn\_18:

(4, 12603), (Start: 6 @12624 has 80 MA's), (11, 12672), (15, 12705), (19, 12753), (21, 12777), (22, 12789), (32, 12849), (36, 12897), (37, 12912), (38, 12918), (47, 13038), (49, 13080), (54, 13176), (55, 13179), (58, 13209), (62, 13263), (71, 13404), (72, 13425), (75, 13449), (77, 13470), (79, 13479), (86, 13530), (90, 13548), (106, 13734), (124, 13878), (131, 13911), (135, 13938), (137, 13956), (139, 13962), (145, 13986), (148, 13995), (158, 14043), (163, 14070), (171, 14100), (173, 14106), (181, 14157), (185, 14172), (188, 14184), (189, 14190), (190, 14193), (192, 14202), (195, 14229), (197, 14241), (200, 14250), (203, 14262), (204, 14268), (206, 14289), (211, 14313), (213, 14322), (221, 14361), (224, 14379), (229, 14412), (230, 14415), (232, 14424), (233, 14427), (238, 14442), (252, 14532), (259, 14568), (273, 14676), (278, 14712), (290, 14808), (291, 14811), (297, 14865), (300, 14904), (307, 14952), (308, 14961), (310, 14985), (313, 15003), (320, 15054), (324, 15078), (327,

15096), (330, 15126),

Gene: Godfather\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Godfather\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: GoldenBlanche\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for GoldenBlanche\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Goobery\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Goobery\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: GreenHearts\_18 Start: 12707, Stop: 15268, Start Num: 6

Candidate Starts for GreenHearts\_18:

(4, 12686), (Start: 6 @12707 has 80 MA's), (16, 12797), (19, 12836), (22, 12872), (32, 12932), (36, 12980), (37, 12995), (49, 13163), (52, 13208), (54, 13259), (55, 13262), (62, 13346), (75, 13532), (80, 13568), (82, 13580), (88, 13622), (121, 13931), (135, 14024), (137, 14042), (139, 14048), (158, 14129), (159, 14135), (165, 14162), (173, 14192), (184, 14255), (188, 14270), (190, 14279), (191, 14282), (193, 14291), (195, 14315), (197, 14327), (199, 14333), (203, 14348), (204, 14354), (205, 14357), (207, 14378), (210, 14393), (213, 14408), (217, 14426), (218, 14432), (221, 14447), (223, 14456), (224, 14465), (229, 14498), (230, 14501), (233, 14513), (235, 14519), (239, 14531), (248, 14597), (250, 14612), (257, 14642), (258, 14651), (273, 14762), (278, 14798), (281, 14819), (290, 14894), (291, 14897), (297, 14951), (300, 14990), (308, 15047), (310, 15071), (316, 15113), (320, 15140), (330, 15209),

Gene: Greenhouse\_18 Start: 12631, Stop: 15192, Start Num: 6

Candidate Starts for Greenhouse\_18:

(4, 12610), (Start: 6 @12631 has 80 MA's), (16, 12721), (19, 12760), (26, 12817), (32, 12856), (36, 12904), (37, 12919), (49, 13087), (52, 13132), (54, 13183), (58, 13216), (71, 13411), (77, 13477), (80, 13492), (82, 13504), (88, 13546), (99, 13657), (106, 13744), (121, 13855), (124, 13888), (135, 13948), (139, 13972), (140, 13975), (158, 14053), (159, 14059), (160, 14062), (165, 14086), (173, 14116), (184, 14179), (188, 14194), (189, 14200), (190, 14203), (193, 14215), (195, 14239), (197, 14251), (199, 14257), (203, 14272), (204, 14278), (205, 14281), (207, 14302), (210, 14317), (213, 14332),



(217, 14350), (218, 14356), (221, 14371), (223, 14380), (229, 14422), (230, 14425), (233, 14437), (235, 14443), (239, 14455), (246, 14503), (248, 14521), (250, 14536), (257, 14566), (258, 14575), (273, 14686), (278, 14722), (281, 14743), (290, 14818), (291, 14821), (297, 14875), (300, 14914), (308, 14971), (310, 14995), (316, 15037), (320, 15064), (330, 15133),

Gene: HarperAnne\_12 Start: 7528, Stop: 9633, Start Num: 12

Candidate Starts for HarperAnne\_12:

(Start: 12 @7528 has 105 MA's), (14, 7549), (34, 7726), (36, 7735), (39, 7759), (41, 7831), (44, 7855), (51, 7954), (56, 8032), (57, 8044), (59, 8053), (72, 8260), (75, 8278), (100, 8365), (112, 8434), (117, 8446), (130, 8494), (139, 8524), (142, 8539), (164, 8623), (165, 8626), (170, 8647), (178, 8677), (183, 8704), (195, 8737), (206, 8776), (212, 8803), (213, 8809), (216, 8824), (219, 8839), (230, 8869), (237, 8890), (240, 8902), (241, 8908), (247, 8956), (253, 8992), (264, 9040), (268, 9067), (270, 9088), (279, 9151), (283, 9175), (289, 9232), (302, 9337), (304, 9358), (310, 9412), (314, 9433), (316, 9454),

Gene: HeadNerd\_14 Start: 9720, Stop: 12287, Start Num: 6

Candidate Starts for HeadNerd\_14:

(4, 9699), (Start: 6 @9720 has 80 MA's), (11, 9768), (19, 9849), (21, 9873), (32, 9945), (36, 9993), (37, 10008), (38, 10014), (49, 10176), (53, 10269), (54, 10272), (55, 10275), (58, 10305), (63, 10362), (71, 10500), (72, 10521), (77, 10566), (82, 10593), (86, 10626), (90, 10644), (96, 10686), (99, 10743), (131, 11007), (135, 11034), (137, 11052), (139, 11058), (145, 11082), (150, 11103), (158, 11139), (163, 11166), (171, 11196), (173, 11202), (181, 11253), (189, 11286), (195, 11325), (196, 11331), (197, 11337), (200, 11346), (203, 11358), (204, 11364), (207, 11388), (211, 11409), (213, 11418), (221, 11457), (224, 11475), (229, 11508), (230, 11511), (233, 11523), (238, 11538), (246, 11589), (250, 11622), (254, 11640), (259, 11664), (266, 11706), (273, 11772), (274, 11784), (281, 11829), (290, 11904), (291, 11907), (297, 11961), (300, 12000), (304, 12027), (308, 12057), (309, 12069), (310, 12081), (311, 12090), (320, 12156), (327, 12198), (330, 12228),

Gene: Herb\_14 Start: 9744, Stop: 12302, Start Num: 6

Candidate Starts for Herb\_14:

(Start: 6 @9744 has 80 MA's), (8, 9753), (9, 9783), (19, 9873), (22, 9909), (36, 10017), (37, 10032), (49, 10200), (54, 10296), (75, 10569), (77, 10590), (83, 10620), (86, 10650), (97, 10737), (107, 10860), (116, 10935), (124, 10998), (131, 11031), (134, 11052), (135, 11058), (137, 11076), (139, 11082), (145, 11106), (154, 11148), (158, 11163), (159, 11169), (165, 11196), (178, 11247), (182, 11280), (184, 11289), (189, 11310), (192, 11322), (195, 11349), (197, 11361), (200, 11370), (203, 11382), (204, 11388), (205, 11391), (207, 11412), (213, 11442), (217, 11460), (221, 11481), (223, 11490), (224, 11499), (229, 11532), (230, 11535), (233, 11547), (238, 11562), (250, 11646), (252, 11652), (259, 11688), (268, 11745), (269, 11754), (273, 11796), (281, 11853), (290, 11928), (291, 11931), (294, 11961), (297, 11985), (303, 12042), (307, 12072), (308, 12081), (310, 12105), (312, 12117), (330, 12243),

Gene: Hernandez44\_12 Start: 7641, Stop: 9746, Start Num: 12

Candidate Starts for Hernandez44\_12:

(Start: 12 @7641 has 105 MA's), (14, 7662), (34, 7839), (36, 7848), (39, 7872), (41, 7944), (44, 7968), (45, 7974), (53, 8124), (56, 8145), (57, 8157), (59, 8166), (72, 8373), (75, 8391), (100, 8478), (112, 8547), (117, 8559), (130, 8607), (139, 8637), (142, 8652), (151, 8688), (159, 8715), (164, 8736), (170, 8760), (177, 8784), (178, 8790), (183, 8817), (195, 8850), (206, 8889), (212, 8916), (216, 8937), (219, 8952), (229, 8979), (230, 8982), (237, 9003), (240, 9015), (241, 9021), (247, 9069), (261, 9144), (264, 9153), (268, 9180), (270, 9201), (279, 9264), (283, 9288), (289, 9345), (302, 9450), (304, 9471), (306, 9483), (310, 9525), (314, 9546), (316, 9567),

Gene: Honk\_14 Start: 9008, Stop: 11266, Start Num: 7

Candidate Starts for Honk\_14:

(Start: 7 @9008 has 8 MA's), (23, 9167), (27, 9191), (31, 9203), (33, 9245), (39, 9287), (46, 9395), (49, 9446), (50, 9455), (57, 9572), (60, 9587), (61, 9596), (65, 9650), (68, 9713), (74, 9797), (75, 9809), (76, 9812), (78, 9821), (96, 9872), (110, 9986), (130, 10082), (136, 10124), (162, 10223), (169, 10256), (172, 10265), (195, 10349), (230, 10481), (239, 10511), (241, 10520), (253, 10604), (255, 10610), (257, 10619), (262, 10646), (264, 10652), (277, 10751), (288, 10832), (303, 10964), (308, 11003), (309, 11015), (316, 11069), (319, 11084), (322, 11111),

Gene: Horacetta\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Horacetta\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Huckleberry\_14 Start: 9720, Stop: 12287, Start Num: 6

Candidate Starts for Huckleberry\_14:

(4, 9699), (Start: 6 @9720 has 80 MA's), (11, 9768), (19, 9849), (21, 9873), (32, 9945), (36, 9993), (37, 10008), (38, 10014), (49, 10176), (53, 10269), (54, 10272), (55, 10275), (58, 10305), (63, 10362), (71, 10500), (72, 10521), (77, 10566), (82, 10593), (86, 10626), (90, 10644), (96, 10686), (99, 10743), (131, 11007), (135, 11034), (137, 11052), (139, 11058), (145, 11082), (150, 11103), (158, 11139), (163, 11166), (171, 11196), (173, 11202), (181, 11253), (189, 11286), (195, 11325), (196, 11331), (197, 11337), (200, 11346), (203, 11358), (204, 11364), (207, 11388), (211, 11409), (213, 11418), (221, 11457), (224, 11475), (229, 11508), (230, 11511), (233, 11523), (238, 11538), (246, 11589), (250, 11622), (254, 11640), (259, 11664), (266, 11706), (273, 11772), (274, 11784), (281, 11829), (290, 11904), (291, 11907), (297, 11961), (300, 12000), (304, 12027), (308, 12057), (309, 12069), (310, 12081), (311, 12090), (320, 12156), (327, 12198), (330, 12228),

Gene: Hulk\_12 Start: 7553, Stop: 9658, Start Num: 12

Candidate Starts for Hulk\_12:

(Start: 12 @7553 has 105 MA's), (14, 7574), (34, 7751), (36, 7760), (39, 7784), (41, 7856), (44, 7880), (45, 7886), (53, 8036), (56, 8057), (57, 8069), (59, 8078), (72, 8285), (75, 8303), (100, 8390), (112, 8459), (117, 8471), (130, 8519), (139, 8549), (142, 8564), (151, 8600), (159, 8627), (164, 8648), (170, 8672), (177, 8696), (178, 8702), (183, 8729), (195, 8762), (206, 8801), (212, 8828), (216, 8849), (219, 8864), (229, 8891), (230, 8894), (237, 8915), (240, 8927), (241, 8933), (247, 8981), (261, 9056), (264, 9065), (268, 9092), (270, 9113), (279, 9176), (289, 9257), (302, 9362), (304, 9383), (306, 9395), (310, 9437), (314, 9458), (316, 9479), (332, 9608),

Gene: HunterDalle\_14 Start: 9738, Stop: 12296, Start Num: 6

Candidate Starts for HunterDalle\_14:

(Start: 6 @9738 has 80 MA's), (8, 9747), (9, 9777), (19, 9867), (32, 9963), (37, 10026), (49, 10194), (54, 10290), (55, 10293), (56, 10308), (64, 10395), (67, 10461), (80, 10599), (81, 10602), (93, 10686), (124, 10992), (135, 11052), (137, 11070), (139, 11076), (148, 11109), (150, 11121), (158, 11157), (163, 11184), (169, 11208), (171, 11214), (181, 11271), (187, 11295), (189, 11304), (193, 11319), (195, 11343), (197, 11355), (203, 11376), (204, 11382), (206, 11403), (211, 11427), (213, 11436), (217, 11454), (221, 11475), (222, 11481), (224, 11493), (229, 11526), (230, 11529), (233, 11541), (238, 11556), (239, 11559), (252, 11646), (267, 11736), (268, 11739), (273, 11790), (281, 11847), (282, 11856), (285, 11868), (290, 11922), (291, 11925), (297, 11979), (300, 12018), (307, 12066), (308, 12075), (310, 12099), (312, 12111), (327, 12207), (330, 12237),

Gene: Huntingdon\_18 Start: 12617, Stop: 15178, Start Num: 6

Candidate Starts for Huntingdon\_18:

(4, 12596), (Start: 6 @12617 has 80 MA's), (16, 12707), (19, 12746), (22, 12782), (32, 12842), (37, 12905), (49, 13073), (52, 13118), (53, 13166), (54, 13169), (55, 13172), (62, 13256), (63, 13259), (71, 13397), (77, 13463), (82, 13490), (88, 13532), (121, 13841), (124, 13874), (135, 13934), (139, 13958), (158, 14039), (159, 14045), (160, 14048), (165, 14072), (173, 14102), (178, 14123), (186, 14171), (189, 14186), (193, 14201), (195, 14225), (197, 14237), (199, 14243), (203, 14258), (204, 14264), (210, 14303), (211, 14309), (213, 14318), (217, 14336), (218, 14342), (220, 14354), (221, 14357), (223, 14366), (225, 14384), (229, 14408), (230, 14411), (233, 14423), (239, 14441), (248, 14507), (250, 14522), (257, 14552), (258, 14561), (268, 14621), (273, 14672), (278, 14708), (290, 14804), (291, 14807), (297, 14861), (300, 14900), (304, 14927), (308, 14957), (310, 14981), (316, 15023), (320, 15050), (330, 15119),

Gene: IAmGroot\_15 Start: 10840, Stop: 13191, Start Num: 7

Candidate Starts for IAmGroot\_15:

(Start: 7 @10840 has 8 MA's), (27, 11023), (46, 11239), (50, 11299), (53, 11383), (59, 11425), (65, 11494), (68, 11557), (75, 11653), (76, 11656), (89, 11707), (96, 11758), (105, 11872), (108, 11881), (113, 11920), (149, 12109), (169, 12193), (179, 12232), (183, 12253), (206, 12328), (232, 12430), (236, 12442), (241, 12463), (259, 12577), (262, 12592), (264, 12598), (290, 12799), (308, 12949), (316, 13015),

Gene: Immaculata\_18 Start: 12618, Stop: 15179, Start Num: 6

Candidate Starts for Immaculata\_18:

(4, 12597), (Start: 6 @12618 has 80 MA's), (11, 12666), (15, 12699), (19, 12747), (21, 12771), (22, 12783), (32, 12843), (36, 12891), (37, 12906), (38, 12912), (47, 13032), (49, 13074), (53, 13167), (54, 13170), (55, 13173), (58, 13203), (62, 13257), (71, 13398), (72, 13419), (75, 13443), (77, 13464), (79, 13473), (86, 13524), (90, 13542), (94, 13566), (106, 13728), (124, 13872), (131, 13905), (135, 13932), (137, 13950), (139, 13956), (145, 13980), (148, 13989), (158, 14037), (163, 14064), (169, 14088), (171, 14094), (173, 14100), (181, 14151), (185, 14166), (188, 14178), (189, 14184), (190, 14187), (192, 14196), (195, 14223), (197, 14235), (200, 14244), (203, 14256), (204, 14262), (206, 14283), (213, 14316), (221, 14355), (229, 14406), (230, 14409), (232, 14418), (233, 14421), (238, 14436), (250, 14520), (252, 14526), (259, 14562), (273, 14670), (274, 14682), (278, 14706), (290, 14802), (291, 14805), (297, 14859), (300, 14898), (307, 14946), (308, 14955), (310, 14979), (313, 14997), (320, 15048), (324, 15072), (327, 15090), (330, 15120),

