





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 283462 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283462 has 235 members, 27 are drafts.

Phages represented in each track:

- Track 1 : NoShow\_16
- Track 2 : PinkYoshi\_16, Darionha\_16, CLED96\_16, Frosty24\_16, ShaboiShabazz\_16, Crespo\_16, Jeilious\_16, Gomashi\_16, DingDing\_16, LouisV14\_16, Jolene\_16, Rattrick\_16, Periodt\_16, AizenPogi\_16, BQuat\_16, Jane\_16, Peeb\_16, GoldenAsh\_16, CassieYates\_16, Camri\_16, Angel\_16, Halo\_16, OctaviousRex\_16, DMoney\_16, ECartman\_16, Barkley26\_16, Kasen3\_16, Wendigo\_16, Richarlison\_16, Remy19\_16, BPs\_16, ZoMa\_16, DNAIII\_0016, JorRay\_16, Sweets\_16, Maliketh\_16, Phloodle\_16, Neoh\_16, Jonghyun\_16, Kareem\_16, Cherrybomb426\_16, Sizemore\_16, Schiebel\_16, Plagueis\_16, Phreak\_16, Olga\_16, Aroostook\_16, Ruriko\_16, Phish\_16, Hope\_16, Zombie\_16, Coleslaw\_16, Hotshotbaby7\_16, Mowgli\_16, Avrafan\_16, Chance64\_16, BruceB\_16, TinaBug\_16, Marmie\_16, Cedasite\_16, TomBrady\_16, Renaissance\_16, Gideon\_16, Annihilator\_16, AzulaCat\_16
- Track 3 : Paito\_16
- Track 4 : Grizzly\_16
- Track 5 : Liefie\_16
- Track 6 : Cambiare\_17
- Track 7 : Pace1224\_16
- Track 8 : Cloudyecho\_16
- Track 9 : MOOREtheMARYer\_16
- Track 10 : Pinnie\_17
- Track 11 : Lemuria\_16
- Track 12 : Jolie2\_16
- Track 13 : Mercurio\_17
- Track 14 : YangYin\_16
- Track 15 : Stargaze\_16
- Track 16 : Antsirabe\_16
- Track 17 : Piatt\_21, Durfee\_21, BaghaKamala\_21, JAWS\_21, Boiii\_21, Peel\_21, Padfoot\_21, Topper\_21, Dalmuri\_21, Inky\_21, Asayake\_21, BGlluvia\_21, Capricorn\_21, Jeckyll\_21, CREW\_21, Rosmarinus\_21, Twitch\_21, Blizzard\_21, BEEST\_21, BarrelRoll\_21, Hyperbowlee\_21, Jarvi\_21, Spock\_21, ShiaSurprise\_21, Lunahalos\_21, CaseJules\_21
- Track 18 : LilPharaoh\_17, Mdavu\_17, Teejan\_17, Nutello\_17, Amelie\_17, SgtBeansprout\_17, Enkosi\_17, Trice\_17, Torres\_17, Binglebops\_17
- Track 19 : Apocalypse\_21
- Track 20 : TingHuaYa\_21
- Track 21 : Murucutumbu\_21, Stinson\_21, LaterM\_21, Ageofdapage\_21

- Track 22 : Slimphazie\_21, Jayhawk\_21, HedwigODU\_21, Atiba\_21, ActinUp\_21, Tachez\_21, Zabiza\_21, Ramen\_21, Adephagia\_21, TruffulaTree\_21, Rapunzel97\_21
- Track 23 : Chavito\_21
- Track 24 : CrimD\_21
- Track 25 : Bella96\_21, DartGoblin\_21
- Track 26 : McMater\_21, Peanam\_21, Niklas\_21, Dartin\_21, Richo\_21
- Track 27 : YoureAdopted\_20
- Track 28 : Devera\_21, Dole\_21, Illumine\_21
- Track 29 : Joy99\_21, Geraldini\_21, MeaningOfLife\_21
- Track 30 : Mynx\_21, Pokerus\_20
- Track 31 : Prithvi\_21, LindNT\_21, TreyKay\_21
- Track 32 : Clipper\_21, MacKat\_21
- Track 33 : MarkPhew\_21
- Track 34 : CheetoDust\_21
- Track 35 : TaiwanKao\_22
- Track 36 : Adonis\_21
- Track 37 : Oscar\_20
- Track 38 : AlishaPH\_21, Emerson\_21, Padpat\_21
- Track 39 : Zavala\_21
- Track 40 : Angelica\_21, Sulley\_21, Deby\_21
- Track 41 : Anma\_21, DrHayes\_21, Urkel\_21, SamuelLPlaqson\_21
- Track 42 : Tiri\_21
- Track 43 : Anaya\_22
- Track 44 : Guanica15\_21, Yunkel11\_21
- Track 45 : Validus\_21
- Track 46 : Nibb\_20
- Track 47 : Nikao\_17
- Track 48 : Curiosium\_22
- Track 49 : Pisa1\_20, Pisa4\_20
- Track 50 : Ganymede\_22
- Track 51 : Beezoo\_21
- Track 52 : CallaLilly\_21
- Track 53 : Shaobing\_21
- Track 54 : LeMond\_20
- Track 55 : Scarlett\_20
- Track 56 : Veliki\_21
- Track 57 : TiniBug\_21
- Track 58 : Bern\_21
- Track 59 : KiSi\_20
- Track 60 : Chris\_20
- Track 61 : Efra2\_21
- Track 62 : LastHope\_21
- Track 63 : Homura\_21
- Track 64 : QuincyRose\_20
- Track 65 : Megsy\_21
- Track 66 : Llorens\_21
- Track 67 : ZoeJ\_17
- Track 68 : Milly\_17
- Track 69 : BoostSeason\_17
- Track 70 : Mufasa\_17
- Track 71 : Strobilo\_17
- Track 72 : Doughnut\_17
- Track 73 : DismalFunk\_17, Marcoliusprime\_17, DismalStressor\_17

- Track 74 : Findley\_17
- Track 75 : MacnCheese\_21
- Track 76 : TBond007\_20
- Track 77 : Pharb\_20
- Track 78 : Keshu\_20
- Track 79 : Pixie\_20
- Track 80 : Hurricane\_20
- Track 81 : TribbleTrouble\_19
- Track 82 : Lea83\_20, ShedlockHolmes\_20
- Track 83 : PhelpsODU\_20, Unicorn\_20
- Track 84 : Krueger\_20
- Track 85 : Syra333\_20
- Track 86 : Cain\_20, Tierra\_20, Bryler\_20, Phrank\_20
- Track 87 : Shadow1\_19
- Track 88 : TClif\_20
- Track 89 : Yuna\_21
- Track 90 : Ximenita\_21
- Track 91 : SirPhilip\_20
- Track 92 : Sunflower1121\_19
- Track 93 : Marshawn\_22
- Track 94 : Tigress9\_20
- Track 95 : Aminay\_19

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

The start number called the most often in the published annotations is 13, it was called in 165 of the 208 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_21, Adephegia\_21, Adonis\_21, Ageofdapage\_21, AizenPogi\_16, AlishaPH\_21, Amelie\_17, Aminay\_19, Anaya\_22, Angel\_16, Angelica\_21, Anma\_21, Annihilator\_16, Antsirabe\_16, Apocalypse\_21, Aroostook\_16, Asayake\_21, Atiba\_21, Avrafan\_16, AzulaCat\_16, BEEST\_21, BGIlluviae\_21, BPs\_16, BQuat\_16, BaghaKamala\_21, Barkley26\_16, BarrelRoll\_21, Beezoo\_21, Bella96\_21, Bern\_21, Biglebops\_17, Blizzard\_21, Boiiii\_21, BruceB\_16, CLED96\_16, CREW\_21, CallaLilly\_21, Camri\_16, Capricorn\_21, CaseJules\_21, CassieYates\_16, Cedasite\_16, Chance64\_16, CheetoDust\_21, Cherrybomb426\_16, Clipper\_21, Cloudyecho\_16, Coleslaw\_16, Crespo\_16, CrimD\_21, DMoney\_16, DNAllI\_0016, Dalmuri\_21, Darionha\_16, DartGoblin\_21, Deby\_21, Devera\_21, DingDing\_16, Dole\_21, DrHayes\_21, Durfee\_21, ECartman\_16, Emerson\_21, Enkosi\_17, Frosty24\_16, Ganymede\_22, Geraldini\_21, Gideon\_16, GoldenAsh\_16, Gomashi\_16, Grizzly\_16, Halo\_16, HedwigODU\_21, Homura\_21, Hope\_16, Hotshotbaby7\_16, Hurricane\_20, Hyperbowlee\_21, Illumine\_21, Inky\_21, JAWS\_21, Jane\_16, Jarvi\_21, Jayhawk\_21, Jeckyll\_21, Jeilious\_16, Jolene\_16, Jolie2\_16, Jonghyun\_16, JorRay\_16, Joy99\_21, Kareem\_16, Kasen3\_16, Keshu\_20, LaterM\_21, Lea83\_20, Lemuria\_16, Liefie\_16, LilPharaoh\_17, LindNT\_21, Llorens\_21, LouisV14\_16, Lunahalos\_21, MOOREtheMARYer\_16, MacKat\_21, MacnCheese\_21, Maliketh\_16, Marmie\_16, Mdavu\_17, MeaningOfLife\_21, Megsy\_21, Mercurio\_17, Mowgli\_16, Murucutumbu\_21, Mynx\_21, Neoh\_16, Nikao\_17, Nutello\_17, OctaviousRex\_16, Olga\_16, Padfoot\_21, Padpat\_21, Paito\_16, Peeb\_16, Peel\_21, Periodt\_16,

Pharb\_20, Phish\_16, Phloodle\_16, Phreak\_16, Piatt\_21, PinkYoshi\_16, Pinnie\_17, Pisa1\_20, Pisa4\_20, Pixie\_20, Plagueis\_16, Pokerus\_20, Prithvi\_21, QuincyRose\_20, Ramen\_21, Rapunzel97\_21, Rattrick\_16, Remy19\_16, Renaissance\_16, Richarlison\_16, Rosmarinus\_21, Ruriko\_16, SamuelLPlaqson\_21, Schiebel\_16, SgtBeansprout\_17, ShaboiShabazz\_16, ShedlockHolmes\_20, ShiaSurprise\_21, Sizemore\_16, Slimphazie\_21, Spock\_21, Stargaze\_16, Stinson\_21, Sulley\_21, Sweets\_16, TBond007\_20, Tachez\_21, TaiwanKao\_22, Teejan\_17, TinaBug\_16, TiniBug\_21, Tiri\_21, TomBrady\_16, Topper\_21, Torres\_17, TreyKay\_21, TribbleTrouble\_19, Trice\_17, TruffulaTree\_21, Twitch\_21, Urkel\_21, Veliki\_21, Wendigo\_16, YangYin\_16, YoureAdopted\_20, Zabiza\_21, Zavala\_21, ZoMa\_16, Zombie\_16,

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

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

- BoostSeason\_17, Bryler\_20, Cain\_20, Cambiare\_17, Chavito\_21, Chris\_20, Curiosium\_22, Dartin\_21, DismalFunk\_17, DismalStressor\_17, Doughnut\_17, Efra2\_21, Findley\_17, Guanica15\_21, KiSi\_20, Krueger\_20, LastHope\_21, LeMond\_20, Marcoliusprime\_17, MarkPhew\_21, Marshawn\_22, McMater\_21, Milly\_17, Mufasa\_17, Nibb\_20, Niklas\_21, NoShow\_16, Oscar\_20, Pace1224\_16, Peanam\_21, PhelpsODU\_20, Phrank\_20, Richo\_21, Scarlett\_20, Shadow1\_19, Shaobing\_21, SirPhilip\_20, Strobilo\_17, Sunflower1121\_19, Syra333\_20, TClif\_20, Tierra\_20, Tigress9\_20, TingHuaYa\_21, Unicorn\_20, Validus\_21, Ximenita\_21, Yuna\_21, Yunkel11\_21, ZoeJ\_17,

### Summary by start number:

Start 5:

- Found in 1 of 235 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoShow\_16 (AB),

Start 12:

- Found in 10 of 235 ( 4.3% ) of genes in pham
- Manual Annotations of this start: 10 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_17 (K2), DismalFunk\_17 (K2), DismalStressor\_17 (K2), Doughnut\_17 (K2), Findley\_17 (K2), Marcoliusprime\_17 (K2), Milly\_17 (K2), Mufasa\_17 (K2), Strobilo\_17 (K2), ZoeJ\_17 (K2),

Start 13:

- Found in 185 of 235 ( 78.7% ) of genes in pham
- Manual Annotations of this start: 165 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_21 (K1), Adephegia\_21 (K1), Adonis\_21 (K1), Ageofdapage\_21 (K1), AizenPogi\_16 (G1), AlishaPH\_21 (K1), Amelie\_17 (K1), Aminay\_19 (K7), Anaya\_22 (K1), Angel\_16 (G1), Angelica\_21 (K1), Anma\_21 (K1), Annihilator\_16 (G1), Antsirabe\_16 (G5), Apocalypse\_21 (K1), Aroostook\_16 (G1), Asayake\_21 (K1), Atiba\_21 (K1), Avrafan\_16 (G1), AzulaCat\_16 (G1), BEEST\_21 (K1), BGlluviae\_21 (K1), BPs\_16 (G1), BQuat\_16 (G1),

BaghaKamala\_21 (K1), Barkley26\_16 (G1), BarrelRoll\_21 (K1), Beezoo\_21 (K1), Bella96\_21 (K1), Bern\_21 (K1), Biglebops\_17 (K1), Blizzard\_21 (K1), Boiiii\_21 (K1), BruceB\_16 (G1), CLED96\_16 (G1), CREW\_21 (K1), CallaLilly\_21 (K1), Camri\_16 (G1), Capricorn\_21 (K1), CaseJules\_21 (K1), CassieYates\_16 (G1), Cedasite\_16 (G1), Chance64\_16 (G1), CheetoDust\_21 (K1), Cherrybomb426\_16 (G1), Clipper\_21 (K1), Cloudyecho\_16 (G3), Coleslaw\_16 (G1), Crespo\_16 (G1), CrimD\_21 (K1), DMoney\_16 (G1), DNAIII\_0016 (G1), Dalmuri\_21 (K1), Darionha\_16 (G1), DartGoblin\_21 (K1), Deby\_21 (K1), Devera\_21 (K1), DingDing\_16 (G1), Dole\_21 (K1), DrHayes\_21 (K1), Durfee\_21 (K1), ECartman\_16 (G1), Emerson\_21 (K1), Enkosi\_17 (K1), Frosty24\_16 (G1), Ganymede\_22 (K1), Geraldini\_21 (K1), Gideon\_16 (G1), GoldenAsh\_16 (G1), Gomashi\_16 (G1), Grizzly\_16 (G1), Halo\_16 (G1), HedwigODU\_21 (K1), Homura\_21 (K1), Hope\_16 (G1), Hotshotbaby7\_16 (G1), Hurricane\_20 (K3), Hyperbowlee\_21 (K1), Illumine\_21 (K1), Inky\_21 (K1), JAWS\_21 (K1), Jane\_16 (G1), Jarvi\_21 (K1), Jayhawk\_21 (K1), Jeckyll\_21 (K1), Jeilious\_16 (G), Jolene\_16 (G1), Jolie2\_16 (G4), Jonghyun\_16 (G1), JorRay\_16 (G1), Joy99\_21 (K1), Kareem\_16 (G1), Kasen3\_16 (G1), Keshu\_20 (K3), LaterM\_21 (K1), Lea83\_20 (K3), Lemuria\_16 (G4), Liefie\_16 (G1), LilPharaoh\_17 (K1), LindNT\_21 (K1), Llorens\_21 (K1), LouisV14\_16 (G1), Lunahalos\_21 (K1), MOOREtheMARYer\_16 (G3), MacKat\_21 (K1), MacnCheese\_21 (K3), Maliketh\_16 (G1), Marmie\_16 (G1), Mdavu\_17 (K1), MeaningOfLife\_21 (K1), Megsy\_21 (K1), Mercurio\_17 (G4), Mowgli\_16 (G1), Murucutumbu\_21 (K1), Mynx\_21 (K1), Neoh\_16 (G), Nikao\_17 (K1), Nutello\_17 (K1), OctaviousRex\_16 (G1), Olga\_16 (G1), Padfoot\_21 (K1), Padpat\_21 (K1), Paito\_16 (G1), Peeb\_16 (G1), Peel\_21 (K1), Periodt\_16 (G1), Pharb\_20 (K3), Phish\_16 (G1), Phloodle\_16 (G1), Phreak\_16 (G1), Piatt\_21 (K1), PinkYoshi\_16 (G1), Pinnie\_17 (G3), Pisa1\_20 (K1), Pisa4\_20 (K1), Pixie\_20 (K3), Plagueis\_16 (G1), Pokerus\_20 (K1), Prithvi\_21 (K1), QuincyRose\_20 (K1), Ramen\_21 (K1), Rapunzel97\_21 (K1), Rattrick\_16 (G1), Remy19\_16 (G1), Renaissance\_16 (G1), Richarlison\_16 (G1), Rosmarinus\_21 (K1), Ruriko\_16 (G1), SamuelLPlaqson\_21 (K1), Schiebel\_16 (G1), SgtBeansprout\_17 (K1), ShaboiShabazz\_16 (G1), ShedlockHolmes\_20 (K3), ShiaSurprise\_21 (K1), Sizemore\_16 (G1), Slimphazie\_21 (K1), Spock\_21 (K1), Stargaze\_16 (G5), Stinson\_21 (K1), Sulley\_21 (K1), Sweets\_16 (G1), TBond007\_20 (K3), Tachez\_21 (K1), TaiwanKao\_22 (K1), Teejan\_17 (K1), TinaBug\_16 (G1), TiniBug\_21 (K1), Tiri\_21 (K1), TomBrady\_16 (G1), Topper\_21 (K1), Torres\_17 (K1), TreyKay\_21 (K1), TripleTrouble\_19 (K3), Trice\_17 (K1), TruffulaTree\_21 (K1), Twitch\_21 (K1), Urkel\_21 (K1), Veliki\_21 (K1), Wendigo\_16 (G1), YangYin\_16 (G5), YoureAdopted\_20 (K1), Zabiza\_21 (K1), Zavala\_21 (K1), ZoMa\_16 (G1), Zombie\_16 (G1),

Start 14:

- Found in 39 of 235 ( 16.6% ) of genes in pham
- Manual Annotations of this start: 32 of 208
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bryler\_20 (K6), Cain\_20 (K6), Cambiare\_17 (G2), Chavito\_21 (K1), Chris\_20 (K1), Curiosium\_22 (K1), Dartin\_21 (K1), Efra2\_21 (K1), Guanica15\_21 (K1), KiSi\_20 (K1), Krueger\_20 (K6), LastHope\_21 (K1), LeMond\_20 (K1), MarkPhew\_21 (K1), Marshawn\_22 (K6), McMater\_21 (K1), Nibb\_20 (K1), Niklas\_21 (K1), Oscar\_20 (K1), Pace1224\_16 (G2), Peanam\_21 (K1), PhelpsODU\_20 (K6), Phrank\_20 (K6), Richo\_21 (K1), Scarlett\_20 (K1), Shadow1\_19 (K6), Shaobing\_21 (K1), SirPhilip\_20 (K6), Sunflower1121\_19 (K6), Syra333\_20 (K6), TClif\_20 (K6), Tierra\_20 (K6), Tigress9\_20 (K6), TingHuaYa\_21 (K1), Unicorn\_20 (K6), Validus\_21 (K1), Ximenita\_21 (K6), Yuna\_21 (K6), Yunkel11\_21 (K1),

## Summary by clusters:

There are 12 clusters represented in this pham: G5, G4, G3, G1, G, K3, K2, K1, AB, K7, K6, G2,

Info for manual annotations of cluster AB:

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

Info for manual annotations of cluster G1:

- Start number 13 was manually annotated 58 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 14 was manually annotated 1 time for cluster G2.

Info for manual annotations of cluster G3:

- Start number 13 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 13 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 13 was manually annotated 2 times for cluster G5.

Info for manual annotations of cluster K1:

- Start number 13 was manually annotated 91 times for cluster K1.
- Start number 14 was manually annotated 16 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 12 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 13 was manually annotated 9 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 14 was manually annotated 15 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 13 was manually annotated 1 time for cluster K7.

## Gene Information:

Gene: ActinUp\_21 Start: 12079, Stop: 15918, Start Num: 13

Candidate Starts for ActinUp\_21:

(Start: 13 @12079 has 165 MA's), (22, 12148), (28, 12235), (55, 12412), (61, 12439), (76, 12511), (77, 12523), (78, 12532), (88, 12604), (101, 12679), (119, 12763), (121, 12772), (125, 12793), (131, 12832), (141, 12910), (153, 12988), (166, 13078), (177, 13153), (189, 13246), (190, 13255), (192, 13267), (193, 13276), (239, 13537), (244, 13552), (253, 13585), (273, 13672), (279, 13696), (294, 13780), (304, 13864), (307, 13876), (311, 13897), (374, 14053), (386, 14134), (395, 14182), (398, 14200), (401, 14221), (406, 14257), (411, 14308), (421, 14365), (431, 14443), (433, 14452), (446, 14530), (452, 14587), (457, 14641), (476, 14881), (484, 14956), (496, 15067), (506, 15286), (508,

15298), (523, 15487), (524, 15496), (533, 15568), (539, 15598), (547, 15619), (562, 15739), (573, 15811), (574, 15829), (575, 15835),

Gene: Adephagia\_21 Start: 12079, Stop: 15915, Start Num: 13

Candidate Starts for Adephagia\_21:

(Start: 13 @12079 has 165 MA's), (22, 12148), (28, 12235), (55, 12412), (61, 12439), (76, 12511), (77, 12523), (78, 12532), (88, 12604), (101, 12679), (119, 12763), (121, 12772), (125, 12793), (131, 12832), (141, 12910), (153, 12988), (166, 13078), (177, 13153), (189, 13246), (190, 13255), (192, 13267), (193, 13276), (239, 13537), (244, 13552), (253, 13585), (273, 13672), (279, 13696), (294, 13780), (304, 13864), (307, 13876), (311, 13897), (374, 14053), (386, 14134), (395, 14182), (398, 14200), (401, 14221), (406, 14257), (411, 14308), (421, 14365), (431, 14443), (433, 14452), (446, 14530), (452, 14587), (457, 14641), (476, 14881), (484, 14956), (496, 15067), (506, 15286), (508, 15298), (523, 15484), (524, 15493), (533, 15565), (539, 15595), (547, 15616), (562, 15736), (573, 15808), (574, 15826), (575, 15832),

Gene: Adonis\_21 Start: 12088, Stop: 15921, Start Num: 13

Candidate Starts for Adonis\_21:

(3, 11869), (10, 12049), (Start: 13 @12088 has 165 MA's), (22, 12157), (28, 12244), (55, 12421), (61, 12448), (77, 12532), (78, 12541), (88, 12613), (101, 12688), (119, 12772), (121, 12781), (125, 12802), (131, 12841), (141, 12919), (153, 12997), (166, 13087), (177, 13162), (189, 13255), (190, 13264), (192, 13276), (193, 13285), (224, 13468), (234, 13522), (244, 13561), (253, 13594), (273, 13681), (279, 13705), (294, 13789), (304, 13873), (307, 13885), (311, 13906), (374, 14062), (386, 14143), (395, 14191), (398, 14209), (401, 14230), (406, 14266), (411, 14317), (421, 14374), (431, 14452), (433, 14461), (446, 14539), (452, 14596), (457, 14650), (476, 14890), (484, 14965), (496, 15076), (506, 15295), (508, 15307), (523, 15490), (524, 15499), (539, 15601), (547, 15622), (562, 15742), (573, 15814), (574, 15832), (575, 15838),

Gene: Ageofdapage\_21 Start: 12015, Stop: 15848, Start Num: 13

Candidate Starts for Ageofdapage\_21:

(Start: 13 @12015 has 165 MA's), (22, 12084), (28, 12171), (55, 12351), (61, 12378), (77, 12462), (78, 12471), (87, 12531), (88, 12543), (101, 12618), (110, 12660), (119, 12702), (121, 12711), (125, 12732), (131, 12771), (141, 12849), (153, 12927), (177, 13092), (189, 13185), (192, 13206), (193, 13215), (234, 13452), (239, 13476), (244, 13491), (253, 13524), (273, 13611), (294, 13719), (304, 13803), (307, 13815), (311, 13836), (319, 13917), (374, 13992), (386, 14073), (388, 14082), (395, 14121), (398, 14139), (401, 14160), (406, 14196), (411, 14247), (421, 14304), (431, 14382), (433, 14391), (446, 14469), (448, 14484), (452, 14526), (457, 14580), (476, 14820), (484, 14895), (496, 15006), (506, 15225), (515, 15339), (523, 15420), (524, 15429), (533, 15501), (539, 15531), (547, 15552), (562, 15669), (573, 15741), (575, 15765),

Gene: AizenPogi\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for AizenPogi\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: AlishaPH\_21 Start: 12075, Stop: 15908, Start Num: 13

Candidate Starts for AlishaPH\_21:

(Start: 13 @12075 has 165 MA's), (22, 12144), (28, 12231), (35, 12306), (55, 12408), (61, 12435), (76, 12507), (77, 12519), (78, 12528), (88, 12600), (101, 12675), (119, 12759), (121, 12768), (125, 12789), (131, 12828), (141, 12906), (153, 12984), (166, 13074), (177, 13149), (189, 13242), (190, 13251), (192, 13263), (193, 13272), (234, 13509), (244, 13548), (253, 13581), (273, 13668), (279, 13692), (294, 13776), (304, 13860), (307, 13872), (311, 13893), (374, 14049), (386, 14130), (395, 14178), (398, 14196), (401, 14217), (406, 14253), (411, 14304), (421, 14361), (431, 14439), (433, 14448), (446, 14526), (448, 14541), (452, 14583), (457, 14637), (476, 14877), (484, 14952), (496, 15063), (506, 15282), (508, 15294), (523, 15477), (524, 15486), (533, 15558), (539, 15588), (547, 15609), (562, 15729), (573, 15801), (574, 15819), (575, 15825),

Gene: Amelie\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Amelie\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: Aminay\_19 Start: 11993, Stop: 16294, Start Num: 13

Candidate Starts for Aminay\_19:

(Start: 13 @11993 has 165 MA's), (15, 12002), (21, 12041), (23, 12083), (28, 12149), (30, 12194), (51, 12308), (63, 12356), (74, 12395), (75, 12398), (77, 12434), (87, 12503), (88, 12515), (92, 12530), (93, 12536), (121, 12683), (125, 12704), (131, 12743), (132, 12746), (141, 12821), (148, 12866), (153, 12899), (157, 12923), (166, 12989), (167, 12992), (171, 13010), (173, 13019), (175, 13052), (179, 13076), (182, 13097), (198, 13214), (220, 13355), (221, 13358), (224, 13367), (234, 13421), (235, 13427), (242, 13457), (252, 13490), (259, 13514), (266, 13541), (273, 13580), (276, 13595), (278, 13601), (283, 13628), (290, 13688), (293, 13706), (297, 13736), (300, 13757), (307, 13805), (308, 13808), (309, 13814), (311, 13826), (318, 13904), (329, 14030), (339, 14099), (343, 14117), (348, 14150), (349, 14153), (353, 14180), (364, 14234), (374, 14288), (377, 14327), (378, 14348), (382, 14372), (387, 14420), (396, 14480), (397, 14489), (405, 14546), (408, 14579), (409, 14588), (416, 14630), (422, 14696), (431, 14777), (433, 14786), (459, 14993), (476, 15194), (484, 15269), (490, 15299), (501, 15485), (516, 15749), (519, 15794), (523, 15821), (537, 15947), (540, 15965), (545, 15986), (554, 16043), (555, 16046), (561, 16118), (576, 16220), (578, 16244), (583, 16283),

