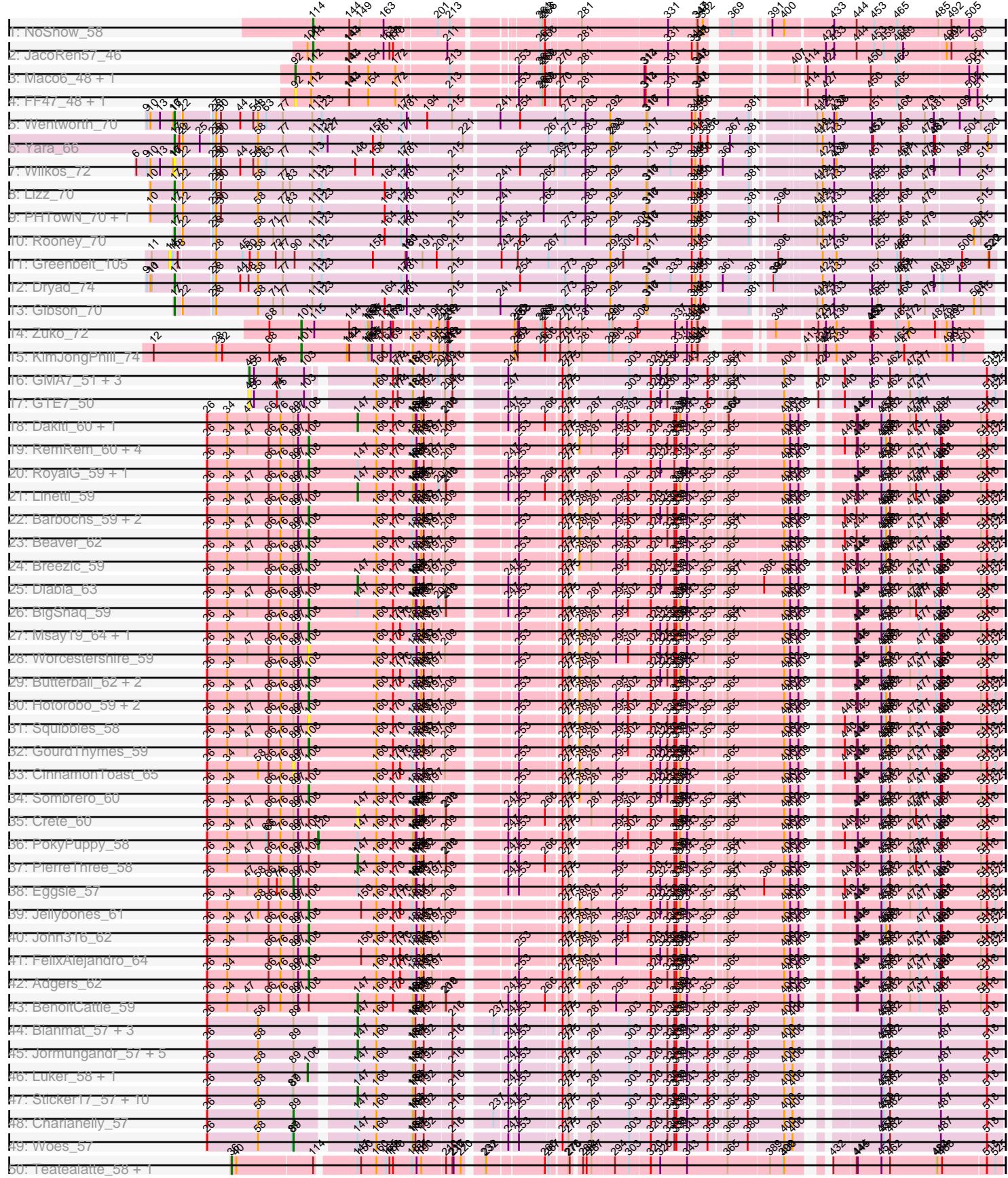
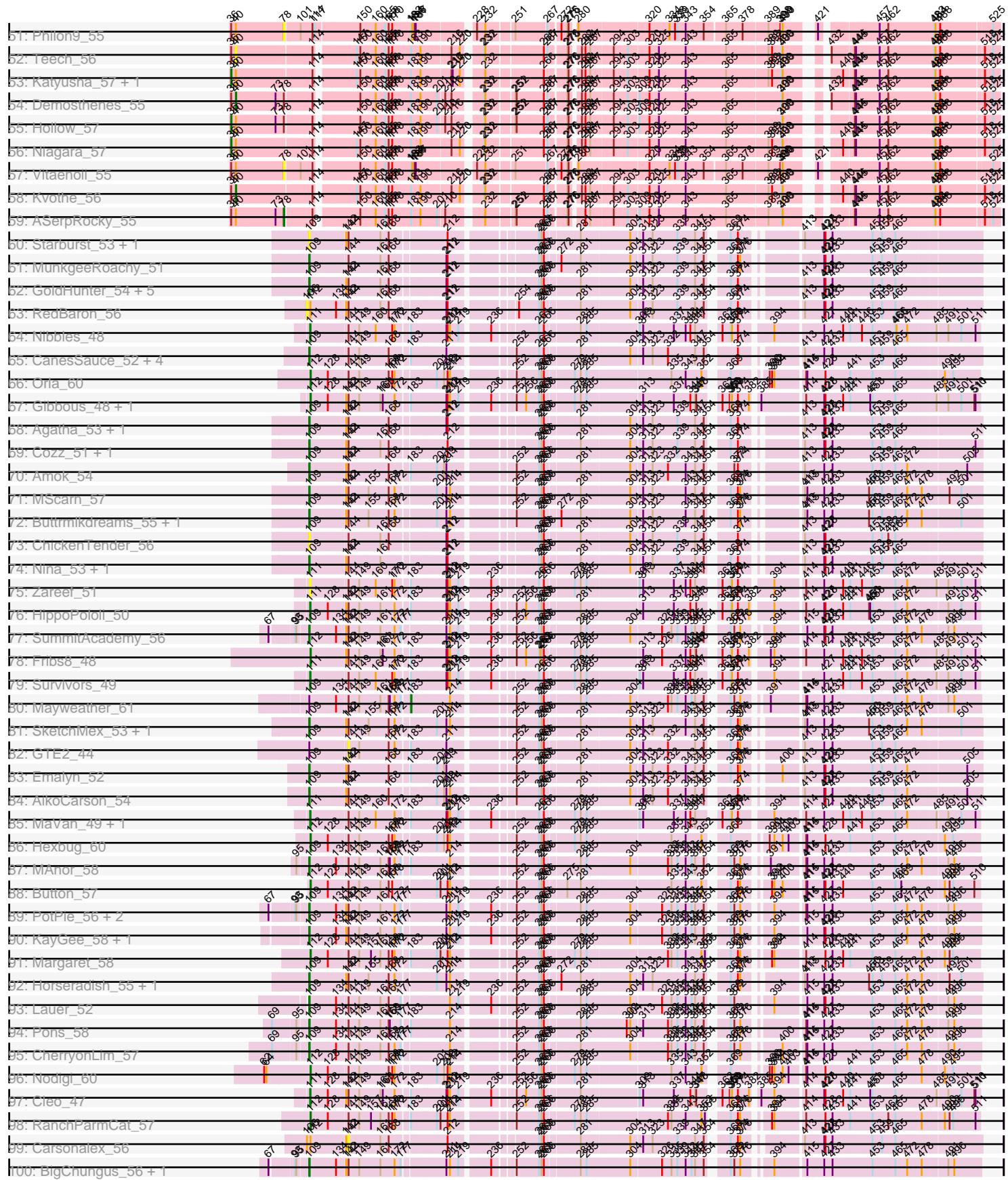


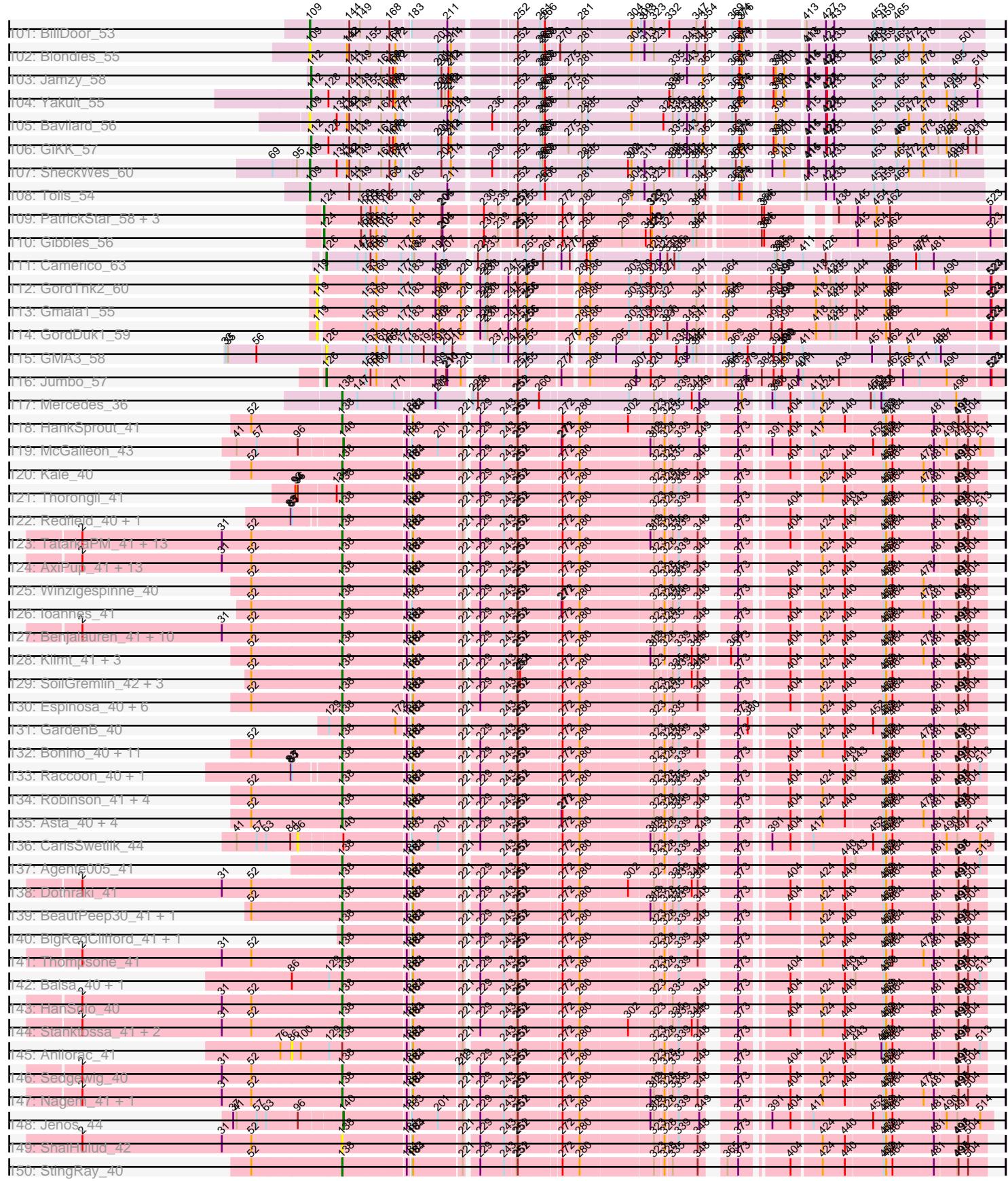
# Pham 224167



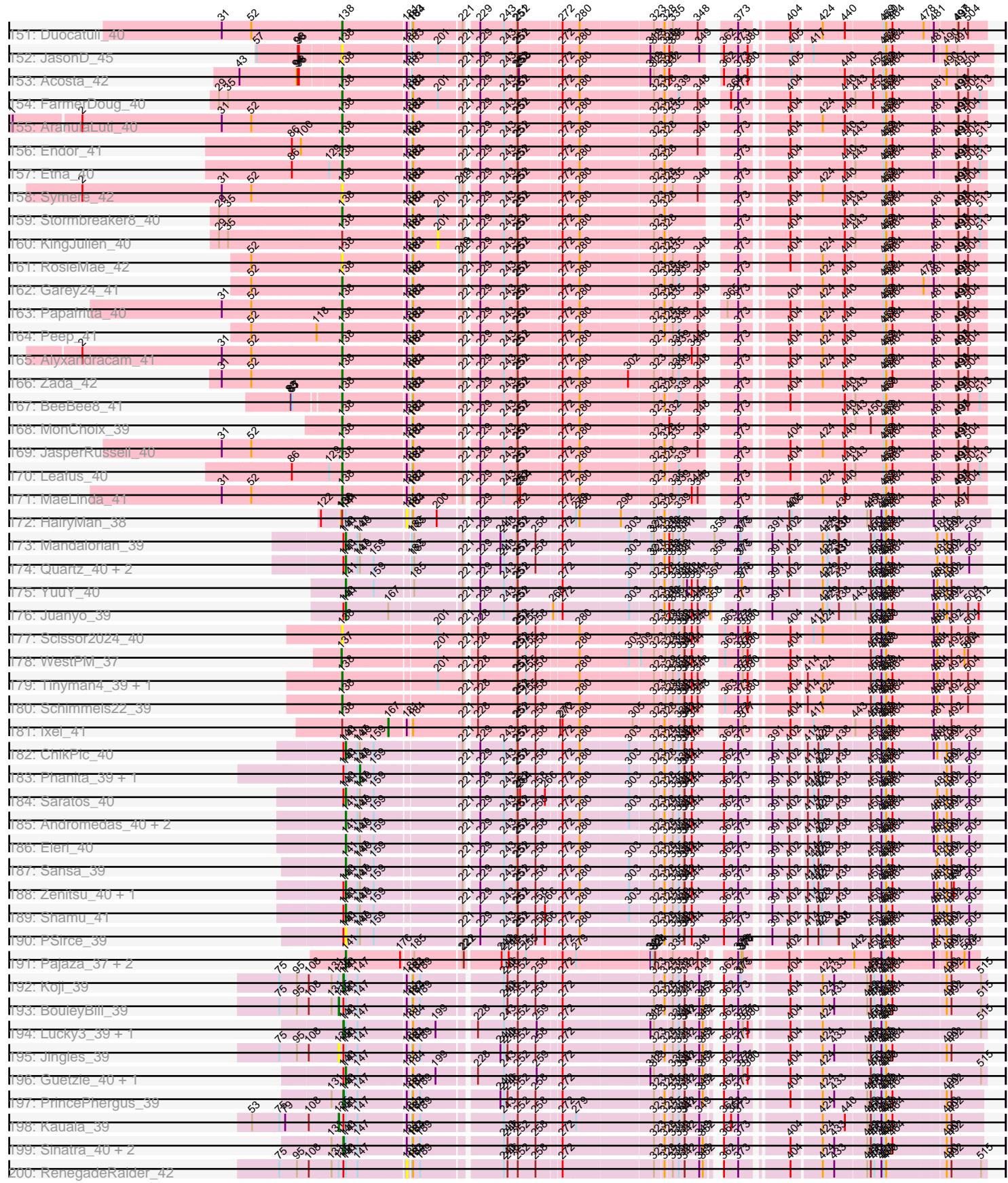
# Pham 224167



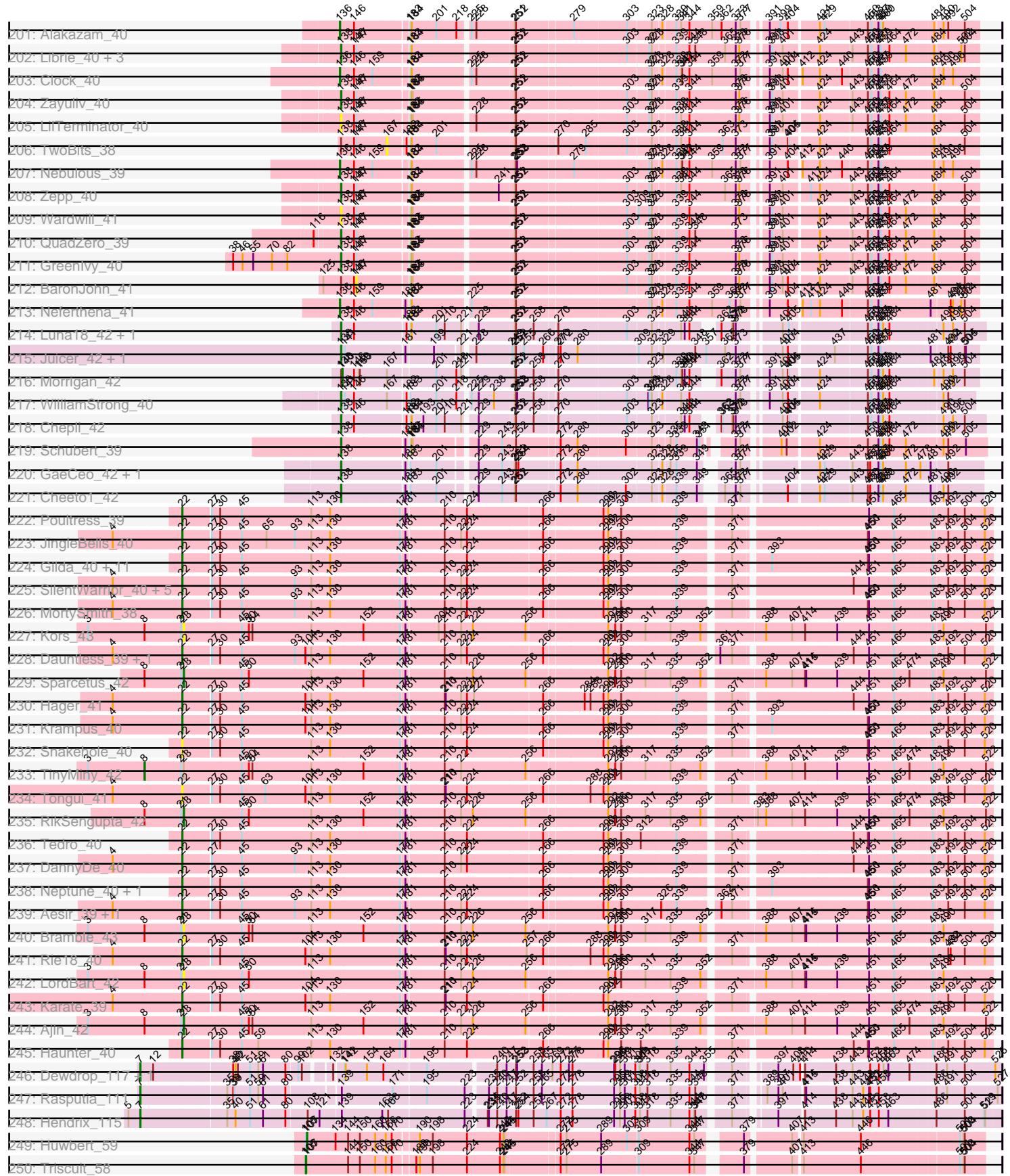
# Pham 224167



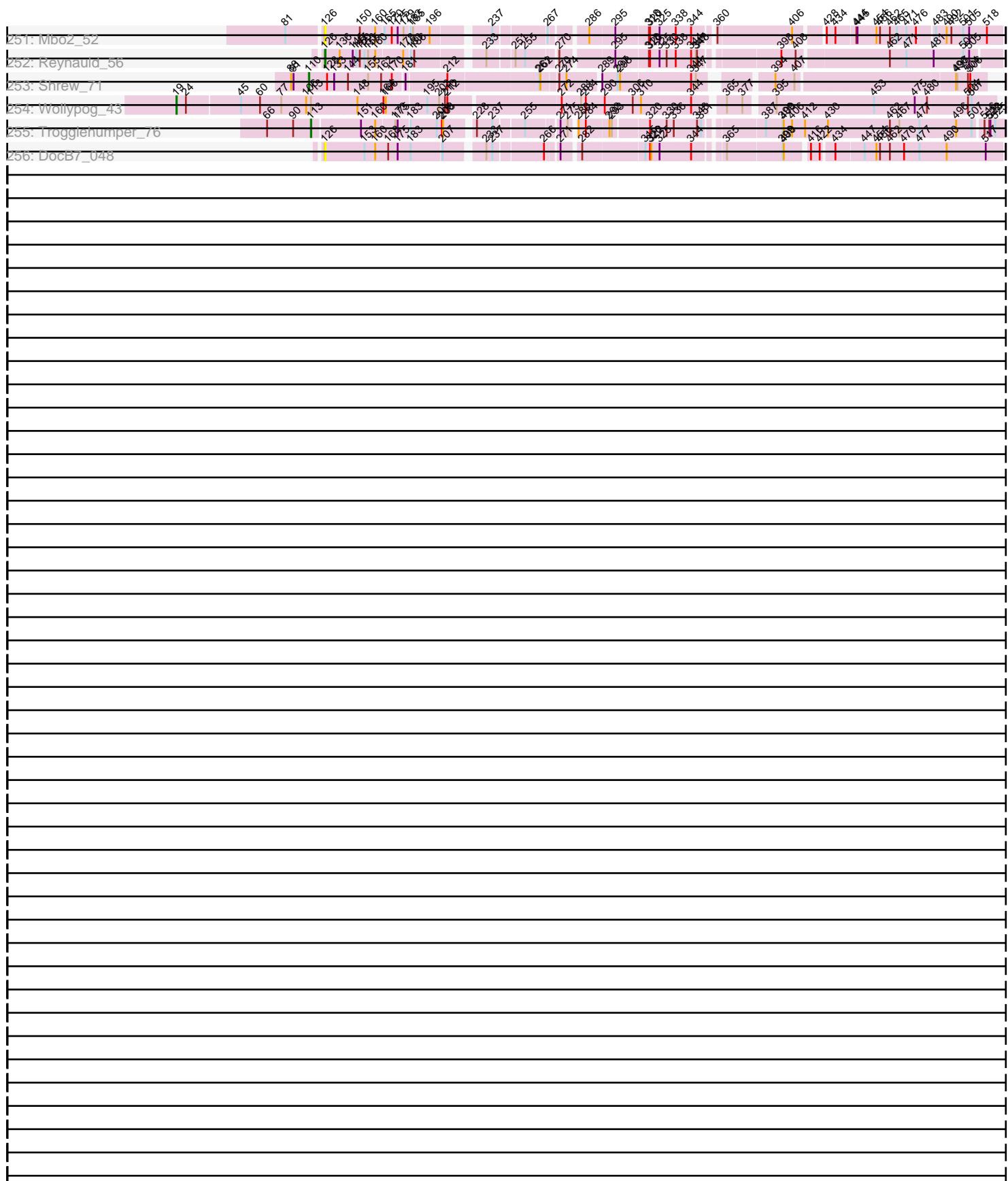
Pham 224167



Pham 224167



Pham 224167



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 224167 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224167 has 435 members, 66 are drafts.

Phages represented in each track:

- Track 1 : NoShow\_58
- Track 2 : JacoRen57\_46
- Track 3 : Maco6\_48, Muddy\_50
- Track 4 : FF47\_48, 8UZL\_50
- Track 5 : Wentworth\_70
- Track 6 : Yara\_66