Gene: JRok\_12 Start: 7531, Stop: 9636, Start Num: 12

Candidate Starts for JRok\_12:

(Start: 12 @7531 has 105 MA's), (14, 7552), (34, 7729), (36, 7738), (39, 7762), (41, 7834), (44, 7858), (45, 7864), (53, 8014), (56, 8035), (57, 8047), (59, 8056), (72, 8263), (75, 8281), (100, 8368), (112, 8437), (117, 8449), (130, 8497), (139, 8527), (142, 8542), (159, 8605), (164, 8626), (165, 8629), (178, 8680), (183, 8707), (195, 8740), (206, 8779), (212, 8806), (216, 8827), (219, 8842), (229, 8869), (237, 8893), (240, 8905), (241, 8911), (247, 8959), (264, 9043), (268, 9070), (270, 9091), (279, 9154), (283, 9178), (287, 9202), (288, 9223), (302, 9340), (304, 9361), (306, 9373), (310, 9415), (314, 9436), (316, 9457), (332, 9586),

Gene: Jahseh\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Jahseh\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: JaimeB\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for JaimeB\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Jannah\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Jannah\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466),

Gene: Jerky\_12 Start: 7627, Stop: 9732, Start Num: 12

Candidate Starts for Jerky\_12:

(Start: 12 @7627 has 105 MA's), (14, 7648), (34, 7825), (36, 7834), (39, 7858), (41, 7930), (44, 7954), (45, 7960), (53, 8110), (56, 8131), (57, 8143), (59, 8152), (72, 8359), (75, 8377), (100, 8464), (112, 8533), (117, 8545), (130, 8593), (139, 8623), (142, 8638), (159, 8701), (164, 8722), (170, 8746), (177, 8770), (178, 8776), (183, 8803), (195, 8836), (206, 8875), (212, 8902), (216, 8923), (219, 8938), (229, 8965), (230, 8968), (237, 8989), (240, 9001), (241, 9007), (247, 9055), (253, 9091), (261, 9130), (264, 9139), (268, 9166), (270, 9187), (279, 9250), (283, 9274), (289, 9331), (302, 9436), (304, 9457), (306, 9469), (310, 9511), (314, 9532), (316, 9553), (332, 9682),

Gene: JoBros\_12 Start: 7541, Stop: 9646, Start Num: 12

Candidate Starts for JoBros\_12:

(Start: 12 @7541 has 105 MA's), (14, 7562), (34, 7739), (36, 7748), (39, 7772), (41, 7844), (44, 7868), (45, 7874), (53, 8024), (56, 8045), (57, 8057), (59, 8066), (72, 8273), (75, 8291), (100, 8378), (112, 8447), (117, 8459), (130, 8507), (139, 8537), (142, 8552), (151, 8588), (159, 8615), (164, 8636), (170, 8660), (177, 8684), (178, 8690), (183, 8717), (195, 8750), (206, 8789), (212, 8816), (216, 8837), (219, 8852), (229, 8879), (230, 8882), (237, 8903), (240, 8915), (241, 8921), (247, 8969), (253, 9005), (264, 9053), (268, 9080), (270, 9101), (279, 9164), (283, 9188), (289, 9245), (302, 9350), (304, 9371), (306, 9383), (310, 9425), (314, 9446), (316, 9467), (332, 9596),

Gene: Joann\_18 Start: 12611, Stop: 15172, Start Num: 6

Candidate Starts for Joann\_18:

(4, 12590), (Start: 6 @12611 has 80 MA's), (16, 12701), (19, 12740), (22, 12776), (32, 12836), (36, 12884), (37, 12899), (49, 13067), (52, 13112), (54, 13163), (55, 13166), (62, 13250), (77, 13457), (79, 13466), (82, 13484), (88, 13526), (121, 13835), (124, 13868), (135, 13928), (139, 13952), (158, 14033), (159, 14039), (160, 14042), (165, 14066), (173, 14096), (178, 14117), (189, 14180), (193, 14195), (195, 14219), (197, 14231), (199, 14237), (203, 14252), (204, 14258), (205, 14261), (207, 14282), (210, 14297), (213, 14312), (217, 14330), (218, 14336), (221, 14351), (223, 14360), (224, 14369), (229, 14402), (230, 14405), (233, 14417), (235, 14423), (239, 14435), (248, 14501), (250, 14516), (268, 14615), (273, 14666), (274, 14678), (277, 14699), (290, 14798), (291, 14801), (297, 14855), (300, 14894), (308, 14951), (310, 14975), (316, 15017), (320, 15044), (330, 15113),

Gene: JooneeDee\_12 Start: 7572, Stop: 9677, Start Num: 12

Candidate Starts for JooneeDee\_12:

(1, 7476), (Start: 12 @7572 has 105 MA's), (14, 7593), (31, 7719), (34, 7770), (36, 7779), (39, 7803), (41, 7875), (44, 7899), (51, 7998), (56, 8076), (57, 8088), (59, 8097), (72, 8304), (75, 8322), (100, 8409), (112, 8478), (117, 8490), (130, 8538), (139, 8568), (142, 8583), (155, 8637), (164, 8667), (165, 8670), (170, 8691), (178, 8721), (183, 8748), (195, 8781), (206, 8820), (212, 8847), (213, 8853), (216, 8868), (219, 8883), (229, 8910), (230, 8913), (237, 8934), (240, 8946), (241, 8952), (247, 9000), (253, 9036), (264, 9084), (268, 9111), (270, 9132), (279, 9195), (283, 9219), (289, 9276), (302, 9381), (304, 9402), (306, 9414), (310, 9456), (314, 9477), (316, 9498),

Gene: Josuke\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Josuke\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Jumboset\_18 Start: 12567, Stop: 15128, Start Num: 6

Candidate Starts for Jumboset\_18:

(4, 12546), (Start: 6 @12567 has 80 MA's), (11, 12615), (15, 12648), (19, 12696), (21, 12720), (22, 12732), (32, 12792), (36, 12840), (37, 12855), (38, 12861), (47, 12981), (49, 13023), (54, 13119), (55, 13122), (58, 13152), (62, 13206), (63, 13209), (71, 13347), (72, 13368), (75, 13392), (77, 13413), (79, 13422), (86, 13473), (90, 13491), (106, 13677), (124, 13821), (131, 13854), (135, 13881), (137, 13899), (139, 13905), (145, 13929), (148, 13938), (158, 13986), (163, 14013), (164, 14016), (169, 14037), (171, 14043), (173, 14049), (181, 14100), (185, 14115), (188, 14127), (189, 14133), (190, 14136), (192, 14145), (195, 14172), (197, 14184), (200, 14193), (203, 14205), (204, 14211), (206, 14232), (213, 14265), (221, 14304), (229, 14355), (230, 14358), (232, 14367), (233, 14370), (238, 14385), (252, 14475), (259, 14511), (273, 14619), (278, 14655), (290, 14751), (291, 14754), (297, 14808), (300, 14847), (307, 14895), (308, 14904), (310, 14928), (313, 14946), (320, 14997), (324, 15021), (327, 15039), (330, 15069),

Gene: Kaijohn\_12 Start: 7545, Stop: 9650, Start Num: 12

Candidate Starts for Kaijohn\_12:

(Start: 12 @7545 has 105 MA's), (14, 7566), (34, 7743), (36, 7752), (39, 7776), (41, 7848), (44, 7872), (45, 7878), (51, 7971), (53, 8028), (56, 8049), (57, 8061), (59, 8070), (72, 8277), (75, 8295), (100, 8382), (112, 8451), (117, 8463), (130, 8511), (139, 8541), (142, 8556), (151, 8592), (159, 8619), (164, 8640), (170, 8664), (177, 8688), (178, 8694), (183, 8721), (195, 8754), (206, 8793), (212, 8820), (216, 8841), (219, 8856), (229, 8883), (230, 8886), (237, 8907), (240, 8919), (241, 8925), (247, 8973), (264, 9057), (268, 9084), (270, 9105), (279, 9168), (289, 9249), (302, 9354), (306, 9387), (310, 9429), (314, 9450), (316, 9471), (332, 9600),

Gene: Kalizoi\_18 Start: 12566, Stop: 15127, Start Num: 6

Candidate Starts for Kalizoi\_18:

(4, 12545), (Start: 6 @12566 has 80 MA's), (11, 12614), (15, 12647), (19, 12695), (21, 12719), (22, 12731), (32, 12791), (36, 12839), (37, 12854), (38, 12860), (47, 12980), (49, 13022), (54, 13118), (55, 13121), (58, 13151), (62, 13205), (71, 13346), (72, 13367), (75, 13391), (77, 13412), (79, 13421), (86, 13472), (90, 13490), (106, 13676), (124, 13820), (131, 13853), (135, 13880), (137, 13898), (139, 13904), (145, 13928), (148, 13937), (158, 13985), (163, 14012), (164, 14015), (169, 14036), (173, 14048), (181, 14099), (185, 14114), (188, 14126), (190, 14135), (192, 14144), (195, 14171), (197, 14183), (200, 14192), (203, 14204), (204, 14210), (206, 14231), (211, 14255), (213, 14264), (221,

14303), (229, 14354), (230, 14357), (232, 14366), (233, 14369), (238, 14384), (252, 14474), (259, 14510), (273, 14618), (278, 14654), (290, 14750), (291, 14753), (297, 14807), (300, 14846), (307, 14894), (308, 14903), (310, 14927), (313, 14945), (320, 14996), (324, 15020), (327, 15038), (330, 15068),

Gene: KayPaulus\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for KayPaulus\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: Kevanna\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for Kevanna\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: KillerTomato\_12 Start: 7586, Stop: 9691, Start Num: 12

Candidate Starts for KillerTomato\_12:

(Start: 12 @7586 has 105 MA's), (14, 7607), (34, 7784), (36, 7793), (39, 7817), (41, 7889), (44, 7913), (45, 7919), (51, 8012), (53, 8069), (56, 8090), (57, 8102), (59, 8111), (72, 8318), (75, 8336), (100, 8423), (112, 8492), (117, 8504), (130, 8552), (139, 8582), (142, 8597), (151, 8633), (159, 8660), (165, 8684), (170, 8705), (177, 8729), (178, 8735), (183, 8762), (195, 8795), (206, 8834), (212, 8861), (216, 8882), (219, 8897), (229, 8924), (230, 8927), (237, 8948), (240, 8960), (241, 8966), (247, 9014), (253, 9050), (264, 9098), (268, 9125), (270, 9146), (279, 9209), (283, 9233), (289, 9290), (302, 9395), (304, 9416), (306, 9428), (310, 9470), (314, 9491), (316, 9512), (332, 9641),

Gene: KingBob\_14 Start: 9744, Stop: 12302, Start Num: 6

Candidate Starts for KingBob\_14:

(Start: 6 @9744 has 80 MA's), (8, 9753), (9, 9783), (19, 9873), (22, 9909), (36, 10017), (37, 10032), (49, 10200), (54, 10296), (75, 10569), (77, 10590), (83, 10620), (86, 10650), (97, 10737), (107, 10860), (116, 10935), (124, 10998), (131, 11031), (134, 11052), (135, 11058), (137, 11076), (139, 11082), (145, 11106), (154, 11148), (158, 11163), (159, 11169), (165, 11196), (178, 11247), (182, 11280), (184, 11289), (189, 11310), (192, 11322), (195, 11349), (197, 11361), (200, 11370), (203, 11382), (204, 11388), (205, 11391), (207, 11412), (213, 11442), (217, 11460), (221, 11481), (223, 11490), (224, 11499), (229, 11532), (230, 11535), (233, 11547), (238, 11562), (250, 11646), (252, 11652), (259, 11688), (268, 11745), (269, 11754), (273, 11796), (281, 11853), (290, 11928), (291, 11931), (294, 11961), (297, 11985), (303, 12042), (307, 12072), (308, 12081), (310, 12105), (312, 12117), (330, 12243),

Gene: Kittykat\_14 Start: 9756, Stop: 12314, Start Num: 6

Candidate Starts for Kittykat\_14:

(4, 9735), (Start: 6 @9756 has 80 MA's), (11, 9804), (19, 9885), (32, 9981), (35, 10026), (37, 10044), (38, 10050), (48, 10191), (49, 10212), (52, 10257), (54, 10308), (55, 10311), (58, 10341), (62, 10395), (70, 10524), (77, 10602), (79, 10611), (80, 10617), (82, 10629), (86, 10662), (93, 10704), (97, 10749),

(106, 10869), (107, 10872), (116, 10947), (124, 11010), (135, 11070), (137, 11088), (139, 11094), (141, 11106), (147, 11124), (158, 11175), (159, 11181), (164, 11205), (168, 11223), (173, 11238), (175, 11247), (182, 11292), (184, 11301), (189, 11322), (192, 11334), (193, 11337), (194, 11358), (195, 11361), (196, 11367), (197, 11373), (203, 11394), (204, 11400), (206, 11421), (211, 11445), (213, 11454), (215, 11466), (217, 11472), (221, 11493), (229, 11544), (230, 11547), (232, 11556), (233, 11559), (252, 11664), (254, 11676), (258, 11697), (269, 11766), (273, 11808), (274, 11820), (275, 11823), (277, 11841), (278, 11844), (290, 11940), (291, 11943), (297, 11997), (300, 12036), (303, 12054), (307, 12084), (308, 12093), (313, 12135), (330, 12255),

Gene: Kojax4\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Kojax4\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Korra\_19 Start: 12572, Stop: 15133, Start Num: 6

Candidate Starts for Korra\_19:

(4, 12551), (Start: 6 @12572 has 80 MA's), (11, 12620), (15, 12653), (19, 12701), (21, 12725), (22, 12737), (32, 12797), (36, 12845), (37, 12860), (38, 12866), (47, 12986), (49, 13028), (54, 13124), (55, 13127), (58, 13157), (62, 13211), (71, 13352), (72, 13373), (75, 13397), (77, 13418), (79, 13427), (86, 13478), (90, 13496), (106, 13682), (124, 13826), (131, 13859), (135, 13886), (137, 13904), (139, 13910), (145, 13934), (148, 13943), (158, 13991), (163, 14018), (164, 14021), (169, 14042), (173, 14054), (181, 14105), (185, 14120), (188, 14132), (190, 14141), (192, 14150), (195, 14177), (197, 14189), (200, 14198), (203, 14210), (204, 14216), (206, 14237), (211, 14261), (213, 14270), (221, 14309), (229, 14360), (230, 14363), (232, 14372), (233, 14375), (238, 14390), (252, 14480), (259, 14516), (273, 14624), (278, 14660), (290, 14756), (291, 14759), (297, 14813), (300, 14852), (307, 14900), (308, 14909), (310, 14933), (313, 14951), (320, 15002), (324, 15026), (330, 15074),

Gene: KyriosFaba\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for KyriosFaba\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Lakshmi\_18 Start: 12636, Stop: 15197, Start Num: 6

Candidate Starts for Lakshmi\_18:

(4, 12615), (Start: 6 @12636 has 80 MA's), (16, 12726), (19, 12765), (22, 12801), (32, 12861), (36, 12909), (37, 12924), (49, 13092), (52, 13137), (54, 13188), (55, 13191), (62, 13275), (75, 13461), (80, 13497), (82, 13509), (88, 13551), (99, 13662), (121, 13860), (135, 13953), (139, 13977), (140, 13980), (158, 14058), (159, 14064), (165, 14091), (173, 14121), (184, 14184), (188, 14199), (190, 14208), (191, 14211), (193, 14220), (195, 14244), (197, 14256), (199, 14262), (203, 14277), (204, 14283), (205, 14286), (207, 14307), (210, 14322), (213, 14337), (217, 14355), (218, 14361), (221, 14376), (223, 14385), (224, 14394), (229, 14427), (230, 14430), (233, 14442), (235, 14448), (239, 14460), (248, 14526), (250, 14541), (257, 14571), (258, 14580), (273, 14691), (278, 14727), (281, 14748), (290, 14823), (291, 14826), (297, 14880), (299, 14895), (300, 14919), (308, 14976), (310, 15000),