Gene: Anaya\_22 Start: 12098, Stop: 15934, Start Num: 13

Candidate Starts for Anaya\_22:

(Start: 13 @12098 has 165 MA's), (22, 12167), (28, 12254), (55, 12431), (61, 12458), (76, 12530), (77, 12542), (78, 12551), (88, 12623), (101, 12698), (107, 12728), (119, 12782), (121, 12791), (125, 12812), (131, 12851), (141, 12929), (147, 12971), (153, 13007), (157, 13031), (166, 13097), (177, 13172), (189, 13265), (190, 13274), (192, 13286), (193, 13295), (234, 13532), (239, 13556), (244, 13571), (253, 13604), (273, 13691), (279, 13715), (294, 13799), (304, 13883), (307, 13895), (311, 13916), (374, 14072), (386, 14153), (398, 14219), (401, 14240), (406, 14276), (411, 14327), (421, 14384), (431, 14462), (433, 14471), (446, 14549), (452, 14606), (457, 14660), (476, 14900), (484, 14975), (485, 14981), (496, 15086), (506, 15305), (523, 15503), (524, 15512), (539, 15614), (547, 15635), (557, 15710), (562, 15755), (573, 15827), (574, 15845), (575, 15851),

Gene: Angel\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Angel\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Angelica\_21 Start: 12050, Stop: 15883, Start Num: 13

Candidate Starts for Angelica\_21:

(Start: 13 @12050 has 165 MA's), (22, 12119), (28, 12206), (55, 12383), (61, 12410), (77, 12494), (78, 12503), (88, 12575), (101, 12650), (119, 12734), (121, 12743), (125, 12764), (131, 12803), (141, 12881), (153, 12959), (166, 13049), (177, 13124), (189, 13217), (192, 13238), (193, 13247), (234, 13484), (244, 13523), (253, 13556), (273, 13643), (279, 13667), (294, 13751), (304, 13835), (307, 13847), (311, 13868), (374, 14024), (386, 14105), (395, 14153), (398, 14171), (401, 14192), (406, 14228), (411, 14279), (421, 14336), (431, 14414), (433, 14423), (446, 14501), (448, 14516), (452, 14558), (457, 14612), (476, 14852), (484, 14927), (496, 15038), (506, 15257), (508, 15269), (523, 15452), (524, 15461), (539, 15563), (547, 15584), (562, 15704), (573, 15776), (574, 15794), (575, 15800),

Gene: Anma\_21 Start: 12024, Stop: 15863, Start Num: 13

Candidate Starts for Anma\_21:

(Start: 13 @12024 has 165 MA's), (22, 12093), (28, 12180), (55, 12360), (61, 12387), (77, 12471), (78, 12480), (87, 12540), (88, 12552), (101, 12627), (112, 12678), (121, 12720), (125, 12741), (131, 12780), (141, 12858), (153, 12936), (157, 12960), (177, 13101), (189, 13194), (192, 13215), (193, 13224), (234, 13461), (239, 13485), (244, 13500), (253, 13533), (273, 13620), (290, 13707), (294, 13728), (304, 13812), (307, 13824), (311, 13845), (374, 14001), (386, 14082), (398, 14148), (401, 14169), (406, 14205), (411, 14256), (417, 14274), (421, 14313), (431, 14391), (446, 14478), (448, 14493), (452, 14535), (457, 14589), (476, 14829), (484, 14904), (496, 15015), (497, 15036), (498, 15057), (504, 15177), (515, 15351), (523, 15432), (524, 15441), (533, 15513), (539, 15543), (547, 15564), (562, 15684), (573, 15756), (574, 15774), (575, 15780),

Gene: Annihilator\_16 Start: 11455, Stop: 15468, Start Num: 13

Candidate Starts for Annihilator\_16:

(Start: 13 @11455 has 165 MA's), (30, 11656), (51, 11770), (61, 11812), (69, 11842), (88, 11977), (91, 11989), (93, 11998), (128, 12187), (131, 12205), (132, 12208), (133, 12229), (134, 12241), (145, 12313), (153, 12361), (174, 12493), (176, 12517), (185, 12598), (208, 12721), (218, 12805), (227, 12841), (234, 12886), (235, 12892), (264, 13000), (269, 13024), (273, 13045), (310, 13264), (324, 13414), (332, 13501), (351, 13609), (374, 13744), (392, 13855), (395, 13873), (400, 13903), (430, 14125), (436, 14149), (438, 14164), (441, 14185), (446, 14212), (450, 14239), (455, 14299), (462, 14389), (465, 14422), (472, 14485), (474, 14542), (476, 14575), (477, 14584), (517, 15088), (518, 15115), (521, 15145), (523, 15157), (524, 15166), (539, 15235), (556, 15316), (560, 15376), (563, 15394), (565, 15403),

Gene: Antsirabe\_16 Start: 11833, Stop: 15810, Start Num: 13

Candidate Starts for Antsirabe\_16:

(Start: 13 @11833 has 165 MA's), (24, 11926), (33, 12046), (43, 12109), (48, 12127), (62, 12190), (72, 12226), (80, 12298), (82, 12304), (86, 12331), (89, 12349), (96, 12394), (105, 12430), (108, 12445), (132, 12568), (135, 12610), (138, 12625), (144, 12661), (153, 12724), (156, 12745), (168, 12817), (171, 12835), (188, 12976), (194, 13018), (201, 13048), (202, 13051), (204, 13060), (206, 13069), (211, 13111), (223, 13183), (225, 13189), (228, 13204), (231, 13222), (232, 13225), (238, 13258),

(246, 13285), (260, 13330), (273, 13393), (279, 13417), (281, 13429), (282, 13432), (301, 13561), (307, 13603), (308, 13606), (320, 13708), (324, 13768), (328, 13819), (340, 13903), (352, 13966), (360, 14023), (370, 14074), (373, 14092), (374, 14098), (382, 14149), (389, 14191), (403, 14287), (426, 14410), (428, 14428), (436, 14494), (438, 14509), (449, 14575), (453, 14629), (455, 14644), (460, 14725), (462, 14734), (472, 14827), (473, 14881), (474, 14884), (476, 14917), (486, 14992), (517, 15454), (518, 15481), (523, 15523), (537, 15610), (538, 15613), (542, 15631), (544, 15634), (560, 15718), (563, 15736),

Gene: Apocalypse\_21 Start: 12053, Stop: 15886, Start Num: 13

Candidate Starts for Apocalypse\_21:

(Start: 13 @12053 has 165 MA's), (22, 12122), (28, 12209), (55, 12386), (61, 12413), (77, 12497), (78, 12506), (88, 12578), (101, 12653), (119, 12737), (121, 12746), (125, 12767), (131, 12806), (141, 12884), (153, 12962), (157, 12986), (166, 13052), (177, 13127), (189, 13220), (190, 13229), (192, 13241), (193, 13250), (234, 13487), (244, 13526), (253, 13559), (273, 13646), (279, 13670), (294, 13754), (304, 13838), (307, 13850), (311, 13871), (374, 14027), (386, 14108), (390, 14132), (395, 14156), (398, 14174), (401, 14195), (406, 14231), (411, 14282), (421, 14339), (431, 14417), (433, 14426), (446, 14504), (448, 14519), (452, 14561), (457, 14615), (476, 14855), (484, 14930), (496, 15041), (506, 15260), (508, 15272), (523, 15455), (524, 15464), (533, 15536), (539, 15566), (547, 15587), (562, 15707), (573, 15779), (574, 15797), (575, 15803),

Gene: Aroostook\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Aroostook\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Asayake\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Asayake\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Atiba\_21 Start: 12042, Stop: 15878, Start Num: 13

Candidate Starts for Atiba\_21:

(Start: 13 @12042 has 165 MA's), (22, 12111), (28, 12198), (55, 12375), (61, 12402), (76, 12474), (77, 12486), (78, 12495), (88, 12567), (101, 12642), (119, 12726), (121, 12735), (125, 12756), (131, 12795), (141, 12873), (153, 12951), (166, 13041), (177, 13116), (189, 13209), (190, 13218), (192, 13230), (193, 13239), (239, 13500), (244, 13515), (253, 13548), (273, 13635), (279, 13659), (294, 13743), (304, 13827), (307, 13839), (311, 13860), (374, 14016), (386, 14097), (395, 14145), (398, 14163), (401, 14184), (406, 14220), (411, 14271), (421, 14328), (431, 14406), (433, 14415), (446, 14493), (452, 14550), (457, 14604), (476, 14844), (484, 14919), (496, 15030), (506, 15249), (508,

15261), (523, 15447), (524, 15456), (533, 15528), (539, 15558), (547, 15579), (562, 15699), (573, 15771), (574, 15789), (575, 15795),

Gene: Avrafan\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Avrafan\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: AzulaCat\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for AzulaCat\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: BEEST\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for BEEST\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: BGlluviae\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for BGlluviae\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: BPs\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for BPs\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: BQuat\_16 Start: 11455, Stop: 15468, Start Num: 13

Candidate Starts for BQuat\_16:

(Start: 13 @11455 has 165 MA's), (30, 11656), (51, 11770), (61, 11812), (69, 11842), (88, 11977), (91, 11989), (93, 11998), (128, 12187), (131, 12205), (132, 12208), (133, 12229), (134, 12241), (145, 12313), (153, 12361), (174, 12493), (176, 12517), (185, 12598), (208, 12721), (218, 12805), (227, 12841), (234, 12886), (235, 12892), (264, 13000), (269, 13024), (273, 13045), (310, 13264), (324, 13414), (332, 13501), (351, 13609), (374, 13744), (392, 13855), (395, 13873), (400, 13903), (430, 14125), (436, 14149), (438, 14164), (441, 14185), (446, 14212), (450, 14239), (455, 14299), (462, 14389), (465, 14422), (472, 14485), (474, 14542), (476, 14575), (477, 14584), (517, 15088), (518, 15115), (521, 15145), (523, 15157), (524, 15166), (539, 15235), (556, 15316), (560, 15376), (563, 15394), (565, 15403),

Gene: BaghaKamala\_21 Start: 12045, Stop: 15878, Start Num: 13

Candidate Starts for BaghaKamala\_21:

(Start: 13 @12045 has 165 MA's), (22, 12114), (28, 12201), (35, 12276), (55, 12378), (61, 12405), (76, 12477), (77, 12489), (78, 12498), (88, 12570), (101, 12645), (119, 12729), (121, 12738), (125, 12759), (131, 12798), (134, 12834), (141, 12876), (153, 12954), (166, 13044), (177, 13119), (189, 13212), (190, 13221), (192, 13233), (193, 13242), (234, 13479), (244, 13518), (253, 13551), (273, 13638), (279, 13662), (294, 13746), (304, 13830), (307, 13842), (311, 13863), (374, 14019), (386, 14100), (395, 14148), (398, 14166), (401, 14187), (406, 14223), (411, 14274), (421, 14331), (431, 14409), (433, 14418), (446, 14496), (448, 14511), (452, 14553), (457, 14607), (476, 14847), (484, 14922), (496, 15033), (506, 15252), (508, 15264), (523, 15447), (524, 15456), (533, 15528), (539, 15558), (547, 15579), (562, 15699), (573, 15771), (574, 15789), (575, 15795),

Gene: Barkley26\_16 Start: 11464, Stop: 15480, Start Num: 13

Candidate Starts for Barkley26\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15100), (518, 15127), (521, 15157), (523, 15169), (524, 15178), (539, 15247), (556, 15328), (560, 15388), (563, 15406), (565, 15415),

Gene: BarrelRoll\_21 Start: 12068, Stop: 15901, Start Num: 13

Candidate Starts for BarrelRoll\_21:

(Start: 13 @12068 has 165 MA's), (22, 12137), (28, 12224), (35, 12299), (55, 12401), (61, 12428), (76, 12500), (77, 12512), (78, 12521), (88, 12593), (101, 12668), (119, 12752), (121, 12761), (125, 12782), (131, 12821), (134, 12857), (141, 12899), (153, 12977), (166, 13067), (177, 13142), (189, 13235), (190, 13244), (192, 13256), (193, 13265), (234, 13502), (244, 13541), (253, 13574), (273, 13661), (279, 13685), (294, 13769), (304, 13853), (307, 13865), (311, 13886), (374, 14042), (386, 14123),

(395, 14171), (398, 14189), (401, 14210), (406, 14246), (411, 14297), (421, 14354), (431, 14432), (433, 14441), (446, 14519), (448, 14534), (452, 14576), (457, 14630), (476, 14870), (484, 14945), (496, 15056), (506, 15275), (508, 15287), (523, 15470), (524, 15479), (533, 15551), (539, 15581), (547, 15602), (562, 15722), (573, 15794), (574, 15812), (575, 15818),

Gene: Beezoo\_21 Start: 12092, Stop: 15925, Start Num: 13

Candidate Starts for Beezoo\_21:

(Start: 13 @12092 has 165 MA's), (22, 12161), (23, 12182), (28, 12248), (55, 12425), (61, 12452), (76, 12524), (77, 12536), (78, 12545), (88, 12617), (101, 12692), (119, 12776), (121, 12785), (125, 12806), (131, 12845), (141, 12923), (153, 13001), (166, 13091), (177, 13166), (189, 13259), (190, 13268), (192, 13280), (193, 13289), (234, 13526), (244, 13565), (253, 13598), (273, 13685), (279, 13709), (294, 13793), (304, 13877), (307, 13889), (308, 13892), (311, 13910), (374, 14066), (386, 14147), (395, 14195), (398, 14213), (401, 14234), (406, 14270), (411, 14321), (421, 14378), (431, 14456), (433, 14465), (446, 14543), (448, 14558), (452, 14600), (457, 14654), (476, 14894), (484, 14969), (496, 15080), (506, 15299), (508, 15311), (523, 15494), (524, 15503), (539, 15605), (547, 15626), (562, 15746), (573, 15818), (574, 15836), (575, 15842),

Gene: Bella96\_21 Start: 12006, Stop: 15845, Start Num: 13

Candidate Starts for Bella96\_21:

(Start: 13 @12006 has 165 MA's), (22, 12075), (28, 12162), (55, 12342), (61, 12369), (77, 12453), (78, 12462), (87, 12522), (88, 12534), (101, 12609), (110, 12651), (119, 12693), (121, 12702), (125, 12723), (131, 12762), (132, 12765), (141, 12840), (153, 12918), (177, 13083), (189, 13176), (192, 13197), (193, 13206), (234, 13443), (239, 13467), (244, 13482), (253, 13515), (273, 13602), (290, 13689), (294, 13710), (304, 13794), (307, 13806), (311, 13827), (374, 13983), (386, 14064), (398, 14130), (401, 14151), (406, 14187), (411, 14238), (417, 14256), (421, 14295), (431, 14373), (433, 14382), (446, 14460), (448, 14475), (452, 14517), (457, 14571), (476, 14811), (484, 14886), (496, 14997), (497, 15018), (498, 15039), (504, 15159), (515, 15333), (523, 15414), (524, 15423), (533, 15495), (539, 15525), (547, 15546), (562, 15666), (573, 15738), (574, 15756), (575, 15762),

Gene: Bern\_21 Start: 12034, Stop: 15873, Start Num: 13

Candidate Starts for Bern\_21:

(Start: 13 @12034 has 165 MA's), (22, 12103), (28, 12190), (55, 12370), (61, 12397), (77, 12481), (87, 12550), (88, 12562), (101, 12637), (112, 12688), (121, 12730), (125, 12751), (131, 12790), (141, 12868), (153, 12946), (177, 13111), (189, 13204), (192, 13225), (193, 13234), (234, 13471), (239, 13495), (244, 13510), (253, 13543), (273, 13630), (290, 13717), (294, 13738), (304, 13822), (307, 13834), (310, 13849), (311, 13855), (386, 14092), (395, 14140), (398, 14158), (401, 14179), (406, 14215), (408, 14233), (411, 14266), (431, 14401), (433, 14410), (446, 14488), (448, 14503), (452, 14545), (457, 14599), (476, 14839), (484, 14914), (496, 15025), (497, 15046), (498, 15067), (504, 15187), (515, 15361), (523, 15442), (524, 15451), (533, 15523), (539, 15553), (547, 15574), (562, 15694), (573, 15766), (574, 15784), (575, 15790),

Gene: Biglebops\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Biglebops\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: Blizzard\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Blizzard\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Boiiii\_21 Start: 12118, Stop: 15951, Start Num: 13

Candidate Starts for Boiiii\_21:

(Start: 13 @12118 has 165 MA's), (22, 12187), (28, 12274), (35, 12349), (55, 12451), (61, 12478), (76, 12550), (77, 12562), (78, 12571), (88, 12643), (101, 12718), (119, 12802), (121, 12811), (125, 12832), (131, 12871), (134, 12907), (141, 12949), (153, 13027), (166, 13117), (177, 13192), (189, 13285), (190, 13294), (192, 13306), (193, 13315), (234, 13552), (244, 13591), (253, 13624), (273, 13711), (279, 13735), (294, 13819), (304, 13903), (307, 13915), (311, 13936), (374, 14092), (386, 14173), (395, 14221), (398, 14239), (401, 14260), (406, 14296), (411, 14347), (421, 14404), (431, 14482), (433, 14491), (446, 14569), (448, 14584), (452, 14626), (457, 14680), (476, 14920), (484, 14995), (496, 15106), (506, 15325), (508, 15337), (523, 15520), (524, 15529), (533, 15601), (539, 15631), (547, 15652), (562, 15772), (573, 15844), (574, 15862), (575, 15868),

Gene: BoostSeason\_17 Start: 10144, Stop: 13818, Start Num: 12

Candidate Starts for BoostSeason\_17:

(Start: 12 @10144 has 10 MA's), (22, 10216), (65, 10450), (76, 10501), (88, 10594), (101, 10669), (121, 10762), (125, 10783), (128, 10804), (129, 10810), (141, 10900), (147, 10942), (153, 10978), (160, 11011), (161, 11023), (164, 11047), (166, 11068), (172, 11092), (173, 11098), (176, 11134), (177, 11143), (182, 11176), (183, 11188), (185, 11215), (218, 11398), (219, 11410), (221, 11416), (230, 11455), (234, 11479), (241, 11512), (259, 11530), (262, 11539), (292, 11572), (315, 11761), (316, 11767), (321, 11803), (326, 11830), (330, 11848), (337, 11866), (362, 11974), (371, 12007), (381, 12040), (393, 12094), (398, 12127), (401, 12148), (404, 12172), (409, 12202), (412, 12223), (452, 12445), (459, 12538), (469, 12616), (476, 12739), (493, 12892), (515, 13309), (516, 13318), (518, 13348), (526, 13408), (541, 13516), (562, 13648), (575, 13741),

Gene: BruceB\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for BruceB\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Bryler\_20 Start: 11095, Stop: 15096, Start Num: 14

Candidate Starts for Bryler\_20:

(Start: 14 @11095 has 32 MA's), (25, 11188), (31, 11293), (36, 11320), (40, 11347), (43, 11365), (48, 11383), (53, 11407), (54, 11413), (60, 11440), (62, 11446), (72, 11482), (75, 11491), (76, 11515), (86, 11587), (89, 11605), (90, 11608), (115, 11737), (135, 11854), (150, 11950), (156, 11989), (162,

12019), (171, 12079), (194, 12262), (195, 12268), (196, 12271), (207, 12325), (211, 12355), (219, 12415), (223, 12427), (225, 12433), (228, 12448), (232, 12469), (235, 12487), (271, 12625), (273, 12637), (278, 12658), (286, 12697), (306, 12751), (307, 12757), (323, 12919), (329, 12982), (342, 13063), (345, 13078), (352, 13120), (359, 13171), (363, 13192), (368, 13222), (370, 13228), (374, 13252), (382, 13303), (392, 13363), (401, 13420), (406, 13456), (408, 13474), (411, 13507), (431, 13648), (432, 13651), (446, 13735), (450, 13762), (457, 13846), (476, 14086), (484, 14161), (507, 14494), (515, 14596), (516, 14605), (523, 14677), (533, 14761), (539, 14791), (547, 14812), (562, 14929), (573, 15004), (577, 15043), (578, 15055),

Gene: CLED96\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for CLED96\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: CREW\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for CREW\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Cain\_20 Start: 11083, Stop: 15084, Start Num: 14

Candidate Starts for Cain\_20:

(Start: 14 @11083 has 32 MA's), (25, 11176), (31, 11281), (36, 11308), (40, 11335), (43, 11353), (48, 11371), (53, 11395), (54, 11401), (60, 11428), (62, 11434), (72, 11470), (75, 11479), (76, 11503), (86, 11575), (89, 11593), (90, 11596), (115, 11725), (135, 11842), (150, 11938), (156, 11977), (162, 12007), (171, 12067), (194, 12250), (195, 12256), (196, 12259), (207, 12313), (211, 12343), (219, 12403), (223, 12415), (225, 12421), (228, 12436), (232, 12457), (235, 12475), (271, 12613), (273, 12625), (278, 12646), (286, 12685), (306, 12739), (307, 12745), (323, 12907), (329, 12970), (342, 13051), (345, 13066), (352, 13108), (359, 13159), (363, 13180), (368, 13210), (370, 13216), (374, 13240), (382, 13291), (392, 13351), (401, 13408), (406, 13444), (408, 13462), (411, 13495), (431, 13636), (432, 13639), (446, 13723), (450, 13750), (457, 13834), (476, 14074), (484, 14149), (507, 14482), (515, 14584), (516, 14593), (523, 14665), (533, 14749), (539, 14779), (547, 14800), (562, 14917), (573, 14992), (577, 15031), (578, 15043),

Gene: CallaLilly\_21 Start: 12039, Stop: 15872, Start Num: 13

Candidate Starts for CallaLilly\_21:

(Start: 13 @12039 has 165 MA's), (22, 12108), (23, 12129), (28, 12195), (55, 12372), (61, 12399), (76, 12471), (77, 12483), (78, 12492), (88, 12564), (101, 12639), (119, 12723), (121, 12732), (125, 12753), (131, 12792), (134, 12828), (141, 12870), (153, 12948), (166, 13038), (177, 13113), (189, 13206), (190, 13215), (192, 13227), (193, 13236), (234, 13473), (244, 13512), (253, 13545), (273, 13632),

(279, 13656), (294, 13740), (304, 13824), (307, 13836), (311, 13857), (374, 14013), (386, 14094), (395, 14142), (398, 14160), (401, 14181), (406, 14217), (411, 14268), (421, 14325), (431, 14403), (433, 14412), (446, 14490), (448, 14505), (452, 14547), (457, 14601), (476, 14841), (484, 14916), (496, 15027), (506, 15246), (508, 15258), (523, 15441), (524, 15450), (533, 15522), (539, 15552), (547, 15573), (562, 15693), (573, 15765), (574, 15783), (575, 15789),

Gene: Cambiare\_17 Start: 12153, Stop: 16196, Start Num: 14

Candidate Starts for Cambiare\_17:

(Start: 14 @12153 has 32 MA's), (24, 12246), (27, 12276), (37, 12423), (57, 12507), (68, 12555), (88, 12693), (93, 12714), (101, 12768), (121, 12861), (125, 12882), (128, 12903), (131, 12921), (133, 12945), (134, 12957), (145, 13029), (148, 13044), (153, 13077), (174, 13209), (176, 13233), (179, 13254), (183, 13287), (185, 13314), (192, 13356), (200, 13404), (219, 13542), (220, 13545), (230, 13587), (246, 13656), (247, 13659), (265, 13728), (273, 13770), (288, 13848), (305, 13965), (307, 13974), (310, 13989), (316, 14070), (320, 14079), (324, 14139), (335, 14253), (347, 14307), (351, 14334), (359, 14388), (361, 14397), (368, 14439), (373, 14463), (374, 14469), (379, 14499), (382, 14520), (385, 14538), (393, 14583), (425, 14790), (427, 14805), (433, 14853), (436, 14874), (438, 14889), (442, 14913), (448, 14952), (449, 14955), (450, 14964), (451, 14991), (453, 15006), (458, 15057), (459, 15084), (471, 15189), (476, 15285), (484, 15360), (498, 15504), (509, 15705), (517, 15789), (518, 15816), (521, 15846), (523, 15858), (556, 16044), (563, 16122),

Gene: Camri\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Camri\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Capricorn\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Capricorn\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: CaseJules\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for CaseJules\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993),

(496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: CassieYates\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for CassieYates\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Cedasite\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Cedasite\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Chance64\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Chance64\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Chavito\_21 Start: 11138, Stop: 15292, Start Num: 14

Candidate Starts for Chavito\_21:

(9, 11090), (Start: 14 @11138 has 32 MA's), (25, 11231), (40, 11390), (45, 11417), (66, 11507), (67, 11510), (80, 11597), (97, 11705), (98, 11708), (113, 11774), (132, 11876), (135, 11918), (138, 11933), (139, 11942), (144, 11969), (149, 11999), (153, 12032), (161, 12074), (171, 12143), (194, 12329), (195, 12335), (204, 12371), (206, 12380), (207, 12392), (209, 12404), (211, 12422), (219, 12482), (223, 12494), (225, 12500), (228, 12515), (231, 12533), (232, 12536), (235, 12554), (238, 12569), (249, 12608), (266, 12665), (267, 12674), (273, 12704), (278, 12725), (284, 12755), (295, 12824), (298, 12845), (301, 12872), (304, 12902), (307, 12914), (319, 13016), (325, 13094), (329, 13139), (331, 13163), (341, 13217), (342, 13220), (345, 13235), (346, 13238), (352, 13277), (356, 13304), (359, 13328), (360, 13334), (384, 13469), (385, 13478), (390, 13514), (392, 13520), (395, 13538), (399, 13565), (401, 13577), (408, 13631), (411, 13664), (422, 13724), (431, 13805), (432, 13808), (446, 13892), (448, 13907), (459, 14042), (468, 14108), (476, 14243), (501, 14516), (503, 14591), (523, 14852), (524, 14861), (530, 14924), (554, 15047), (562, 15119), (566, 15140), (573, 15191),

(574, 15209), (575, 15215), (579, 15254),

Gene: CheetoDust\_21 Start: 12093, Stop: 15926, Start Num: 13

Candidate Starts for CheetoDust\_21:

(Start: 13 @12093 has 165 MA's), (22, 12162), (28, 12249), (55, 12426), (61, 12453), (76, 12525), (77, 12537), (78, 12546), (88, 12618), (101, 12693), (119, 12777), (121, 12786), (125, 12807), (131, 12846), (141, 12924), (153, 13002), (157, 13026), (166, 13092), (177, 13167), (189, 13260), (190, 13269), (192, 13281), (193, 13290), (234, 13527), (244, 13566), (253, 13599), (273, 13686), (279, 13710), (294, 13794), (304, 13878), (307, 13890), (311, 13911), (374, 14067), (386, 14148), (390, 14172), (395, 14196), (398, 14214), (401, 14235), (406, 14271), (411, 14322), (421, 14379), (431, 14457), (433, 14466), (446, 14544), (448, 14559), (452, 14601), (457, 14655), (476, 14895), (484, 14970), (496, 15081), (506, 15300), (508, 15312), (523, 15495), (524, 15504), (533, 15576), (539, 15606), (547, 15627), (562, 15747), (573, 15819), (574, 15837), (575, 15843),

Gene: Cherrybomb426\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Cherrybomb426\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Chris\_20 Start: 11071, Stop: 15138, Start Num: 14

Candidate Starts for Chris\_20:

(Start: 14 @11071 has 32 MA's), (25, 11164), (36, 11296), (40, 11323), (41, 11332), (42, 11338), (64, 11434), (86, 11563), (89, 11581), (90, 11584), (94, 11611), (98, 11641), (115, 11722), (122, 11752), (126, 11776), (135, 11839), (138, 11854), (152, 11950), (153, 11953), (161, 11995), (171, 12064), (194, 12247), (196, 12256), (206, 12298), (207, 12310), (219, 12400), (223, 12412), (225, 12418), (228, 12433), (231, 12451), (232, 12454), (237, 12484), (238, 12487), (271, 12610), (273, 12622), (274, 12628), (278, 12643), (280, 12649), (305, 12733), (312, 12802), (329, 12967), (334, 13015), (338, 13030), (352, 13105), (359, 13156), (363, 13177), (370, 13213), (374, 13237), (379, 13267), (398, 13384), (400, 13396), (401, 13405), (408, 13459), (411, 13492), (421, 13549), (431, 13627), (432, 13630), (446, 13714), (450, 13741), (454, 13789), (457, 13825), (459, 13864), (471, 13969), (476, 14065), (479, 14107), (484, 14140), (506, 14482), (523, 14680), (535, 14794), (562, 14968), (573, 15052), (575, 15073),

Gene: Clipper\_21 Start: 12093, Stop: 15926, Start Num: 13

Candidate Starts for Clipper\_21:

(Start: 13 @12093 has 165 MA's), (22, 12162), (28, 12249), (55, 12426), (61, 12453), (77, 12537), (78, 12546), (88, 12618), (101, 12693), (119, 12777), (121, 12786), (125, 12807), (131, 12846), (141, 12924), (153, 13002), (166, 13092), (177, 13167), (189, 13260), (190, 13269), (192, 13281), (193, 13290), (234, 13527), (244, 13566), (253, 13599), (273, 13686), (279, 13710), (294, 13794), (304, 13878), (307, 13890), (311, 13911), (374, 14067), (386, 14148), (390, 14172), (395, 14196), (398, 14214), (401, 14235), (406, 14271), (411, 14322), (421, 14379), (431, 14457), (433, 14466), (446, 14544), (448, 14559), (452, 14601), (457, 14655), (476, 14895), (484, 14970), (496, 15081), (506, 15300), (508, 15312), (523, 15495), (524, 15504), (533, 15576), (539, 15606), (547, 15627), (562, 15747), (573, 15819), (574, 15837), (575, 15843),

Gene: Cloudyecho\_16 Start: 11718, Stop: 15656, Start Num: 13

Candidate Starts for Cloudyecho\_16:

(Start: 13 @11718 has 165 MA's), (24, 11811), (25, 11814), (30, 11919), (31, 11922), (34, 11937), (41, 11985), (48, 12012), (54, 12042), (60, 12069), (82, 12189), (84, 12204), (86, 12216), (89, 12234), (96, 12279), (114, 12357), (115, 12366), (132, 12453), (135, 12495), (138, 12510), (143, 12540), (153, 12609), (155, 12621), (171, 12720), (184, 12834), (188, 12861), (194, 12903), (201, 12933), (206, 12954), (211, 12996), (223, 13068), (225, 13074), (228, 13089), (231, 13107), (232, 13110), (246, 13170), (260, 13215), (266, 13239), (269, 13257), (273, 13278), (279, 13302), (281, 13314), (282, 13317), (291, 13374), (301, 13446), (307, 13488), (319, 13590), (322, 13647), (335, 13767), (340, 13788), (360, 13908), (370, 13959), (382, 14034), (389, 14076), (399, 14139), (403, 14172), (426, 14295), (436, 14379), (438, 14394), (442, 14418), (449, 14460), (450, 14469), (453, 14514), (455, 14529), (460, 14610), (462, 14619), (472, 14712), (473, 14766), (474, 14769), (476, 14802), (517, 15270), (518, 15297), (520, 15324), (523, 15339), (524, 15348), (560, 15564), (563, 15582), (568, 15621),

Gene: Coleslaw\_16 Start: 11455, Stop: 15468, Start Num: 13

Candidate Starts for Coleslaw\_16:

(Start: 13 @11455 has 165 MA's), (30, 11656), (51, 11770), (61, 11812), (69, 11842), (88, 11977), (91, 11989), (93, 11998), (128, 12187), (131, 12205), (132, 12208), (133, 12229), (134, 12241), (145, 12313), (153, 12361), (174, 12493), (176, 12517), (185, 12598), (208, 12721), (218, 12805), (227, 12841), (234, 12886), (235, 12892), (264, 13000), (269, 13024), (273, 13045), (310, 13264), (324, 13414), (332, 13501), (351, 13609), (374, 13744), (392, 13855), (395, 13873), (400, 13903), (430, 14125), (436, 14149), (438, 14164), (441, 14185), (446, 14212), (450, 14239), (455, 14299), (462, 14389), (465, 14422), (472, 14485), (474, 14542), (476, 14575), (477, 14584), (517, 15088), (518, 15115), (521, 15145), (523, 15157), (524, 15166), (539, 15235), (556, 15316), (560, 15376), (563, 15394), (565, 15403),

Gene: Crespo\_16 Start: 11465, Stop: 15478, Start Num: 13

Candidate Starts for Crespo\_16:

(Start: 13 @11465 has 165 MA's), (30, 11666), (51, 11780), (61, 11822), (69, 11852), (88, 11987), (91, 11999), (93, 12008), (128, 12197), (131, 12215), (132, 12218), (133, 12239), (134, 12251), (145, 12323), (153, 12371), (174, 12503), (176, 12527), (185, 12608), (208, 12731), (218, 12815), (227, 12851), (234, 12896), (235, 12902), (264, 13010), (269, 13034), (273, 13055), (310, 13274), (324, 13424), (332, 13511), (351, 13619), (374, 13754), (392, 13865), (395, 13883), (400, 13913), (430, 14135), (436, 14159), (438, 14174), (441, 14195), (446, 14222), (450, 14249), (455, 14309), (462, 14399), (465, 14432), (472, 14495), (474, 14552), (476, 14585), (477, 14594), (517, 15098), (518, 15125), (521, 15155), (523, 15167), (524, 15176), (539, 15245), (556, 15326), (560, 15386), (563, 15404), (565, 15413),

Gene: CrimD\_21 Start: 12051, Stop: 15887, Start Num: 13

Candidate Starts for CrimD\_21:

(Start: 13 @12051 has 165 MA's), (22, 12120), (28, 12207), (55, 12387), (61, 12414), (77, 12498), (78, 12507), (87, 12567), (88, 12579), (101, 12654), (110, 12696), (119, 12738), (121, 12747), (125, 12768), (131, 12807), (141, 12885), (153, 12963), (177, 13128), (189, 13221), (190, 13230), (192, 13242), (193, 13251), (234, 13488), (239, 13512), (244, 13527), (253, 13560), (273, 13647), (279, 13671), (294, 13755), (304, 13839), (307, 13851), (311, 13872), (319, 13953), (372, 14010), (374, 14028), (386, 14109), (395, 14157), (398, 14175), (400, 14187), (401, 14196), (406, 14232), (411, 14283), (421, 14340), (431, 14418), (446, 14505), (448, 14520), (452, 14562), (457, 14616), (476, 14856), (484, 14931), (496, 15042), (506, 15261), (508, 15273), (515, 15375), (523, 15456), (524, 15465), (533, 15537), (539, 15567), (547, 15588), (562, 15708), (573, 15780), (574, 15798), (575, 15804),

Gene: Curiosium\_22 Start: 11510, Stop: 15637, Start Num: 14

Candidate Starts for Curiosium\_22:

(Start: 14 @11510 has 32 MA's), (19, 11537), (25, 11603), (36, 11735), (39, 11759), (45, 11789), (50, 11810), (53, 11822), (66, 11879), (67, 11882), (80, 11969), (86, 12002), (89, 12020), (90, 12023), (96, 12065), (106, 12110), (132, 12239), (135, 12281), (138, 12296), (139, 12305), (144, 12332), (153, 12395), (160, 12425), (171, 12506), (176, 12557), (187, 12644), (194, 12689), (204, 12731), (205, 12734), (206, 12740), (211, 12782), (219, 12842), (223, 12854), (225, 12860), (228, 12875), (231, 12893), (232, 12896), (235, 12914), (238, 12929), (256, 12989), (263, 13010), (266, 13025), (273, 13064), (277, 13082), (278, 13085), (304, 13262), (307, 13274), (309, 13283), (312, 13334), (319, 13376), (329, 13499), (331, 13523), (346, 13598), (356, 13664), (370, 13745), (379, 13799), (382, 13820), (385, 13838), (392, 13880), (395, 13898), (399, 13925), (401, 13937), (406, 13973), (408, 13991), (415, 14036), (431, 14165), (432, 14168), (446, 14252), (448, 14267), (451, 14306), (452, 14309), (457, 14363), (459, 14402), (468, 14468), (476, 14603), (491, 14729), (510, 15044), (515, 15125), (516, 15134), (523, 15206), (562, 15458), (573, 15530), (575, 15554), (578, 15581),

Gene: DMoney\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for DMoney\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: DNAlll\_0016 Start: 11473, Stop: 15486, Start Num: 13

Candidate Starts for DNAlll\_0016:

(Start: 13 @11473 has 165 MA's), (30, 11674), (51, 11788), (61, 11830), (69, 11860), (88, 11995), (91, 12007), (93, 12016), (128, 12205), (131, 12223), (132, 12226), (133, 12247), (134, 12259), (145, 12331), (153, 12379), (174, 12511), (176, 12535), (185, 12616), (208, 12739), (218, 12823), (227, 12859), (234, 12904), (235, 12910), (264, 13018), (269, 13042), (273, 13063), (310, 13282), (324, 13432), (332, 13519), (351, 13627), (374, 13762), (392, 13873), (395, 13891), (400, 13921), (430, 14143), (436, 14167), (438, 14182), (441, 14203), (446, 14230), (450, 14257), (455, 14317), (462, 14407), (465, 14440), (472, 14503), (474, 14560), (476, 14593), (477, 14602), (517, 15106), (518, 15133), (521, 15163), (523, 15175), (524, 15184), (539, 15253), (556, 15334), (560, 15394), (563, 15412), (565, 15421),

Gene: Dalmuri\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Dalmuri\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Darionha\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Darionha\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145,

12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: DartGoblin\_21 Start: 12003, Stop: 15842, Start Num: 13

Candidate Starts for DartGoblin\_21:

(Start: 13 @12003 has 165 MA's), (22, 12072), (28, 12159), (55, 12339), (61, 12366), (77, 12450), (78, 12459), (87, 12519), (88, 12531), (101, 12606), (110, 12648), (119, 12690), (121, 12699), (125, 12720), (131, 12759), (132, 12762), (141, 12837), (153, 12915), (177, 13080), (189, 13173), (192, 13194), (193, 13203), (234, 13440), (239, 13464), (244, 13479), (253, 13512), (273, 13599), (290, 13686), (294, 13707), (304, 13791), (307, 13803), (311, 13824), (374, 13980), (386, 14061), (398, 14127), (401, 14148), (406, 14184), (411, 14235), (417, 14253), (421, 14292), (431, 14370), (433, 14379), (446, 14457), (448, 14472), (452, 14514), (457, 14568), (476, 14808), (484, 14883), (496, 14994), (497, 15015), (498, 15036), (504, 15156), (515, 15330), (523, 15411), (524, 15420), (533, 15492), (539, 15522), (547, 15543), (562, 15663), (573, 15735), (574, 15753), (575, 15759),

Gene: Dartin\_21 Start: 11128, Stop: 15282, Start Num: 14

Candidate Starts for Dartin\_21:

(9, 11086), (Start: 14 @11128 has 32 MA's), (25, 11221), (40, 11380), (45, 11407), (66, 11497), (67, 11500), (80, 11587), (97, 11695), (113, 11764), (116, 11782), (132, 11866), (135, 11908), (138, 11923), (139, 11932), (144, 11959), (153, 12022), (161, 12064), (171, 12133), (178, 12196), (179, 12205), (194, 12319), (195, 12325), (204, 12361), (206, 12370), (207, 12382), (209, 12394), (211, 12412), (219, 12472), (223, 12484), (225, 12490), (228, 12505), (231, 12523), (232, 12526), (235, 12544), (238, 12559), (249, 12598), (266, 12655), (267, 12664), (273, 12694), (278, 12715), (284, 12745), (289, 12778), (301, 12862), (304, 12892), (307, 12904), (319, 13006), (325, 13084), (329, 13129), (331, 13153), (341, 13207), (342, 13210), (345, 13225), (352, 13267), (356, 13294), (358, 13303), (359, 13318), (360, 13324), (361, 13327), (385, 13468), (390, 13504), (392, 13510), (395, 13528), (399, 13555), (401, 13567), (408, 13621), (411, 13654), (422, 13714), (431, 13795), (432, 13798), (446, 13882), (448, 13897), (459, 14032), (468, 14098), (476, 14233), (504, 14584), (523, 14839), (524, 14848), (530, 14914), (562, 15109), (566, 15130), (573, 15181), (574, 15199), (575, 15205), (579, 15244),

Gene: Deby\_21 Start: 12050, Stop: 15883, Start Num: 13

Candidate Starts for Deby\_21:

(Start: 13 @12050 has 165 MA's), (22, 12119), (28, 12206), (55, 12383), (61, 12410), (77, 12494), (78, 12503), (88, 12575), (101, 12650), (119, 12734), (121, 12743), (125, 12764), (131, 12803), (141, 12881), (153, 12959), (166, 13049), (177, 13124), (189, 13217), (192, 13238), (193, 13247), (234, 13484), (244, 13523), (253, 13556), (273, 13643), (279, 13667), (294, 13751), (304, 13835), (307, 13847), (311, 13868), (374, 14024), (386, 14105), (395, 14153), (398, 14171), (401, 14192), (406, 14228), (411, 14279), (421, 14336), (431, 14414), (433, 14423), (446, 14501), (448, 14516), (452, 14558), (457, 14612), (476, 14852), (484, 14927), (496, 15038), (506, 15257), (508, 15269), (523, 15452), (524, 15461), (539, 15563), (547, 15584), (562, 15704), (573, 15776), (574, 15794), (575, 15800),

Gene: Devera\_21 Start: 12075, Stop: 15929, Start Num: 13

Candidate Starts for Devera\_21:

(Start: 13 @12075 has 165 MA's), (22, 12144), (28, 12231), (55, 12411), (61, 12438), (77, 12522), (78, 12531), (87, 12591), (88, 12603), (101, 12678), (110, 12720), (119, 12762), (121, 12771), (125, 12792), (131, 12831), (141, 12909), (147, 12951), (153, 12987), (177, 13152), (189, 13245), (192,

13266), (193, 13275), (239, 13557), (244, 13572), (253, 13605), (273, 13692), (294, 13800), (304, 13884), (307, 13896), (311, 13917), (374, 14073), (386, 14154), (395, 14202), (398, 14220), (401, 14241), (406, 14277), (411, 14328), (421, 14385), (431, 14463), (433, 14472), (446, 14550), (448, 14565), (452, 14607), (457, 14661), (469, 14778), (476, 14901), (484, 14976), (498, 15129), (506, 15306), (515, 15420), (523, 15501), (524, 15510), (533, 15582), (539, 15612), (547, 15633), (562, 15750), (573, 15822), (575, 15846),

Gene: DingDing\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for DingDing\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: DismalFunk\_17 Start: 10116, Stop: 13784, Start Num: 12

Candidate Starts for DismalFunk\_17:

(Start: 12 @10116 has 10 MA's), (22, 10188), (65, 10422), (76, 10473), (88, 10566), (93, 10587), (101, 10641), (121, 10734), (125, 10755), (128, 10776), (129, 10782), (141, 10872), (147, 10914), (153, 10950), (160, 10983), (161, 10995), (164, 11019), (166, 11040), (172, 11064), (173, 11070), (176, 11106), (177, 11115), (182, 11148), (183, 11160), (185, 11187), (218, 11370), (219, 11382), (221, 11388), (227, 11406), (230, 11427), (234, 11451), (239, 11475), (241, 11484), (247, 11499), (262, 11511), (292, 11544), (299, 11592), (315, 11733), (316, 11739), (321, 11775), (326, 11802), (330, 11820), (362, 11946), (381, 12012), (393, 12066), (398, 12099), (401, 12120), (404, 12144), (409, 12174), (412, 12195), (452, 12417), (459, 12510), (469, 12588), (476, 12711), (490, 12816), (493, 12864), (511, 13251), (515, 13281), (516, 13290), (518, 13320), (541, 13485), (562, 13614), (575, 13707),

Gene: DismalStressor\_17 Start: 10116, Stop: 13784, Start Num: 12

Candidate Starts for DismalStressor\_17:

(Start: 12 @10116 has 10 MA's), (22, 10188), (65, 10422), (76, 10473), (88, 10566), (93, 10587), (101, 10641), (121, 10734), (125, 10755), (128, 10776), (129, 10782), (141, 10872), (147, 10914), (153, 10950), (160, 10983), (161, 10995), (164, 11019), (166, 11040), (172, 11064), (173, 11070), (176, 11106), (177, 11115), (182, 11148), (183, 11160), (185, 11187), (218, 11370), (219, 11382), (221, 11388), (227, 11406), (230, 11427), (234, 11451), (239, 11475), (241, 11484), (247, 11499), (262, 11511), (292, 11544), (299, 11592), (315, 11733), (316, 11739), (321, 11775), (326, 11802), (330, 11820), (362, 11946), (381, 12012), (393, 12066), (398, 12099), (401, 12120), (404, 12144), (409, 12174), (412, 12195), (452, 12417), (459, 12510), (469, 12588), (476, 12711), (490, 12816), (493, 12864), (511, 13251), (515, 13281), (516, 13290), (518, 13320), (541, 13485), (562, 13614), (575, 13707),

Gene: Dole\_21 Start: 12077, Stop: 15931, Start Num: 13

Candidate Starts for Dole\_21:

(Start: 13 @12077 has 165 MA's), (22, 12146), (28, 12233), (55, 12413), (61, 12440), (77, 12524), (78, 12533), (87, 12593), (88, 12605), (101, 12680), (110, 12722), (119, 12764), (121, 12773), (125, 12794), (131, 12833), (141, 12911), (147, 12953), (153, 12989), (177, 13154), (189, 13247), (192, 13268), (193, 13277), (239, 13559), (244, 13574), (253, 13607), (273, 13694), (294, 13802), (304, 13886), (307, 13898), (311, 13919), (374, 14075), (386, 14156), (395, 14204), (398, 14222), (401, 14243), (406, 14279), (411, 14330), (421, 14387), (431, 14465), (433, 14474), (446, 14552), (448,

14567), (452, 14609), (457, 14663), (469, 14780), (476, 14903), (484, 14978), (498, 15131), (506, 15308), (515, 15422), (523, 15503), (524, 15512), (533, 15584), (539, 15614), (547, 15635), (562, 15752), (573, 15824), (575, 15848),

Gene: Doughnut\_17 Start: 10138, Stop: 13812, Start Num: 12

Candidate Starts for Doughnut\_17:

(Start: 12 @10138 has 10 MA's), (22, 10210), (65, 10444), (76, 10495), (88, 10588), (101, 10663), (121, 10756), (125, 10777), (128, 10798), (129, 10804), (141, 10894), (147, 10936), (153, 10972), (160, 11005), (161, 11017), (164, 11041), (166, 11062), (172, 11086), (173, 11092), (176, 11128), (177, 11137), (182, 11170), (183, 11182), (185, 11209), (218, 11392), (219, 11404), (221, 11410), (230, 11449), (234, 11473), (241, 11506), (259, 11524), (262, 11533), (292, 11566), (315, 11755), (316, 11761), (321, 11797), (326, 11824), (330, 11842), (337, 11860), (362, 11968), (371, 12001), (381, 12034), (393, 12088), (398, 12121), (401, 12142), (404, 12166), (409, 12196), (412, 12217), (452, 12439), (459, 12532), (469, 12610), (476, 12733), (493, 12886), (511, 13273), (515, 13303), (516, 13312), (518, 13342), (526, 13402), (541, 13510), (562, 13642), (575, 13735),

Gene: DrHayes\_21 Start: 12024, Stop: 15863, Start Num: 13

Candidate Starts for DrHayes\_21:

(Start: 13 @12024 has 165 MA's), (22, 12093), (28, 12180), (55, 12360), (61, 12387), (77, 12471), (78, 12480), (87, 12540), (88, 12552), (101, 12627), (112, 12678), (121, 12720), (125, 12741), (131, 12780), (141, 12858), (153, 12936), (157, 12960), (177, 13101), (189, 13194), (192, 13215), (193, 13224), (234, 13461), (239, 13485), (244, 13500), (253, 13533), (273, 13620), (290, 13707), (294, 13728), (304, 13812), (307, 13824), (311, 13845), (374, 14001), (386, 14082), (398, 14148), (401, 14169), (406, 14205), (411, 14256), (417, 14274), (421, 14313), (431, 14391), (446, 14478), (448, 14493), (452, 14535), (457, 14589), (476, 14829), (484, 14904), (496, 15015), (497, 15036), (498, 15057), (504, 15177), (515, 15351), (523, 15432), (524, 15441), (533, 15513), (539, 15543), (547, 15564), (562, 15684), (573, 15756), (574, 15774), (575, 15780),

Gene: Durfee\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Durfee\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: ECartman\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for ECartman\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Efra2\_21 Start: 11000, Stop: 15127, Start Num: 14

Candidate Starts for Efra2\_21:

(9, 10952), (Start: 14 @11000 has 32 MA's), (25, 11093), (36, 11225), (39, 11249), (45, 11279), (50, 11300), (53, 11312), (67, 11372), (80, 11459), (86, 11492), (89, 11510), (90, 11513), (103, 11585), (132, 11729), (135, 11771), (138, 11786), (144, 11822), (154, 11894), (171, 11996), (194, 12179), (199, 12206), (205, 12224), (206, 12230), (211, 12272), (223, 12344), (225, 12350), (228, 12365), (232, 12386), (235, 12404), (238, 12419), (251, 12467), (263, 12500), (266, 12515), (273, 12554), (278, 12575), (284, 12605), (309, 12773), (312, 12824), (329, 12989), (331, 13013), (342, 13070), (350, 13121), (356, 13154), (358, 13163), (370, 13235), (382, 13310), (385, 13328), (392, 13370), (395, 13388), (399, 13415), (401, 13427), (418, 13556), (422, 13574), (431, 13655), (432, 13658), (446, 13742), (451, 13796), (452, 13799), (459, 13892), (468, 13958), (476, 14093), (491, 14219), (515, 14615), (516, 14624), (523, 14696), (533, 14780), (539, 14810), (545, 14831), (562, 14948), (573, 15020), (575, 15044), (579, 15083),

Gene: Emerson\_21 Start: 12076, Stop: 15909, Start Num: 13

Candidate Starts for Emerson\_21:

(Start: 13 @12076 has 165 MA's), (22, 12145), (28, 12232), (35, 12307), (55, 12409), (61, 12436), (76, 12508), (77, 12520), (78, 12529), (88, 12601), (101, 12676), (119, 12760), (121, 12769), (125, 12790), (131, 12829), (141, 12907), (153, 12985), (166, 13075), (177, 13150), (189, 13243), (190, 13252), (192, 13264), (193, 13273), (234, 13510), (244, 13549), (253, 13582), (273, 13669), (279, 13693), (294, 13777), (304, 13861), (307, 13873), (311, 13894), (374, 14050), (386, 14131), (395, 14179), (398, 14197), (401, 14218), (406, 14254), (411, 14305), (421, 14362), (431, 14440), (433, 14449), (446, 14527), (448, 14542), (452, 14584), (457, 14638), (476, 14878), (484, 14953), (496, 15064), (506, 15283), (508, 15295), (523, 15478), (524, 15487), (533, 15559), (539, 15589), (547, 15610), (562, 15730), (573, 15802), (574, 15820), (575, 15826),

Gene: Enkosi\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Enkosi\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: Findley\_17 Start: 10116, Stop: 13787, Start Num: 12

Candidate Starts for Findley\_17:

(Start: 12 @10116 has 10 MA's), (22, 10188), (65, 10422), (76, 10473), (88, 10566), (93, 10587), (101, 10641), (121, 10734), (125, 10755), (128, 10776), (129, 10782), (141, 10872), (147, 10914), (153, 10950), (160, 10983), (161, 10995), (164, 11019), (166, 11040), (172, 11064), (173, 11070), (176, 11106), (177, 11115), (182, 11148), (183, 11160), (185, 11187), (218, 11370), (219, 11382), (221, 11388), (227, 11406), (230, 11427), (234, 11451), (239, 11475), (241, 11484), (247, 11499), (262, 11511), (292, 11544), (299, 11592), (315, 11733), (316, 11739), (321, 11775), (326, 11802), (330, 11820), (343, 11850), (362, 11946), (371, 11979), (382, 12015), (393, 12066), (398, 12099), (401, 12120), (404, 12144), (409, 12174), (412, 12195), (441, 12339), (452, 12417), (459, 12510), (469, 12588), (476, 12711), (490, 12816), (493, 12864), (515, 13284), (516, 13293), (518, 13323), (541, 13488), (562, 13617), (575, 13710),

Gene: Frosty24\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Frosty24\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Ganymede\_22 Start: 12096, Stop: 15929, Start Num: 13

Candidate Starts for Ganymede\_22:

(Start: 13 @12096 has 165 MA's), (22, 12165), (28, 12252), (55, 12429), (61, 12456), (77, 12540), (78, 12549), (88, 12621), (101, 12696), (119, 12780), (121, 12789), (125, 12810), (131, 12849), (141, 12927), (153, 13005), (166, 13095), (177, 13170), (189, 13263), (192, 13284), (193, 13293), (234, 13530), (244, 13569), (253, 13602), (273, 13689), (279, 13713), (294, 13797), (304, 13881), (307, 13893), (311, 13914), (374, 14070), (386, 14151), (395, 14199), (398, 14217), (401, 14238), (406, 14274), (411, 14325), (421, 14382), (431, 14460), (433, 14469), (446, 14547), (452, 14604), (457, 14658), (476, 14898), (484, 14973), (496, 15084), (506, 15303), (508, 15315), (523, 15498), (524, 15507), (533, 15579), (539, 15609), (547, 15630), (562, 15750), (573, 15822), (574, 15840), (575, 15846),

Gene: Geraldini\_21 Start: 12092, Stop: 15925, Start Num: 13

Candidate Starts for Geraldini\_21:

(Start: 13 @12092 has 165 MA's), (22, 12161), (23, 12182), (28, 12248), (55, 12425), (61, 12452), (76, 12524), (77, 12536), (78, 12545), (88, 12617), (101, 12692), (119, 12776), (121, 12785), (125, 12806), (131, 12845), (141, 12923), (153, 13001), (166, 13091), (177, 13166), (189, 13259), (190, 13268), (192, 13280), (193, 13289), (234, 13526), (244, 13565), (253, 13598), (273, 13685), (279, 13709), (294, 13793), (304, 13877), (307, 13889), (311, 13910), (374, 14066), (386, 14147), (395, 14195), (398, 14213), (401, 14234), (406, 14270), (411, 14321), (421, 14378), (431, 14456), (433, 14465), (446, 14543), (448, 14558), (452, 14600), (457, 14654), (476, 14894), (484, 14969), (496, 15080), (506, 15299), (508, 15311), (523, 15494), (524, 15503), (533, 15575), (539, 15605), (547, 15626), (562, 15746), (573, 15818), (574, 15836), (575, 15842),

Gene: Gideon\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Gideon\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: GoldenAsh\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for GoldenAsh\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430,

14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Gomashi\_16 Start: 11465, Stop: 15478, Start Num: 13

Candidate Starts for Gomashi\_16:

(Start: 13 @11465 has 165 MA's), (30, 11666), (51, 11780), (61, 11822), (69, 11852), (88, 11987), (91, 11999), (93, 12008), (128, 12197), (131, 12215), (132, 12218), (133, 12239), (134, 12251), (145, 12323), (153, 12371), (174, 12503), (176, 12527), (185, 12608), (208, 12731), (218, 12815), (227, 12851), (234, 12896), (235, 12902), (264, 13010), (269, 13034), (273, 13055), (310, 13274), (324, 13424), (332, 13511), (351, 13619), (374, 13754), (392, 13865), (395, 13883), (400, 13913), (430, 14135), (436, 14159), (438, 14174), (441, 14195), (446, 14222), (450, 14249), (455, 14309), (462, 14399), (465, 14432), (472, 14495), (474, 14552), (476, 14585), (477, 14594), (517, 15098), (518, 15125), (521, 15155), (523, 15167), (524, 15176), (539, 15245), (556, 15326), (560, 15386), (563, 15404), (565, 15413),

Gene: Grizzly\_16 Start: 11464, Stop: 15480, Start Num: 13

Candidate Starts for Grizzly\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (59, 11812), (61, 11821), (69, 11851), (88, 11986), (93, 12007), (121, 12154), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (224, 12841), (227, 12850), (235, 12901), (240, 12925), (249, 12952), (273, 13054), (308, 13261), (310, 13273), (323, 13420), (324, 13423), (351, 13618), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (442, 14197), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (467, 14446), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15100), (518, 15127), (521, 15157), (523, 15169), (524, 15178), (539, 15247), (556, 15328), (560, 15388), (563, 15406), (565, 15415),

Gene: Guanica15\_21 Start: 11016, Stop: 15143, Start Num: 14

Candidate Starts for Guanica15\_21:

(9, 10968), (Start: 14 @11016 has 32 MA's), (25, 11109), (36, 11241), (39, 11265), (45, 11295), (50, 11316), (53, 11328), (67, 11388), (80, 11475), (86, 11508), (89, 11526), (90, 11529), (103, 11601), (132, 11745), (135, 11787), (138, 11802), (144, 11838), (154, 11910), (171, 12012), (194, 12195), (199, 12222), (205, 12240), (206, 12246), (211, 12288), (223, 12360), (225, 12366), (228, 12381), (232, 12402), (235, 12420), (238, 12435), (251, 12483), (263, 12516), (266, 12531), (273, 12570), (278, 12591), (284, 12621), (309, 12789), (312, 12840), (329, 13005), (331, 13029), (342, 13086), (350, 13137), (356, 13170), (358, 13179), (370, 13251), (382, 13326), (385, 13344), (392, 13386), (395, 13404), (399, 13431), (401, 13443), (418, 13572), (422, 13590), (431, 13671), (432, 13674), (446, 13758), (451, 13812), (452, 13815), (459, 13908), (468, 13974), (476, 14109), (491, 14235), (515, 14631), (516, 14640), (523, 14712), (533, 14796), (562, 14964), (573, 15036), (575, 15060), (579, 15099),

Gene: Halo\_16 Start: 11459, Stop: 15472, Start Num: 13

Candidate Starts for Halo\_16:

(Start: 13 @11459 has 165 MA's), (30, 11660), (51, 11774), (61, 11816), (69, 11846), (88, 11981), (91, 11993), (93, 12002), (128, 12191), (131, 12209), (132, 12212), (133, 12233), (134, 12245), (145, 12317), (153, 12365), (174, 12497), (176, 12521), (185, 12602), (208, 12725), (218, 12809), (227, 12845), (234, 12890), (235, 12896), (264, 13004), (269, 13028), (273, 13049), (310, 13268), (324, 13418), (332, 13505), (351, 13613), (374, 13748), (392, 13859), (395, 13877), (400, 13907), (430, 14129), (436, 14153), (438, 14168), (441, 14189), (446, 14216), (450, 14243), (455, 14303), (462, 14393), (465, 14426), (472, 14489), (474, 14546), (476, 14579), (477, 14588), (517, 15092), (518, 15119), (521, 15149), (523, 15161), (524, 15170), (539, 15239), (556, 15320), (560, 15380), (563,

15398), (565, 15407),

Gene: HedwigODU\_21 Start: 12079, Stop: 15918, Start Num: 13

Candidate Starts for HedwigODU\_21:

(Start: 13 @12079 has 165 MA's), (22, 12148), (28, 12235), (55, 12412), (61, 12439), (76, 12511), (77, 12523), (78, 12532), (88, 12604), (101, 12679), (119, 12763), (121, 12772), (125, 12793), (131, 12832), (141, 12910), (153, 12988), (166, 13078), (177, 13153), (189, 13246), (190, 13255), (192, 13267), (193, 13276), (239, 13537), (244, 13552), (253, 13585), (273, 13672), (279, 13696), (294, 13780), (304, 13864), (307, 13876), (311, 13897), (374, 14053), (386, 14134), (395, 14182), (398, 14200), (401, 14221), (406, 14257), (411, 14308), (421, 14365), (431, 14443), (433, 14452), (446, 14530), (452, 14587), (457, 14641), (476, 14881), (484, 14956), (496, 15067), (506, 15286), (508, 15298), (523, 15487), (524, 15496), (533, 15568), (539, 15598), (547, 15619), (562, 15739), (573, 15811), (574, 15829), (575, 15835),

Gene: Homura\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Homura\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (494, 15089), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Hope\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Hope\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Hotshotbaby7\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Hotshotbaby7\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Hurricane\_20 Start: 12208, Stop: 16356, Start Num: 13

Candidate Starts for Hurricane\_20:

(Start: 13 @12208 has 165 MA's), (22, 12277), (23, 12298), (25, 12304), (28, 12364), (46, 12502), (57, 12547), (61, 12568), (66, 12589), (76, 12640), (87, 12721), (88, 12733), (93, 12754), (101, 12808), (110, 12850), (121, 12901), (125, 12922), (127, 12940), (132, 12964), (137, 13015), (141, 13039), (148, 13084), (153, 13117), (157, 13141), (182, 13315), (189, 13375), (192, 13396), (193, 13405), (219, 13573), (226, 13594), (230, 13618), (234, 13642), (238, 13663), (245, 13681), (250, 13702), (253, 13714), (264, 13756), (265, 13759), (273, 13801), (276, 13816), (285, 13879), (302, 13990), (306, 14020), (313, 14098), (327, 14218), (329, 14251), (344, 14341), (347, 14359), (352, 14389), (356, 14416), (392, 14632), (398, 14668), (408, 14743), (411, 14776), (414, 14788), (422, 14836), (431, 14917), (432, 14920), (452, 15037), (459, 15130), (469, 15208), (475, 15307), (476, 15331), (484, 15406), (515, 15865), (516, 15874), (517, 15877), (523, 15946), (524, 15955), (549, 16087), (557, 16147), (558, 16165), (564, 16201), (566, 16210), (574, 16276), (575, 16282), (577, 16297), (578, 16309),

Gene: Hyperbowlee\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Hyperbowlee\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Illumine\_21 Start: 12077, Stop: 15931, Start Num: 13

Candidate Starts for Illumine\_21:

(Start: 13 @12077 has 165 MA's), (22, 12146), (28, 12233), (55, 12413), (61, 12440), (77, 12524), (78, 12533), (87, 12593), (88, 12605), (101, 12680), (110, 12722), (119, 12764), (121, 12773), (125, 12794), (131, 12833), (141, 12911), (147, 12953), (153, 12989), (177, 13154), (189, 13247), (192, 13268), (193, 13277), (239, 13559), (244, 13574), (253, 13607), (273, 13694), (294, 13802), (304, 13886), (307, 13898), (311, 13919), (374, 14075), (386, 14156), (395, 14204), (398, 14222), (401, 14243), (406, 14279), (411, 14330), (421, 14387), (431, 14465), (433, 14474), (446, 14552), (448, 14567), (452, 14609), (457, 14663), (469, 14780), (476, 14903), (484, 14978), (498, 15131), (506, 15308), (515, 15422), (523, 15503), (524, 15512), (533, 15584), (539, 15614), (547, 15635), (562, 15752), (573, 15824), (575, 15848),

Gene: Inky\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Inky\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: JAWS\_21 Start: 12070, Stop: 15903, Start Num: 13

Candidate Starts for JAWS\_21:

(Start: 13 @12070 has 165 MA's), (22, 12139), (28, 12226), (35, 12301), (55, 12403), (61, 12430), (76, 12502), (77, 12514), (78, 12523), (88, 12595), (101, 12670), (119, 12754), (121, 12763), (125, 12784),

(131, 12823), (134, 12859), (141, 12901), (153, 12979), (166, 13069), (177, 13144), (189, 13237), (190, 13246), (192, 13258), (193, 13267), (234, 13504), (244, 13543), (253, 13576), (273, 13663), (279, 13687), (294, 13771), (304, 13855), (307, 13867), (311, 13888), (374, 14044), (386, 14125), (395, 14173), (398, 14191), (401, 14212), (406, 14248), (411, 14299), (421, 14356), (431, 14434), (433, 14443), (446, 14521), (448, 14536), (452, 14578), (457, 14632), (476, 14872), (484, 14947), (496, 15058), (506, 15277), (508, 15289), (523, 15472), (524, 15481), (533, 15553), (539, 15583), (547, 15604), (562, 15724), (573, 15796), (574, 15814), (575, 15820),

Gene: Jane\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Jane\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Jarvi\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Jarvi\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Jayhawk\_21 Start: 12080, Stop: 15916, Start Num: 13

Candidate Starts for Jayhawk\_21:

(Start: 13 @12080 has 165 MA's), (22, 12149), (28, 12236), (55, 12413), (61, 12440), (76, 12512), (77, 12524), (78, 12533), (88, 12605), (101, 12680), (119, 12764), (121, 12773), (125, 12794), (131, 12833), (141, 12911), (153, 12989), (166, 13079), (177, 13154), (189, 13247), (190, 13256), (192, 13268), (193, 13277), (239, 13538), (244, 13553), (253, 13586), (273, 13673), (279, 13697), (294, 13781), (304, 13865), (307, 13877), (311, 13898), (374, 14054), (386, 14135), (395, 14183), (398, 14201), (401, 14222), (406, 14258), (411, 14309), (421, 14366), (431, 14444), (433, 14453), (446, 14531), (452, 14588), (457, 14642), (476, 14882), (484, 14957), (496, 15068), (506, 15287), (508, 15299), (523, 15485), (524, 15494), (533, 15566), (539, 15596), (547, 15617), (562, 15737), (573, 15809), (574, 15827), (575, 15833),

Gene: Jeckyll\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Jeckyll\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993),

(496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Jeilious\_16 Start: 11463, Stop: 15476, Start Num: 13

Candidate Starts for Jeilious\_16:

(Start: 13 @11463 has 165 MA's), (30, 11664), (51, 11778), (61, 11820), (69, 11850), (88, 11985), (91, 11997), (93, 12006), (128, 12195), (131, 12213), (132, 12216), (133, 12237), (134, 12249), (145, 12321), (153, 12369), (174, 12501), (176, 12525), (185, 12606), (208, 12729), (218, 12813), (227, 12849), (234, 12894), (235, 12900), (264, 13008), (269, 13032), (273, 13053), (310, 13272), (324, 13422), (332, 13509), (351, 13617), (374, 13752), (392, 13863), (395, 13881), (400, 13911), (430, 14133), (436, 14157), (438, 14172), (441, 14193), (446, 14220), (450, 14247), (455, 14307), (462, 14397), (465, 14430), (472, 14493), (474, 14550), (476, 14583), (477, 14592), (517, 15096), (518, 15123), (521, 15153), (523, 15165), (524, 15174), (539, 15243), (556, 15324), (560, 15384), (563, 15402), (565, 15411),

Gene: Jolene\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Jolene\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Jolie2\_16 Start: 10765, Stop: 14787, Start Num: 13

Candidate Starts for Jolie2\_16:

(Start: 13 @10765 has 165 MA's), (22, 10834), (25, 10861), (32, 10975), (58, 11098), (62, 11122), (63, 11125), (72, 11158), (73, 11161), (77, 11203), (78, 11212), (99, 11344), (104, 11368), (108, 11386), (117, 11431), (123, 11455), (124, 11467), (132, 11509), (135, 11551), (143, 11596), (144, 11602), (153, 11665), (154, 11674), (156, 11686), (159, 11695), (163, 11728), (171, 11776), (194, 11953), (202, 11986), (203, 11989), (206, 12004), (225, 12124), (228, 12139), (231, 12157), (232, 12160), (238, 12193), (246, 12220), (260, 12265), (266, 12289), (269, 12307), (273, 12328), (291, 12424), (301, 12496), (324, 12703), (328, 12754), (342, 12844), (344, 12853), (347, 12871), (350, 12895), (352, 12901), (361, 12961), (369, 13006), (370, 13009), (372, 13015), (384, 13093), (389, 13126), (401, 13201), (430, 13414), (435, 13435), (436, 13438), (438, 13453), (444, 13486), (455, 13588), (462, 13678), (472, 13771), (473, 13825), (474, 13828), (476, 13861), (478, 13876), (482, 13915), (490, 13942), (498, 14080), (504, 14200), (510, 14287), (521, 14443), (523, 14455), (534, 14539), (543, 14578), (563, 14713),

Gene: Jonghyun\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Jonghyun\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: JorRay\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for JorRay\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Joy99\_21 Start: 12045, Stop: 15878, Start Num: 13

Candidate Starts for Joy99\_21:

(Start: 13 @12045 has 165 MA's), (22, 12114), (23, 12135), (28, 12201), (55, 12378), (61, 12405), (76, 12477), (77, 12489), (78, 12498), (88, 12570), (101, 12645), (119, 12729), (121, 12738), (125, 12759), (131, 12798), (141, 12876), (153, 12954), (166, 13044), (177, 13119), (189, 13212), (190, 13221), (192, 13233), (193, 13242), (234, 13479), (244, 13518), (253, 13551), (273, 13638), (279, 13662), (294, 13746), (304, 13830), (307, 13842), (311, 13863), (374, 14019), (386, 14100), (395, 14148), (398, 14166), (401, 14187), (406, 14223), (411, 14274), (421, 14331), (431, 14409), (433, 14418), (446, 14496), (448, 14511), (452, 14553), (457, 14607), (476, 14847), (484, 14922), (496, 15033), (506, 15252), (508, 15264), (523, 15447), (524, 15456), (533, 15528), (539, 15558), (547, 15579), (562, 15699), (573, 15771), (574, 15789), (575, 15795),

Gene: Kareem\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Kareem\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Kasen3\_16 Start: 11465, Stop: 15478, Start Num: 13

Candidate Starts for Kasen3\_16:

(Start: 13 @11465 has 165 MA's), (30, 11666), (51, 11780), (61, 11822), (69, 11852), (88, 11987), (91, 11999), (93, 12008), (128, 12197), (131, 12215), (132, 12218), (133, 12239), (134, 12251), (145, 12323), (153, 12371), (174, 12503), (176, 12527), (185, 12608), (208, 12731), (218, 12815), (227, 12851), (234, 12896), (235, 12902), (264, 13010), (269, 13034), (273, 13055), (310, 13274), (324, 13424), (332, 13511), (351, 13619), (374, 13754), (392, 13865), (395, 13883), (400, 13913), (430, 14135), (436, 14159), (438, 14174), (441, 14195), (446, 14222), (450, 14249), (455, 14309), (462, 14399), (465, 14432), (472, 14495), (474, 14552), (476, 14585), (477, 14594), (517, 15098), (518, 15125), (521, 15155), (523, 15167), (524, 15176), (539, 15245), (556, 15326), (560, 15386), (563, 15404), (565, 15413),

Gene: Keshu\_20 Start: 12188, Stop: 16348, Start Num: 13

Candidate Starts for Keshu\_20:

(Start: 13 @12188 has 165 MA's), (22, 12257), (23, 12278), (25, 12284), (28, 12344), (46, 12482), (51, 12506), (57, 12527), (61, 12548), (66, 12569), (87, 12701), (88, 12713), (93, 12734), (101, 12788),

(107, 12818), (112, 12839), (119, 12872), (121, 12881), (125, 12902), (131, 12941), (141, 13019), (147, 13061), (153, 13097), (157, 13121), (182, 13295), (185, 13334), (189, 13355), (192, 13376), (193, 13385), (226, 13574), (230, 13598), (234, 13622), (238, 13643), (245, 13661), (253, 13694), (255, 13703), (264, 13736), (265, 13739), (266, 13742), (273, 13781), (275, 13790), (285, 13859), (302, 13970), (306, 14000), (313, 14078), (327, 14198), (329, 14231), (344, 14321), (347, 14339), (352, 14369), (356, 14396), (374, 14501), (379, 14531), (398, 14648), (406, 14705), (408, 14723), (410, 14744), (411, 14756), (422, 14816), (431, 14897), (432, 14900), (447, 14990), (452, 15020), (459, 15113), (469, 15191), (476, 15314), (484, 15389), (515, 15854), (517, 15866), (523, 15935), (524, 15944), (528, 15965), (557, 16139), (558, 16157), (564, 16193), (566, 16202), (574, 16268), (575, 16274), (577, 16289), (578, 16301),

Gene: KiSi\_20 Start: 11011, Stop: 15084, Start Num: 14

Candidate Starts for KiSi\_20:

(Start: 14 @11011 has 32 MA's), (25, 11104), (40, 11263), (41, 11272), (43, 11281), (64, 11374), (77, 11443), (78, 11452), (79, 11464), (80, 11470), (86, 11503), (93, 11539), (102, 11596), (104, 11608), (115, 11662), (122, 11692), (135, 11779), (138, 11794), (144, 11830), (171, 12004), (194, 12187), (196, 12196), (206, 12238), (211, 12280), (219, 12340), (223, 12352), (225, 12358), (228, 12373), (231, 12391), (232, 12394), (238, 12427), (271, 12550), (273, 12562), (274, 12568), (278, 12583), (280, 12589), (305, 12673), (313, 12754), (329, 12907), (345, 13003), (347, 13015), (352, 13045), (359, 13096), (363, 13117), (368, 13147), (370, 13153), (374, 13177), (384, 13237), (392, 13288), (399, 13333), (408, 13399), (411, 13432), (421, 13489), (431, 13567), (432, 13570), (446, 13654), (450, 13681), (452, 13711), (457, 13765), (459, 13804), (476, 14005), (484, 14080), (504, 14365), (506, 14422), (523, 14623), (535, 14737), (562, 14914), (573, 14998), (575, 15019),

Gene: Krueger\_20 Start: 11051, Stop: 15055, Start Num: 14

Candidate Starts for Krueger\_20:

(Start: 14 @11051 has 32 MA's), (25, 11144), (31, 11249), (40, 11303), (43, 11321), (48, 11339), (54, 11369), (60, 11396), (62, 11402), (75, 11447), (86, 11543), (89, 11561), (90, 11564), (113, 11678), (115, 11693), (135, 11810), (138, 11825), (150, 11906), (161, 11966), (162, 11975), (171, 12035), (194, 12218), (195, 12224), (207, 12281), (219, 12371), (223, 12383), (225, 12389), (228, 12404), (232, 12425), (235, 12443), (256, 12518), (265, 12551), (271, 12581), (273, 12593), (278, 12614), (286, 12653), (303, 12698), (307, 12713), (323, 12875), (329, 12938), (332, 12965), (346, 13037), (352, 13076), (359, 13127), (363, 13148), (368, 13178), (370, 13184), (374, 13208), (382, 13259), (390, 13313), (398, 13355), (401, 13376), (406, 13412), (411, 13463), (431, 13604), (432, 13607), (446, 13691), (450, 13718), (457, 13802), (476, 14042), (484, 14117), (515, 14555), (516, 14564), (523, 14636), (524, 14645), (533, 14720), (539, 14750), (547, 14771), (562, 14888), (573, 14963), (577, 15002), (578, 15014),

Gene: LastHope\_21 Start: 11090, Stop: 15217, Start Num: 14

Candidate Starts for LastHope\_21:

(9, 11042), (Start: 14 @11090 has 32 MA's), (25, 11183), (36, 11315), (39, 11339), (45, 11369), (50, 11390), (53, 11402), (54, 11408), (60, 11435), (67, 11462), (80, 11549), (86, 11582), (89, 11600), (90, 11603), (96, 11645), (107, 11693), (132, 11819), (135, 11861), (138, 11876), (144, 11912), (154, 11984), (171, 12086), (187, 12224), (194, 12269), (204, 12311), (205, 12314), (206, 12320), (207, 12332), (211, 12362), (219, 12422), (225, 12440), (228, 12455), (231, 12473), (232, 12476), (238, 12509), (263, 12590), (266, 12605), (273, 12644), (278, 12665), (304, 12842), (307, 12854), (312, 12914), (319, 12956), (329, 13079), (331, 13103), (342, 13160), (345, 13175), (346, 13178), (356, 13244), (358, 13253), (361, 13277), (370, 13325), (382, 13400), (385, 13418), (395, 13478), (399, 13505), (401, 13517), (406, 13553), (408, 13571), (415, 13616), (418, 13646), (422, 13664), (431, 13745), (432, 13748), (446, 13832), (448, 13847), (451, 13886), (452, 13889), (459, 13982), (468, 14048), (476, 14183), (504, 14534), (515, 14705), (523, 14786), (528, 14816), (533, 14870), (562, 15038), (573, 15110), (574, 15128), (575, 15134),

Gene: LaterM\_21 Start: 12043, Stop: 15876, Start Num: 13

Candidate Starts for LaterM\_21:

(Start: 13 @12043 has 165 MA's), (22, 12112), (28, 12199), (55, 12379), (61, 12406), (77, 12490), (78, 12499), (87, 12559), (88, 12571), (101, 12646), (110, 12688), (119, 12730), (121, 12739), (125, 12760), (131, 12799), (141, 12877), (153, 12955), (177, 13120), (189, 13213), (192, 13234), (193, 13243), (234, 13480), (239, 13504), (244, 13519), (253, 13552), (273, 13639), (294, 13747), (304, 13831), (307, 13843), (311, 13864), (319, 13945), (374, 14020), (386, 14101), (388, 14110), (395, 14149), (398, 14167), (401, 14188), (406, 14224), (411, 14275), (421, 14332), (431, 14410), (433, 14419), (446, 14497), (448, 14512), (452, 14554), (457, 14608), (476, 14848), (484, 14923), (496, 15034), (506, 15253), (515, 15367), (523, 15448), (524, 15457), (533, 15529), (539, 15559), (547, 15580), (562, 15697), (573, 15769), (575, 15793),

Gene: LeMond\_20 Start: 11082, Stop: 15155, Start Num: 14

Candidate Starts for LeMond\_20:

(Start: 14 @11082 has 32 MA's), (25, 11175), (36, 11307), (64, 11445), (78, 11523), (79, 11535), (80, 11541), (86, 11574), (93, 11610), (102, 11667), (104, 11679), (115, 11733), (122, 11763), (135, 11850), (138, 11865), (144, 11901), (160, 11994), (171, 12075), (194, 12258), (196, 12267), (206, 12309), (211, 12351), (219, 12411), (223, 12423), (225, 12429), (228, 12444), (232, 12465), (238, 12498), (271, 12621), (273, 12633), (274, 12639), (278, 12654), (280, 12660), (305, 12744), (313, 12825), (329, 12978), (345, 13074), (352, 13116), (359, 13167), (363, 13188), (368, 13218), (370, 13224), (374, 13248), (384, 13308), (392, 13359), (399, 13404), (401, 13416), (408, 13470), (411, 13503), (421, 13560), (431, 13638), (432, 13641), (446, 13725), (452, 13782), (457, 13836), (459, 13875), (471, 13980), (476, 14076), (484, 14151), (496, 14274), (506, 14493), (523, 14694), (535, 14808), (562, 14985), (573, 15069), (575, 15090),

Gene: Lea83\_20 Start: 12197, Stop: 16345, Start Num: 13

Candidate Starts for Lea83\_20:

(Start: 13 @12197 has 165 MA's), (22, 12266), (23, 12287), (25, 12293), (28, 12353), (46, 12491), (57, 12536), (61, 12557), (74, 12602), (87, 12710), (88, 12722), (93, 12743), (101, 12797), (107, 12827), (112, 12848), (119, 12881), (121, 12890), (125, 12911), (131, 12950), (141, 13028), (147, 13070), (153, 13106), (157, 13130), (182, 13304), (189, 13364), (192, 13385), (193, 13394), (219, 13562), (226, 13583), (230, 13607), (234, 13631), (238, 13652), (245, 13670), (253, 13703), (264, 13745), (265, 13748), (266, 13751), (273, 13790), (275, 13799), (285, 13868), (302, 13979), (306, 14009), (327, 14207), (329, 14240), (344, 14330), (347, 14348), (352, 14378), (356, 14405), (392, 14621), (398, 14657), (406, 14714), (408, 14732), (411, 14765), (414, 14777), (422, 14825), (431, 14906), (432, 14909), (452, 15026), (459, 15119), (469, 15197), (475, 15296), (476, 15320), (484, 15395), (515, 15854), (517, 15866), (523, 15935), (524, 15944), (557, 16136), (558, 16154), (564, 16190), (566, 16199), (574, 16265), (575, 16271), (577, 16286), (578, 16298),

Gene: Lemuria\_16 Start: 10811, Stop: 14821, Start Num: 13

Candidate Starts for Lemuria\_16:

(Start: 13 @10811 has 165 MA's), (25, 10907), (30, 11012), (32, 11021), (58, 11144), (62, 11168), (63, 11171), (72, 11204), (73, 11207), (78, 11258), (83, 11285), (89, 11327), (96, 11372), (105, 11408), (106, 11417), (107, 11420), (108, 11423), (122, 11489), (132, 11546), (135, 11588), (144, 11639), (152, 11699), (154, 11711), (156, 11723), (159, 11732), (171, 11813), (186, 11942), (194, 11990), (201, 12020), (204, 12032), (206, 12041), (211, 12083), (219, 12143), (225, 12161), (228, 12176), (232, 12197), (238, 12230), (246, 12257), (249, 12269), (260, 12302), (266, 12326), (269, 12344), (273, 12365), (291, 12461), (301, 12533), (328, 12791), (331, 12824), (347, 12908), (351, 12935), (357, 12968), (361, 12998), (368, 13040), (370, 13046), (384, 13130), (393, 13184), (408, 13292), (430, 13451), (436, 13475), (438, 13490), (442, 13514), (455, 13625), (461, 13712), (462, 13715), (471, 13802), (472, 13811), (474, 13868), (476, 13901), (482, 13955), (490, 13982), (497, 14096), (510, 14324), (513, 14390), (517, 14426), (521, 14483), (523, 14495), (534, 14573), (543, 14612), (550, 14639), (563, 14747),

Gene: Liefie\_16 Start: 11463, Stop: 15476, Start Num: 13

Candidate Starts for Liefie\_16:

(Start: 13 @11463 has 165 MA's), (30, 11664), (49, 11766), (51, 11778), (61, 11820), (66, 11841), (69, 11850), (88, 11985), (91, 11997), (93, 12006), (128, 12195), (131, 12213), (132, 12216), (133, 12237), (134, 12249), (145, 12321), (153, 12369), (174, 12501), (176, 12525), (185, 12606), (208, 12729), (218, 12813), (227, 12849), (234, 12894), (235, 12900), (264, 13008), (269, 13032), (273, 13053), (310, 13272), (324, 13422), (332, 13509), (351, 13617), (374, 13752), (390, 13857), (392, 13863), (395, 13881), (400, 13911), (430, 14133), (436, 14157), (438, 14172), (441, 14193), (450, 14247), (455, 14307), (462, 14397), (465, 14430), (472, 14493), (474, 14550), (476, 14583), (477, 14592), (517, 15096), (518, 15123), (521, 15153), (523, 15165), (524, 15174), (539, 15243), (556, 15324), (560, 15384), (563, 15402), (565, 15411),

Gene: LilPharaoh\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for LilPharaoh\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: LindNT\_21 Start: 12047, Stop: 15883, Start Num: 13

Candidate Starts for LindNT\_21:

(Start: 13 @12047 has 165 MA's), (22, 12116), (28, 12203), (55, 12383), (61, 12410), (78, 12503), (87, 12563), (88, 12575), (101, 12650), (112, 12701), (121, 12743), (125, 12764), (131, 12803), (141, 12881), (153, 12959), (157, 12983), (177, 13124), (189, 13217), (190, 13226), (192, 13238), (193, 13247), (234, 13484), (239, 13508), (244, 13523), (253, 13556), (273, 13643), (279, 13667), (294, 13751), (304, 13835), (307, 13847), (311, 13868), (319, 13949), (374, 14024), (386, 14105), (395, 14153), (398, 14171), (400, 14183), (401, 14192), (406, 14228), (411, 14279), (421, 14336), (431, 14414), (433, 14423), (446, 14501), (448, 14516), (452, 14558), (457, 14612), (476, 14852), (484, 14927), (496, 15038), (506, 15257), (508, 15269), (515, 15371), (523, 15452), (524, 15461), (533, 15533), (539, 15563), (547, 15584), (562, 15704), (573, 15776), (574, 15794), (575, 15800),

Gene: Llorens\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Llorens\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: LouisV14\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for LouisV14\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145,

12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Lunahalos\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Lunahalos\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: MOOREtheMARYer\_16 Start: 11710, Stop: 15720, Start Num: 13

Candidate Starts for MOOREtheMARYer\_16:

(Start: 13 @11710 has 165 MA's), (25, 11806), (43, 11986), (50, 12016), (56, 12040), (60, 12061), (64, 12079), (80, 12175), (82, 12181), (84, 12196), (86, 12208), (89, 12226), (95, 12268), (96, 12271), (105, 12307), (107, 12319), (114, 12349), (116, 12361), (118, 12370), (132, 12445), (135, 12487), (138, 12502), (144, 12538), (145, 12553), (153, 12601), (154, 12610), (171, 12712), (181, 12796), (188, 12853), (194, 12895), (202, 12928), (203, 12931), (204, 12937), (206, 12946), (211, 12988), (223, 13060), (225, 13066), (228, 13081), (231, 13099), (232, 13102), (246, 13162), (260, 13207), (266, 13231), (269, 13249), (273, 13270), (279, 13294), (281, 13306), (282, 13309), (291, 13366), (301, 13438), (307, 13480), (324, 13645), (332, 13732), (335, 13759), (340, 13780), (352, 13843), (359, 13894), (370, 13951), (374, 13975), (382, 14026), (389, 14068), (408, 14197), (426, 14287), (427, 14302), (428, 14305), (436, 14371), (438, 14386), (449, 14452), (453, 14506), (455, 14521), (460, 14602), (462, 14611), (472, 14704), (474, 14761), (476, 14794), (482, 14848), (486, 14869), (517, 15325), (518, 15352), (520, 15379), (523, 15394), (524, 15403), (537, 15490), (560, 15628), (563, 15646), (566, 15661),

Gene: MacKat\_21 Start: 12093, Stop: 15926, Start Num: 13

Candidate Starts for MacKat\_21:

(Start: 13 @12093 has 165 MA's), (22, 12162), (28, 12249), (55, 12426), (61, 12453), (77, 12537), (78, 12546), (88, 12618), (101, 12693), (119, 12777), (121, 12786), (125, 12807), (131, 12846), (141, 12924), (153, 13002), (166, 13092), (177, 13167), (189, 13260), (190, 13269), (192, 13281), (193, 13290), (234, 13527), (244, 13566), (253, 13599), (273, 13686), (279, 13710), (294, 13794), (304, 13878), (307, 13890), (311, 13911), (374, 14067), (386, 14148), (390, 14172), (395, 14196), (398, 14214), (401, 14235), (406, 14271), (411, 14322), (421, 14379), (431, 14457), (433, 14466), (446, 14544), (448, 14559), (452, 14601), (457, 14655), (476, 14895), (484, 14970), (496, 15081), (506, 15300), (508, 15312), (523, 15495), (524, 15504), (533, 15576), (539, 15606), (547, 15627), (562, 15747), (573, 15819), (574, 15837), (575, 15843),

Gene: MacnCheese\_21 Start: 12433, Stop: 16590, Start Num: 13

Candidate Starts for MacnCheese\_21:

(4, 12283), (Start: 13 @12433 has 165 MA's), (23, 12523), (25, 12529), (28, 12589), (51, 12751), (70, 12826), (77, 12877), (78, 12886), (87, 12946), (88, 12958), (93, 12979), (101, 13033), (121, 13126), (125, 13147), (131, 13186), (133, 13210), (141, 13264), (148, 13309), (153, 13342), (157, 13366),

(182, 13540), (192, 13621), (219, 13798), (230, 13843), (234, 13867), (238, 13888), (252, 13936), (264, 13981), (269, 14005), (273, 14026), (285, 14104), (297, 14182), (305, 14242), (306, 14245), (309, 14260), (329, 14476), (334, 14524), (344, 14566), (347, 14584), (352, 14614), (354, 14635), (357, 14644), (361, 14674), (374, 14746), (379, 14776), (398, 14893), (401, 14914), (406, 14950), (408, 14968), (411, 15001), (419, 15046), (422, 15061), (431, 15142), (432, 15145), (443, 15214), (446, 15229), (447, 15235), (448, 15244), (457, 15340), (459, 15379), (475, 15556), (476, 15580), (484, 15655), (512, 16069), (515, 16099), (516, 16108), (517, 16111), (524, 16189), (527, 16207), (528, 16210), (557, 16384), (558, 16402), (566, 16447), (571, 16480), (575, 16516), (577, 16531), (578, 16543),

Gene: Maliketh\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Maliketh\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Marcoliusprime\_17 Start: 10116, Stop: 13784, Start Num: 12

Candidate Starts for Marcoliusprime\_17:

(Start: 12 @10116 has 10 MA's), (22, 10188), (65, 10422), (76, 10473), (88, 10566), (93, 10587), (101, 10641), (121, 10734), (125, 10755), (128, 10776), (129, 10782), (141, 10872), (147, 10914), (153, 10950), (160, 10983), (161, 10995), (164, 11019), (166, 11040), (172, 11064), (173, 11070), (176, 11106), (177, 11115), (182, 11148), (183, 11160), (185, 11187), (218, 11370), (219, 11382), (221, 11388), (227, 11406), (230, 11427), (234, 11451), (239, 11475), (241, 11484), (247, 11499), (262, 11511), (292, 11544), (299, 11592), (315, 11733), (316, 11739), (321, 11775), (326, 11802), (330, 11820), (362, 11946), (381, 12012), (393, 12066), (398, 12099), (401, 12120), (404, 12144), (409, 12174), (412, 12195), (452, 12417), (459, 12510), (469, 12588), (476, 12711), (490, 12816), (493, 12864), (511, 13251), (515, 13281), (516, 13290), (518, 13320), (541, 13485), (562, 13614), (575, 13707),

Gene: MarkPhew\_21 Start: 10973, Stop: 15046, Start Num: 14

Candidate Starts for MarkPhew\_21:

(2, 10757), (9, 10937), (Start: 14 @10973 has 32 MA's), (25, 11066), (36, 11198), (40, 11225), (41, 11234), (56, 11297), (64, 11336), (69, 11351), (78, 11414), (79, 11426), (86, 11465), (102, 11558), (104, 11570), (115, 11624), (135, 11741), (138, 11756), (144, 11792), (152, 11852), (153, 11855), (161, 11897), (171, 11966), (194, 12149), (206, 12200), (207, 12212), (219, 12302), (223, 12314), (225, 12320), (228, 12335), (235, 12374), (271, 12512), (273, 12524), (274, 12530), (278, 12545), (280, 12551), (329, 12869), (334, 12917), (338, 12932), (347, 12977), (352, 13007), (359, 13058), (363, 13079), (370, 13115), (374, 13139), (401, 13307), (406, 13343), (408, 13361), (411, 13394), (421, 13451), (431, 13529), (432, 13532), (446, 13616), (457, 13727), (459, 13766), (471, 13871), (476, 13967), (484, 14042), (506, 14390), (523, 14588), (562, 14876), (564, 14888), (573, 14960), (575, 14981),

Gene: Marmie\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Marmie\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227,

12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Marshawn\_22 Start: 11657, Stop: 15661, Start Num: 14

Candidate Starts for Marshawn\_22:

(1, 11312), (2, 11444), (9, 11621), (Start: 14 @11657 has 32 MA's), (18, 11681), (25, 11750), (40, 11909), (41, 11918), (54, 11975), (77, 12089), (78, 12098), (79, 12110), (84, 12137), (86, 12149), (90, 12170), (103, 12251), (115, 12308), (122, 12338), (135, 12425), (138, 12440), (139, 12449), (144, 12476), (153, 12539), (154, 12548), (171, 12650), (180, 12725), (194, 12833), (202, 12866), (209, 12908), (211, 12926), (219, 12986), (223, 12998), (225, 13004), (228, 13019), (231, 13037), (232, 13040), (235, 13058), (238, 13073), (248, 13109), (263, 13154), (264, 13163), (267, 13178), (271, 13196), (273, 13208), (274, 13214), (278, 13229), (280, 13235), (306, 13322), (319, 13430), (329, 13553), (338, 13616), (347, 13661), (352, 13691), (359, 13742), (370, 13799), (374, 13823), (386, 13904), (395, 13952), (401, 13991), (406, 14027), (411, 14078), (431, 14219), (432, 14222), (446, 14306), (448, 14321), (452, 14363), (459, 14456), (476, 14657), (484, 14732), (493, 14810), (504, 15026), (506, 15083), (517, 15212), (518, 15239), (523, 15281), (533, 15371), (535, 15383), (551, 15422), (569, 15548), (572, 15572), (573, 15575), (575, 15596),

Gene: McMater\_21 Start: 11128, Stop: 15282, Start Num: 14

Candidate Starts for McMater\_21:

(9, 11086), (Start: 14 @11128 has 32 MA's), (25, 11221), (40, 11380), (45, 11407), (66, 11497), (67, 11500), (80, 11587), (97, 11695), (113, 11764), (116, 11782), (132, 11866), (135, 11908), (138, 11923), (139, 11932), (144, 11959), (153, 12022), (161, 12064), (171, 12133), (178, 12196), (179, 12205), (194, 12319), (195, 12325), (204, 12361), (206, 12370), (207, 12382), (209, 12394), (211, 12412), (219, 12472), (223, 12484), (225, 12490), (228, 12505), (231, 12523), (232, 12526), (235, 12544), (238, 12559), (249, 12598), (266, 12655), (267, 12664), (273, 12694), (278, 12715), (284, 12745), (289, 12778), (301, 12862), (304, 12892), (307, 12904), (319, 13006), (325, 13084), (329, 13129), (331, 13153), (341, 13207), (342, 13210), (345, 13225), (352, 13267), (356, 13294), (358, 13303), (359, 13318), (360, 13324), (361, 13327), (385, 13468), (390, 13504), (392, 13510), (395, 13528), (399, 13555), (401, 13567), (408, 13621), (411, 13654), (422, 13714), (431, 13795), (432, 13798), (446, 13882), (448, 13897), (459, 14032), (468, 14098), (476, 14233), (504, 14584), (523, 14839), (524, 14848), (530, 14914), (562, 15109), (566, 15130), (573, 15181), (574, 15199), (575, 15205), (579, 15244),

Gene: Mdavu\_17 Start: 11315, Stop: 15448, Start Num: 13

Candidate Starts for Mdavu\_17:

(10, 11276), (Start: 13 @11315 has 165 MA's), (22, 11384), (28, 11471), (35, 11549), (57, 11657), (61, 11678), (70, 11711), (88, 11843), (92, 11858), (93, 11864), (101, 11918), (107, 11948), (121, 12011), (125, 12032), (131, 12071), (141, 12149), (153, 12227), (157, 12251), (189, 12485), (205, 12566), (212, 12626), (219, 12683), (229, 12719), (234, 12752), (239, 12776), (258, 12842), (261, 12851), (273, 12911), (294, 13019), (299, 13064), (320, 13220), (328, 13331), (329, 13340), (330, 13352), (338, 13403), (342, 13421), (347, 13448), (352, 13478), (367, 13571), (374, 13610), (401, 13778), (408, 13832), (411, 13865), (420, 13910), (431, 13991), (432, 13994), (446, 14078), (447, 14084), (448, 14093), (452, 14135), (456, 14171), (457, 14189), (459, 14228), (466, 14288), (476, 14429), (481, 14489), (484, 14504), (508, 14846), (523, 15035), (524, 15044), (531, 15107), (575, 15383),

Gene: MeaningOfLife\_21 Start: 12052, Stop: 15885, Start Num: 13

Candidate Starts for MeaningOfLife\_21:

(Start: 13 @12052 has 165 MA's), (22, 12121), (23, 12142), (28, 12208), (55, 12385), (61, 12412), (76, 12484), (77, 12496), (78, 12505), (88, 12577), (101, 12652), (119, 12736), (121, 12745), (125, 12766), (131, 12805), (141, 12883), (153, 12961), (166, 13051), (177, 13126), (189, 13219), (190, 13228), (192, 13240), (193, 13249), (234, 13486), (244, 13525), (253, 13558), (273, 13645), (279, 13669), (294, 13753), (304, 13837), (307, 13849), (311, 13870), (374, 14026), (386, 14107), (395, 14155), (398, 14173), (401, 14194), (406, 14230), (411, 14281), (421, 14338), (431, 14416), (433, 14425), (446, 14503), (448, 14518), (452, 14560), (457, 14614), (476, 14854), (484, 14929), (496, 15040), (506, 15259), (508, 15271), (523, 15454), (524, 15463), (533, 15535), (539, 15565), (547, 15586), (562, 15706), (573, 15778), (574, 15796), (575, 15802),

Gene: Megsy\_21 Start: 12050, Stop: 15886, Start Num: 13

Candidate Starts for Megsy\_21:

(Start: 13 @12050 has 165 MA's), (22, 12119), (28, 12206), (55, 12386), (61, 12413), (78, 12506), (87, 12566), (88, 12578), (101, 12653), (112, 12704), (121, 12746), (125, 12767), (131, 12806), (141, 12884), (153, 12962), (157, 12986), (177, 13127), (189, 13220), (190, 13229), (192, 13241), (193, 13250), (234, 13487), (239, 13511), (244, 13526), (253, 13559), (273, 13646), (279, 13670), (294, 13754), (304, 13838), (307, 13850), (311, 13871), (319, 13952), (374, 14027), (386, 14108), (395, 14156), (398, 14174), (400, 14186), (401, 14195), (406, 14231), (411, 14282), (421, 14339), (431, 14417), (433, 14426), (446, 14504), (448, 14519), (457, 14615), (476, 14855), (484, 14930), (496, 15041), (506, 15260), (508, 15272), (515, 15374), (523, 15455), (524, 15464), (533, 15536), (539, 15566), (547, 15587), (562, 15707), (573, 15779), (574, 15797), (575, 15803),

Gene: Mercurio\_17 Start: 11458, Stop: 15474, Start Num: 13

Candidate Starts for Mercurio\_17:

(Start: 13 @11458 has 165 MA's), (41, 11725), (58, 11791), (62, 11815), (63, 11818), (69, 11842), (72, 11851), (73, 11854), (78, 11905), (83, 11932), (89, 11974), (96, 12019), (100, 12037), (102, 12040), (107, 12067), (117, 12115), (122, 12136), (132, 12193), (135, 12235), (143, 12280), (144, 12286), (153, 12349), (154, 12358), (156, 12370), (159, 12379), (171, 12460), (194, 12637), (201, 12667), (202, 12670), (206, 12688), (207, 12700), (211, 12730), (216, 12757), (219, 12790), (225, 12808), (228, 12823), (232, 12844), (238, 12877), (246, 12904), (260, 12949), (266, 12973), (269, 12991), (273, 13012), (291, 13108), (298, 13153), (301, 13180), (314, 13309), (328, 13438), (347, 13555), (351, 13582), (357, 13615), (369, 13690), (370, 13693), (384, 13777), (389, 13810), (399, 13873), (430, 14098), (436, 14122), (438, 14137), (442, 14161), (455, 14272), (460, 14353), (462, 14362), (472, 14455), (474, 14512), (476, 14545), (478, 14560), (521, 15139), (523, 15151), (525, 15166), (537, 15238), (550, 15289), (563, 15397),

Gene: Milly\_17 Start: 10116, Stop: 13784, Start Num: 12

Candidate Starts for Milly\_17:

(Start: 12 @10116 has 10 MA's), (22, 10188), (65, 10422), (76, 10473), (88, 10566), (93, 10587), (101, 10641), (121, 10734), (125, 10755), (128, 10776), (129, 10782), (141, 10872), (147, 10914), (153, 10950), (160, 10983), (161, 10995), (164, 11019), (166, 11040), (172, 11064), (173, 11070), (176, 11106), (177, 11115), (182, 11148), (183, 11160), (185, 11187), (218, 11370), (219, 11382), (221, 11388), (227, 11406), (230, 11427), (234, 11451), (239, 11475), (241, 11484), (247, 11499), (262, 11511), (292, 11544), (299, 11592), (315, 11733), (316, 11739), (321, 11775), (326, 11802), (330, 11820), (343, 11850), (362, 11946), (371, 11979), (381, 12012), (393, 12066), (398, 12099), (401, 12120), (404, 12144), (409, 12174), (412, 12195), (452, 12417), (459, 12510), (469, 12588), (476, 12711), (490, 12816), (493, 12864), (515, 13281), (516, 13290), (518, 13320), (541, 13485), (562, 13614), (575, 13707),

Gene: Mowgli\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Mowgli\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145,

12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Mufasa\_17 Start: 10138, Stop: 13812, Start Num: 12

Candidate Starts for Mufasa\_17:

(Start: 12 @10138 has 10 MA's), (22, 10210), (29, 10309), (65, 10444), (76, 10495), (88, 10588), (101, 10663), (121, 10756), (125, 10777), (128, 10798), (129, 10804), (141, 10894), (147, 10936), (153, 10972), (160, 11005), (161, 11017), (164, 11041), (166, 11062), (172, 11086), (173, 11092), (176, 11128), (177, 11137), (182, 11170), (183, 11182), (185, 11209), (218, 11392), (219, 11404), (221, 11410), (230, 11449), (234, 11473), (241, 11506), (259, 11524), (262, 11533), (292, 11566), (315, 11755), (316, 11761), (321, 11797), (326, 11824), (330, 11842), (337, 11860), (343, 11872), (362, 11968), (371, 12001), (381, 12034), (393, 12088), (398, 12121), (401, 12142), (404, 12166), (409, 12196), (412, 12217), (446, 12385), (449, 12403), (452, 12439), (459, 12532), (469, 12610), (476, 12733), (493, 12886), (511, 13273), (515, 13303), (516, 13312), (518, 13342), (526, 13402), (541, 13510), (562, 13642), (575, 13735),

Gene: Murucutumbu\_21 Start: 12036, Stop: 15869, Start Num: 13

Candidate Starts for Murucutumbu\_21:

(Start: 13 @12036 has 165 MA's), (22, 12105), (28, 12192), (55, 12372), (61, 12399), (77, 12483), (78, 12492), (87, 12552), (88, 12564), (101, 12639), (110, 12681), (119, 12723), (121, 12732), (125, 12753), (131, 12792), (141, 12870), (153, 12948), (177, 13113), (189, 13206), (192, 13227), (193, 13236), (234, 13473), (239, 13497), (244, 13512), (253, 13545), (273, 13632), (294, 13740), (304, 13824), (307, 13836), (311, 13857), (319, 13938), (374, 14013), (386, 14094), (388, 14103), (395, 14142), (398, 14160), (401, 14181), (406, 14217), (411, 14268), (421, 14325), (431, 14403), (433, 14412), (446, 14490), (448, 14505), (452, 14547), (457, 14601), (476, 14841), (484, 14916), (496, 15027), (506, 15246), (515, 15360), (523, 15441), (524, 15450), (533, 15522), (539, 15552), (547, 15573), (562, 15690), (573, 15762), (575, 15786),

Gene: Mynx\_21 Start: 12099, Stop: 15932, Start Num: 13

Candidate Starts for Mynx\_21:

(Start: 13 @12099 has 165 MA's), (22, 12168), (28, 12255), (55, 12432), (61, 12459), (76, 12531), (77, 12543), (78, 12552), (88, 12624), (101, 12699), (119, 12783), (121, 12792), (125, 12813), (131, 12852), (141, 12930), (153, 13008), (166, 13098), (177, 13173), (189, 13266), (190, 13275), (192, 13287), (193, 13296), (234, 13533), (244, 13572), (253, 13605), (273, 13692), (279, 13716), (294, 13800), (304, 13884), (307, 13896), (311, 13917), (374, 14073), (386, 14154), (395, 14202), (398, 14220), (401, 14241), (406, 14277), (411, 14328), (421, 14385), (431, 14463), (433, 14472), (446, 14550), (448, 14565), (452, 14607), (457, 14661), (476, 14901), (484, 14976), (496, 15087), (506, 15306), (508, 15318), (523, 15501), (524, 15510), (533, 15582), (539, 15612), (547, 15633), (562, 15753), (573, 15825), (574, 15843), (575, 15849),

Gene: Neoh\_16 Start: 11456, Stop: 15469, Start Num: 13

Candidate Starts for Neoh\_16:

(Start: 13 @11456 has 165 MA's), (30, 11657), (51, 11771), (61, 11813), (69, 11843), (88, 11978), (91, 11990), (93, 11999), (128, 12188), (131, 12206), (132, 12209), (133, 12230), (134, 12242), (145, 12314), (153, 12362), (174, 12494), (176, 12518), (185, 12599), (208, 12722), (218, 12806), (227, 12842), (234, 12887), (235, 12893), (264, 13001), (269, 13025), (273, 13046), (310, 13265), (324, 13415), (332, 13502), (351, 13610), (374, 13745), (392, 13856), (395, 13874), (400, 13904), (430, 14126), (436, 14150), (438, 14165), (441, 14186), (446, 14213), (450, 14240), (455, 14300), (462,

14390), (465, 14423), (472, 14486), (474, 14543), (476, 14576), (477, 14585), (517, 15089), (518, 15116), (521, 15146), (523, 15158), (524, 15167), (539, 15236), (556, 15317), (560, 15377), (563, 15395), (565, 15404),

Gene: Nibb\_20 Start: 11122, Stop: 15189, Start Num: 14

Candidate Starts for Nibb\_20:

(9, 11086), (Start: 14 @11122 has 32 MA's), (36, 11347), (40, 11374), (41, 11383), (64, 11485), (86, 11614), (102, 11707), (104, 11719), (115, 11773), (122, 11803), (135, 11890), (138, 11905), (152, 12001), (153, 12004), (161, 12046), (171, 12115), (194, 12298), (206, 12349), (207, 12361), (211, 12391), (219, 12451), (223, 12463), (225, 12469), (228, 12484), (231, 12502), (232, 12505), (269, 12652), (271, 12661), (273, 12673), (274, 12679), (278, 12694), (280, 12700), (305, 12784), (312, 12853), (329, 13018), (334, 13066), (347, 13126), (352, 13156), (359, 13207), (363, 13228), (370, 13264), (379, 13318), (401, 13456), (408, 13510), (411, 13543), (417, 13561), (421, 13600), (431, 13678), (432, 13681), (446, 13765), (452, 13822), (456, 13858), (457, 13876), (459, 13915), (476, 14116), (479, 14158), (484, 14191), (506, 14533), (523, 14731), (562, 15019), (564, 15031), (573, 15103), (575, 15124),

Gene: Nikao\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Nikao\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (378, 13649), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: Niklas\_21 Start: 11128, Stop: 15282, Start Num: 14

Candidate Starts for Niklas\_21:

(9, 11086), (Start: 14 @11128 has 32 MA's), (25, 11221), (40, 11380), (45, 11407), (66, 11497), (67, 11500), (80, 11587), (97, 11695), (113, 11764), (116, 11782), (132, 11866), (135, 11908), (138, 11923), (139, 11932), (144, 11959), (153, 12022), (161, 12064), (171, 12133), (178, 12196), (179, 12205), (194, 12319), (195, 12325), (204, 12361), (206, 12370), (207, 12382), (209, 12394), (211, 12412), (219, 12472), (223, 12484), (225, 12490), (228, 12505), (231, 12523), (232, 12526), (235, 12544), (238, 12559), (249, 12598), (266, 12655), (267, 12664), (273, 12694), (278, 12715), (284, 12745), (289, 12778), (301, 12862), (304, 12892), (307, 12904), (319, 13006), (325, 13084), (329, 13129), (331, 13153), (341, 13207), (342, 13210), (345, 13225), (352, 13267), (356, 13294), (358, 13303), (359, 13318), (360, 13324), (361, 13327), (385, 13468), (390, 13504), (392, 13510), (395, 13528), (399, 13555), (401, 13567), (408, 13621), (411, 13654), (422, 13714), (431, 13795), (432, 13798), (446, 13882), (448, 13897), (459, 14032), (468, 14098), (476, 14233), (504, 14584), (523, 14839), (524, 14848), (530, 14914), (562, 15109), (566, 15130), (573, 15181), (574, 15199), (575, 15205), (579, 15244),

Gene: NoShow\_16 Start: 10206, Stop: 14354, Start Num: 5

Candidate Starts for NoShow\_16:

(Start: 5 @10206 has 1 MA's), (6, 10218), (11, 10323), (16, 10344), (38, 10602), (44, 10635), (45, 10638), (53, 10671), (66, 10728), (71, 10743), (72, 10746), (78, 10800), (81, 10821), (84, 10839), (86, 10851), (90, 10872), (92, 10881), (95, 10911), (118, 11013), (120, 11022), (126, 11055), (136, 11121), (138, 11133), (139, 11142), (146, 11187), (151, 11220), (153, 11232), (158, 11259), (171, 11343), (180, 11418), (184, 11457), (191, 11502), (194, 11526), (204, 11568), (205, 11571), (206, 11577),

(207, 11589), (215, 11634), (223, 11691), (225, 11697), (228, 11712), (231, 11730), (238, 11766), (243, 11784), (248, 11802), (257, 11829), (260, 11838), (269, 11880), (270, 11886), (278, 11922), (280, 11928), (286, 11961), (302, 11985), (304, 12009), (327, 12213), (329, 12246), (330, 12258), (334, 12294), (350, 12378), (352, 12384), (366, 12477), (373, 12519), (375, 12531), (376, 12540), (377, 12564), (380, 12597), (391, 12675), (396, 12705), (398, 12717), (399, 12726), (402, 12747), (408, 12801), (413, 12846), (426, 12921), (434, 12996), (439, 13032), (445, 13059), (446, 13068), (448, 13080), (451, 13116), (463, 13257), (464, 13266), (470, 13311), (472, 13344), (474, 13398), (476, 13431), (480, 13470), (483, 13491), (489, 13518), (495, 13599), (500, 13680), (501, 13692), (514, 13938), (518, 13983), (523, 14025), (527, 14052), (532, 14106), (536, 14127), (539, 14142), (540, 14148), (552, 14202), (553, 14208), (557, 14244), (563, 14301), (565, 14310),

Gene: Nutello\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Nutello\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: OctaviousRex\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for OctaviousRex\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Olga\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Olga\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Oscar\_20 Start: 11083, Stop: 15156, Start Num: 14

Candidate Starts for Oscar\_20:

(Start: 14 @11083 has 32 MA's), (25, 11176), (36, 11308), (64, 11446), (78, 11524), (79, 11536), (80, 11542), (86, 11575), (93, 11611), (102, 11668), (104, 11680), (115, 11734), (122, 11764), (135, 11851), (138, 11866), (144, 11902), (160, 11995), (171, 12076), (194, 12259), (196, 12268), (206, 12310), (211, 12352), (219, 12412), (223, 12424), (225, 12430), (228, 12445), (232, 12466), (238,