- Track 7 : Wilkos\_72
- Track 8 : Lizz\_70
- Track 9 : PHTowN\_70, ShakeNBake\_70
- Track 10 : Rooney\_70
- Track 11 : Greenbelt\_105
- Track 12 : Dryad\_74
- Track 13 : Gibson\_70
- Track 14 : Zuko\_72
- Track 15 : KimJongPhill\_74
- Track 16 : GMA7\_51, Amore2\_62, Austin\_61, HayZem\_62
- Track 17 : GTE7\_50
- Track 18 : Dakiti\_60, Chelms\_59
- Track 19 : RemRem\_60, Ekhein\_59, Exiguo\_58, Flakey\_58, Sam12\_58
- Track 20 : RoyalG\_59, SteveFrench\_58
- Track 21 : Linetti\_59
- Track 22 : Barbochs\_59, CathyBurgh\_58, Lizzo\_59
- Track 23 : Beaver\_62
- Track 24 : Breezic\_59
- Track 25 : Diabla\_63
- Track 26 : BigShaq\_59
- Track 27 : Msay19\_64, Poland\_64
- Track 28 : Worcestershire\_59
- Track 29 : Butterball\_62, BirksAndSocks\_64, Boneham\_63
- Track 30 : Hotorobo\_59, Monty\_58, Gorko\_58
- Track 31 : Squibbles\_58
- Track 32 : GourdThymes\_59
- Track 33 : CinnamonToast\_65
- Track 34 : Sombrero\_60
- Track 35 : Crete\_60
- Track 36 : PokyPuppy\_58
- Track 37 : PierreThree\_58

- Track 38 : Eggsie\_57
- Track 39 : Jellybones\_61
- Track 40 : John316\_62
- Track 41 : FelixAlejandro\_64
- Track 42 : Adgers\_62
- Track 43 : BenoitCattle\_59
- Track 44 : Bianmat\_57, Lidong\_57, Shelley\_57, Jams\_57
- Track 45 : Jormungandr\_57, Guillaume\_57, Lahirium\_57, Berries\_57, Nimi13\_57, MrWormie\_57
- Track 46 : Luker\_58, Kaseim\_57