(316, 15042), (320, 15069), (330, 15138),

Gene: Lasagna\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for Lasagna\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (47, 10131), (49, 10173), (54, 10269), (55, 10272), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283), (190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508), (233, 11520), (247, 11595), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805), (290, 11901), (291, 11904), (295, 11937), (297, 11958), (300, 11997), (303, 12015), (307, 12045), (308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: LaviMo\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for LaviMo\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Leafy\_12 Start: 7556, Stop: 9661, Start Num: 12

Candidate Starts for Leafy\_12:

(Start: 12 @7556 has 105 MA's), (14, 7577), (34, 7754), (36, 7763), (39, 7787), (41, 7859), (44, 7883), (45, 7889), (51, 7982), (53, 8039), (56, 8060), (57, 8072), (59, 8081), (72, 8288), (75, 8306), (100, 8393), (112, 8462), (117, 8474), (130, 8522), (139, 8552), (142, 8567), (159, 8630), (165, 8654), (170, 8675), (177, 8699), (178, 8705), (183, 8732), (195, 8765), (206, 8804), (213, 8837), (216, 8852), (219, 8867), (229, 8894), (230, 8897), (240, 8930), (241, 8936), (247, 8984), (264, 9068), (268, 9095), (270, 9116), (279, 9179), (283, 9203), (289, 9260), (302, 9365), (304, 9386), (306, 9398), (310, 9440), (314, 9461), (316, 9482), (332, 9611),

Gene: LemonPepper\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for LemonPepper\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Lennox\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for Lennox\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (49, 10173), (54, 10269), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283), (190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406),



(213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508), (233, 11520), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805), (290, 11901), (291, 11904), (295, 11937), (297, 11958), (300, 11997), (303, 12015), (307, 12045), (308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: LilStuart\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for LilStuart\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (49, 10173), (54, 10269), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283), (190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508), (233, 11520), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805), (290, 11901), (291, 11904), (295, 11937), (297, 11958), (300, 11997), (303, 12015), (307, 12045), (308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: LionelHutz\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for LionelHutz\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Litotes\_18 Start: 12597, Stop: 15152, Start Num: 6

Candidate Starts for Litotes\_18:

(4, 12576), (Start: 6 @12597 has 80 MA's), (11, 12645), (19, 12726), (21, 12750), (32, 12822), (36, 12870), (37, 12885), (38, 12891), (49, 13053), (54, 13149), (55, 13152), (58, 13182), (67, 13320), (77, 13443), (86, 13503), (90, 13521), (92, 13536), (97, 13587), (121, 13818), (132, 13887), (135, 13911), (137, 13929), (139, 13935), (152, 13989), (154, 14001), (159, 14022), (164, 14046), (182, 14133), (188, 14157), (189, 14163), (190, 14166), (193, 14178), (194, 14199), (195, 14202), (196, 14208), (197, 14214), (202, 14232), (203, 14235), (204, 14241), (211, 14286), (213, 14295), (217, 14313), (221, 14334), (223, 14343), (224, 14352), (229, 14385), (230, 14388), (232, 14397), (233, 14400), (242, 14451), (273, 14649), (274, 14661), (277, 14682), (278, 14685), (290, 14781), (291, 14784), (297, 14838), (300, 14877), (308, 14934), (313, 14976), (320, 15024), (327, 15066), (330, 15096),

Gene: Livingwater\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for Livingwater\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: Loca\_12 Start: 7559, Stop: 9664, Start Num: 12

Candidate Starts for Loca\_12:

(Start: 12 @7559 has 105 MA's), (14, 7580), (34, 7757), (36, 7766), (39, 7790), (41, 7862), (44, 7886), (45, 7892), (51, 7985), (53, 8042), (56, 8063), (57, 8075), (59, 8084), (72, 8291), (75, 8309), (100, 8396), (112, 8465), (117, 8477), (130, 8525), (139, 8555), (142, 8570), (159, 8633), (170, 8678), (177, 8702), (178, 8708), (183, 8735), (195, 8768), (206, 8807), (216, 8855), (219, 8870), (229, 8897), (230, 8900), (240, 8933), (241, 8939), (247, 8987), (264, 9071), (268, 9098), (270, 9119), (279, 9182), (283, 9206), (289, 9263), (302, 9368), (304, 9389), (306, 9401), (310, 9443), (314, 9464), (316, 9485), (332, 9614),

Gene: Lola20\_12 Start: 7538, Stop: 9646, Start Num: 12

Candidate Starts for Lola20\_12:

(Start: 12 @7538 has 105 MA's), (14, 7559), (34, 7736), (36, 7745), (39, 7769), (41, 7841), (44, 7865), (45, 7871), (51, 7964), (53, 8021), (56, 8042), (57, 8054), (59, 8063), (72, 8270), (75, 8288), (100, 8375), (112, 8444), (117, 8456), (130, 8504), (139, 8534), (142, 8549), (151, 8585), (159, 8612), (170, 8657), (177, 8681), (178, 8687), (183, 8714), (195, 8747), (206, 8786), (212, 8813), (216, 8834), (219, 8849), (229, 8876), (230, 8879), (240, 8912), (241, 8918), (247, 8966), (253, 9002), (264, 9050), (268, 9077), (270, 9098), (279, 9161), (283, 9185), (289, 9242), (302, 9347), (304, 9368), (306, 9380), (310, 9422), (316, 9464), (332, 9596),

Gene: Lucy\_14 Start: 9709, Stop: 12270, Start Num: 6

Candidate Starts for Lucy\_14:

(4, 9688), (Start: 6 @9709 has 80 MA's), (11, 9757), (19, 9838), (21, 9862), (32, 9934), (36, 9982), (37, 9997), (38, 10003), (49, 10165), (54, 10261), (55, 10264), (58, 10294), (67, 10432), (72, 10510), (77, 10555), (79, 10564), (86, 10615), (90, 10633), (91, 10645), (95, 10669), (114, 10885), (127, 10975), (131, 10996), (135, 11023), (137, 11041), (139, 11047), (145, 11071), (148, 11080), (158, 11128), (163, 11155), (171, 11185), (181, 11242), (185, 11257), (188, 11269), (189, 11275), (190, 11278), (192, 11287), (195, 11314), (197, 11326), (200, 11335), (203, 11347), (204, 11353), (207, 11377), (211, 11398), (213, 11407), (216, 11422), (221, 11446), (224, 11464), (229, 11497), (230, 11500), (233, 11512), (247, 11587), (252, 11617), (259, 11653), (273, 11761), (274, 11773), (278, 11797), (290, 11893), (291, 11896), (297, 11950), (300, 11989), (303, 12007), (307, 12037), (308, 12046), (310, 12070), (321, 12145), (324, 12163), (330, 12211),

Gene: Lunatic\_12 Start: 7531, Stop: 9636, Start Num: 12

Candidate Starts for Lunatic\_12:

(Start: 12 @7531 has 105 MA's), (14, 7552), (34, 7729), (36, 7738), (39, 7762), (41, 7834), (44, 7858), (51, 7957), (53, 8014), (56, 8035), (57, 8047), (59, 8056), (72, 8263), (75, 8281), (100, 8368), (112, 8437), (117, 8449), (130, 8497), (139, 8527), (142, 8542), (164, 8626), (165, 8629), (170, 8650), (178, 8680), (183, 8707), (195, 8740), (206, 8779), (212, 8806), (213, 8812), (216, 8827), (219, 8842), (230, 8872), (237, 8893), (240, 8905), (241, 8911), (247, 8959), (253, 8995), (264, 9043), (268, 9070), (270, 9091), (279, 9154), (283, 9178), (289, 9235), (302, 9340), (304, 9361), (310, 9415), (314, 9436), (316, 9457),

Gene: Luxx\_12 Start: 7564, Stop: 9669, Start Num: 12

Candidate Starts for Luxx\_12:

(Start: 12 @7564 has 105 MA's), (14, 7585), (34, 7762), (36, 7771), (39, 7795), (41, 7867), (44, 7891), (45, 7897), (53, 8047), (56, 8068), (57, 8080), (59, 8089), (72, 8296), (75, 8314), (100, 8401), (112, 8470), (117, 8482), (130, 8530), (139, 8560), (142, 8575), (151, 8611), (159, 8638), (164, 8659), (170, 8683), (177, 8707), (178, 8713), (183, 8740), (195, 8773), (206, 8812), (212, 8839), (216, 8860), (219, 8875), (229, 8902), (230, 8905), (237, 8926), (240, 8938), (241, 8944), (247, 8992), (261, 9067), (264, 9076), (268, 9103), (270, 9124), (279, 9187), (283, 9211), (289, 9268), (302, 9373), (304, 9394), (306, 9406), (310, 9448), (314, 9469), (316, 9490),

Gene: Majesty\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Majesty\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Makoto\_14 Start: 9718, Stop: 12279, Start Num: 6

Candidate Starts for Makoto\_14:

(4, 9697), (Start: 6 @9718 has 80 MA's), (11, 9766), (19, 9847), (21, 9871), (32, 9943), (36, 9991), (37, 10006), (38, 10012), (49, 10174), (54, 10270), (58, 10303), (67, 10441), (72, 10519), (77, 10564), (79, 10573), (86, 10624), (90, 10642), (91, 10654), (95, 10678), (114, 10894), (131, 11005), (135, 11032), (137, 11050), (139, 11056), (145, 11080), (148, 11089), (158, 11137), (163, 11164), (171, 11194), (181, 11251), (185, 11266), (188, 11278), (189, 11284), (190, 11287), (192, 11296), (195, 11323), (197, 11335), (200, 11344), (203, 11356), (204, 11362), (207, 11386), (211, 11407), (213, 11416), (216, 11431), (221, 11455), (229, 11506), (230, 11509), (233, 11521), (247, 11596), (252, 11626), (259, 11662), (273, 11770), (274, 11782), (278, 11806), (290, 11902), (291, 11905), (295, 11938), (297, 11959), (303, 12016), (307, 12046), (308, 12055), (310, 12079), (321, 12154), (330, 12220),

Gene: MamaPearl\_14 Start: 9752, Stop: 12301, Start Num: 6

Candidate Starts for MamaPearl\_14:

(3, 9722), (Start: 6 @9752 has 80 MA's), (19, 9881), (22, 9917), (36, 10025), (37, 10040), (48, 10187), (49, 10208), (54, 10304), (63, 10394), (69, 10487), (77, 10598), (86, 10658), (88, 10667), (118, 10940), (124, 10994), (131, 11027), (134, 11048), (135, 11054), (137, 11072), (158, 11159), (173, 11222), (182, 11276), (184, 11285), (189, 11306), (192, 11318), (193, 11321), (195, 11345), (196, 11351), (197, 11357), (200, 11366), (203, 11378), (204, 11384), (206, 11405), (213, 11438), (216, 11453), (217, 11456), (221, 11477), (222, 11483), (224, 11495), (229, 11528), (230, 11531), (232, 11540), (233, 11543), (238, 11558), (250, 11642), (258, 11681), (273, 11792), (274, 11804), (281, 11849), (290, 11924), (291, 11927), (297, 11981), (307, 12068), (308, 12077), (310, 12101), (312, 12113), (320, 12170), (321, 12176), (330, 12242), (333, 12284),

Gene: ManAs\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for ManAs\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Maneater\_12 Start: 7528, Stop: 9633, Start Num: 12

Candidate Starts for Maneater\_12:

(Start: 12 @7528 has 105 MA's), (14, 7549), (34, 7726), (36, 7735), (39, 7759), (41, 7831), (44, 7855), (45, 7861), (53, 8011), (56, 8032), (57, 8044), (59, 8053), (72, 8260), (75, 8278), (100, 8365), (112, 8434), (117, 8446), (130, 8494), (139, 8524), (142, 8539), (151, 8575), (159, 8602), (164, 8623), (170, 8647), (177, 8671), (178, 8677), (183, 8704), (195, 8737), (206, 8776), (212, 8803), (216, 8824), (219, 8839), (229, 8866), (230, 8869), (237, 8890), (240, 8902), (241, 8908), (247, 8956), (261, 9031), (264, 9040), (268, 9067), (270, 9088), (279, 9151), (283, 9175), (289, 9232), (302, 9337), (304, 9358), (306, 9370), (310, 9412), (314, 9433), (316, 9454),

Gene: Maria1952\_14 Start: 9744, Stop: 12302, Start Num: 6

Candidate Starts for Maria1952\_14:

(Start: 6 @9744 has 80 MA's), (8, 9753), (9, 9783), (19, 9873), (22, 9909), (36, 10017), (37, 10032), (49, 10200), (54, 10296), (75, 10569), (77, 10590), (83, 10620), (86, 10650), (97, 10737), (107, 10860), (116, 10935), (124, 10998), (131, 11031), (134, 11052), (135, 11058), (137, 11076), (139, 11082), (145, 11106), (154, 11148), (158, 11163), (159, 11169), (165, 11196), (178, 11247), (182, 11280), (184, 11289), (189, 11310), (192, 11322), (195, 11349), (197, 11361), (200, 11370), (203, 11382), (204, 11388), (205, 11391), (207, 11412), (213, 11442), (217, 11460), (221, 11481), (223, 11490), (224, 11499), (229, 11532), (230, 11535), (233, 11547), (238, 11562), (250, 11646), (252, 11652), (259, 11688), (268, 11745), (269, 11754), (273, 11796), (281, 11853), (290, 11928), (291, 11931), (294, 11961), (297, 11985), (303, 12042), (307, 12072), (308, 12081), (310, 12105), (312, 12117), (330, 12243),

Gene: MasterPitts\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for MasterPitts\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472), (332, 9601),

Gene: McShie\_12 Start: 7529, Stop: 9634, Start Num: 12

Candidate Starts for McShie\_12:

(Start: 12 @7529 has 105 MA's), (14, 7550), (34, 7727), (36, 7736), (39, 7760), (41, 7832), (44, 7856), (45, 7862), (51, 7955), (53, 8012), (56, 8033), (57, 8045), (59, 8054), (72, 8261), (75, 8279), (100, 8366), (112, 8435), (117, 8447), (130, 8495), (139, 8525), (142, 8540), (159, 8603), (164, 8624), (165, 8627), (178, 8678), (183, 8705), (195, 8738), (206, 8777), (212, 8804), (216, 8825), (219, 8840), (229, 8867), (237, 8891), (240, 8903), (241, 8909), (247, 8957), (264, 9041), (268, 9068), (270, 9089), (279, 9152), (283, 9176), (289, 9233), (302, 9338), (304, 9359), (306, 9371), (310, 9413), (314, 9434), (316, 9455), (332, 9584),

Gene: Megan\_30 Start: 21999, Stop: 24323, Start Num: 5

Candidate Starts for Megan\_30:

(2, 21969), (Start: 5 @21999 has 2 MA's), (24, 22179), (26, 22188), (31, 22215), (36, 22275), (42, 22383), (49, 22461), (53, 22554), (55, 22560), (58, 22590), (69, 22737), (85, 22860), (87, 22872), (101, 22938), (103, 22959), (119, 23064), (120, 23070), (126, 23118), (144, 23202), (155, 23250), (198, 23409), (206, 23433), (213, 23466), (226, 23502), (228, 23517), (229, 23523), (241, 23565), (244, 23598), (247, 23613), (249, 23625), (253, 23649), (257, 23664), (264, 23697), (270, 23745), (271, 23757), (279, 23808), (280, 23811), (287, 23856), (290, 23895), (294, 23928), (308, 24045), (310, 24069), (311, 24078), (334, 24279), (335, 24309), (336, 24312),

Gene: MeganNoll\_18 Start: 12624, Stop: 15185, Start Num: 6

Candidate Starts for MeganNoll\_18:

(4, 12603), (Start: 6 @12624 has 80 MA's), (11, 12672), (15, 12705), (19, 12753), (21, 12777), (22, 12789), (32, 12849), (36, 12897), (37, 12912), (38, 12918), (47, 13038), (49, 13080), (54, 13176), (55, 13179), (58, 13209), (62, 13263), (63, 13266), (71, 13404), (72, 13425), (75, 13449), (77, 13470), (79, 13479), (86, 13530), (90, 13548), (106, 13734), (124, 13878), (131, 13911), (135, 13938), (137, 13956), (139, 13962), (145, 13986), (148, 13995), (158, 14043), (163, 14070), (164, 14073), (169, 14094), (171, 14100), (173, 14106), (181, 14157), (185, 14172), (188, 14184), (189, 14190), (190, 14193), (192, 14202), (195, 14229), (197, 14241), (200, 14250), (203, 14262), (204, 14268), (206, 14289), (213, 14322), (221, 14361), (229, 14412), (230, 14415), (232, 14424), (233, 14427), (238, 14442), (252, 14532), (259, 14568), (273, 14676), (278, 14712), (290, 14808), (291, 14811), (297,