12499), (271, 12622), (273, 12634), (274, 12640), (278, 12655), (280, 12661), (305, 12745), (313, 12826), (329, 12979), (345, 13075), (347, 13087), (352, 13117), (359, 13168), (363, 13189), (368, 13219), (370, 13225), (374, 13249), (384, 13309), (392, 13360), (399, 13405), (401, 13417), (408, 13471), (411, 13504), (421, 13561), (431, 13639), (432, 13642), (446, 13726), (450, 13753), (452, 13783), (457, 13837), (459, 13876), (476, 14077), (479, 14119), (484, 14152), (485, 14158), (504, 14437), (506, 14494), (523, 14695), (535, 14809), (562, 14986), (573, 15070), (575, 15091),

Gene: Pace1224\_16 Start: 11630, Stop: 15664, Start Num: 14

Candidate Starts for Pace1224\_16:

(Start: 14 @11630 has 32 MA's), (24, 11723), (27, 11753), (37, 11900), (57, 11984), (68, 12032), (87, 12158), (88, 12170), (93, 12191), (121, 12338), (125, 12359), (128, 12380), (131, 12398), (133, 12422), (134, 12434), (145, 12506), (148, 12521), (153, 12554), (174, 12686), (176, 12710), (179, 12731), (182, 12752), (183, 12764), (185, 12791), (187, 12803), (192, 12833), (200, 12881), (220, 13022), (230, 13064), (234, 13088), (246, 13133), (247, 13136), (273, 13247), (307, 13451), (310, 13466), (316, 13547), (320, 13556), (324, 13616), (335, 13730), (340, 13751), (351, 13811), (357, 13844), (361, 13874), (374, 13946), (379, 13976), (382, 13997), (399, 14102), (400, 14105), (407, 14159), (424, 14258), (428, 14276), (436, 14342), (438, 14357), (442, 14381), (449, 14423), (450, 14432), (455, 14492), (462, 14582), (472, 14678), (474, 14735), (476, 14768), (483, 14828), (488, 14843), (502, 15038), (515, 15245), (521, 15314), (523, 15326), (528, 15356), (533, 15416), (556, 15512), (560, 15572), (563, 15590),

Gene: Padfoot\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Padfoot\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Padpat\_21 Start: 12076, Stop: 15909, Start Num: 13

Candidate Starts for Padpat\_21:

(Start: 13 @12076 has 165 MA's), (22, 12145), (28, 12232), (35, 12307), (55, 12409), (61, 12436), (76, 12508), (77, 12520), (78, 12529), (88, 12601), (101, 12676), (119, 12760), (121, 12769), (125, 12790), (131, 12829), (141, 12907), (153, 12985), (166, 13075), (177, 13150), (189, 13243), (190, 13252), (192, 13264), (193, 13273), (234, 13510), (244, 13549), (253, 13582), (273, 13669), (279, 13693), (294, 13777), (304, 13861), (307, 13873), (311, 13894), (374, 14050), (386, 14131), (395, 14179), (398, 14197), (401, 14218), (406, 14254), (411, 14305), (421, 14362), (431, 14440), (433, 14449), (446, 14527), (448, 14542), (452, 14584), (457, 14638), (476, 14878), (484, 14953), (496, 15064), (506, 15283), (508, 15295), (523, 15478), (524, 15487), (533, 15559), (539, 15589), (547, 15610), (562, 15730), (573, 15802), (574, 15820), (575, 15826),

Gene: Paito\_16 Start: 11582, Stop: 15610, Start Num: 13

Candidate Starts for Paito\_16:

(Start: 13 @11582 has 165 MA's), (30, 11783), (49, 11885), (51, 11897), (57, 11918), (64, 11954), (69, 11969), (76, 12011), (88, 12104), (93, 12125), (119, 12263), (121, 12272), (128, 12314), (131, 12332), (132, 12335), (133, 12356), (134, 12368), (145, 12440), (153, 12488), (176, 12644), (208, 12848), (210, 12869), (217, 12920), (228, 12977), (234, 13013), (253, 13085), (259, 13106), (268, 13145), (273, 13172), (283, 13220), (287, 13241), (294, 13280), (307, 13376), (310, 13391), (323, 13538), (324, 13541), (334, 13649), (385, 13940), (392, 13982), (395, 14000), (400, 14030), (401, 14039),

(429, 14246), (430, 14252), (436, 14276), (438, 14291), (441, 14312), (442, 14315), (450, 14366), (455, 14426), (460, 14507), (462, 14516), (465, 14549), (467, 14564), (472, 14612), (474, 14669), (476, 14702), (478, 14717), (487, 14780), (517, 15224), (518, 15251), (523, 15293), (524, 15302), (546, 15401), (556, 15458), (560, 15518), (563, 15536), (565, 15545),

Gene: Peanam\_21 Start: 11128, Stop: 15282, Start Num: 14

Candidate Starts for Peanam\_21:

(9, 11086), (Start: 14 @11128 has 32 MA's), (25, 11221), (40, 11380), (45, 11407), (66, 11497), (67, 11500), (80, 11587), (97, 11695), (113, 11764), (116, 11782), (132, 11866), (135, 11908), (138, 11923), (139, 11932), (144, 11959), (153, 12022), (161, 12064), (171, 12133), (178, 12196), (179, 12205), (194, 12319), (195, 12325), (204, 12361), (206, 12370), (207, 12382), (209, 12394), (211, 12412), (219, 12472), (223, 12484), (225, 12490), (228, 12505), (231, 12523), (232, 12526), (235, 12544), (238, 12559), (249, 12598), (266, 12655), (267, 12664), (273, 12694), (278, 12715), (284, 12745), (289, 12778), (301, 12862), (304, 12892), (307, 12904), (319, 13006), (325, 13084), (329, 13129), (331, 13153), (341, 13207), (342, 13210), (345, 13225), (352, 13267), (356, 13294), (358, 13303), (359, 13318), (360, 13324), (361, 13327), (385, 13468), (390, 13504), (392, 13510), (395, 13528), (399, 13555), (401, 13567), (408, 13621), (411, 13654), (422, 13714), (431, 13795), (432, 13798), (446, 13882), (448, 13897), (459, 14032), (468, 14098), (476, 14233), (504, 14584), (523, 14839), (524, 14848), (530, 14914), (562, 15109), (566, 15130), (573, 15181), (574, 15199), (575, 15205), (579, 15244),

Gene: Peeb\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Peeb\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Peel\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Peel\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Periodt\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Periodt\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462,

14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Pharb\_20 Start: 12014, Stop: 16198, Start Num: 13

Candidate Starts for Pharb\_20:

(8, 11966), (Start: 13 @12014 has 165 MA's), (22, 12083), (23, 12104), (25, 12110), (28, 12170), (57, 12353), (59, 12365), (61, 12374), (77, 12458), (87, 12527), (88, 12539), (93, 12560), (101, 12614), (107, 12644), (121, 12707), (125, 12728), (131, 12767), (141, 12845), (153, 12923), (157, 12947), (182, 13121), (186, 13169), (189, 13181), (192, 13202), (193, 13211), (214, 13331), (226, 13400), (229, 13415), (234, 13448), (238, 13469), (240, 13478), (250, 13508), (253, 13520), (264, 13562), (265, 13565), (266, 13568), (273, 13607), (285, 13685), (297, 13763), (302, 13796), (306, 13826), (313, 13904), (323, 13994), (327, 14024), (329, 14057), (344, 14147), (352, 14195), (374, 14327), (379, 14357), (392, 14438), (398, 14474), (406, 14531), (408, 14549), (411, 14582), (422, 14642), (431, 14723), (437, 14762), (443, 14795), (446, 14810), (447, 14816), (448, 14825), (452, 14867), (457, 14921), (459, 14960), (469, 15038), (476, 15161), (484, 15236), (499, 15425), (512, 15665), (515, 15695), (517, 15707), (524, 15785), (548, 15914), (558, 16001), (559, 16004), (564, 16037), (571, 16082), (575, 16118), (577, 16133), (578, 16145), (581, 16181),

Gene: PhelpsODU\_20 Start: 11123, Stop: 15124, Start Num: 14

Candidate Starts for PhelpsODU\_20:

(Start: 14 @11123 has 32 MA's), (25, 11216), (31, 11321), (40, 11375), (43, 11393), (48, 11411), (53, 11435), (54, 11441), (60, 11468), (62, 11474), (64, 11486), (75, 11519), (86, 11615), (89, 11633), (90, 11636), (113, 11750), (115, 11765), (135, 11882), (150, 11978), (156, 12017), (161, 12038), (162, 12047), (171, 12107), (194, 12290), (195, 12296), (196, 12299), (207, 12353), (211, 12383), (219, 12443), (223, 12455), (225, 12461), (228, 12476), (232, 12497), (235, 12515), (271, 12653), (273, 12665), (278, 12686), (286, 12725), (306, 12779), (307, 12785), (319, 12887), (323, 12947), (329, 13010), (342, 13091), (345, 13106), (346, 13109), (352, 13148), (358, 13184), (359, 13199), (360, 13205), (365, 13232), (370, 13256), (382, 13331), (392, 13391), (401, 13448), (406, 13484), (411, 13535), (431, 13676), (432, 13679), (446, 13763), (450, 13790), (457, 13874), (459, 13913), (476, 14114), (484, 14189), (502, 14408), (507, 14522), (515, 14624), (516, 14633), (523, 14705), (533, 14789), (539, 14819), (547, 14840), (562, 14957), (573, 15032), (577, 15071), (578, 15083),

Gene: Phish\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Phish\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Phloodle\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Phloodle\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462,

14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Phrank\_20 Start: 11071, Stop: 15072, Start Num: 14

Candidate Starts for Phrank\_20:

(Start: 14 @11071 has 32 MA's), (25, 11164), (31, 11269), (36, 11296), (40, 11323), (43, 11341), (48, 11359), (53, 11383), (54, 11389), (60, 11416), (62, 11422), (72, 11458), (75, 11467), (76, 11491), (86, 11563), (89, 11581), (90, 11584), (115, 11713), (135, 11830), (150, 11926), (156, 11965), (162, 11995), (171, 12055), (194, 12238), (195, 12244), (196, 12247), (207, 12301), (211, 12331), (219, 12391), (223, 12403), (225, 12409), (228, 12424), (232, 12445), (235, 12463), (271, 12601), (273, 12613), (278, 12634), (286, 12673), (306, 12727), (307, 12733), (323, 12895), (329, 12958), (342, 13039), (345, 13054), (352, 13096), (359, 13147), (363, 13168), (368, 13198), (370, 13204), (374, 13228), (382, 13279), (392, 13339), (401, 13396), (406, 13432), (408, 13450), (411, 13483), (431, 13624), (432, 13627), (446, 13711), (450, 13738), (457, 13822), (476, 14062), (484, 14137), (507, 14470), (515, 14572), (516, 14581), (523, 14653), (533, 14737), (539, 14767), (547, 14788), (562, 14905), (573, 14980), (577, 15019), (578, 15031),

Gene: Phreak\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Phreak\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Piatt\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Piatt\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: PinkYoshi\_16 Start: 11455, Stop: 15468, Start Num: 13

Candidate Starts for PinkYoshi\_16:

(Start: 13 @11455 has 165 MA's), (30, 11656), (51, 11770), (61, 11812), (69, 11842), (88, 11977), (91, 11989), (93, 11998), (128, 12187), (131, 12205), (132, 12208), (133, 12229), (134, 12241), (145, 12313), (153, 12361), (174, 12493), (176, 12517), (185, 12598), (208, 12721), (218, 12805), (227, 12841), (234, 12886), (235, 12892), (264, 13000), (269, 13024), (273, 13045), (310, 13264), (324, 13414), (332, 13501), (351, 13609), (374, 13744), (392, 13855), (395, 13873), (400, 13903), (430, 14125), (436, 14149), (438, 14164), (441, 14185), (446, 14212), (450, 14239), (455, 14299), (462, 14389), (465, 14422), (472, 14485), (474, 14542), (476, 14575), (477, 14584), (517, 15088), (518, 15115), (521, 15145), (523, 15157), (524, 15166), (539, 15235), (556, 15316), (560, 15376), (563, 15394), (565, 15403),

Gene: Pinnie\_17 Start: 12158, Stop: 16180, Start Num: 13

Candidate Starts for Pinnie\_17:

(Start: 13 @12158 has 165 MA's), (20, 12203), (30, 12359), (31, 12362), (43, 12434), (48, 12452), (50, 12464), (60, 12509), (64, 12527), (80, 12623), (82, 12629), (84, 12644), (86, 12656), (89, 12674), (95, 12716), (96, 12719), (105, 12755), (107, 12767), (113, 12791), (114, 12797), (118, 12818), (132, 12893), (135, 12935), (138, 12950), (144, 12986), (145, 13001), (153, 13049), (154, 13058), (171, 13160), (188, 13301), (194, 13343), (201, 13373), (203, 13379), (204, 13385), (211, 13436), (223, 13508), (225, 13514), (228, 13529), (231, 13547), (232, 13550), (246, 13610), (260, 13655), (269, 13697), (273, 13718), (279, 13742), (281, 13754), (282, 13757), (291, 13814), (301, 13886), (307, 13928), (319, 14030), (324, 14093), (335, 14207), (340, 14228), (351, 14288), (359, 14342), (360, 14348), (370, 14399), (382, 14474), (389, 14516), (399, 14579), (426, 14744), (436, 14828), (438, 14843), (440, 14861), (442, 14867), (449, 14909), (450, 14918), (453, 14963), (455, 14978), (460, 15059), (462, 15068), (472, 15161), (474, 15218), (476, 15251), (482, 15305), (486, 15326), (517, 15785), (518, 15812), (520, 15839), (523, 15854), (524, 15863), (537, 15950), (560, 16088), (563, 16106), (568, 16145),

Gene: Pisa1\_20 Start: 11833, Stop: 15987, Start Num: 13

Candidate Starts for Pisa1\_20:

(Start: 13 @11833 has 165 MA's), (22, 11902), (28, 11989), (55, 12169), (57, 12175), (61, 12196), (70, 12229), (77, 12280), (78, 12289), (87, 12349), (88, 12361), (101, 12436), (112, 12487), (121, 12529), (125, 12550), (131, 12589), (141, 12667), (153, 12745), (165, 12823), (169, 12844), (170, 12850), (177, 12910), (189, 13003), (192, 13024), (193, 13033), (205, 13084), (213, 13147), (229, 13237), (234, 13270), (254, 13348), (258, 13360), (261, 13369), (264, 13384), (265, 13387), (273, 13429), (290, 13516), (294, 13537), (304, 13621), (307, 13633), (319, 13735), (320, 13738), (329, 13858), (334, 13906), (336, 13915), (342, 13939), (346, 13957), (347, 13966), (352, 13996), (354, 14017), (360, 14053), (374, 14128), (385, 14197), (401, 14296), (406, 14332), (408, 14350), (411, 14383), (431, 14518), (433, 14527), (446, 14605), (448, 14620), (452, 14662), (457, 14716), (476, 14956), (484, 15031), (496, 15142), (498, 15184), (515, 15475), (523, 15556), (524, 15565), (533, 15637), (535, 15649), (539, 15667), (547, 15688), (562, 15808), (573, 15880), (574, 15898), (575, 15904),

Gene: Pisa4\_20 Start: 11833, Stop: 15987, Start Num: 13

Candidate Starts for Pisa4\_20:

(Start: 13 @11833 has 165 MA's), (22, 11902), (28, 11989), (55, 12169), (57, 12175), (61, 12196), (70, 12229), (77, 12280), (78, 12289), (87, 12349), (88, 12361), (101, 12436), (112, 12487), (121, 12529), (125, 12550), (131, 12589), (141, 12667), (153, 12745), (165, 12823), (169, 12844), (170, 12850), (177, 12910), (189, 13003), (192, 13024), (193, 13033), (205, 13084), (213, 13147), (229, 13237), (234, 13270), (254, 13348), (258, 13360), (261, 13369), (264, 13384), (265, 13387), (273, 13429), (290, 13516), (294, 13537), (304, 13621), (307, 13633), (319, 13735), (320, 13738), (329, 13858), (334, 13906), (336, 13915), (342, 13939), (346, 13957), (347, 13966), (352, 13996), (354, 14017), (360, 14053), (374, 14128), (385, 14197), (401, 14296), (406, 14332), (408, 14350), (411, 14383), (431, 14518), (433, 14527), (446, 14605), (448, 14620), (452, 14662), (457, 14716), (476, 14956), (484, 15031), (496, 15142), (498, 15184), (515, 15475), (523, 15556), (524, 15565), (533, 15637), (535, 15649), (539, 15667), (547, 15688), (562, 15808), (573, 15880), (574, 15898), (575, 15904),

Gene: Pixie\_20 Start: 11949, Stop: 16127, Start Num: 13

Candidate Starts for Pixie\_20:

(Start: 13 @11949 has 165 MA's), (22, 12018), (23, 12039), (25, 12045), (28, 12105), (46, 12243), (57, 12288), (61, 12309), (87, 12462), (88, 12474), (93, 12495), (101, 12549), (107, 12579), (112, 12600), (119, 12633), (121, 12642), (125, 12663), (131, 12702), (141, 12780), (147, 12822), (153, 12858), (157, 12882), (182, 13056), (185, 13095), (189, 13116), (192, 13137), (193, 13146), (219, 13314), (226, 13335), (230, 13359), (234, 13383), (238, 13404), (245, 13422), (253, 13455), (264, 13497), (265, 13500), (266, 13503), (273, 13542), (275, 13551), (285, 13620), (302, 13731), (306, 13761),

(327, 13959), (329, 13992), (344, 14082), (347, 14100), (352, 14130), (356, 14157), (379, 14292), (392, 14373), (398, 14409), (406, 14466), (408, 14484), (410, 14505), (411, 14517), (422, 14577), (431, 14658), (437, 14697), (443, 14730), (446, 14745), (447, 14751), (448, 14760), (452, 14802), (459, 14895), (469, 14973), (476, 15096), (484, 15171), (515, 15636), (517, 15648), (523, 15717), (524, 15726), (557, 15918), (558, 15936), (564, 15972), (566, 15981), (574, 16047), (575, 16053), (577, 16068), (578, 16080),

Gene: Plagueis\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Plagueis\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Pokerus\_20 Start: 12033, Stop: 15866, Start Num: 13

Candidate Starts for Pokerus\_20:

(Start: 13 @12033 has 165 MA's), (22, 12102), (28, 12189), (55, 12366), (61, 12393), (76, 12465), (77, 12477), (78, 12486), (88, 12558), (101, 12633), (119, 12717), (121, 12726), (125, 12747), (131, 12786), (141, 12864), (153, 12942), (166, 13032), (177, 13107), (189, 13200), (190, 13209), (192, 13221), (193, 13230), (234, 13467), (244, 13506), (253, 13539), (273, 13626), (279, 13650), (294, 13734), (304, 13818), (307, 13830), (311, 13851), (374, 14007), (386, 14088), (395, 14136), (398, 14154), (401, 14175), (406, 14211), (411, 14262), (421, 14319), (431, 14397), (433, 14406), (446, 14484), (448, 14499), (452, 14541), (457, 14595), (476, 14835), (484, 14910), (496, 15021), (506, 15240), (508, 15252), (523, 15435), (524, 15444), (533, 15516), (539, 15546), (547, 15567), (562, 15687), (573, 15759), (574, 15777), (575, 15783),

Gene: Prithvi\_21 Start: 12047, Stop: 15883, Start Num: 13

Candidate Starts for Prithvi\_21:

(Start: 13 @12047 has 165 MA's), (22, 12116), (28, 12203), (55, 12383), (61, 12410), (78, 12503), (87, 12563), (88, 12575), (101, 12650), (112, 12701), (121, 12743), (125, 12764), (131, 12803), (141, 12881), (153, 12959), (157, 12983), (177, 13124), (189, 13217), (190, 13226), (192, 13238), (193, 13247), (234, 13484), (239, 13508), (244, 13523), (253, 13556), (273, 13643), (279, 13667), (294, 13751), (304, 13835), (307, 13847), (311, 13868), (319, 13949), (374, 14024), (386, 14105), (395, 14153), (398, 14171), (400, 14183), (401, 14192), (406, 14228), (411, 14279), (421, 14336), (431, 14414), (433, 14423), (446, 14501), (448, 14516), (452, 14558), (457, 14612), (476, 14852), (484, 14927), (496, 15038), (506, 15257), (508, 15269), (515, 15371), (523, 15452), (524, 15461), (533, 15533), (539, 15563), (547, 15584), (562, 15704), (573, 15776), (574, 15794), (575, 15800),

Gene: QuincyRose\_20 Start: 12096, Stop: 15929, Start Num: 13

Candidate Starts for QuincyRose\_20:

(Start: 13 @12096 has 165 MA's), (22, 12165), (28, 12252), (55, 12429), (61, 12456), (77, 12540), (78, 12549), (88, 12621), (101, 12696), (119, 12780), (121, 12789), (125, 12810), (131, 12849), (141, 12927), (153, 13005), (166, 13095), (177, 13170), (189, 13263), (192, 13284), (193, 13293), (217, 13437), (234, 13530), (244, 13569), (253, 13602), (273, 13689), (279, 13713), (294, 13797), (304, 13881), (307, 13893), (311, 13914), (374, 14070), (386, 14151), (395, 14199), (398, 14217), (401, 14238), (406, 14274), (411, 14325), (421, 14382), (431, 14460), (433, 14469), (446, 14547), (452, 14604), (457, 14658), (476, 14898), (484, 14973), (496, 15084), (506, 15303), (508, 15315), (523, 15498), (524, 15507), (533, 15579), (539, 15609), (547, 15630), (562, 15750), (573, 15822), (574,

15840), (575, 15846),

Gene: Ramen\_21 Start: 12079, Stop: 15915, Start Num: 13

Candidate Starts for Ramen\_21:

(Start: 13 @12079 has 165 MA's), (22, 12148), (28, 12235), (55, 12412), (61, 12439), (76, 12511), (77, 12523), (78, 12532), (88, 12604), (101, 12679), (119, 12763), (121, 12772), (125, 12793), (131, 12832), (141, 12910), (153, 12988), (166, 13078), (177, 13153), (189, 13246), (190, 13255), (192, 13267), (193, 13276), (239, 13537), (244, 13552), (253, 13585), (273, 13672), (279, 13696), (294, 13780), (304, 13864), (307, 13876), (311, 13897), (374, 14053), (386, 14134), (395, 14182), (398, 14200), (401, 14221), (406, 14257), (411, 14308), (421, 14365), (431, 14443), (433, 14452), (446, 14530), (452, 14587), (457, 14641), (476, 14881), (484, 14956), (496, 15067), (506, 15286), (508, 15298), (523, 15484), (524, 15493), (533, 15565), (539, 15595), (547, 15616), (562, 15736), (573, 15808), (574, 15826), (575, 15832),

Gene: Rapunzel97\_21 Start: 12080, Stop: 15916, Start Num: 13

Candidate Starts for Rapunzel97\_21:

(Start: 13 @12080 has 165 MA's), (22, 12149), (28, 12236), (55, 12413), (61, 12440), (76, 12512), (77, 12524), (78, 12533), (88, 12605), (101, 12680), (119, 12764), (121, 12773), (125, 12794), (131, 12833), (141, 12911), (153, 12989), (166, 13079), (177, 13154), (189, 13247), (190, 13256), (192, 13268), (193, 13277), (239, 13538), (244, 13553), (253, 13586), (273, 13673), (279, 13697), (294, 13781), (304, 13865), (307, 13877), (311, 13898), (374, 14054), (386, 14135), (395, 14183), (398, 14201), (401, 14222), (406, 14258), (411, 14309), (421, 14366), (431, 14444), (433, 14453), (446, 14531), (452, 14588), (457, 14642), (476, 14882), (484, 14957), (496, 15068), (506, 15287), (508, 15299), (523, 15485), (524, 15494), (533, 15566), (539, 15596), (547, 15617), (562, 15737), (573, 15809), (574, 15827), (575, 15833),

Gene: Rattrick\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Rattrick\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Remy19\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Remy19\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Renaissance\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Renaissance\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Richarlison\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Richarlison\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Richo\_21 Start: 11128, Stop: 15282, Start Num: 14

Candidate Starts for Richo\_21:

(9, 11086), (Start: 14 @11128 has 32 MA's), (25, 11221), (40, 11380), (45, 11407), (66, 11497), (67, 11500), (80, 11587), (97, 11695), (113, 11764), (116, 11782), (132, 11866), (135, 11908), (138, 11923), (139, 11932), (144, 11959), (153, 12022), (161, 12064), (171, 12133), (178, 12196), (179, 12205), (194, 12319), (195, 12325), (204, 12361), (206, 12370), (207, 12382), (209, 12394), (211, 12412), (219, 12472), (223, 12484), (225, 12490), (228, 12505), (231, 12523), (232, 12526), (235, 12544), (238, 12559), (249, 12598), (266, 12655), (267, 12664), (273, 12694), (278, 12715), (284, 12745), (289, 12778), (301, 12862), (304, 12892), (307, 12904), (319, 13006), (325, 13084), (329, 13129), (331, 13153), (341, 13207), (342, 13210), (345, 13225), (352, 13267), (356, 13294), (358, 13303), (359, 13318), (360, 13324), (361, 13327), (385, 13468), (390, 13504), (392, 13510), (395, 13528), (399, 13555), (401, 13567), (408, 13621), (411, 13654), (422, 13714), (431, 13795), (432, 13798), (446, 13882), (448, 13897), (459, 14032), (468, 14098), (476, 14233), (504, 14584), (523, 14839), (524, 14848), (530, 14914), (562, 15109), (566, 15130), (573, 15181), (574, 15199), (575, 15205), (579, 15244),

Gene: Rosmarinus\_21 Start: 12104, Stop: 15937, Start Num: 13

Candidate Starts for Rosmarinus\_21:

(Start: 13 @12104 has 165 MA's), (22, 12173), (28, 12260), (35, 12335), (55, 12437), (61, 12464), (76, 12536), (77, 12548), (78, 12557), (88, 12629), (101, 12704), (119, 12788), (121, 12797), (125, 12818), (131, 12857), (134, 12893), (141, 12935), (153, 13013), (166, 13103), (177, 13178), (189, 13271), (190, 13280), (192, 13292), (193, 13301), (234, 13538), (244, 13577), (253, 13610), (273, 13697), (279, 13721), (294, 13805), (304, 13889), (307, 13901), (311, 13922), (374, 14078), (386, 14159), (395, 14207), (398, 14225), (401, 14246), (406, 14282), (411, 14333), (421, 14390), (431, 14468), (433, 14477), (446, 14555), (448, 14570), (452, 14612), (457, 14666), (476, 14906), (484, 14981), (496, 15092), (506, 15311), (508, 15323), (523, 15506), (524, 15515), (533, 15587), (539, 15617), (547, 15638), (562, 15758), (573, 15830), (574, 15848), (575, 15854),

Gene: Ruriko\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Ruriko\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: SamuelLPlaqson\_21 Start: 12024, Stop: 15863, Start Num: 13

Candidate Starts for SamuelLPlaqson\_21:

(Start: 13 @12024 has 165 MA's), (22, 12093), (28, 12180), (55, 12360), (61, 12387), (77, 12471), (78, 12480), (87, 12540), (88, 12552), (101, 12627), (112, 12678), (121, 12720), (125, 12741), (131, 12780), (141, 12858), (153, 12936), (157, 12960), (177, 13101), (189, 13194), (192, 13215), (193, 13224), (234, 13461), (239, 13485), (244, 13500), (253, 13533), (273, 13620), (290, 13707), (294, 13728), (304, 13812), (307, 13824), (311, 13845), (374, 14001), (386, 14082), (398, 14148), (401, 14169), (406, 14205), (411, 14256), (417, 14274), (421, 14313), (431, 14391), (446, 14478), (448, 14493), (452, 14535), (457, 14589), (476, 14829), (484, 14904), (496, 15015), (497, 15036), (498, 15057), (504, 15177), (515, 15351), (523, 15432), (524, 15441), (533, 15513), (539, 15543), (547, 15564), (562, 15684), (573, 15756), (574, 15774), (575, 15780),