- Track 47 : Sticker17\_57, Hail2Pitt\_56, Neoevie\_57, Damp\_57, Harambe\_57, GalacticEye\_57, Teal\_57, Minos\_58, Newt\_58, Anamika\_57, Hello\_57
- Track 48 : Charianelly\_57
- Track 49 : Woes\_57
- Track 50 : Teatealatte\_58, Tredge\_57
- Track 51 : Philon9\_55
- Track 52 : Teech\_56
- Track 53 : Katyusha\_57, Benczkowski14\_57
- Track 54 : Demosthenes\_55
- Track 55 : Hollow\_57
- Track 56 : Niagara\_57
- Track 57 : Vitaenoi\_55
- Track 58 : Kvothe\_56
- Track 59 : ASerpRocky\_55
- Track 60 : Starburst\_53, Typhonomachy\_53
- Track 61 : MunkgeeRoachy\_51
- Track 62 : GoldHunter\_54, Eliott\_53, PsychoKiller\_52, Burnsey\_53, Sopespian\_50, Axym\_52
- Track 63 : RedBaron\_56
- Track 64 : Nibbles\_48
- Track 65 : CanesSauce\_52, AndPeggy\_50, ChocoMunchkin\_52, Yarn\_50, SteamedHams\_54
- Track 66 : Orla\_60
- Track 67 : Gibbous\_48, Dre3\_48
- Track 68 : Agatha\_53, Quasar\_53
- Track 69 : Cozz\_51, Socotra\_54
- Track 70 : Amok\_54
- Track 71 : MScarn\_57
- Track 72 : Buttrmlkdreams\_55, Troje\_55
- Track 73 : ChickenTender\_56
- Track 74 : Nina\_53, SweatNTears\_55
- Track 75 : Zareef\_51
- Track 76 : HippoPololi\_50
- Track 77 : SummitAcademy\_56
- Track 78 : Fribs8\_48
- Track 79 : Survivors\_49
- Track 80 : Mayweather\_61
- Track 81 : SketchMex\_53, Biskit\_55
- Track 82 : GTE2\_44
- Track 83 : Emalyn\_52
- Track 84 : AikoCarson\_54
- Track 85 : MaVan\_49, Azira\_49
- Track 86 : Hexbug\_60