14865), (300, 14904), (307, 14952), (308, 14961), (310, 14985), (313, 15003), (320, 15054), (324, 15078), (327, 15096), (330, 15126),

Gene: MelBee03\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for MelBee03\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: Miaurora\_12 Start: 7648, Stop: 9753, Start Num: 12

Candidate Starts for Miaurora\_12:

(Start: 12 @7648 has 105 MA's), (14, 7669), (34, 7846), (36, 7855), (39, 7879), (41, 7951), (44, 7975), (51, 8074), (53, 8131), (56, 8152), (57, 8164), (59, 8173), (72, 8380), (75, 8398), (100, 8485), (112, 8554), (117, 8566), (130, 8614), (139, 8644), (142, 8659), (155, 8713), (164, 8743), (165, 8746), (170, 8767), (178, 8797), (183, 8824), (195, 8857), (206, 8896), (212, 8923), (213, 8929), (216, 8944), (219, 8959), (229, 8986), (230, 8989), (237, 9010), (240, 9022), (241, 9028), (247, 9076), (253, 9112), (264, 9160), (268, 9187), (270, 9208), (279, 9271), (283, 9295), (289, 9352), (302, 9457), (304, 9478), (310, 9532), (314, 9553), (316, 9574),

Gene: Minima\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Minima\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: MirimarMandM\_12 Start: 7615, Stop: 9720, Start Num: 12

Candidate Starts for MirimarMandM\_12:

(Start: 12 @7615 has 105 MA's), (14, 7636), (34, 7813), (36, 7822), (39, 7846), (41, 7918), (44, 7942), (51, 8041), (53, 8098), (56, 8119), (57, 8131), (59, 8140), (72, 8347), (75, 8365), (100, 8452), (112, 8521), (117, 8533), (130, 8581), (139, 8611), (142, 8626), (155, 8680), (164, 8710), (165, 8713), (170, 8734), (178, 8764), (183, 8791), (195, 8824), (206, 8863), (212, 8890), (213, 8896), (216, 8911), (219, 8926), (230, 8956), (237, 8977), (240, 8989), (241, 8995), (247, 9043), (253, 9079), (264, 9127), (268, 9154), (270, 9175), (279, 9238), (283, 9262), (289, 9319), (302, 9424), (304, 9445), (306, 9457), (310, 9499), (314, 9520), (316, 9541),

Gene: Misaeng\_18 Start: 12684, Stop: 15242, Start Num: 6

Candidate Starts for Misaeng\_18:

(4, 12663), (Start: 6 @12684 has 80 MA's), (16, 12774), (19, 12813), (22, 12849), (37, 12972), (49, 13140), (52, 13185), (54, 13236), (55, 13239), (62, 13323), (77, 13530), (79, 13539), (82, 13557), (83, 13560), (88, 13599), (107, 13800), (112, 13851), (121, 13905), (135, 13998), (139, 14022), (155, 14091), (158, 14103), (159, 14109), (160, 14112), (165, 14136), (173, 14166), (178, 14187), (186, 14235), (189, 14250), (191, 14256), (193, 14265), (195, 14289), (197, 14301), (199, 14307), (203, 14322), (204, 14328), (205, 14331), (210, 14367), (211, 14373), (213, 14382), (217, 14400), (218, 14406), (221, 14421), (223, 14430), (225, 14448), (229, 14472), (230, 14475), (233, 14487), (239, 14505), (248, 14571), (250, 14586), (257, 14616), (258, 14625), (261, 14640), (268, 14685), (273,

14736), (278, 14772), (290, 14868), (291, 14871), (297, 14925), (300, 14964), (308, 15021), (310, 15045), (316, 15087), (320, 15114), (330, 15183),

Gene: Moki\_14 Start: 9720, Stop: 12287, Start Num: 6

Candidate Starts for Moki\_14:

(4, 9699), (Start: 6 @9720 has 80 MA's), (11, 9768), (19, 9849), (21, 9873), (32, 9945), (36, 9993), (37, 10008), (38, 10014), (49, 10176), (53, 10269), (54, 10272), (55, 10275), (58, 10305), (63, 10362), (71, 10500), (72, 10521), (77, 10566), (82, 10593), (86, 10626), (90, 10644), (96, 10686), (99, 10743), (131, 11007), (135, 11034), (137, 11052), (139, 11058), (145, 11082), (150, 11103), (158, 11139), (163, 11166), (171, 11196), (173, 11202), (181, 11253), (189, 11286), (195, 11325), (196, 11331), (197, 11337), (200, 11346), (203, 11358), (204, 11364), (207, 11388), (211, 11409), (213, 11418), (221, 11457), (224, 11475), (229, 11508), (230, 11511), (233, 11523), (238, 11538), (246, 11589), (250, 11622), (254, 11640), (259, 11664), (266, 11706), (273, 11772), (274, 11784), (281, 11829), (290, 11904), (291, 11907), (297, 11961), (300, 12000), (304, 12027), (308, 12057), (309, 12069), (310, 12081), (311, 12090), (320, 12156), (327, 12198), (330, 12228),

Gene: Moss\_18 Start: 10335, Stop: 12755, Start Num: 7

Candidate Starts for Moss\_18:

(Start: 7 @10335 has 8 MA's), (18, 10422), (28, 10527), (31, 10539), (36, 10599), (43, 10710), (50, 10791), (59, 10917), (61, 10932), (65, 10986), (76, 11160), (93, 11244), (96, 11265), (98, 11307), (115, 11433), (120, 11454), (122, 11487), (134, 11544), (141, 11586), (146, 11601), (157, 11652), (165, 11688), (166, 11694), (190, 11796), (198, 11817), (209, 11859), (221, 11919), (222, 11925), (230, 11973), (248, 12069), (274, 12246), (276, 12258), (284, 12309), (293, 12390), (300, 12459), (305, 12495), (315, 12576), (318, 12591), (328, 12663), (331, 12687),

Gene: MrGloopy\_18 Start: 12558, Stop: 15119, Start Num: 6

Candidate Starts for MrGloopy\_18:

(4, 12537), (Start: 6 @12558 has 80 MA's), (11, 12606), (15, 12639), (19, 12687), (21, 12711), (22, 12723), (32, 12783), (36, 12831), (37, 12846), (38, 12852), (47, 12972), (49, 13014), (54, 13110), (55, 13113), (58, 13143), (62, 13197), (71, 13338), (72, 13359), (75, 13383), (77, 13404), (79, 13413), (86, 13464), (90, 13482), (106, 13668), (124, 13812), (131, 13845), (135, 13872), (137, 13890), (139, 13896), (145, 13920), (148, 13929), (158, 13977), (163, 14004), (171, 14034), (173, 14040), (181, 14091), (185, 14106), (188, 14118), (189, 14124), (190, 14127), (192, 14136), (195, 14163), (197, 14175), (200, 14184), (203, 14196), (204, 14202), (206, 14223), (213, 14256), (221, 14295), (229, 14346), (230, 14349), (232, 14358), (233, 14361), (238, 14376), (252, 14466), (259, 14502), (273, 14610), (278, 14646), (290, 14742), (291, 14745), (297, 14799), (300, 14838), (307, 14886), (308, 14895), (310, 14919), (313, 14937), (320, 14988), (324, 15012), (327, 15030), (330, 15060),

Gene: MrGreen\_12 Start: 7553, Stop: 9658, Start Num: 12

Candidate Starts for MrGreen\_12:

(Start: 12 @7553 has 105 MA's), (14, 7574), (34, 7751), (36, 7760), (39, 7784), (41, 7856), (44, 7880), (45, 7886), (51, 7979), (53, 8036), (56, 8057), (57, 8069), (59, 8078), (72, 8285), (75, 8303), (100, 8390), (112, 8459), (117, 8471), (130, 8519), (139, 8549), (142, 8564), (159, 8627), (165, 8651), (170, 8672), (177, 8696), (178, 8702), (183, 8729), (195, 8762), (206, 8801), (213, 8834), (216, 8849), (219, 8864), (229, 8891), (240, 8927), (241, 8933), (247, 8981), (264, 9065), (268, 9092), (270, 9113), (279, 9176), (283, 9200), (289, 9257), (302, 9362), (304, 9383), (306, 9395), (310, 9437), (314, 9458), (316, 9479), (332, 9608),

Gene: Naby\_12 Start: 7240, Stop: 9339, Start Num: 12

Candidate Starts for Naby\_12:

(Start: 12 @7240 has 105 MA's), (13, 7255), (14, 7261), (20, 7321), (28, 7375), (34, 7438), (36, 7447), (39, 7471), (41, 7543), (44, 7567), (51, 7666), (53, 7723), (57, 7756), (59, 7765), (86, 8032), (100, 8077), (115, 8149), (123, 8179), (139, 8236), (142, 8251), (161, 8320), (172, 8365), (177, 8383), (178,

8389), (195, 8449), (196, 8455), (200, 8470), (206, 8488), (212, 8515), (226, 8557), (237, 8602), (241, 8620), (243, 8647), (260, 8734), (264, 8752), (268, 8779), (272, 8821), (279, 8863), (280, 8866), (283, 8887), (296, 8998), (304, 9070), (306, 9082), (309, 9112), (310, 9124), (314, 9145), (317, 9169), (329, 9253), (332, 9289),

Gene: Namsahir\_12 Start: 7603, Stop: 9708, Start Num: 12

Candidate Starts for Namsahir\_12:

(Start: 12 @7603 has 105 MA's), (14, 7624), (34, 7801), (36, 7810), (39, 7834), (41, 7906), (44, 7930), (51, 8029), (56, 8107), (57, 8119), (59, 8128), (72, 8335), (75, 8353), (100, 8440), (112, 8509), (117, 8521), (130, 8569), (139, 8599), (142, 8614), (155, 8668), (164, 8698), (165, 8701), (170, 8722), (178, 8752), (183, 8779), (195, 8812), (206, 8851), (212, 8878), (213, 8884), (216, 8899), (219, 8914), (229, 8941), (230, 8944), (237, 8965), (240, 8977), (241, 8983), (247, 9031), (253, 9067), (264, 9115), (268, 9142), (270, 9163), (279, 9226), (283, 9250), (289, 9307), (302, 9412), (304, 9433), (310, 9487), (314, 9508), (316, 9529),

Gene: Nancia\_14 Start: 9717, Stop: 12278, Start Num: 6

Candidate Starts for Nancia\_14:

(4, 9696), (Start: 6 @9717 has 80 MA's), (11, 9765), (19, 9846), (21, 9870), (32, 9942), (36, 9990), (37, 10005), (38, 10011), (47, 10131), (49, 10173), (54, 10269), (55, 10272), (58, 10302), (67, 10440), (72, 10518), (77, 10563), (79, 10572), (86, 10623), (90, 10641), (91, 10653), (95, 10677), (114, 10893), (127, 10983), (131, 11004), (135, 11031), (137, 11049), (139, 11055), (145, 11079), (148, 11088), (158, 11136), (163, 11163), (171, 11193), (181, 11250), (185, 11265), (188, 11277), (189, 11283), (190, 11286), (192, 11295), (195, 11322), (197, 11334), (200, 11343), (203, 11355), (204, 11361), (207, 11385), (211, 11406), (213, 11415), (216, 11430), (221, 11454), (229, 11505), (230, 11508), (233, 11520), (247, 11595), (252, 11625), (259, 11661), (273, 11769), (274, 11781), (278, 11805), (290, 11901), (291, 11904), (295, 11937), (297, 11958), (300, 11997), (303, 12015), (307, 12045), (308, 12054), (310, 12078), (321, 12153), (330, 12219),

Gene: NeumannU\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for NeumannU\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Niffler\_12 Start: 7621, Stop: 9726, Start Num: 12

Candidate Starts for Niffler\_12:

(Start: 12 @7621 has 105 MA's), (14, 7642), (34, 7819), (36, 7828), (39, 7852), (41, 7924), (44, 7948), (51, 8047), (53, 8104), (56, 8125), (57, 8137), (59, 8146), (72, 8353), (75, 8371), (100, 8458), (112, 8527), (117, 8539), (130, 8587), (139, 8617), (142, 8632), (164, 8716), (165, 8719), (170, 8740), (178, 8770), (183, 8797), (195, 8830), (206, 8869), (212, 8896), (213, 8902), (216, 8917), (219, 8932), (230, 8962), (237, 8983), (240, 8995), (241, 9001), (247, 9049), (253, 9085), (264, 9133), (268, 9160), (270, 9181), (279, 9244), (283, 9268), (289, 9325), (302, 9430), (304, 9451), (310, 9505), (314, 9526), (316, 9547),

Gene: Nobel\_12 Start: 7648, Stop: 9753, Start Num: 12

Candidate Starts for Nobel\_12:

(Start: 12 @7648 has 105 MA's), (14, 7669), (34, 7846), (36, 7855), (39, 7879), (41, 7951), (44, 7975), (51, 8074), (53, 8131), (56, 8152), (57, 8164), (59, 8173), (72, 8380), (75, 8398), (100, 8485), (112, 8554), (117, 8566), (130, 8614), (139, 8644), (142, 8659), (164, 8743), (165, 8746), (170, 8767), (178,

8797), (183, 8824), (195, 8857), (206, 8896), (212, 8923), (213, 8929), (216, 8944), (219, 8959), (230, 8989), (237, 9010), (240, 9022), (241, 9028), (247, 9076), (253, 9112), (264, 9160), (268, 9187), (270, 9208), (279, 9271), (283, 9295), (289, 9352), (302, 9457), (304, 9478), (310, 9532), (314, 9553), (316, 9574),

Gene: Noelani\_12 Start: 7514, Stop: 9619, Start Num: 12

Candidate Starts for Noelani\_12:

(Start: 12 @7514 has 105 MA's), (14, 7535), (33, 7703), (34, 7712), (39, 7745), (41, 7817), (44, 7841), (53, 7997), (56, 8018), (59, 8039), (72, 8246), (75, 8264), (100, 8351), (112, 8420), (130, 8480), (139, 8510), (142, 8525), (151, 8561), (159, 8588), (164, 8609), (170, 8633), (177, 8657), (178, 8663), (183, 8690), (206, 8762), (212, 8789), (216, 8810), (219, 8825), (229, 8852), (230, 8855), (237, 8876), (240, 8888), (241, 8894), (247, 8942), (261, 9017), (264, 9026), (268, 9053), (270, 9074), (279, 9137), (283, 9161), (287, 9185), (289, 9218), (296, 9272), (304, 9344), (306, 9356), (310, 9398), (314, 9419), (316, 9440), (326, 9518), (332, 9569),

Gene: Nubia\_18 Start: 12596, Stop: 15157, Start Num: 6

Candidate Starts for Nubia\_18:

(4, 12575), (Start: 6 @12596 has 80 MA's), (16, 12686), (19, 12725), (22, 12761), (32, 12821), (36, 12869), (37, 12884), (49, 13052), (52, 13097), (54, 13148), (55, 13151), (62, 13235), (75, 13421), (80, 13457), (82, 13469), (88, 13511), (121, 13820), (135, 13913), (137, 13931), (139, 13937), (158, 14018), (159, 14024), (165, 14051), (173, 14081), (184, 14144), (188, 14159), (189, 14165), (190, 14168), (193, 14180), (195, 14204), (197, 14216), (199, 14222), (203, 14237), (204, 14243), (205, 14246), (207, 14267), (210, 14282), (211, 14288), (213, 14297), (217, 14315), (218, 14321), (221, 14336), (223, 14345), (224, 14354), (229, 14387), (230, 14390), (233, 14402), (235, 14408), (239, 14420), (246, 14468), (248, 14486), (250, 14501), (257, 14531), (258, 14540), (268, 14600), (273, 14651), (278, 14687), (281, 14708), (290, 14783), (291, 14786), (297, 14840), (300, 14879), (308, 14936), (310, 14960), (316, 15002), (320, 15029), (330, 15098),

Gene: OMalley\_14 Start: 9738, Stop: 12296, Start Num: 6

Candidate Starts for OMalley\_14:

(Start: 6 @9738 has 80 MA's), (8, 9747), (9, 9777), (19, 9867), (32, 9963), (35, 10008), (37, 10026), (49, 10194), (54, 10290), (55, 10293), (56, 10308), (64, 10395), (80, 10599), (81, 10602), (93, 10686), (124, 10992), (135, 11052), (137, 11070), (139, 11076), (148, 11109), (150, 11121), (158, 11157), (163, 11184), (169, 11208), (171, 11214), (181, 11271), (187, 11295), (189, 11304), (193, 11319), (195, 11343), (197, 11355), (203, 11376), (204, 11382), (206, 11403), (211, 11427), (213, 11436), (217, 11454), (221, 11475), (222, 11481), (224, 11493), (229, 11526), (230, 11529), (233, 11541), (238, 11556), (239, 11559), (252, 11646), (267, 11736), (268, 11739), (273, 11790), (281, 11847), (282, 11856), (285, 11868), (290, 11922), (291, 11925), (297, 11979), (300, 12018), (307, 12066), (308, 12075), (310, 12099), (312, 12111), (327, 12207), (330, 12237),

Gene: Oaklynn\_12 Start: 7555, Stop: 9639, Start Num: 14

Candidate Starts for Oaklynn\_12:

(Start: 12 @7534 has 105 MA's), (14, 7555), (34, 7732), (36, 7741), (39, 7765), (41, 7837), (44, 7861), (45, 7867), (53, 8017), (56, 8038), (57, 8050), (59, 8059), (72, 8266), (75, 8284), (100, 8371), (112, 8440), (117, 8452), (130, 8500), (139, 8530), (142, 8545), (159, 8608), (164, 8629), (165, 8632), (178, 8683), (183, 8710), (195, 8743), (206, 8782), (212, 8809), (216, 8830), (219, 8845), (229, 8872), (237, 8896), (240, 8908), (241, 8914), (247, 8962), (264, 9046), (268, 9073), (270, 9094), (279, 9157), (283, 9181), (287, 9205), (288, 9226), (302, 9343), (304, 9364), (306, 9376), (310, 9418), (314, 9439), (316, 9460), (332, 9589),

Gene: Octopus\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Octopus\_12:



(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Otwor\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Otwor\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: OurGirlNessie\_14 Start: 9709, Stop: 12270, Start Num: 6

Candidate Starts for OurGirlNessie\_14:

(4, 9688), (Start: 6 @9709 has 80 MA's), (11, 9757), (19, 9838), (21, 9862), (32, 9934), (36, 9982), (37, 9997), (38, 10003), (49, 10165), (54, 10261), (58, 10294), (67, 10432), (72, 10510), (75, 10534), (77, 10555), (79, 10564), (86, 10615), (90, 10633), (91, 10645), (95, 10669), (114, 10885), (127, 10975), (131, 10996), (135, 11023), (137, 11041), (139, 11047), (145, 11071), (148, 11080), (158, 11128), (163, 11155), (171, 11185), (181, 11242), (185, 11257), (188, 11269), (189, 11275), (190, 11278), (192, 11287), (195, 11314), (197, 11326), (200, 11335), (203, 11347), (204, 11353), (207, 11377), (211, 11398), (213, 11407), (216, 11422), (221, 11446), (224, 11464), (229, 11497), (230, 11500), (233, 11512), (247, 11587), (252, 11617), (259, 11653), (264, 11674), (273, 11761), (274, 11773), (277, 11794), (278, 11797), (290, 11893), (291, 11896), (295, 11929), (297, 11950), (300, 11989), (303, 12007), (307, 12037), (308, 12046), (321, 12145), (330, 12211),

Gene: Owens\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Owens\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Oxynfrius\_18 Start: 12609, Stop: 15170, Start Num: 6

Candidate Starts for Oxynfrius\_18:

(4, 12588), (Start: 6 @12609 has 80 MA's), (16, 12699), (19, 12738), (22, 12774), (32, 12834), (36, 12882), (37, 12897), (49, 13065), (52, 13110), (54, 13161), (55, 13164), (62, 13248), (75, 13434), (80, 13470), (82, 13482), (88, 13524), (99, 13635), (121, 13833), (135, 13926), (139, 13950), (140, 13953), (158, 14031), (159, 14037), (165, 14064), (173, 14094), (184, 14157), (188, 14172), (190, 14181), (191, 14184), (193, 14193), (195, 14217), (197, 14229), (199, 14235), (203, 14250), (204, 14256), (205, 14259), (207, 14280), (210, 14295), (213, 14310), (217, 14328), (218, 14334), (221, 14349), (223, 14358), (224, 14367), (229, 14400), (230, 14403), (233, 14415), (235, 14421), (239, 14433), (248, 14499), (250, 14514), (257, 14544), (258, 14553), (273, 14664), (278, 14700), (281, 14721), (290, 14796), (291, 14799), (297, 14853), (300, 14892), (308, 14949), (310, 14973), (316, 15015), (320, 15042), (330, 15111),

Gene: PaoPu\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for PaoPu\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: PartyCup\_18 Start: 12644, Stop: 15199, Start Num: 6

Candidate Starts for PartyCup\_18:

(4, 12623), (Start: 6 @12644 has 80 MA's), (11, 12692), (19, 12773), (21, 12797), (32, 12869), (36, 12917), (37, 12932), (38, 12938), (49, 13100), (52, 13145), (54, 13196), (55, 13199), (58, 13229), (67, 13367), (77, 13490), (86, 13550), (90, 13568), (92, 13583), (97, 13634), (121, 13865), (132, 13934), (135, 13958), (137, 13976), (139, 13982), (152, 14036), (154, 14048), (159, 14069), (164, 14093), (182, 14180), (188, 14204), (189, 14210), (190, 14213), (193, 14225), (194, 14246), (195, 14249), (196, 14255), (197, 14261), (202, 14279), (203, 14282), (204, 14288), (211, 14333), (213, 14342), (217, 14360), (221, 14381), (223, 14390), (224, 14399), (229, 14432), (230, 14435), (232, 14444), (233, 14447), (242, 14498), (259, 14588), (273, 14696), (274, 14708), (277, 14729), (278, 14732), (290, 14828), (291, 14831), (297, 14885), (300, 14924), (308, 14981), (313, 15023), (320, 15071), (327, 15113), (330, 15143),

Gene: Picnic\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Picnic\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: PinkFriday\_14 Start: 9750, Stop: 12308, Start Num: 6

Candidate Starts for PinkFriday\_14:

(Start: 6 @9750 has 80 MA's), (8, 9759), (19, 9879), (36, 10023), (37, 10038), (49, 10206), (54, 10302), (60, 10347), (63, 10392), (75, 10575), (77, 10596), (79, 10605), (80, 10611), (82, 10623), (86, 10656), (97, 10743), (131, 11037), (134, 11058), (135, 11064), (137, 11082), (139, 11088), (145, 11112), (158, 11169), (163, 11196), (171, 11226), (173, 11232), (181, 11283), (185, 11298), (188, 11310), (190, 11319), (192, 11328), (195, 11355), (197, 11367), (200, 11376), (203, 11388), (204, 11394), (213, 11448), (217, 11466), (220, 11484), (221, 11487), (223, 11496), (224, 11505), (226, 11517), (229, 11538), (230, 11541), (233, 11553), (238, 11568), (250, 11652), (252, 11658), (259, 11694), (268, 11751), (273, 11802), (274, 11814), (281, 11859), (290, 11934), (291, 11937), (294, 11967), (295, 11970), (300, 12030), (303, 12048), (307, 12078), (308, 12087), (310, 12111), (312, 12123), (327, 12219), (330, 12249),

Gene: PitaDog\_14 Start: 9708, Stop: 12269, Start Num: 6

Candidate Starts for PitaDog\_14:

(4, 9687), (Start: 6 @9708 has 80 MA's), (11, 9756), (19, 9837), (21, 9861), (32, 9933), (36, 9981), (37, 9996), (38, 10002), (49, 10164), (54, 10260), (58, 10293), (67, 10431), (72, 10509), (77, 10554), (79, 10563), (86, 10614), (90, 10632), (95, 10668), (114, 10884), (127, 10974), (131, 10995), (135, 11022), (137, 11040), (139, 11046), (145, 11070), (148, 11079), (158, 11127), (163, 11154), (171, 11184),

(181, 11241), (185, 11256), (188, 11268), (189, 11274), (190, 11277), (192, 11286), (195, 11313), (197, 11325), (200, 11334), (203, 11346), (204, 11352), (207, 11376), (211, 11397), (213, 11406), (216, 11421), (221, 11445), (224, 11463), (229, 11496), (230, 11499), (233, 11511), (252, 11616), (259, 11652), (273, 11760), (274, 11772), (278, 11796), (290, 11892), (291, 11895), (295, 11928), (297, 11949), (300, 11988), (303, 12006), (307, 12036), (308, 12045), (310, 12069), (321, 12144), (330, 12210),

Gene: PoRanda\_12 Start: 7615, Stop: 9720, Start Num: 12

Candidate Starts for PoRanda\_12:

(Start: 12 @7615 has 105 MA's), (14, 7636), (34, 7813), (36, 7822), (39, 7846), (41, 7918), (44, 7942), (51, 8041), (53, 8098), (56, 8119), (57, 8131), (59, 8140), (72, 8347), (75, 8365), (100, 8452), (112, 8521), (117, 8533), (130, 8581), (139, 8611), (142, 8626), (155, 8680), (164, 8710), (165, 8713), (170, 8734), (178, 8764), (183, 8791), (195, 8824), (206, 8863), (212, 8890), (213, 8896), (216, 8911), (219, 8926), (230, 8956), (237, 8977), (240, 8989), (241, 8995), (247, 9043), (253, 9079), (264, 9127), (268, 9154), (270, 9175), (279, 9238), (283, 9262), (289, 9319), (302, 9424), (304, 9445), (306, 9457), (310, 9499), (314, 9520), (316, 9541),

Gene: Pondwater\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Pondwater\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Potatoes\_18 Start: 12619, Stop: 15180, Start Num: 6

Candidate Starts for Potatoes\_18:

(4, 12598), (Start: 6 @12619 has 80 MA's), (11, 12667), (15, 12700), (19, 12748), (21, 12772), (22, 12784), (32, 12844), (36, 12892), (37, 12907), (38, 12913), (47, 13033), (49, 13075), (53, 13168), (54, 13171), (55, 13174), (58, 13204), (62, 13258), (71, 13399), (72, 13420), (75, 13444), (77, 13465), (79, 13474), (86, 13525), (90, 13543), (94, 13567), (106, 13729), (124, 13873), (131, 13906), (135, 13933), (137, 13951), (139, 13957), (145, 13981), (148, 13990), (158, 14038), (163, 14065), (169, 14089), (171, 14095), (173, 14101), (181, 14152), (185, 14167), (188, 14179), (189, 14185), (190, 14188), (192, 14197), (195, 14224), (197, 14236), (200, 14245), (203, 14257), (204, 14263), (206, 14284), (213, 14317), (221, 14356), (229, 14407), (230, 14410), (232, 14419), (233, 14422), (238, 14437), (250, 14521), (252, 14527), (259, 14563), (273, 14671), (274, 14683), (278, 14707), (290, 14803), (291, 14806), (297, 14860), (300, 14899), (307, 14947), (308, 14956), (310, 14980), (313, 14998), (320, 15049), (324, 15073), (327, 15091), (330, 15121),

Gene: Preamble\_14 Start: 9721, Stop: 12279, Start Num: 6

Candidate Starts for Preamble\_14:

(4, 9700), (Start: 6 @9721 has 80 MA's), (11, 9769), (19, 9850), (32, 9946), (35, 9991), (37, 10009), (38, 10015), (48, 10156), (49, 10177), (52, 10222), (54, 10273), (55, 10276), (58, 10306), (70, 10489), (77, 10567), (79, 10576), (80, 10582), (82, 10594), (86, 10627), (93, 10669), (97, 10714), (106, 10834), (107, 10837), (124, 10975), (135, 11035), (137, 11053), (139, 11059), (147, 11089), (158, 11140), (159, 11146), (168, 11188), (173, 11203), (175, 11212), (182, 11257), (184, 11266), (189, 11287), (192, 11299), (193, 11302), (194, 11323), (195, 11326), (196, 11332), (197, 11338), (203, 11359), (204, 11365), (206, 11386), (211, 11410), (213, 11419), (217, 11437), (221, 11458), (229, 11509), (230, 11512), (232, 11521), (233, 11524), (252, 11629), (255, 11644), (258, 11662), (269, 11731), (273, 11773), (274, 11785), (277, 11806), (278, 11809), (290, 11905), (291, 11908), (297, 11962), (300, 12001), (303, 12019), (307, 12049), (308, 12058), (313, 12100), (330, 12220),

Gene: Pterodactyl\_14 Start: 9710, Stop: 12271, Start Num: 6

Candidate Starts for Pterodactyl\_14:

(4, 9689), (Start: 6 @9710 has 80 MA's), (11, 9758), (19, 9839), (21, 9863), (32, 9935), (36, 9983), (37, 9998), (38, 10004), (49, 10166), (54, 10262), (58, 10295), (67, 10433), (72, 10511), (77, 10556), (79, 10565), (86, 10616), (90, 10634), (91, 10646), (95, 10670), (114, 10886), (131, 10997), (135, 11024), (137, 11042), (139, 11048), (145, 11072), (148, 11081), (158, 11129), (163, 11156), (171, 11186), (181, 11243), (185, 11258), (188, 11270), (189, 11276), (190, 11279), (192, 11288), (195, 11315), (197, 11327), (200, 11336), (203, 11348), (204, 11354), (207, 11378), (211, 11399), (213, 11408), (216, 11423), (221, 11447), (229, 11498), (230, 11501), (233, 11513), (247, 11588), (252, 11618), (259, 11654), (273, 11762), (274, 11774), (278, 11798), (290, 11894), (291, 11897), (295, 11930), (297, 11951), (300, 11990), (303, 12008), (307, 12038), (308, 12047), (321, 12146), (330, 12212),

Gene: Publix\_12 Start: 7603, Stop: 9708, Start Num: 12

Candidate Starts for Publix\_12:

(Start: 12 @7603 has 105 MA's), (14, 7624), (34, 7801), (36, 7810), (39, 7834), (41, 7906), (44, 7930), (51, 8029), (56, 8107), (57, 8119), (59, 8128), (72, 8335), (75, 8353), (100, 8440), (112, 8509), (117, 8521), (130, 8569), (139, 8599), (142, 8614), (155, 8668), (164, 8698), (165, 8701), (170, 8722), (178, 8752), (183, 8779), (195, 8812), (206, 8851), (212, 8878), (213, 8884), (216, 8899), (219, 8914), (229, 8941), (230, 8944), (237, 8965), (240, 8977), (241, 8983), (247, 9031), (253, 9067), (264, 9115), (268, 9142), (270, 9163), (279, 9226), (283, 9250), (289, 9307), (302, 9412), (304, 9433), (310, 9487), (314, 9508), (316, 9529),

Gene: Puddles3\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Puddles3\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: PuffyCat\_12 Start: 7573, Stop: 9678, Start Num: 12

Candidate Starts for PuffyCat\_12:

(Start: 12 @7573 has 105 MA's), (14, 7594), (34, 7771), (36, 7780), (39, 7804), (41, 7876), (44, 7900), (51, 7999), (53, 8056), (56, 8077), (57, 8089), (59, 8098), (72, 8305), (75, 8323), (100, 8410), (112, 8479), (117, 8491), (130, 8539), (139, 8569), (142, 8584), (164, 8668), (165, 8671), (170, 8692), (178, 8722), (183, 8749), (195, 8782), (206, 8821), (212, 8848), (213, 8854), (216, 8869), (219, 8884), (230, 8914), (237, 8935), (240, 8947), (241, 8953), (247, 9001), (253, 9037), (264, 9085), (268, 9112), (270, 9133), (279, 9196), (283, 9220), (289, 9277), (302, 9382), (304, 9403), (310, 9457), (314, 9478), (316, 9499),

Gene: Pumancara\_14 Start: 9749, Stop: 12307, Start Num: 6

Candidate Starts for Pumancara\_14:

(Start: 6 @9749 has 80 MA's), (8, 9758), (19, 9878), (36, 10022), (37, 10037), (49, 10205), (54, 10301), (60, 10346), (63, 10391), (75, 10574), (77, 10595), (79, 10604), (80, 10610), (82, 10622), (86, 10655), (97, 10742), (107, 10865), (116, 10940), (124, 11003), (131, 11036), (134, 11057), (135, 11063), (137, 11081), (139, 11087), (145, 11111), (154, 11153), (158, 11168), (159, 11174), (178, 11252), (182, 11285), (184, 11294), (189, 11315), (192, 11327), (195, 11354), (197, 11366), (200, 11375), (203, 11387), (204, 11393), (205, 11396), (207, 11417), (213, 11447), (217, 11465), (220, 11483), (221, 11486), (223, 11495), (224, 11504), (229, 11537), (230, 11540), (233, 11552), (238, 11567), (250, 11651), (252, 11657), (259, 11693), (268, 11750), (273, 11801), (274, 11813), (281,