Gene: Scarlett\_20 Start: 11082, Stop: 15158, Start Num: 14

Candidate Starts for Scarlett\_20:

(Start: 14 @11082 has 32 MA's), (25, 11175), (36, 11307), (64, 11445), (78, 11523), (79, 11535), (80, 11541), (86, 11574), (93, 11610), (102, 11667), (104, 11679), (115, 11733), (122, 11763), (135, 11850), (138, 11865), (144, 11901), (160, 11994), (171, 12075), (194, 12258), (196, 12267), (206, 12309), (211, 12351), (219, 12411), (223, 12423), (225, 12429), (228, 12444), (232, 12465), (238, 12498), (271, 12621), (273, 12633), (274, 12639), (278, 12654), (280, 12660), (305, 12744), (313, 12825), (329, 12978), (345, 13074), (347, 13086), (352, 13116), (359, 13167), (363, 13188), (368, 13218), (370, 13224), (374, 13248), (384, 13308), (392, 13359), (399, 13404), (401, 13416), (408, 13470), (411, 13503), (421, 13560), (431, 13638), (432, 13641), (446, 13725), (450, 13752), (452, 13782), (457, 13836), (459, 13875), (476, 14076), (479, 14118), (484, 14151), (504, 14439), (506, 14496), (523, 14697), (535, 14811), (562, 14988), (573, 15072), (575, 15093),

Gene: Schiebel\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Schiebel\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: SgtBeansprout\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for SgtBeansprout\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863),

(273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: ShaboiShabazz\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for ShaboiShabazz\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Shadow1\_19 Start: 10962, Stop: 14963, Start Num: 14

Candidate Starts for Shadow1\_19:

(Start: 14 @10962 has 32 MA's), (25, 11055), (31, 11160), (40, 11214), (43, 11232), (48, 11250), (54, 11280), (60, 11307), (62, 11313), (86, 11454), (89, 11472), (90, 11475), (113, 11589), (115, 11604), (135, 11721), (138, 11736), (150, 11817), (162, 11886), (171, 11946), (194, 12129), (195, 12135), (207, 12192), (219, 12282), (223, 12294), (225, 12300), (228, 12315), (232, 12336), (235, 12354), (256, 12429), (271, 12492), (273, 12504), (278, 12525), (286, 12564), (303, 12609), (307, 12624), (323, 12786), (332, 12876), (346, 12948), (352, 12987), (359, 13038), (363, 13059), (368, 13089), (370, 13095), (374, 13119), (382, 13170), (398, 13266), (401, 13287), (406, 13323), (411, 13374), (431, 13515), (446, 13602), (450, 13629), (457, 13713), (476, 13953), (484, 14028), (507, 14361), (515, 14463), (516, 14472), (523, 14544), (524, 14553), (533, 14628), (539, 14658), (547, 14679), (562, 14796), (570, 14847), (573, 14871), (577, 14910), (578, 14922),

Gene: Shaobing\_21 Start: 11128, Stop: 15282, Start Num: 14

Candidate Starts for Shaobing\_21:

(9, 11086), (Start: 14 @11128 has 32 MA's), (25, 11221), (40, 11380), (45, 11407), (66, 11497), (67, 11500), (80, 11587), (97, 11695), (113, 11764), (116, 11782), (132, 11866), (135, 11908), (138, 11923), (139, 11932), (144, 11959), (153, 12022), (161, 12064), (171, 12133), (178, 12196), (179, 12205), (194, 12319), (195, 12325), (204, 12361), (206, 12370), (207, 12382), (209, 12394), (211, 12412), (219, 12472), (223, 12484), (225, 12490), (228, 12505), (231, 12523), (232, 12526), (235, 12544), (238, 12559), (249, 12598), (266, 12655), (267, 12664), (272, 12688), (273, 12694), (278, 12715), (284, 12745), (289, 12778), (301, 12862), (304, 12892), (307, 12904), (319, 13006), (325, 13084), (329, 13129), (331, 13153), (341, 13207), (342, 13210), (345, 13225), (352, 13267), (356, 13294), (358, 13303), (359, 13318), (360, 13324), (361, 13327), (385, 13468), (390, 13504), (392, 13510), (395, 13528), (399, 13555), (401, 13567), (408, 13621), (411, 13654), (422, 13714), (431, 13795), (432, 13798), (446, 13882), (448, 13897), (459, 14032), (468, 14098), (476, 14233), (504, 14584), (523, 14839), (524, 14848), (530, 14914), (562, 15109), (566, 15130), (573, 15181), (574, 15199), (575, 15205), (579, 15244),

Gene: ShedlockHolmes\_20 Start: 12197, Stop: 16345, Start Num: 13

Candidate Starts for ShedlockHolmes\_20:

(Start: 13 @12197 has 165 MA's), (22, 12266), (23, 12287), (25, 12293), (28, 12353), (46, 12491), (57, 12536), (61, 12557), (74, 12602), (87, 12710), (88, 12722), (93, 12743), (101, 12797), (107, 12827), (112, 12848), (119, 12881), (121, 12890), (125, 12911), (131, 12950), (141, 13028), (147, 13070), (153, 13106), (157, 13130), (182, 13304), (189, 13364), (192, 13385), (193, 13394), (219, 13562),

(226, 13583), (230, 13607), (234, 13631), (238, 13652), (245, 13670), (253, 13703), (264, 13745), (265, 13748), (266, 13751), (273, 13790), (275, 13799), (285, 13868), (302, 13979), (306, 14009), (327, 14207), (329, 14240), (344, 14330), (347, 14348), (352, 14378), (356, 14405), (392, 14621), (398, 14657), (406, 14714), (408, 14732), (411, 14765), (414, 14777), (422, 14825), (431, 14906), (432, 14909), (452, 15026), (459, 15119), (469, 15197), (475, 15296), (476, 15320), (484, 15395), (515, 15854), (517, 15866), (523, 15935), (524, 15944), (557, 16136), (558, 16154), (564, 16190), (566, 16199), (574, 16265), (575, 16271), (577, 16286), (578, 16298),

Gene: ShiaSurprise\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for ShiaSurprise\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: SirPhilip\_20 Start: 10854, Stop: 14759, Start Num: 14

Candidate Starts for SirPhilip\_20:

(Start: 14 @10854 has 32 MA's), (25, 10947), (31, 11052), (39, 11103), (40, 11106), (62, 11205), (77, 11286), (78, 11295), (84, 11334), (86, 11346), (89, 11364), (90, 11367), (92, 11376), (98, 11424), (102, 11439), (107, 11457), (109, 11463), (111, 11475), (135, 11613), (138, 11628), (149, 11694), (150, 11709), (194, 12021), (205, 12066), (206, 12072), (207, 12084), (211, 12114), (219, 12174), (223, 12186), (225, 12192), (228, 12207), (232, 12228), (235, 12246), (236, 12249), (265, 12354), (273, 12396), (278, 12417), (286, 12456), (306, 12510), (307, 12516), (329, 12675), (333, 12708), (350, 12753), (351, 12756), (352, 12759), (356, 12786), (357, 12789), (358, 12795), (361, 12819), (367, 12852), (373, 12885), (385, 12960), (394, 13014), (395, 13020), (398, 13038), (401, 13059), (405, 13092), (422, 13206), (431, 13287), (432, 13290), (446, 13374), (457, 13485), (459, 13524), (466, 13584), (476, 13725), (484, 13800), (516, 14253), (523, 14325), (529, 14379), (535, 14430), (557, 14556), (562, 14598), (573, 14673), (575, 14694),

Gene: Sizemore\_16 Start: 11465, Stop: 15478, Start Num: 13

Candidate Starts for Sizemore\_16:

(Start: 13 @11465 has 165 MA's), (30, 11666), (51, 11780), (61, 11822), (69, 11852), (88, 11987), (91, 11999), (93, 12008), (128, 12197), (131, 12215), (132, 12218), (133, 12239), (134, 12251), (145, 12323), (153, 12371), (174, 12503), (176, 12527), (185, 12608), (208, 12731), (218, 12815), (227, 12851), (234, 12896), (235, 12902), (264, 13010), (269, 13034), (273, 13055), (310, 13274), (324, 13424), (332, 13511), (351, 13619), (374, 13754), (392, 13865), (395, 13883), (400, 13913), (430, 14135), (436, 14159), (438, 14174), (441, 14195), (446, 14222), (450, 14249), (455, 14309), (462, 14399), (465, 14432), (472, 14495), (474, 14552), (476, 14585), (477, 14594), (517, 15098), (518, 15125), (521, 15155), (523, 15167), (524, 15176), (539, 15245), (556, 15326), (560, 15386), (563, 15404), (565, 15413),

Gene: Slimphazie\_21 Start: 12080, Stop: 15916, Start Num: 13

Candidate Starts for Slimphazie\_21:

(Start: 13 @12080 has 165 MA's), (22, 12149), (28, 12236), (55, 12413), (61, 12440), (76, 12512), (77, 12524), (78, 12533), (88, 12605), (101, 12680), (119, 12764), (121, 12773), (125, 12794), (131, 12833), (141, 12911), (153, 12989), (166, 13079), (177, 13154), (189, 13247), (190, 13256), (192, 13268), (193, 13277), (239, 13538), (244, 13553), (253, 13586), (273, 13673), (279, 13697), (294, 13781), (304, 13865), (307, 13877), (311, 13898), (374, 14054), (386, 14135), (395, 14183), (398,

14201), (401, 14222), (406, 14258), (411, 14309), (421, 14366), (431, 14444), (433, 14453), (446, 14531), (452, 14588), (457, 14642), (476, 14882), (484, 14957), (496, 15068), (506, 15287), (508, 15299), (523, 15485), (524, 15494), (533, 15566), (539, 15596), (547, 15617), (562, 15737), (573, 15809), (574, 15827), (575, 15833),

Gene: Spock\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Spock\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Stargaze\_16 Start: 11766, Stop: 15800, Start Num: 13

Candidate Starts for Stargaze\_16:

(Start: 13 @11766 has 165 MA's), (25, 11862), (30, 11967), (43, 12042), (48, 12060), (50, 12072), (54, 12090), (60, 12117), (62, 12123), (80, 12231), (82, 12237), (84, 12252), (86, 12264), (89, 12282), (96, 12327), (105, 12363), (108, 12378), (111, 12393), (113, 12399), (132, 12501), (135, 12543), (138, 12558), (144, 12594), (153, 12657), (156, 12678), (159, 12687), (168, 12750), (171, 12768), (188, 12909), (194, 12951), (201, 12981), (202, 12984), (204, 12993), (206, 13002), (211, 13044), (222, 13113), (223, 13116), (225, 13122), (228, 13137), (232, 13158), (233, 13167), (260, 13263), (269, 13305), (273, 13326), (279, 13350), (281, 13362), (282, 13365), (291, 13422), (296, 13455), (301, 13494), (307, 13536), (308, 13539), (320, 13641), (324, 13701), (325, 13716), (328, 13752), (335, 13815), (340, 13836), (351, 13896), (370, 14007), (374, 14031), (382, 14082), (383, 14088), (403, 14220), (426, 14352), (436, 14436), (438, 14451), (449, 14517), (455, 14586), (460, 14667), (462, 14676), (472, 14769), (474, 14826), (476, 14859), (483, 14919), (486, 14934), (504, 15213), (517, 15402), (518, 15429), (523, 15471), (560, 15708), (563, 15726), (566, 15741), (567, 15753),

Gene: Stinson\_21 Start: 12048, Stop: 15881, Start Num: 13

Candidate Starts for Stinson\_21:

(Start: 13 @12048 has 165 MA's), (22, 12117), (28, 12204), (55, 12384), (61, 12411), (77, 12495), (78, 12504), (87, 12564), (88, 12576), (101, 12651), (110, 12693), (119, 12735), (121, 12744), (125, 12765), (131, 12804), (141, 12882), (153, 12960), (177, 13125), (189, 13218), (192, 13239), (193, 13248), (234, 13485), (239, 13509), (244, 13524), (253, 13557), (273, 13644), (294, 13752), (304, 13836), (307, 13848), (311, 13869), (319, 13950), (374, 14025), (386, 14106), (388, 14115), (395, 14154), (398, 14172), (401, 14193), (406, 14229), (411, 14280), (421, 14337), (431, 14415), (433, 14424), (446, 14502), (448, 14517), (452, 14559), (457, 14613), (476, 14853), (484, 14928), (496, 15039), (506, 15258), (515, 15372), (523, 15453), (524, 15462), (533, 15534), (539, 15564), (547, 15585), (562, 15702), (573, 15774), (575, 15798),

Gene: Strobilo\_17 Start: 10116, Stop: 13787, Start Num: 12

Candidate Starts for Strobilo\_17:

(Start: 12 @10116 has 10 MA's), (22, 10188), (65, 10422), (76, 10473), (88, 10566), (93, 10587), (101, 10641), (121, 10734), (125, 10755), (128, 10776), (129, 10782), (141, 10872), (147, 10914), (153, 10950), (160, 10983), (161, 10995), (164, 11019), (166, 11040), (172, 11064), (173, 11070), (176, 11106), (177, 11115), (182, 11148), (183, 11160), (185, 11187), (218, 11370), (219, 11382), (221, 11388), (227, 11406), (230, 11427), (234, 11451), (239, 11475), (241, 11484), (247, 11499), (262, 11511), (292, 11544), (299, 11592), (315, 11733), (316, 11739), (321, 11775), (326, 11802), (330, 11820), (343, 11850), (362, 11946), (371, 11979), (382, 12015), (393, 12066), (398, 12099), (401,

12120), (404, 12144), (409, 12174), (412, 12195), (452, 12417), (459, 12510), (469, 12588), (476, 12711), (490, 12816), (493, 12864), (515, 13284), (516, 13293), (518, 13323), (541, 13488), (562, 13617), (575, 13710),

Gene: Sulley\_21 Start: 12049, Stop: 15882, Start Num: 13

Candidate Starts for Sulley\_21:

(Start: 13 @12049 has 165 MA's), (22, 12118), (28, 12205), (55, 12382), (61, 12409), (77, 12493), (78, 12502), (88, 12574), (101, 12649), (119, 12733), (121, 12742), (125, 12763), (131, 12802), (141, 12880), (153, 12958), (166, 13048), (177, 13123), (189, 13216), (192, 13237), (193, 13246), (234, 13483), (244, 13522), (253, 13555), (273, 13642), (279, 13666), (294, 13750), (304, 13834), (307, 13846), (311, 13867), (374, 14023), (386, 14104), (395, 14152), (398, 14170), (401, 14191), (406, 14227), (411, 14278), (421, 14335), (431, 14413), (433, 14422), (446, 14500), (448, 14515), (452, 14557), (457, 14611), (476, 14851), (484, 14926), (496, 15037), (506, 15256), (508, 15268), (523, 15451), (524, 15460), (539, 15562), (547, 15583), (562, 15703), (573, 15775), (574, 15793), (575, 15799),

Gene: Sunflower1121\_19 Start: 10973, Stop: 14974, Start Num: 14

Candidate Starts for Sunflower1121\_19:

(7, 10925), (Start: 14 @10973 has 32 MA's), (25, 11066), (31, 11171), (40, 11225), (43, 11243), (48, 11261), (54, 11291), (60, 11318), (62, 11324), (75, 11369), (86, 11465), (89, 11483), (90, 11486), (113, 11600), (115, 11615), (135, 11732), (138, 11747), (150, 11828), (161, 11888), (162, 11897), (171, 11957), (194, 12140), (195, 12146), (207, 12203), (219, 12293), (223, 12305), (225, 12311), (228, 12326), (232, 12347), (235, 12365), (256, 12440), (271, 12503), (273, 12515), (278, 12536), (286, 12575), (303, 12620), (307, 12635), (323, 12797), (329, 12860), (332, 12887), (346, 12959), (352, 12998), (359, 13049), (363, 13070), (368, 13100), (370, 13106), (374, 13130), (382, 13181), (401, 13298), (406, 13334), (411, 13385), (431, 13526), (446, 13613), (450, 13640), (457, 13724), (476, 13964), (484, 14039), (507, 14372), (515, 14474), (516, 14483), (523, 14555), (524, 14564), (533, 14639), (539, 14669), (547, 14690), (562, 14807), (570, 14858), (573, 14882), (577, 14921), (578, 14933),

Gene: Sweets\_16 Start: 11459, Stop: 15472, Start Num: 13

Candidate Starts for Sweets\_16:

(Start: 13 @11459 has 165 MA's), (30, 11660), (51, 11774), (61, 11816), (69, 11846), (88, 11981), (91, 11993), (93, 12002), (128, 12191), (131, 12209), (132, 12212), (133, 12233), (134, 12245), (145, 12317), (153, 12365), (174, 12497), (176, 12521), (185, 12602), (208, 12725), (218, 12809), (227, 12845), (234, 12890), (235, 12896), (264, 13004), (269, 13028), (273, 13049), (310, 13268), (324, 13418), (332, 13505), (351, 13613), (374, 13748), (392, 13859), (395, 13877), (400, 13907), (430, 14129), (436, 14153), (438, 14168), (441, 14189), (446, 14216), (450, 14243), (455, 14303), (462, 14393), (465, 14426), (472, 14489), (474, 14546), (476, 14579), (477, 14588), (517, 15092), (518, 15119), (521, 15149), (523, 15161), (524, 15170), (539, 15239), (556, 15320), (560, 15380), (563, 15398), (565, 15407),

Gene: Syra333\_20 Start: 11068, Stop: 15069, Start Num: 14

Candidate Starts for Syra333\_20:

(Start: 14 @11068 has 32 MA's), (25, 11161), (31, 11266), (40, 11320), (43, 11338), (48, 11356), (54, 11386), (60, 11413), (62, 11419), (75, 11464), (86, 11560), (89, 11578), (90, 11581), (113, 11695), (115, 11710), (135, 11827), (138, 11842), (150, 11923), (161, 11983), (162, 11992), (171, 12052), (194, 12235), (195, 12241), (207, 12298), (219, 12388), (223, 12400), (225, 12406), (228, 12421), (232, 12442), (235, 12460), (256, 12535), (265, 12568), (271, 12598), (273, 12610), (278, 12631), (286, 12670), (303, 12715), (307, 12730), (323, 12892), (329, 12955), (332, 12982), (346, 13054), (352, 13093), (359, 13144), (363, 13165), (368, 13195), (370, 13201), (374, 13225), (382, 13276), (398, 13372), (401, 13393), (406, 13429), (411, 13480), (431, 13621), (432, 13624), (446, 13708), (450, 13735), (457, 13819), (458, 13831), (476, 14059), (484, 14134), (523, 14650), (524, 14659),

(533, 14734), (539, 14764), (547, 14785), (562, 14902), (573, 14977), (577, 15016), (578, 15028),

Gene: TBond007\_20 Start: 11948, Stop: 16126, Start Num: 13

Candidate Starts for TBond007\_20:

(Start: 13 @11948 has 165 MA's), (22, 12017), (23, 12038), (25, 12044), (28, 12104), (46, 12242), (57, 12287), (61, 12308), (87, 12461), (88, 12473), (93, 12494), (101, 12548), (107, 12578), (112, 12599), (119, 12632), (121, 12641), (125, 12662), (131, 12701), (141, 12779), (147, 12821), (153, 12857), (157, 12881), (182, 13055), (185, 13094), (189, 13115), (192, 13136), (193, 13145), (219, 13313), (226, 13334), (230, 13358), (234, 13382), (238, 13403), (245, 13421), (253, 13454), (264, 13496), (265, 13499), (266, 13502), (273, 13541), (275, 13550), (285, 13619), (302, 13730), (306, 13760), (327, 13958), (329, 13991), (344, 14081), (347, 14099), (352, 14129), (356, 14156), (392, 14372), (398, 14408), (406, 14465), (408, 14483), (410, 14504), (411, 14516), (422, 14576), (431, 14657), (437, 14696), (443, 14729), (446, 14744), (447, 14750), (448, 14759), (452, 14801), (459, 14894), (469, 14972), (476, 15095), (484, 15170), (515, 15635), (517, 15647), (523, 15716), (524, 15725), (557, 15917), (564, 15971), (566, 15980), (574, 16046), (575, 16052), (577, 16067), (578, 16079),

Gene: TClif\_20 Start: 11063, Stop: 15118, Start Num: 14

Candidate Starts for TClif\_20:

(7, 11015), (Start: 14 @11063 has 32 MA's), (17, 11081), (25, 11156), (40, 11315), (60, 11408), (63, 11417), (67, 11435), (72, 11450), (78, 11504), (84, 11543), (86, 11555), (90, 11576), (96, 11618), (102, 11648), (109, 11672), (130, 11783), (135, 11822), (138, 11837), (139, 11846), (144, 11873), (153, 11936), (171, 12047), (176, 12098), (194, 12230), (205, 12275), (206, 12281), (211, 12323), (219, 12383), (223, 12395), (225, 12401), (228, 12416), (232, 12437), (235, 12455), (238, 12470), (248, 12506), (265, 12563), (271, 12593), (273, 12605), (277, 12623), (302, 12689), (306, 12719), (307, 12725), (317, 12824), (320, 12830), (329, 12950), (334, 12998), (338, 13013), (345, 13046), (347, 13058), (352, 13088), (358, 13124), (359, 13139), (360, 13145), (365, 13172), (370, 13196), (374, 13220), (379, 13250), (382, 13271), (395, 13349), (401, 13388), (406, 13424), (411, 13475), (423, 13538), (431, 13616), (432, 13619), (435, 13643), (446, 13703), (459, 13853), (476, 14054), (484, 14129), (492, 14198), (523, 14678), (524, 14687), (528, 14708), (533, 14783), (535, 14795), (539, 14813), (547, 14834), (562, 14951), (573, 15026), (574, 15044), (575, 15050), (577, 15065), (578, 15077), (579, 15089), (580, 15092), (582, 15113),

Gene: Tachez\_21 Start: 12042, Stop: 15878, Start Num: 13

Candidate Starts for Tachez\_21:

(Start: 13 @12042 has 165 MA's), (22, 12111), (28, 12198), (55, 12375), (61, 12402), (76, 12474), (77, 12486), (78, 12495), (88, 12567), (101, 12642), (119, 12726), (121, 12735), (125, 12756), (131, 12795), (141, 12873), (153, 12951), (166, 13041), (177, 13116), (189, 13209), (190, 13218), (192, 13230), (193, 13239), (239, 13500), (244, 13515), (253, 13548), (273, 13635), (279, 13659), (294, 13743), (304, 13827), (307, 13839), (311, 13860), (374, 14016), (386, 14097), (395, 14145), (398, 14163), (401, 14184), (406, 14220), (411, 14271), (421, 14328), (431, 14406), (433, 14415), (446, 14493), (452, 14550), (457, 14604), (476, 14844), (484, 14919), (496, 15030), (506, 15249), (508, 15261), (523, 15447), (524, 15456), (533, 15528), (539, 15558), (547, 15579), (562, 15699), (573, 15771), (574, 15789), (575, 15795),

Gene: TaiwanKao\_22 Start: 12053, Stop: 15889, Start Num: 13

Candidate Starts for TaiwanKao\_22:

(Start: 13 @12053 has 165 MA's), (22, 12122), (28, 12209), (55, 12389), (61, 12416), (77, 12500), (78, 12509), (87, 12569), (88, 12581), (101, 12656), (110, 12698), (119, 12740), (121, 12749), (125, 12770), (131, 12809), (141, 12887), (153, 12965), (177, 13130), (189, 13223), (190, 13232), (192, 13244), (193, 13253), (234, 13490), (239, 13514), (244, 13529), (253, 13562), (273, 13649), (279, 13673), (294, 13757), (304, 13841), (307, 13853), (319, 13955), (374, 14030), (386, 14111), (395, 14159), (398, 14177), (400, 14189), (401, 14198), (406, 14234), (411, 14285), (421, 14342), (431, 14420), (433, 14429), (446, 14507), (448, 14522), (452, 14564), (457, 14618), (476, 14858), (484,

14933), (496, 15044), (506, 15263), (508, 15275), (515, 15377), (523, 15458), (524, 15467), (533, 15539), (539, 15569), (547, 15590), (562, 15710), (573, 15782), (574, 15800), (575, 15806),

Gene: Teejan\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Teejan\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: Tierra\_20 Start: 11792, Stop: 15793, Start Num: 14

Candidate Starts for Tierra\_20:

(Start: 14 @11792 has 32 MA's), (25, 11885), (31, 11990), (36, 12017), (40, 12044), (43, 12062), (48, 12080), (53, 12104), (54, 12110), (60, 12137), (62, 12143), (72, 12179), (75, 12188), (76, 12212), (86, 12284), (89, 12302), (90, 12305), (115, 12434), (135, 12551), (150, 12647), (156, 12686), (162, 12716), (171, 12776), (194, 12959), (195, 12965), (196, 12968), (207, 13022), (211, 13052), (219, 13112), (223, 13124), (225, 13130), (228, 13145), (232, 13166), (235, 13184), (271, 13322), (273, 13334), (278, 13355), (286, 13394), (306, 13448), (307, 13454), (323, 13616), (329, 13679), (342, 13760), (345, 13775), (352, 13817), (359, 13868), (363, 13889), (368, 13919), (370, 13925), (374, 13949), (382, 14000), (392, 14060), (401, 14117), (406, 14153), (408, 14171), (411, 14204), (431, 14345), (432, 14348), (446, 14432), (450, 14459), (457, 14543), (476, 14783), (484, 14858), (507, 15191), (515, 15293), (516, 15302), (523, 15374), (533, 15458), (539, 15488), (547, 15509), (562, 15626), (573, 15701), (577, 15740), (578, 15752),

Gene: Tigress9\_20 Start: 11051, Stop: 15055, Start Num: 14

Candidate Starts for Tigress9\_20:

(Start: 14 @11051 has 32 MA's), (25, 11144), (31, 11249), (40, 11303), (43, 11321), (48, 11339), (54, 11369), (60, 11396), (62, 11402), (75, 11447), (86, 11543), (89, 11561), (90, 11564), (113, 11678), (115, 11693), (135, 11810), (138, 11825), (150, 11906), (161, 11966), (162, 11975), (171, 12035), (194, 12218), (195, 12224), (207, 12281), (219, 12371), (223, 12383), (225, 12389), (228, 12404), (232, 12425), (235, 12443), (256, 12518), (265, 12551), (271, 12581), (273, 12593), (278, 12614), (286, 12653), (303, 12698), (307, 12713), (323, 12875), (329, 12938), (332, 12965), (346, 13037), (352, 13076), (359, 13127), (363, 13148), (368, 13178), (370, 13184), (374, 13208), (382, 13259), (398, 13355), (401, 13376), (406, 13412), (411, 13463), (431, 13604), (432, 13607), (446, 13691), (450, 13718), (457, 13802), (476, 14042), (484, 14117), (515, 14555), (516, 14564), (523, 14636), (524, 14645), (533, 14720), (539, 14750), (547, 14771), (562, 14888), (573, 14963), (577, 15002), (578, 15014),

Gene: TinaBug\_16 Start: 11459, Stop: 15472, Start Num: 13

Candidate Starts for TinaBug\_16:

(Start: 13 @11459 has 165 MA's), (30, 11660), (51, 11774), (61, 11816), (69, 11846), (88, 11981), (91, 11993), (93, 12002), (128, 12191), (131, 12209), (132, 12212), (133, 12233), (134, 12245), (145, 12317), (153, 12365), (174, 12497), (176, 12521), (185, 12602), (208, 12725), (218, 12809), (227, 12845), (234, 12890), (235, 12896), (264, 13004), (269, 13028), (273, 13049), (310, 13268), (324, 13418), (332, 13505), (351, 13613), (374, 13748), (392, 13859), (395, 13877), (400, 13907), (430, 14129), (436, 14153), (438, 14168), (441, 14189), (446, 14216), (450, 14243), (455, 14303), (462, 14393), (465, 14426), (472, 14489), (474, 14546), (476, 14579), (477, 14588), (517, 15092), (518, 15119), (521, 15149), (523, 15161), (524, 15170), (539, 15239), (556, 15320), (560, 15380), (563,