11858), (290, 11933), (291, 11936), (294, 11966), (300, 12029), (307, 12077), (308, 12086), (310, 12110), (312, 12122), (330, 12248),

Gene: Quaker\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for Quaker\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: RAP15\_18 Start: 12624, Stop: 15185, Start Num: 6

Candidate Starts for RAP15\_18:

(4, 12603), (Start: 6 @12624 has 80 MA's), (11, 12672), (15, 12705), (19, 12753), (21, 12777), (22, 12789), (32, 12849), (36, 12897), (37, 12912), (38, 12918), (47, 13038), (49, 13080), (54, 13176), (55, 13179), (58, 13209), (62, 13263), (63, 13266), (71, 13404), (72, 13425), (75, 13449), (77, 13470), (79, 13479), (86, 13530), (90, 13548), (106, 13734), (124, 13878), (131, 13911), (135, 13938), (137, 13956), (139, 13962), (145, 13986), (148, 13995), (158, 14043), (163, 14070), (164, 14073), (169, 14094), (171, 14100), (173, 14106), (181, 14157), (185, 14172), (188, 14184), (189, 14190), (190, 14193), (192, 14202), (195, 14229), (197, 14241), (200, 14250), (203, 14262), (204, 14268), (206, 14289), (213, 14322), (221, 14361), (229, 14412), (230, 14415), (232, 14424), (233, 14427), (238, 14442), (252, 14532), (259, 14568), (273, 14676), (278, 14712), (290, 14808), (291, 14811), (297, 14865), (300, 14904), (307, 14952), (308, 14961), (310, 14985), (313, 15003), (320, 15054), (324, 15078), (327, 15096), (330, 15126),

Gene: RcigaStruga\_18 Start: 12617, Stop: 15178, Start Num: 6

Candidate Starts for RcigaStruga\_18:

(4, 12596), (Start: 6 @12617 has 80 MA's), (16, 12707), (19, 12746), (22, 12782), (32, 12842), (37, 12905), (49, 13073), (52, 13118), (53, 13166), (54, 13169), (55, 13172), (62, 13256), (63, 13259), (71, 13397), (77, 13463), (82, 13490), (88, 13532), (121, 13841), (124, 13874), (135, 13934), (139, 13958), (158, 14039), (159, 14045), (160, 14048), (165, 14072), (173, 14102), (178, 14123), (186, 14171), (189, 14186), (193, 14201), (195, 14225), (197, 14237), (199, 14243), (203, 14258), (204, 14264), (210, 14303), (211, 14309), (213, 14318), (217, 14336), (218, 14342), (220, 14354), (221, 14357), (223, 14366), (225, 14384), (229, 14408), (230, 14411), (233, 14423), (239, 14441), (248, 14507), (250, 14522), (257, 14552), (258, 14561), (268, 14621), (273, 14672), (278, 14708), (290, 14804), (291, 14807), (297, 14861), (300, 14900), (304, 14927), (308, 14957), (310, 14981), (316, 15023), (320, 15050), (330, 15119),

Gene: Rhogar\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Rhogar\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Rhysand\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Rhysand\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Riovina\_14 Start: 9738, Stop: 12296, Start Num: 6

Candidate Starts for Riovina\_14:

(Start: 6 @9738 has 80 MA's), (8, 9747), (9, 9777), (19, 9867), (32, 9963), (35, 10008), (37, 10026), (49, 10194), (54, 10290), (55, 10293), (56, 10308), (64, 10395), (80, 10599), (81, 10602), (93, 10686), (124, 10992), (135, 11052), (137, 11070), (139, 11076), (148, 11109), (150, 11121), (158, 11157), (163, 11184), (169, 11208), (171, 11214), (181, 11271), (187, 11295), (189, 11304), (193, 11319), (195, 11343), (197, 11355), (203, 11376), (204, 11382), (206, 11403), (211, 11427), (213, 11436), (217, 11454), (221, 11475), (222, 11481), (224, 11493), (229, 11526), (230, 11529), (233, 11541), (238, 11556), (239, 11559), (252, 11646), (267, 11736), (268, 11739), (273, 11790), (281, 11847), (282, 11856), (285, 11868), (290, 11922), (291, 11925), (297, 11979), (300, 12018), (307, 12066), (308, 12075), (310, 12099), (312, 12111), (327, 12207), (330, 12237),

Gene: Riverdale\_18 Start: 12554, Stop: 15115, Start Num: 6

Candidate Starts for Riverdale\_18:

(4, 12533), (Start: 6 @12554 has 80 MA's), (11, 12602), (15, 12635), (19, 12683), (21, 12707), (22, 12719), (32, 12779), (36, 12827), (37, 12842), (38, 12848), (47, 12968), (49, 13010), (54, 13106), (55, 13109), (58, 13139), (62, 13193), (71, 13334), (72, 13355), (75, 13379), (77, 13400), (79, 13409), (86, 13460), (90, 13478), (124, 13808), (131, 13841), (135, 13868), (137, 13886), (139, 13892), (145, 13916), (148, 13925), (158, 13973), (163, 14000), (171, 14030), (173, 14036), (181, 14087), (185, 14102), (188, 14114), (189, 14120), (190, 14123), (195, 14159), (197, 14171), (200, 14180), (203, 14192), (204, 14198), (206, 14219), (213, 14252), (221, 14291), (224, 14309), (229, 14342), (230, 14345), (232, 14354), (233, 14357), (238, 14372), (252, 14462), (259, 14498), (273, 14606), (278, 14642), (281, 14663), (290, 14738), (291, 14741), (297, 14795), (300, 14834), (307, 14882), (308, 14891), (310, 14915), (313, 14933), (320, 14984), (324, 15008), (327, 15026), (330, 15056),

Gene: RoscoWindex\_12 Start: 7553, Stop: 9658, Start Num: 12

Candidate Starts for RoscoWindex\_12:

(Start: 12 @7553 has 105 MA's), (14, 7574), (34, 7751), (36, 7760), (39, 7784), (41, 7856), (44, 7880), (45, 7886), (53, 8036), (56, 8057), (57, 8069), (59, 8078), (72, 8285), (75, 8303), (100, 8390), (112, 8459), (117, 8471), (130, 8519), (139, 8549), (142, 8564), (151, 8600), (159, 8627), (164, 8648), (170, 8672), (177, 8696), (178, 8702), (183, 8729), (195, 8762), (206, 8801), (212, 8828), (216, 8849), (219, 8864), (229, 8891), (230, 8894), (237, 8915), (240, 8927), (241, 8933), (247, 8981), (261, 9056), (264, 9065), (268, 9092), (270, 9113), (279, 9176), (283, 9200), (289, 9257), (302, 9362), (304, 9383), (306, 9395), (310, 9437), (314, 9458), (316, 9479),

Gene: Rozby\_18 Start: 12555, Stop: 15116, Start Num: 6

Candidate Starts for Rozby\_18:

(4, 12534), (Start: 6 @12555 has 80 MA's), (11, 12603), (15, 12636), (19, 12684), (21, 12708), (22, 12720), (32, 12780), (36, 12828), (37, 12843), (38, 12849), (47, 12969), (49, 13011), (54, 13107), (55, 13110), (58, 13140), (62, 13194), (71, 13335), (72, 13356), (75, 13380), (77, 13401), (79, 13410), (86, 13461), (90, 13479), (106, 13665), (124, 13809), (131, 13842), (135, 13869), (137, 13887), (139, 13893), (145, 13917), (148, 13926), (158, 13974), (163, 14001), (171, 14031), (173, 14037), (181, 14088), (185, 14103), (188, 14115), (189, 14121), (190, 14124), (195, 14160), (197, 14172), (200, 14181), (203, 14193), (204, 14199), (206, 14220), (213, 14253), (221, 14292), (224, 14310), (229, 14343), (230, 14346), (232, 14355), (233, 14358), (238, 14373), (252, 14463), (259, 14499), (273,

14607), (278, 14643), (281, 14664), (290, 14739), (291, 14742), (297, 14796), (300, 14835), (307, 14883), (308, 14892), (310, 14916), (313, 14934), (320, 14985), (324, 15009), (327, 15027), (330, 15057),

Gene: Sage7\_13 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Sage7\_13:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: SantasSleigh\_13 Start: 7576, Stop: 9681, Start Num: 12

Candidate Starts for SantasSleigh\_13:

(Start: 12 @7576 has 105 MA's), (14, 7597), (34, 7774), (36, 7783), (39, 7807), (41, 7879), (44, 7903), (45, 7909), (53, 8059), (56, 8080), (57, 8092), (59, 8101), (72, 8308), (75, 8326), (100, 8413), (112, 8482), (117, 8494), (130, 8542), (139, 8572), (142, 8587), (151, 8623), (159, 8650), (164, 8671), (170, 8695), (177, 8719), (178, 8725), (183, 8752), (195, 8785), (206, 8824), (212, 8851), (216, 8872), (219, 8887), (229, 8914), (230, 8917), (237, 8938), (240, 8950), (241, 8956), (247, 9004), (261, 9079), (264, 9088), (268, 9115), (270, 9136), (279, 9199), (283, 9223), (289, 9280), (302, 9385), (304, 9406), (306, 9418), (310, 9460), (314, 9481), (316, 9502),

Gene: Sara\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for Sara\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Savage2526\_18 Start: 12618, Stop: 15179, Start Num: 6

Candidate Starts for Savage2526\_18:

(4, 12597), (Start: 6 @12618 has 80 MA's), (11, 12666), (15, 12699), (19, 12747), (21, 12771), (22, 12783), (32, 12843), (36, 12891), (37, 12906), (38, 12912), (47, 13032), (49, 13074), (54, 13170), (55, 13173), (58, 13203), (62, 13257), (71, 13398), (72, 13419), (75, 13443), (77, 13464), (79, 13473), (86, 13524), (90, 13542), (106, 13728), (124, 13872), (131, 13905), (135, 13932), (137, 13950), (139, 13956), (145, 13980), (148, 13989), (158, 14037), (163, 14064), (171, 14094), (173, 14100), (181, 14151), (185, 14166), (188, 14178), (189, 14184), (190, 14187), (192, 14196), (195, 14223), (197, 14235), (200, 14244), (203, 14256), (204, 14262), (206, 14283), (211, 14307), (213, 14316), (221, 14355), (224, 14373), (229, 14406), (230, 14409), (232, 14418), (233, 14421), (238, 14436), (252, 14526), (259, 14562), (273, 14670), (278, 14706), (290, 14802), (291, 14805), (297, 14859), (300, 14898), (307, 14946), (308, 14955), (310, 14979), (313, 14997), (320, 15048), (324, 15072), (327, 15090), (330, 15120),

Gene: Scamander\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Scamander\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170,

8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264, 9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: Scrunchy\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Scrunchy\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Scuttle\_18 Start: 12623, Stop: 15184, Start Num: 6

Candidate Starts for Scuttle\_18:

(4, 12602), (Start: 6 @12623 has 80 MA's), (11, 12671), (15, 12704), (19, 12752), (21, 12776), (22, 12788), (32, 12848), (36, 12896), (37, 12911), (38, 12917), (47, 13037), (49, 13079), (54, 13175), (55, 13178), (58, 13208), (62, 13262), (71, 13403), (72, 13424), (75, 13448), (77, 13469), (79, 13478), (86, 13529), (90, 13547), (94, 13571), (106, 13733), (124, 13877), (131, 13910), (135, 13937), (137, 13955), (139, 13961), (145, 13985), (148, 13994), (158, 14042), (163, 14069), (169, 14093), (171, 14099), (173, 14105), (181, 14156), (185, 14171), (188, 14183), (189, 14189), (190, 14192), (192, 14201), (195, 14228), (197, 14240), (200, 14249), (203, 14261), (204, 14267), (206, 14288), (213, 14321), (221, 14360), (229, 14411), (230, 14414), (232, 14423), (233, 14426), (238, 14441), (250, 14525), (252, 14531), (259, 14567), (273, 14675), (278, 14711), (290, 14807), (291, 14810), (297, 14864), (300, 14903), (307, 14951), (308, 14960), (310, 14984), (313, 15002), (320, 15053), (324, 15077), (327, 15095), (330, 15125),

Gene: SeaWolves\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for SeaWolves\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Sergei\_14 Start: 9744, Stop: 12302, Start Num: 6

Candidate Starts for Sergei\_14:

(Start: 6 @9744 has 80 MA's), (8, 9753), (9, 9783), (19, 9873), (22, 9909), (36, 10017), (37, 10032), (49, 10200), (54, 10296), (75, 10569), (77, 10590), (83, 10620), (86, 10650), (97, 10737), (107, 10860), (116, 10935), (124, 10998), (131, 11031), (134, 11052), (135, 11058), (137, 11076), (139, 11082), (145, 11106), (154, 11148), (158, 11163), (159, 11169), (165, 11196), (178, 11247), (182, 11280), (184, 11289), (189, 11310), (192, 11322), (195, 11349), (197, 11361), (200, 11370), (203, 11382), (204, 11388), (205, 11391), (207, 11412), (213, 11442), (217, 11460), (221, 11481), (223, 11490), (224, 11499), (229, 11532), (230, 11535), (233, 11547), (238, 11562), (250, 11646), (252, 11652), (259, 11688), (268, 11745), (269, 11754), (273, 11796), (281, 11853), (290, 11928), (291, 11931), (294, 11961), (297, 11985), (303, 12042), (307, 12072), (308, 12081), (310, 12105), (312, 12117), (330, 12243),

Gene: Sippinontea\_12 Start: 7533, Stop: 9638, Start Num: 12



Candidate Starts for Sippinontea\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: Slentz\_12 Start: 7546, Stop: 9651, Start Num: 12

Candidate Starts for Slentz\_12:

(Start: 12 @7546 has 105 MA's), (14, 7567), (34, 7744), (36, 7753), (39, 7777), (41, 7849), (44, 7873), (45, 7879), (53, 8029), (56, 8050), (57, 8062), (59, 8071), (72, 8278), (75, 8296), (100, 8383), (112, 8452), (117, 8464), (130, 8512), (139, 8542), (142, 8557), (151, 8593), (159, 8620), (164, 8641), (170, 8665), (177, 8689), (178, 8695), (183, 8722), (195, 8755), (206, 8794), (212, 8821), (216, 8842), (219, 8857), (229, 8884), (230, 8887), (237, 8908), (240, 8920), (241, 8926), (247, 8974), (261, 9049), (264, 9058), (268, 9085), (270, 9106), (279, 9169), (283, 9193), (289, 9250), (302, 9355), (304, 9376), (306, 9388), (310, 9430), (314, 9451), (316, 9472),

Gene: Slizam\_11 Start: 7579, Stop: 9684, Start Num: 12

Candidate Starts for Slizam\_11:

(Start: 12 @7579 has 105 MA's), (14, 7600), (34, 7777), (36, 7786), (39, 7810), (41, 7882), (44, 7906), (51, 8005), (56, 8083), (57, 8095), (59, 8104), (72, 8311), (75, 8329), (100, 8416), (112, 8485), (117, 8497), (130, 8545), (139, 8575), (142, 8590), (155, 8644), (164, 8674), (165, 8677), (170, 8698), (178, 8728), (183, 8755), (195, 8788), (206, 8827), (212, 8854), (213, 8860), (216, 8875), (219, 8890), (229, 8917), (230, 8920), (237, 8941), (240, 8953), (241, 8959), (247, 9007), (253, 9043), (264, 9091), (268, 9118), (270, 9139), (279, 9202), (283, 9226), (289, 9283), (302, 9388), (304, 9409), (310, 9463), (314, 9484), (316, 9505),

Gene: Snuffles\_12 Start: 7751, Stop: 9856, Start Num: 12

Candidate Starts for Snuffles\_12:

(Start: 12 @7751 has 105 MA's), (14, 7772), (34, 7949), (36, 7958), (39, 7982), (41, 8054), (44, 8078), (51, 8177), (56, 8255), (57, 8267), (59, 8276), (72, 8483), (75, 8501), (100, 8588), (112, 8657), (117, 8669), (130, 8717), (139, 8747), (142, 8762), (155, 8816), (164, 8846), (165, 8849), (170, 8870), (178, 8900), (183, 8927), (195, 8960), (206, 8999), (212, 9026), (213, 9032), (216, 9047), (219, 9062), (229, 9089), (230, 9092), (237, 9113), (240, 9125), (241, 9131), (247, 9179), (253, 9215), (264, 9263), (268, 9290), (270, 9311), (279, 9374), (283, 9398), (289, 9455), (302, 9560), (304, 9581), (310, 9635), (314, 9656), (316, 9677),

Gene: Stem\_11 Start: 7579, Stop: 9684, Start Num: 12

Candidate Starts for Stem\_11:

(Start: 12 @7579 has 105 MA's), (14, 7600), (34, 7777), (36, 7786), (39, 7810), (41, 7882), (44, 7906), (51, 8005), (53, 8062), (56, 8083), (57, 8095), (59, 8104), (72, 8311), (75, 8329), (100, 8416), (112, 8485), (117, 8497), (130, 8545), (139, 8575), (142, 8590), (155, 8644), (164, 8674), (165, 8677), (170, 8698), (178, 8728), (183, 8755), (195, 8788), (206, 8827), (212, 8854), (213, 8860), (216, 8875), (219, 8890), (229, 8917), (230, 8920), (237, 8941), (240, 8953), (241, 8959), (247, 9007), (253, 9043), (264, 9091), (268, 9118), (270, 9139), (279, 9202), (283, 9226), (289, 9283), (302, 9388), (304, 9409), (310, 9463), (314, 9484), (316, 9505),

Gene: Supakev\_14 Start: 9740, Stop: 12298, Start Num: 6

Candidate Starts for Supakev\_14:

(Start: 6 @9740 has 80 MA's), (8, 9749), (9, 9779), (19, 9869), (32, 9965), (35, 10010), (37, 10028), (49, 10196), (54, 10292), (55, 10295), (56, 10310), (64, 10397), (80, 10601), (81, 10604), (93, 10688),

(124, 10994), (135, 11054), (137, 11072), (139, 11078), (148, 11111), (150, 11123), (158, 11159), (163, 11186), (169, 11210), (171, 11216), (181, 11273), (187, 11297), (189, 11306), (193, 11321), (195, 11345), (197, 11357), (203, 11378), (204, 11384), (206, 11405), (211, 11429), (213, 11438), (217, 11456), (221, 11477), (222, 11483), (224, 11495), (229, 11528), (230, 11531), (233, 11543), (238, 11558), (239, 11561), (252, 11648), (267, 11738), (268, 11741), (273, 11792), (281, 11849), (282, 11858), (290, 11924), (291, 11927), (297, 11981), (300, 12020), (307, 12068), (308, 12077), (310, 12101), (312, 12113), (327, 12209), (330, 12239),

Gene: Suppi\_18 Start: 12647, Stop: 15202, Start Num: 6

Candidate Starts for Suppi\_18:

(4, 12626), (Start: 6 @12647 has 80 MA's), (11, 12695), (19, 12776), (21, 12800), (32, 12872), (36, 12920), (37, 12935), (38, 12941), (49, 13103), (52, 13148), (54, 13199), (55, 13202), (58, 13232), (67, 13370), (77, 13493), (86, 13553), (90, 13571), (92, 13586), (97, 13637), (121, 13868), (132, 13937), (135, 13961), (137, 13979), (139, 13985), (152, 14039), (154, 14051), (159, 14072), (164, 14096), (182, 14183), (188, 14207), (189, 14213), (190, 14216), (193, 14228), (194, 14249), (195, 14252), (196, 14258), (197, 14264), (200, 14273), (202, 14282), (203, 14285), (204, 14291), (207, 14315), (211, 14336), (213, 14345), (217, 14363), (221, 14384), (223, 14393), (224, 14402), (229, 14435), (230, 14438), (232, 14447), (233, 14450), (242, 14501), (259, 14591), (273, 14699), (274, 14711), (277, 14732), (278, 14735), (290, 14831), (291, 14834), (297, 14888), (300, 14927), (308, 14984), (313, 15026), (320, 15074), (327, 15116), (330, 15146),

Gene: TattModd\_18 Start: 12617, Stop: 15178, Start Num: 6

Candidate Starts for TattModd\_18:

(4, 12596), (Start: 6 @12617 has 80 MA's), (11, 12665), (15, 12698), (19, 12746), (21, 12770), (22, 12782), (32, 12842), (36, 12890), (37, 12905), (38, 12911), (47, 13031), (49, 13073), (54, 13169), (55, 13172), (58, 13202), (62, 13256), (71, 13397), (72, 13418), (75, 13442), (77, 13463), (79, 13472), (86, 13523), (90, 13541), (106, 13727), (124, 13871), (131, 13904), (135, 13931), (137, 13949), (139, 13955), (145, 13979), (148, 13988), (158, 14036), (163, 14063), (171, 14093), (173, 14099), (181, 14150), (185, 14165), (188, 14177), (189, 14183), (190, 14186), (192, 14195), (195, 14222), (197, 14234), (200, 14243), (203, 14255), (204, 14261), (206, 14282), (211, 14306), (213, 14315), (221, 14354), (224, 14372), (229, 14405), (230, 14408), (232, 14417), (233, 14420), (238, 14435), (252, 14525), (259, 14561), (273, 14669), (278, 14705), (290, 14801), (291, 14804), (297, 14858), (300, 14897), (307, 14945), (308, 14954), (310, 14978), (313, 14996), (320, 15047), (324, 15071), (327, 15089), (330, 15119),

Gene: TeddyBoy\_12 Start: 7547, Stop: 9652, Start Num: 12

Candidate Starts for TeddyBoy\_12:

(Start: 12 @7547 has 105 MA's), (14, 7568), (34, 7745), (36, 7754), (39, 7778), (41, 7850), (44, 7874), (45, 7880), (53, 8030), (56, 8051), (57, 8063), (59, 8072), (72, 8279), (75, 8297), (100, 8384), (112, 8453), (117, 8465), (130, 8513), (139, 8543), (142, 8558), (151, 8594), (159, 8621), (164, 8642), (170, 8666), (177, 8690), (178, 8696), (183, 8723), (195, 8756), (206, 8795), (212, 8822), (216, 8843), (219, 8858), (229, 8885), (230, 8888), (237, 8909), (240, 8921), (241, 8927), (247, 8975), (261, 9050), (264, 9059), (268, 9086), (270, 9107), (279, 9170), (283, 9194), (289, 9251), (302, 9356), (304, 9377), (306, 9389), (310, 9431), (314, 9452), (316, 9473),

Gene: Temper16\_14 Start: 9744, Stop: 12302, Start Num: 6

Candidate Starts for Temper16\_14:

(Start: 6 @9744 has 80 MA's), (8, 9753), (9, 9783), (19, 9873), (22, 9909), (36, 10017), (37, 10032), (49, 10200), (54, 10296), (75, 10569), (77, 10590), (83, 10620), (86, 10650), (97, 10737), (107, 10860), (116, 10935), (124, 10998), (131, 11031), (134, 11052), (135, 11058), (137, 11076), (139, 11082), (145, 11106), (154, 11148), (158, 11163), (159, 11169), (165, 11196), (178, 11247), (182, 11280), (184, 11289), (189, 11310), (192, 11322), (195, 11349), (197, 11361), (200, 11370), (203, 11382), (204, 11388), (205, 11391), (207, 11412), (213, 11442), (217, 11460), (221, 11481), (223,

11490), (224, 11499), (229, 11532), (230, 11535), (233, 11547), (238, 11562), (250, 11646), (252, 11652), (259, 11688), (268, 11745), (269, 11754), (273, 11796), (281, 11853), (290, 11928), (291, 11931), (294, 11961), (297, 11985), (303, 12042), (307, 12072), (308, 12081), (310, 12105), (312, 12117), (330, 12243),

Gene: TimoTea\_12 Start: 7528, Stop: 9633, Start Num: 12

Candidate Starts for TimoTea\_12:

(Start: 12 @7528 has 105 MA's), (14, 7549), (34, 7726), (36, 7735), (39, 7759), (41, 7831), (44, 7855), (45, 7861), (53, 8011), (56, 8032), (57, 8044), (59, 8053), (72, 8260), (75, 8278), (100, 8365), (112, 8434), (117, 8446), (130, 8494), (139, 8524), (142, 8539), (151, 8575), (159, 8602), (164, 8623), (170, 8647), (177, 8671), (178, 8677), (183, 8704), (195, 8737), (206, 8776), (212, 8803), (216, 8824), (219, 8839), (229, 8866), (230, 8869), (237, 8890), (240, 8902), (241, 8908), (247, 8956), (261, 9031), (264, 9040), (268, 9067), (270, 9088), (279, 9151), (283, 9175), (289, 9232), (302, 9337), (304, 9358), (306, 9370), (310, 9412), (314, 9433), (316, 9454),

Gene: TinyTruffula\_12 Start: 7648, Stop: 9753, Start Num: 12

Candidate Starts for TinyTruffula\_12:

(Start: 12 @7648 has 105 MA's), (14, 7669), (34, 7846), (36, 7855), (39, 7879), (41, 7951), (44, 7975), (51, 8074), (53, 8131), (56, 8152), (57, 8164), (59, 8173), (72, 8380), (75, 8398), (100, 8485), (112, 8554), (117, 8566), (130, 8614), (139, 8644), (142, 8659), (164, 8743), (165, 8746), (170, 8767), (178, 8797), (183, 8824), (195, 8857), (206, 8896), (212, 8923), (213, 8929), (216, 8944), (219, 8959), (230, 8989), (237, 9010), (240, 9022), (241, 9028), (247, 9076), (253, 9112), (264, 9160), (268, 9187), (270, 9208), (279, 9271), (283, 9295), (289, 9352), (302, 9457), (304, 9478), (310, 9532), (314, 9553), (316, 9574),

Gene: TomBrady12\_12 Start: 7580, Stop: 9685, Start Num: 12

Candidate Starts for TomBrady12\_12:

(Start: 12 @7580 has 105 MA's), (14, 7601), (34, 7778), (36, 7787), (39, 7811), (41, 7883), (44, 7907), (51, 8006), (56, 8084), (57, 8096), (59, 8105), (72, 8312), (75, 8330), (100, 8417), (112, 8486), (117, 8498), (130, 8546), (139, 8576), (142, 8591), (155, 8645), (164, 8675), (165, 8678), (170, 8699), (178, 8729), (183, 8756), (195, 8789), (206, 8828), (212, 8855), (213, 8861), (216, 8876), (219, 8891), (229, 8918), (230, 8921), (237, 8942), (240, 8954), (241, 8960), (247, 9008), (253, 9044), (264, 9092), (268, 9119), (270, 9140), (279, 9203), (283, 9227), (289, 9284), (302, 9389), (304, 9410), (310, 9464), (314, 9485), (316, 9506),

Gene: Trireme\_12 Start: 7646, Stop: 9751, Start Num: 12

Candidate Starts for Trireme\_12:

(Start: 12 @7646 has 105 MA's), (14, 7667), (34, 7844), (36, 7853), (39, 7877), (41, 7949), (44, 7973), (51, 8072), (53, 8129), (56, 8150), (57, 8162), (59, 8171), (72, 8378), (75, 8396), (100, 8483), (112, 8552), (117, 8564), (130, 8612), (139, 8642), (142, 8657), (155, 8711), (164, 8741), (165, 8744), (170, 8765), (178, 8795), (183, 8822), (195, 8855), (206, 8894), (212, 8921), (213, 8927), (216, 8942), (219, 8957), (230, 8987), (237, 9008), (240, 9020), (241, 9026), (247, 9074), (253, 9110), (264, 9158), (268, 9185), (270, 9206), (279, 9269), (283, 9293), (289, 9350), (302, 9455), (304, 9476), (310, 9530), (314, 9551), (316, 9572),

Gene: Upsilon\_12 Start: 7615, Stop: 9720, Start Num: 12

Candidate Starts for Upsilon\_12:

(Start: 12 @7615 has 105 MA's), (14, 7636), (34, 7813), (36, 7822), (39, 7846), (41, 7918), (44, 7942), (51, 8041), (53, 8098), (56, 8119), (57, 8131), (59, 8140), (72, 8347), (75, 8365), (100, 8452), (112, 8521), (117, 8533), (130, 8581), (139, 8611), (142, 8626), (155, 8680), (164, 8710), (165, 8713), (170, 8734), (178, 8764), (183, 8791), (195, 8824), (206, 8863), (212, 8890), (213, 8896), (216, 8911), (219, 8926), (230, 8956), (237, 8977), (240, 8989), (241, 8995), (247, 9043), (253, 9079), (264, 9127), (268, 9154), (270, 9175), (279, 9238), (283, 9262), (289, 9319), (302, 9424), (304, 9445), (306, 9457), (310,

9499), (314, 9520), (316, 9541),

Gene: Urla\_14 Start: 9754, Stop: 12303, Start Num: 6

Candidate Starts for Urla\_14:

(Start: 6 @9754 has 80 MA's), (19, 9883), (22, 9919), (36, 10027), (37, 10042), (48, 10189), (49, 10210), (54, 10306), (63, 10396), (77, 10600), (86, 10660), (88, 10669), (124, 10996), (134, 11050), (135, 11056), (137, 11074), (148, 11113), (158, 11161), (173, 11224), (182, 11278), (188, 11302), (189, 11308), (195, 11347), (197, 11359), (202, 11377), (203, 11380), (204, 11386), (205, 11389), (206, 11407), (213, 11440), (217, 11458), (221, 11479), (223, 11488), (224, 11497), (229, 11530), (230, 11533), (232, 11542), (233, 11545), (238, 11560), (250, 11644), (259, 11686), (273, 11794), (274, 11806), (281, 11851), (282, 11860), (290, 11926), (291, 11929), (297, 11983), (300, 12022), (307, 12070), (308, 12079), (310, 12103), (312, 12115), (320, 12172), (321, 12178), (330, 12244), (333, 12286),

Gene: UtzChips\_14 Start: 9915, Stop: 12263, Start Num: 7

Candidate Starts for UtzChips\_14:

(Start: 7 @9915 has 8 MA's), (27, 10098), (39, 10194), (46, 10302), (50, 10362), (65, 10557), (68, 10620), (74, 10704), (75, 10716), (76, 10719), (89, 10770), (96, 10821), (104, 10908), (111, 10968), (116, 10992), (128, 11073), (138, 11133), (143, 11154), (159, 11214), (164, 11235), (166, 11244), (179, 11295), (202, 11382), (206, 11391), (231, 11487), (232, 11493), (241, 11526), (256, 11622), (264, 11661), (283, 11799), (290, 11862), (303, 11973), (316, 12078), (320, 12114),

Gene: VResidence\_16 Start: 10828, Stop: 13143, Start Num: 7

Candidate Starts for VResidence\_16:

(Start: 7 @10828 has 8 MA's), (10, 10861), (18, 10915), (22, 10984), (39, 11116), (40, 11143), (46, 11224), (49, 11275), (50, 11284), (53, 11368), (65, 11479), (66, 11530), (73, 11620), (76, 11644), (84, 11671), (97, 11764), (124, 11956), (130, 11983), (137, 12016), (153, 12049), (159, 12067), (161, 12073), (171, 12115), (174, 12124), (177, 12136), (195, 12190), (201, 12214), (212, 12256), (213, 12262), (223, 12310), (230, 12355), (235, 12373), (239, 12385), (245, 12430), (257, 12496), (258, 12505), (288, 12730), (290, 12748), (291, 12751), (298, 12817), (303, 12862), (305, 12880), (308, 12901), (323, 13012), (331, 13078),

Gene: Vallejo\_18 Start: 12556, Stop: 15117, Start Num: 6

Candidate Starts for Vallejo\_18:

(4, 12535), (Start: 6 @12556 has 80 MA's), (11, 12604), (15, 12637), (19, 12685), (21, 12709), (22, 12721), (32, 12781), (36, 12829), (37, 12844), (38, 12850), (47, 12970), (49, 13012), (54, 13108), (55, 13111), (58, 13141), (62, 13195), (63, 13198), (71, 13336), (72, 13357), (75, 13381), (77, 13402), (79, 13411), (86, 13462), (90, 13480), (106, 13666), (124, 13810), (131, 13843), (135, 13870), (137, 13888), (139, 13894), (145, 13918), (148, 13927), (158, 13975), (163, 14002), (164, 14005), (169, 14026), (171, 14032), (173, 14038), (181, 14089), (185, 14104), (188, 14116), (189, 14122), (190, 14125), (192, 14134), (195, 14161), (197, 14173), (200, 14182), (203, 14194), (204, 14200), (206, 14221), (213, 14254), (221, 14293), (229, 14344), (230, 14347), (232, 14356), (233, 14359), (238, 14374), (252, 14464), (259, 14500), (273, 14608), (278, 14644), (290, 14740), (291, 14743), (297, 14797), (300, 14836), (307, 14884), (308, 14893), (310, 14917), (313, 14935), (320, 14986), (324, 15010), (327, 15028), (330, 15058),

Gene: Vanisius\_12 Start: 7552, Stop: 9657, Start Num: 12

Candidate Starts for Vanisius\_12:

(Start: 12 @7552 has 105 MA's), (14, 7573), (34, 7750), (36, 7759), (39, 7783), (41, 7855), (44, 7879), (45, 7885), (53, 8035), (56, 8056), (57, 8068), (59, 8077), (72, 8284), (75, 8302), (100, 8389), (112, 8458), (117, 8470), (130, 8518), (139, 8548), (142, 8563), (151, 8599), (159, 8626), (164, 8647), (170, 8671), (177, 8695), (178, 8701), (183, 8728), (195, 8761), (206, 8800), (212, 8827), (216, 8848), (219, 8863), (229, 8890), (230, 8893), (237, 8914), (240, 8926), (241, 8932), (247, 8980), (261, 9055), (264,

9064), (268, 9091), (270, 9112), (279, 9175), (283, 9199), (289, 9256), (302, 9361), (304, 9382), (306, 9394), (310, 9436), (314, 9457), (316, 9478),

Gene: VitulaEligans\_12 Start: 7636, Stop: 9741, Start Num: 12

Candidate Starts for VitulaEligans\_12:

(Start: 12 @7636 has 105 MA's), (14, 7657), (34, 7834), (36, 7843), (39, 7867), (41, 7939), (44, 7963), (45, 7969), (53, 8119), (56, 8140), (57, 8152), (59, 8161), (72, 8368), (75, 8386), (100, 8473), (112, 8542), (117, 8554), (130, 8602), (139, 8632), (142, 8647), (159, 8710), (164, 8731), (170, 8755), (177, 8779), (178, 8785), (183, 8812), (195, 8845), (206, 8884), (212, 8911), (216, 8932), (219, 8947), (229, 8974), (230, 8977), (237, 8998), (240, 9010), (241, 9016), (247, 9064), (253, 9100), (261, 9139), (264, 9148), (268, 9175), (270, 9196), (279, 9259), (283, 9283), (289, 9340), (302, 9445), (304, 9466), (306, 9478), (310, 9520), (314, 9541), (316, 9562), (332, 9691),

Gene: Vulture\_14 Start: 9738, Stop: 12296, Start Num: 6

Candidate Starts for Vulture\_14:

(Start: 6 @9738 has 80 MA's), (8, 9747), (9, 9777), (19, 9867), (32, 9963), (37, 10026), (49, 10194), (54, 10290), (55, 10293), (56, 10308), (64, 10395), (67, 10461), (80, 10599), (81, 10602), (93, 10686), (124, 10992), (135, 11052), (137, 11070), (139, 11076), (148, 11109), (150, 11121), (158, 11157), (163, 11184), (169, 11208), (171, 11214), (181, 11271), (187, 11295), (189, 11304), (193, 11319), (195, 11343), (197, 11355), (203, 11376), (204, 11382), (206, 11403), (211, 11427), (213, 11436), (217, 11454), (221, 11475), (222, 11481), (224, 11493), (229, 11526), (230, 11529), (233, 11541), (238, 11556), (239, 11559), (252, 11646), (267, 11736), (268, 11739), (273, 11790), (281, 11847), (282, 11856), (285, 11868), (290, 11922), (291, 11925), (297, 11979), (300, 12018), (307, 12066), (308, 12075), (310, 12099), (312, 12111), (327, 12207), (330, 12237),

Gene: Wawa\_18 Start: 12593, Stop: 15154, Start Num: 6

Candidate Starts for Wawa\_18:

(4, 12572), (Start: 6 @12593 has 80 MA's), (11, 12641), (15, 12674), (19, 12722), (21, 12746), (22, 12758), (32, 12818), (36, 12866), (37, 12881), (38, 12887), (47, 13007), (49, 13049), (54, 13145), (55, 13148), (58, 13178), (62, 13232), (71, 13373), (72, 13394), (75, 13418), (77, 13439), (79, 13448), (86, 13499), (90, 13517), (106, 13703), (124, 13847), (131, 13880), (135, 13907), (137, 13925), (139, 13931), (145, 13955), (148, 13964), (158, 14012), (163, 14039), (164, 14042), (169, 14063), (171, 14069), (173, 14075), (181, 14126), (185, 14141), (188, 14153), (189, 14159), (190, 14162), (192, 14171), (195, 14198), (197, 14210), (200, 14219), (203, 14231), (204, 14237), (206, 14258), (213, 14291), (221, 14330), (229, 14381), (230, 14384), (232, 14393), (233, 14396), (238, 14411), (252, 14501), (259, 14537), (273, 14645), (278, 14681), (290, 14777), (291, 14780), (297, 14834), (300, 14873), (307, 14921), (308, 14930), (310, 14954), (313, 14972), (320, 15023), (324, 15047), (327, 15065), (330, 15095),

Gene: Wayne\_18 Start: 12693, Stop: 15248, Start Num: 6

Candidate Starts for Wayne\_18:

(4, 12672), (Start: 6 @12693 has 80 MA's), (11, 12741), (19, 12822), (21, 12846), (32, 12918), (36, 12966), (37, 12981), (38, 12987), (49, 13149), (52, 13194), (54, 13245), (55, 13248), (58, 13278), (67, 13416), (77, 13539), (86, 13599), (90, 13617), (92, 13632), (97, 13683), (121, 13914), (132, 13983), (135, 14007), (137, 14025), (139, 14031), (152, 14085), (154, 14097), (159, 14118), (164, 14142), (182, 14229), (188, 14253), (189, 14259), (190, 14262), (193, 14274), (194, 14295), (195, 14298), (196, 14304), (197, 14310), (202, 14328), (203, 14331), (204, 14337), (211, 14382), (213, 14391), (217, 14409), (221, 14430), (223, 14439), (224, 14448), (229, 14481), (230, 14484), (232, 14493), (233, 14496), (242, 14547), (259, 14637), (273, 14745), (274, 14757), (277, 14778), (278, 14781), (290, 14877), (291, 14880), (297, 14934), (300, 14973), (308, 15030), (313, 15072), (320, 15120), (327, 15162), (330, 15192),

Gene: Witch\_12 Start: 7541, Stop: 9646, Start Num: 12

Candidate Starts for Witch\_12:

(Start: 12 @7541 has 105 MA's), (14, 7562), (34, 7739), (36, 7748), (39, 7772), (41, 7844), (44, 7868), (45, 7874), (53, 8024), (56, 8045), (57, 8057), (59, 8066), (72, 8273), (75, 8291), (100, 8378), (112, 8447), (117, 8459), (130, 8507), (139, 8537), (142, 8552), (151, 8588), (159, 8615), (164, 8636), (170, 8660), (177, 8684), (178, 8690), (183, 8717), (195, 8750), (206, 8789), (212, 8816), (216, 8837), (219, 8852), (229, 8879), (230, 8882), (237, 8903), (240, 8915), (241, 8921), (247, 8969), (253, 9005), (264, 9053), (268, 9080), (270, 9101), (279, 9164), (283, 9188), (289, 9245), (302, 9350), (304, 9371), (306, 9383), (310, 9425), (314, 9446), (316, 9467), (332, 9596),

Gene: Wolfpack\_12 Start: 7533, Stop: 9638, Start Num: 12

Candidate Starts for Wolfpack\_12:

(Start: 12 @7533 has 105 MA's), (14, 7554), (34, 7731), (36, 7740), (39, 7764), (41, 7836), (44, 7860), (45, 7866), (51, 7959), (53, 8016), (56, 8037), (57, 8049), (59, 8058), (72, 8265), (75, 8283), (100, 8370), (112, 8439), (117, 8451), (130, 8499), (139, 8529), (142, 8544), (151, 8580), (159, 8607), (165, 8631), (170, 8652), (177, 8676), (178, 8682), (183, 8709), (195, 8742), (206, 8781), (212, 8808), (216, 8829), (219, 8844), (229, 8871), (230, 8874), (240, 8907), (241, 8913), (247, 8961), (253, 8997), (264, 9045), (268, 9072), (270, 9093), (279, 9156), (283, 9180), (289, 9237), (302, 9342), (304, 9363), (306, 9375), (310, 9417), (314, 9438), (316, 9459), (332, 9588),

Gene: WonderBoy\_14 Start: 9710, Stop: 12271, Start Num: 6

Candidate Starts for WonderBoy\_14:

(4, 9689), (Start: 6 @9710 has 80 MA's), (11, 9758), (19, 9839), (21, 9863), (32, 9935), (36, 9983), (37, 9998), (38, 10004), (49, 10166), (54, 10262), (55, 10265), (58, 10295), (67, 10433), (72, 10511), (77, 10556), (79, 10565), (86, 10616), (90, 10634), (91, 10646), (95, 10670), (114, 10886), (127, 10976), (131, 10997), (135, 11024), (137, 11042), (139, 11048), (145, 11072), (148, 11081), (158, 11129), (163, 11156), (171, 11186), (181, 11243), (185, 11258), (188, 11270), (189, 11276), (190, 11279), (192, 11288), (195, 11315), (197, 11327), (200, 11336), (203, 11348), (204, 11354), (207, 11378), (211, 11399), (213, 11408), (216, 11423), (221, 11447), (229, 11498), (230, 11501), (233, 11513), (239, 11531), (252, 11618), (259, 11654), (273, 11762), (274, 11774), (277, 11795), (278, 11798), (281, 11819), (290, 11894), (291, 11897), (295, 11930), (297, 11951), (300, 11990), (303, 12008), (307, 12038), (308, 12047), (321, 12146), (330, 12212),

Gene: Yami\_11 Start: 7552, Stop: 9636, Start Num: 14

Candidate Starts for Yami\_11:

(Start: 12 @7531 has 105 MA's), (14, 7552), (34, 7729), (36, 7738), (39, 7762), (41, 7834), (44, 7858), (51, 7957), (53, 8014), (56, 8035), (57, 8047), (59, 8056), (72, 8263), (75, 8281), (100, 8368), (112, 8437), (117, 8449), (130, 8497), (139, 8527), (142, 8542), (164, 8626), (165, 8629), (170, 8650), (178, 8680), (183, 8707), (195, 8740), (206, 8779), (212, 8806), (213, 8812), (216, 8827), (219, 8842), (230, 8872), (237, 8893), (240, 8905), (241, 8911), (247, 8959), (253, 8995), (264, 9043), (268, 9070), (270, 9091), (279, 9154), (283, 9178), (289, 9235), (302, 9340), (304, 9361), (310, 9415), (314, 9436), (316, 9457),

Gene: Yasuo\_12 Start: 7537, Stop: 9642, Start Num: 12

Candidate Starts for Yasuo\_12:

(Start: 12 @7537 has 105 MA's), (14, 7558), (34, 7735), (36, 7744), (39, 7768), (41, 7840), (44, 7864), (45, 7870), (53, 8020), (56, 8041), (57, 8053), (59, 8062), (72, 8269), (75, 8287), (100, 8374), (112, 8443), (117, 8455), (130, 8503), (139, 8533), (142, 8548), (151, 8584), (159, 8611), (164, 8632), (170, 8656), (177, 8680), (178, 8686), (183, 8713), (195, 8746), (206, 8785), (212, 8812), (216, 8833), (219, 8848), (229, 8875), (230, 8878), (237, 8899), (240, 8911), (241, 8917), (247, 8965), (261, 9040), (264, 9049), (268, 9076), (270, 9097), (279, 9160), (283, 9184), (289, 9241), (302, 9346), (304, 9367), (306, 9379), (310, 9421), (314, 9442), (316, 9463),

Gene: YertPhresh\_12 Start: 7540, Stop: 9645, Start Num: 12

Candidate Starts for YertPhresh\_12:

(Start: 12 @7540 has 105 MA's), (14, 7561), (34, 7738), (36, 7747), (39, 7771), (41, 7843), (44, 7867), (45, 7873), (53, 8023), (56, 8044), (57, 8056), (59, 8065), (72, 8272), (75, 8290), (100, 8377), (112, 8446), (117, 8458), (130, 8506), (139, 8536), (142, 8551), (151, 8587), (159, 8614), (164, 8635), (170, 8659), (177, 8683), (178, 8689), (183, 8716), (195, 8749), (206, 8788), (212, 8815), (216, 8836), (219, 8851), (229, 8878), (230, 8881), (237, 8902), (240, 8914), (241, 8920), (247, 8968), (253, 9004), (264, 9052), (268, 9079), (270, 9100), (279, 9163), (283, 9187), (289, 9244), (302, 9349), (304, 9370), (306, 9382), (310, 9424), (314, 9445), (316, 9466), (332, 9595),

Gene: Yubaba\_12 Start: 7574, Stop: 9679, Start Num: 12

Candidate Starts for Yubaba\_12:

(Start: 12 @7574 has 105 MA's), (14, 7595), (34, 7772), (36, 7781), (39, 7805), (41, 7877), (44, 7901), (45, 7907), (53, 8057), (56, 8078), (57, 8090), (59, 8099), (72, 8306), (75, 8324), (100, 8411), (112, 8480), (117, 8492), (130, 8540), (139, 8570), (142, 8585), (151, 8621), (159, 8648), (164, 8669), (170, 8693), (177, 8717), (178, 8723), (183, 8750), (195, 8783), (206, 8822), (212, 8849), (216, 8870), (219, 8885), (229, 8912), (230, 8915), (237, 8936), (240, 8948), (241, 8954), (247, 9002), (253, 9038), (264, 9086), (268, 9113), (270, 9134), (279, 9197), (283, 9221), (289, 9278), (302, 9383), (304, 9404), (306, 9416), (310, 9458), (314, 9479), (316, 9500), (332, 9629),

Gene: Zeta1847\_14 Start: 9068, Stop: 11329, Start Num: 5

Candidate Starts for Zeta1847\_14:

(Start: 5 @9068 has 2 MA's), (17, 9158), (20, 9203), (23, 9230), (27, 9254), (29, 9260), (39, 9350), (46, 9458), (50, 9518), (65, 9713), (68, 9776), (76, 9875), (78, 9884), (102, 9986), (125, 10118), (129, 10139), (136, 10184), (162, 10283), (170, 10319), (172, 10325), (180, 10364), (196, 10415), (206, 10448), (214, 10487), (227, 10523), (241, 10580), (256, 10673), (257, 10679), (264, 10712), (270, 10760), (290, 10910), (292, 10922), (301, 11006), (325, 11186),

Gene: Zorro\_18 Start: 12572, Stop: 15133, Start Num: 6

Candidate Starts for Zorro\_18:

(4, 12551), (Start: 6 @12572 has 80 MA's), (11, 12620), (15, 12653), (19, 12701), (21, 12725), (22, 12737), (32, 12797), (36, 12845), (37, 12860), (38, 12866), (47, 12986), (49, 13028), (54, 13124), (55, 13127), (58, 13157), (62, 13211), (71, 13352), (72, 13373), (75, 13397), (77, 13418), (79, 13427), (86, 13478), (90, 13496), (106, 13682), (124, 13826), (131, 13859), (135, 13886), (137, 13904), (139, 13910), (145, 13934), (148, 13943), (158, 13991), (163, 14018), (164, 14021), (169, 14042), (173, 14054), (181, 14105), (185, 14120), (188, 14132), (190, 14141), (192, 14150), (195, 14177), (197, 14189), (200, 14198), (203, 14210), (204, 14216), (206, 14237), (211, 14261), (213, 14270), (221, 14309), (229, 14360), (230, 14363), (232, 14372), (233, 14375), (238, 14390), (252, 14480), (259, 14516), (273, 14624), (278, 14660), (290, 14756), (291, 14759), (297, 14813), (300, 14852), (307, 14900), (308, 14909), (310, 14933), (313, 14951), (320, 15002), (324, 15026), (327, 15044), (330, 15074),