15398), (565, 15407),

Gene: TingHuaYa\_21 Start: 11093, Stop: 15220, Start Num: 14

Candidate Starts for TingHuaYa\_21:

(9, 11045), (Start: 14 @11093 has 32 MA's), (25, 11186), (36, 11318), (39, 11342), (45, 11372), (50, 11393), (53, 11405), (60, 11438), (67, 11465), (80, 11552), (86, 11585), (89, 11603), (90, 11606), (96, 11648), (107, 11696), (132, 11822), (135, 11864), (138, 11879), (144, 11915), (154, 11987), (171, 12089), (194, 12272), (204, 12314), (205, 12317), (206, 12323), (207, 12335), (211, 12365), (219, 12425), (225, 12443), (228, 12458), (231, 12476), (232, 12479), (238, 12512), (263, 12593), (266, 12608), (273, 12647), (278, 12668), (304, 12845), (307, 12857), (309, 12866), (312, 12917), (319, 12959), (329, 13082), (331, 13106), (342, 13163), (345, 13178), (346, 13181), (356, 13247), (358, 13256), (361, 13280), (370, 13328), (382, 13403), (385, 13421), (395, 13481), (399, 13508), (401, 13520), (406, 13556), (408, 13574), (415, 13619), (418, 13649), (422, 13667), (431, 13748), (432, 13751), (446, 13835), (448, 13850), (451, 13889), (452, 13892), (459, 13985), (468, 14051), (476, 14186), (504, 14537), (515, 14708), (523, 14789), (533, 14873), (562, 15041), (573, 15113), (574, 15131), (575, 15137),

Gene: TiniBug\_21 Start: 12024, Stop: 15860, Start Num: 13

Candidate Starts for TiniBug\_21:

(Start: 13 @12024 has 165 MA's), (22, 12093), (28, 12180), (55, 12360), (61, 12387), (77, 12471), (78, 12480), (87, 12540), (88, 12552), (101, 12627), (110, 12669), (119, 12711), (121, 12720), (125, 12741), (131, 12780), (141, 12858), (153, 12936), (177, 13101), (189, 13194), (192, 13215), (193, 13224), (234, 13461), (239, 13485), (244, 13500), (253, 13533), (273, 13620), (290, 13707), (294, 13728), (304, 13812), (307, 13824), (311, 13845), (374, 14001), (386, 14082), (398, 14148), (401, 14169), (406, 14205), (411, 14256), (417, 14274), (421, 14313), (431, 14391), (446, 14478), (448, 14493), (452, 14535), (457, 14589), (476, 14829), (484, 14904), (496, 15015), (497, 15036), (498, 15057), (504, 15177), (515, 15348), (523, 15429), (524, 15438), (533, 15510), (539, 15540), (547, 15561), (562, 15681), (573, 15753), (574, 15771), (575, 15777),

Gene: Tiri\_21 Start: 12088, Stop: 15921, Start Num: 13

Candidate Starts for Tiri\_21:

(3, 11869), (10, 12049), (Start: 13 @12088 has 165 MA's), (22, 12157), (28, 12244), (55, 12421), (61, 12448), (77, 12532), (78, 12541), (88, 12613), (101, 12688), (119, 12772), (121, 12781), (125, 12802), (131, 12841), (141, 12919), (153, 12997), (166, 13087), (177, 13162), (189, 13255), (190, 13264), (192, 13276), (193, 13285), (224, 13468), (234, 13522), (244, 13561), (253, 13594), (273, 13681), (279, 13705), (294, 13789), (304, 13873), (307, 13885), (311, 13906), (374, 14062), (386, 14143), (395, 14191), (398, 14209), (401, 14230), (406, 14266), (411, 14317), (421, 14374), (431, 14452), (433, 14461), (446, 14539), (452, 14596), (457, 14650), (476, 14890), (484, 14965), (496, 15076), (506, 15295), (508, 15307), (515, 15409), (523, 15490), (524, 15499), (539, 15601), (547, 15622), (562, 15742), (573, 15814), (574, 15832), (575, 15838),

Gene: TomBrady\_16 Start: 11465, Stop: 15478, Start Num: 13

Candidate Starts for TomBrady\_16:

(Start: 13 @11465 has 165 MA's), (30, 11666), (51, 11780), (61, 11822), (69, 11852), (88, 11987), (91, 11999), (93, 12008), (128, 12197), (131, 12215), (132, 12218), (133, 12239), (134, 12251), (145, 12323), (153, 12371), (174, 12503), (176, 12527), (185, 12608), (208, 12731), (218, 12815), (227, 12851), (234, 12896), (235, 12902), (264, 13010), (269, 13034), (273, 13055), (310, 13274), (324, 13424), (332, 13511), (351, 13619), (374, 13754), (392, 13865), (395, 13883), (400, 13913), (430, 14135), (436, 14159), (438, 14174), (441, 14195), (446, 14222), (450, 14249), (455, 14309), (462, 14399), (465, 14432), (472, 14495), (474, 14552), (476, 14585), (477, 14594), (517, 15098), (518, 15125), (521, 15155), (523, 15167), (524, 15176), (539, 15245), (556, 15326), (560, 15386), (563, 15404), (565, 15413),

Gene: Topper\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Topper\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Torres\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Torres\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: TreyKay\_21 Start: 12047, Stop: 15883, Start Num: 13

Candidate Starts for TreyKay\_21:

(Start: 13 @12047 has 165 MA's), (22, 12116), (28, 12203), (55, 12383), (61, 12410), (78, 12503), (87, 12563), (88, 12575), (101, 12650), (112, 12701), (121, 12743), (125, 12764), (131, 12803), (141, 12881), (153, 12959), (157, 12983), (177, 13124), (189, 13217), (190, 13226), (192, 13238), (193, 13247), (234, 13484), (239, 13508), (244, 13523), (253, 13556), (273, 13643), (279, 13667), (294, 13751), (304, 13835), (307, 13847), (311, 13868), (319, 13949), (374, 14024), (386, 14105), (395, 14153), (398, 14171), (400, 14183), (401, 14192), (406, 14228), (411, 14279), (421, 14336), (431, 14414), (433, 14423), (446, 14501), (448, 14516), (452, 14558), (457, 14612), (476, 14852), (484, 14927), (496, 15038), (506, 15257), (508, 15269), (515, 15371), (523, 15452), (524, 15461), (533, 15533), (539, 15563), (547, 15584), (562, 15704), (573, 15776), (574, 15794), (575, 15800),

Gene: TribelTrouble\_19 Start: 12006, Stop: 16166, Start Num: 13

Candidate Starts for TribelTrouble\_19:

(Start: 13 @12006 has 165 MA's), (22, 12075), (23, 12096), (25, 12102), (28, 12162), (52, 12327), (57, 12345), (61, 12366), (66, 12387), (74, 12411), (77, 12450), (85, 12513), (87, 12519), (88, 12531), (101, 12606), (121, 12699), (125, 12720), (131, 12759), (141, 12837), (148, 12882), (153, 12915), (157, 12939), (163, 12981), (182, 13113), (189, 13173), (192, 13194), (193, 13203), (210, 13296), (219, 13371), (230, 13416), (234, 13440), (238, 13461), (246, 13485), (252, 13509), (265, 13557), (273, 13599), (297, 13755), (304, 13812), (323, 13986), (327, 14016), (329, 14049), (352, 14187), (356, 14214), (361, 14247), (372, 14301), (374, 14319), (379, 14349), (392, 14430), (398, 14466), (408, 14541), (411, 14574), (419, 14619), (422, 14634), (431, 14715), (432, 14718), (443, 14787), (446, 14802), (447, 14808), (448, 14817), (457, 14913), (459, 14952), (469, 15030), (475, 15129), (476, 15153), (484, 15228), (512, 15654), (515, 15684), (516, 15693), (517, 15696), (524, 15774), (549, 15900), (557, 15960), (558, 15978), (571, 16056), (575, 16092), (577, 16107), (578, 16119), (584, 16158),

Gene: Trice\_17 Start: 11327, Stop: 15460, Start Num: 13

Candidate Starts for Trice\_17:

(10, 11288), (Start: 13 @11327 has 165 MA's), (22, 11396), (28, 11483), (35, 11561), (57, 11669), (61, 11690), (70, 11723), (88, 11855), (92, 11870), (93, 11876), (101, 11930), (107, 11960), (121, 12023), (125, 12044), (131, 12083), (141, 12161), (153, 12239), (157, 12263), (189, 12497), (205, 12578), (212, 12638), (219, 12695), (229, 12731), (234, 12764), (239, 12788), (258, 12854), (261, 12863), (273, 12923), (294, 13031), (299, 13076), (320, 13232), (328, 13343), (329, 13352), (330, 13364), (338, 13415), (342, 13433), (347, 13460), (352, 13490), (367, 13583), (374, 13622), (401, 13790), (408, 13844), (411, 13877), (420, 13922), (431, 14003), (432, 14006), (446, 14090), (447, 14096), (448, 14105), (452, 14147), (456, 14183), (457, 14201), (459, 14240), (466, 14300), (476, 14441), (481, 14501), (484, 14516), (508, 14858), (523, 15047), (524, 15056), (531, 15119), (575, 15395),

Gene: TruffulaTree\_21 Start: 12076, Stop: 15912, Start Num: 13

Candidate Starts for TruffulaTree\_21:

(Start: 13 @12076 has 165 MA's), (22, 12145), (28, 12232), (55, 12409), (61, 12436), (76, 12508), (77, 12520), (78, 12529), (88, 12601), (101, 12676), (119, 12760), (121, 12769), (125, 12790), (131, 12829), (141, 12907), (153, 12985), (166, 13075), (177, 13150), (189, 13243), (190, 13252), (192, 13264), (193, 13273), (239, 13534), (244, 13549), (253, 13582), (273, 13669), (279, 13693), (294, 13777), (304, 13861), (307, 13873), (311, 13894), (374, 14050), (386, 14131), (395, 14179), (398, 14197), (401, 14218), (406, 14254), (411, 14305), (421, 14362), (431, 14440), (433, 14449), (446, 14527), (452, 14584), (457, 14638), (476, 14878), (484, 14953), (496, 15064), (506, 15283), (508, 15295), (523, 15481), (524, 15490), (533, 15562), (539, 15592), (547, 15613), (562, 15733), (573, 15805), (574, 15823), (575, 15829),

Gene: Twitch\_21 Start: 12116, Stop: 15949, Start Num: 13

Candidate Starts for Twitch\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (28, 12272), (35, 12347), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (134, 12905), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (448, 14582), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15518), (524, 15527), (533, 15599), (539, 15629), (547, 15650), (562, 15770), (573, 15842), (574, 15860), (575, 15866),

Gene: Unicorn\_20 Start: 11123, Stop: 15124, Start Num: 14

Candidate Starts for Unicorn\_20:

(Start: 14 @11123 has 32 MA's), (25, 11216), (31, 11321), (40, 11375), (43, 11393), (48, 11411), (53, 11435), (54, 11441), (60, 11468), (62, 11474), (64, 11486), (75, 11519), (86, 11615), (89, 11633), (90, 11636), (113, 11750), (115, 11765), (135, 11882), (150, 11978), (156, 12017), (161, 12038), (162, 12047), (171, 12107), (194, 12290), (195, 12296), (196, 12299), (207, 12353), (211, 12383), (219, 12443), (223, 12455), (225, 12461), (228, 12476), (232, 12497), (235, 12515), (271, 12653), (273, 12665), (278, 12686), (286, 12725), (306, 12779), (307, 12785), (319, 12887), (323, 12947), (329, 13010), (342, 13091), (345, 13106), (346, 13109), (352, 13148), (358, 13184), (359, 13199), (360, 13205), (365, 13232), (370, 13256), (382, 13331), (392, 13391), (401, 13448), (406, 13484), (411, 13535), (431, 13676), (432, 13679), (446, 13763), (450, 13790), (457, 13874), (459, 13913), (476, 14114), (484, 14189), (502, 14408), (507, 14522), (515, 14624), (516, 14633), (523, 14705), (533, 14789), (539, 14819), (547, 14840), (562, 14957), (573, 15032), (577, 15071), (578, 15083),

Gene: Urkel\_21 Start: 12024, Stop: 15863, Start Num: 13

Candidate Starts for Urkel\_21:

(Start: 13 @12024 has 165 MA's), (22, 12093), (28, 12180), (55, 12360), (61, 12387), (77, 12471), (78, 12480), (87, 12540), (88, 12552), (101, 12627), (112, 12678), (121, 12720), (125, 12741), (131, 12780), (141, 12858), (153, 12936), (157, 12960), (177, 13101), (189, 13194), (192, 13215), (193,

13224), (234, 13461), (239, 13485), (244, 13500), (253, 13533), (273, 13620), (290, 13707), (294, 13728), (304, 13812), (307, 13824), (311, 13845), (374, 14001), (386, 14082), (398, 14148), (401, 14169), (406, 14205), (411, 14256), (417, 14274), (421, 14313), (431, 14391), (446, 14478), (448, 14493), (452, 14535), (457, 14589), (476, 14829), (484, 14904), (496, 15015), (497, 15036), (498, 15057), (504, 15177), (515, 15351), (523, 15432), (524, 15441), (533, 15513), (539, 15543), (547, 15564), (562, 15684), (573, 15756), (574, 15774), (575, 15780),

Gene: Validus\_21 Start: 11056, Stop: 15213, Start Num: 14

Candidate Starts for Validus\_21:

(9, 11008), (Start: 14 @11056 has 32 MA's), (25, 11149), (26, 11161), (39, 11305), (40, 11308), (67, 11428), (80, 11515), (86, 11548), (97, 11623), (98, 11626), (113, 11692), (132, 11794), (135, 11836), (138, 11851), (139, 11860), (144, 11887), (149, 11917), (153, 11950), (161, 11992), (171, 12061), (194, 12247), (195, 12253), (204, 12289), (207, 12310), (209, 12322), (211, 12340), (219, 12400), (223, 12412), (225, 12418), (228, 12433), (231, 12451), (232, 12454), (238, 12487), (266, 12583), (273, 12622), (278, 12643), (284, 12673), (289, 12706), (301, 12790), (304, 12820), (307, 12832), (319, 12934), (325, 13012), (329, 13057), (331, 13081), (341, 13135), (342, 13138), (345, 13153), (346, 13156), (352, 13195), (356, 13222), (359, 13246), (360, 13252), (365, 13279), (374, 13327), (382, 13378), (385, 13396), (390, 13432), (392, 13438), (395, 13456), (399, 13483), (401, 13495), (408, 13549), (411, 13582), (422, 13642), (431, 13723), (432, 13726), (446, 13810), (448, 13825), (452, 13867), (459, 13960), (468, 14026), (476, 14161), (503, 14509), (516, 14701), (523, 14773), (524, 14782), (528, 14803), (530, 14845), (562, 15040), (564, 15052), (573, 15112), (575, 15136), (579, 15175),

Gene: Veliki\_21 Start: 12116, Stop: 15952, Start Num: 13

Candidate Starts for Veliki\_21:

(Start: 13 @12116 has 165 MA's), (22, 12185), (23, 12206), (28, 12272), (55, 12449), (61, 12476), (76, 12548), (77, 12560), (78, 12569), (88, 12641), (101, 12716), (119, 12800), (121, 12809), (125, 12830), (131, 12869), (141, 12947), (153, 13025), (166, 13115), (177, 13190), (189, 13283), (190, 13292), (192, 13304), (193, 13313), (234, 13550), (244, 13589), (253, 13622), (273, 13709), (279, 13733), (294, 13817), (304, 13901), (307, 13913), (311, 13934), (374, 14090), (386, 14171), (395, 14219), (398, 14237), (401, 14258), (406, 14294), (411, 14345), (421, 14402), (431, 14480), (433, 14489), (446, 14567), (452, 14624), (457, 14678), (476, 14918), (484, 14993), (496, 15104), (506, 15323), (508, 15335), (523, 15521), (524, 15530), (533, 15602), (539, 15632), (547, 15653), (562, 15773), (573, 15845), (574, 15863), (575, 15869),

Gene: Wendigo\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Wendigo\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: Ximenita\_21 Start: 11247, Stop: 15251, Start Num: 14

Candidate Starts for Ximenita\_21:

(Start: 14 @11247 has 32 MA's), (25, 11340), (31, 11445), (40, 11499), (43, 11517), (53, 11559), (60, 11592), (62, 11598), (77, 11679), (86, 11739), (89, 11757), (90, 11760), (113, 11874), (115, 11889), (135, 12006), (140, 12033), (150, 12102), (161, 12162), (162, 12171), (163, 12183), (171, 12231), (194, 12414), (195, 12420), (196, 12423), (219, 12567), (223, 12579), (225, 12585), (228, 12600),

(232, 12621), (235, 12639), (271, 12777), (273, 12789), (278, 12810), (286, 12849), (306, 12903), (307, 12909), (319, 13011), (323, 13071), (329, 13134), (341, 13212), (342, 13215), (345, 13230), (352, 13272), (356, 13299), (358, 13308), (359, 13323), (360, 13329), (365, 13356), (370, 13380), (372, 13386), (379, 13434), (382, 13455), (395, 13533), (398, 13551), (401, 13572), (406, 13608), (411, 13659), (431, 13800), (433, 13809), (446, 13887), (457, 13998), (458, 14010), (476, 14238), (484, 14313), (516, 14757), (523, 14829), (524, 14838), (533, 14913), (539, 14943), (547, 14964), (562, 15081), (573, 15156), (577, 15195), (578, 15207), (585, 15246),

Gene: YangYin\_16 Start: 11787, Stop: 15824, Start Num: 13

Candidate Starts for YangYin\_16:

(Start: 13 @11787 has 165 MA's), (24, 11880), (43, 12063), (45, 12072), (62, 12144), (72, 12180), (80, 12252), (82, 12258), (84, 12273), (86, 12285), (89, 12303), (96, 12348), (105, 12384), (108, 12399), (111, 12414), (113, 12420), (132, 12522), (135, 12564), (138, 12579), (144, 12615), (153, 12678), (156, 12699), (168, 12771), (171, 12789), (188, 12930), (194, 12972), (201, 13002), (202, 13005), (204, 13014), (206, 13023), (211, 13065), (222, 13134), (223, 13137), (225, 13143), (228, 13158), (232, 13179), (233, 13188), (260, 13284), (273, 13347), (279, 13371), (281, 13383), (282, 13386), (291, 13443), (296, 13476), (301, 13515), (307, 13557), (316, 13653), (320, 13662), (324, 13722), (325, 13737), (328, 13773), (340, 13857), (348, 13902), (351, 13917), (355, 13944), (370, 14028), (374, 14052), (382, 14103), (383, 14109), (403, 14241), (426, 14373), (436, 14457), (438, 14472), (449, 14538), (455, 14607), (460, 14688), (462, 14697), (472, 14790), (474, 14847), (476, 14880), (504, 15237), (517, 15426), (518, 15453), (523, 15495), (533, 15573), (560, 15732), (563, 15750), (566, 15765),

Gene: YoureAdopted\_20 Start: 12049, Stop: 15885, Start Num: 13

Candidate Starts for YoureAdopted\_20:

(Start: 13 @12049 has 165 MA's), (22, 12118), (23, 12139), (28, 12205), (55, 12382), (61, 12409), (76, 12481), (77, 12493), (78, 12502), (88, 12574), (101, 12649), (119, 12733), (121, 12742), (125, 12763), (131, 12802), (141, 12880), (153, 12958), (166, 13048), (177, 13123), (189, 13216), (190, 13225), (192, 13237), (193, 13246), (234, 13483), (244, 13522), (253, 13555), (273, 13642), (279, 13666), (294, 13750), (304, 13834), (307, 13846), (311, 13867), (374, 14023), (386, 14104), (395, 14152), (398, 14170), (401, 14191), (406, 14227), (411, 14278), (421, 14335), (431, 14413), (433, 14422), (446, 14500), (448, 14515), (452, 14557), (457, 14611), (476, 14851), (484, 14926), (496, 15037), (506, 15256), (508, 15268), (523, 15454), (524, 15463), (539, 15565), (547, 15586), (562, 15706), (573, 15778), (574, 15796), (575, 15802),

Gene: Yuna\_21 Start: 11197, Stop: 15186, Start Num: 14

Candidate Starts for Yuna\_21:

(Start: 14 @11197 has 32 MA's), (25, 11290), (41, 11458), (47, 11479), (54, 11515), (62, 11548), (63, 11551), (64, 11560), (72, 11584), (84, 11677), (86, 11689), (90, 11710), (130, 11926), (135, 11965), (138, 11980), (144, 12016), (152, 12076), (153, 12079), (161, 12121), (171, 12190), (194, 12376), (195, 12382), (196, 12385), (197, 12391), (204, 12418), (206, 12427), (207, 12439), (211, 12469), (219, 12529), (223, 12541), (225, 12547), (228, 12562), (231, 12580), (232, 12583), (235, 12601), (256, 12676), (271, 12739), (273, 12751), (278, 12772), (286, 12811), (303, 12856), (307, 12871), (323, 13033), (329, 13096), (332, 13123), (346, 13195), (352, 13234), (359, 13285), (361, 13294), (363, 13306), (368, 13336), (370, 13342), (374, 13366), (392, 13477), (395, 13495), (401, 13534), (411, 13621), (415, 13633), (431, 13762), (432, 13765), (446, 13849), (458, 13972), (476, 14200), (481, 14260), (484, 14275), (505, 14590), (516, 14722), (518, 14752), (522, 14791), (523, 14794), (526, 14812), (533, 14866), (539, 14896), (547, 14917), (562, 15028), (575, 15121),

Gene: Yunkel11\_21 Start: 11016, Stop: 15143, Start Num: 14

Candidate Starts for Yunkel11\_21:

(9, 10968), (Start: 14 @11016 has 32 MA's), (25, 11109), (36, 11241), (39, 11265), (45, 11295), (50, 11316), (53, 11328), (67, 11388), (80, 11475), (86, 11508), (89, 11526), (90, 11529), (103, 11601),

(132, 11745), (135, 11787), (138, 11802), (144, 11838), (154, 11910), (171, 12012), (194, 12195), (199, 12222), (205, 12240), (206, 12246), (211, 12288), (223, 12360), (225, 12366), (228, 12381), (232, 12402), (235, 12420), (238, 12435), (251, 12483), (263, 12516), (266, 12531), (273, 12570), (278, 12591), (284, 12621), (309, 12789), (312, 12840), (329, 13005), (331, 13029), (342, 13086), (350, 13137), (356, 13170), (358, 13179), (370, 13251), (382, 13326), (385, 13344), (392, 13386), (395, 13404), (399, 13431), (401, 13443), (418, 13572), (422, 13590), (431, 13671), (432, 13674), (446, 13758), (451, 13812), (452, 13815), (459, 13908), (468, 13974), (476, 14109), (491, 14235), (515, 14631), (516, 14640), (523, 14712), (533, 14796), (562, 14964), (573, 15036), (575, 15060), (579, 15099),

Gene: Zabiza\_21 Start: 12077, Stop: 15916, Start Num: 13

Candidate Starts for Zabiza\_21:

(Start: 13 @12077 has 165 MA's), (22, 12146), (28, 12233), (55, 12410), (61, 12437), (76, 12509), (77, 12521), (78, 12530), (88, 12602), (101, 12677), (119, 12761), (121, 12770), (125, 12791), (131, 12830), (141, 12908), (153, 12986), (166, 13076), (177, 13151), (189, 13244), (190, 13253), (192, 13265), (193, 13274), (239, 13535), (244, 13550), (253, 13583), (273, 13670), (279, 13694), (294, 13778), (304, 13862), (307, 13874), (311, 13895), (374, 14051), (386, 14132), (395, 14180), (398, 14198), (401, 14219), (406, 14255), (411, 14306), (421, 14363), (431, 14441), (433, 14450), (446, 14528), (452, 14585), (457, 14639), (476, 14879), (484, 14954), (496, 15065), (506, 15284), (508, 15296), (523, 15485), (524, 15494), (533, 15566), (539, 15596), (547, 15617), (562, 15737), (573, 15809), (574, 15827), (575, 15833),

Gene: Zavala\_21 Start: 12057, Stop: 15890, Start Num: 13

Candidate Starts for Zavala\_21:

(Start: 13 @12057 has 165 MA's), (22, 12126), (28, 12213), (55, 12390), (61, 12417), (76, 12489), (77, 12501), (78, 12510), (88, 12582), (101, 12657), (119, 12741), (121, 12750), (125, 12771), (131, 12810), (141, 12888), (153, 12966), (166, 13056), (177, 13131), (189, 13224), (190, 13233), (192, 13245), (193, 13254), (234, 13491), (244, 13530), (253, 13563), (273, 13650), (279, 13674), (294, 13758), (304, 13842), (307, 13854), (311, 13875), (374, 14031), (395, 14160), (398, 14178), (401, 14199), (406, 14235), (411, 14286), (421, 14343), (431, 14421), (433, 14430), (446, 14508), (448, 14523), (452, 14565), (457, 14619), (476, 14859), (484, 14934), (496, 15045), (506, 15264), (508, 15276), (523, 15459), (524, 15468), (533, 15540), (539, 15570), (547, 15591), (562, 15711), (573, 15783), (574, 15801), (575, 15807),

Gene: ZoMa\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for ZoMa\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),

Gene: ZoeJ\_17 Start: 10077, Stop: 13724, Start Num: 12

Candidate Starts for ZoeJ\_17:

(Start: 12 @10077 has 10 MA's), (22, 10149), (65, 10383), (70, 10398), (87, 10515), (88, 10527), (101, 10602), (121, 10695), (141, 10833), (142, 10836), (147, 10875), (153, 10911), (157, 10935), (160, 10944), (161, 10956), (164, 10980), (166, 11001), (172, 11025), (173, 11031), (176, 11067), (177, 11076), (182, 11109), (183, 11121), (185, 11148), (218, 11331), (219, 11343), (221, 11349), (230, 11388), (234, 11412), (247, 11460), (262, 11472), (292, 11505), (321, 11736), (330, 11781), (343,

11811), (355, 11880), (362, 11907), (371, 11940), (393, 12027), (398, 12060), (401, 12081), (404, 12105), (409, 12135), (452, 12378), (459, 12471), (469, 12549), (476, 12672), (490, 12777), (511, 13188), (515, 13218), (516, 13227), (518, 13257), (562, 13554), (564, 13566), (575, 13647),

Gene: Zombie\_16 Start: 11464, Stop: 15477, Start Num: 13

Candidate Starts for Zombie\_16:

(Start: 13 @11464 has 165 MA's), (30, 11665), (51, 11779), (61, 11821), (69, 11851), (88, 11986), (91, 11998), (93, 12007), (128, 12196), (131, 12214), (132, 12217), (133, 12238), (134, 12250), (145, 12322), (153, 12370), (174, 12502), (176, 12526), (185, 12607), (208, 12730), (218, 12814), (227, 12850), (234, 12895), (235, 12901), (264, 13009), (269, 13033), (273, 13054), (310, 13273), (324, 13423), (332, 13510), (351, 13618), (374, 13753), (392, 13864), (395, 13882), (400, 13912), (430, 14134), (436, 14158), (438, 14173), (441, 14194), (446, 14221), (450, 14248), (455, 14308), (462, 14398), (465, 14431), (472, 14494), (474, 14551), (476, 14584), (477, 14593), (517, 15097), (518, 15124), (521, 15154), (523, 15166), (524, 15175), (539, 15244), (556, 15325), (560, 15385), (563, 15403), (565, 15412),