- Track 87 : MAnor\_58
- Track 88 : Button\_57
- Track 89 : PotPie\_56, Vine\_59, Yucky\_60
- Track 90 : KayGee\_58, Elinal\_60
- Track 91 : Margaret\_58
- Track 92 : Horseradish\_55, Yummy\_55
- Track 93 : Lauer\_52
- Track 94 : Pons\_58
- Track 95 : CherryonLim\_57
- Track 96 : Nodigi\_60
- Track 97 : Cleo\_47
- Track 98 : RanchParmCat\_57
- Track 99 : Carsonalex\_56
- Track 100 : BigChungus\_56, Feastonyeet\_56
- Track 101 : BillDoor\_53
- Track 102 : Blondies\_55
- Track 103 : Jamzy\_58
- Track 104 : Yakult\_55
- Track 105 : Bavilard\_56
- Track 106 : GiKK\_57
- Track 107 : SheckWes\_60
- Track 108 : Tolls\_54
- Track 109 : PatrickStar\_58, Kampe\_58, RobinSparkles\_61, Orchid\_57
- Track 110 : Gibbles\_56
- Track 111 : Camerico\_63
- Track 112 : GordTnk2\_60
- Track 113 : Gmala1\_55
- Track 114 : GordDuk1\_59
- Track 115 : GMA3\_58
- Track 116 : Jumbo\_57
- Track 117 : Mercedes\_36
- Track 118 : HankSprout\_41
- Track 119 : McGalleon\_43
- Track 120 : Kale\_40
- Track 121 : Thorongil\_41
- Track 122 : Redfield\_40, Schnapsidee\_40
- Track 123 : TatarkaPM\_41, MrWorldwide\_41, Pherferi\_41, Invent\_41, ParleG\_41, PhredFlintston\_41, NickSell\_41, Martin\_42, Kurt1\_41, Rapheph\_41, MillyPhilly\_41, TinSulphur\_42, Phiderman\_41, Shee\_41
- Track 124 : AxiPup\_41, Vispistious\_41, Oxtober96\_42, Greys\_41, Lovelyunicorn\_41, Knox\_41, Convict\_41, Velene\_41, PuppyEggo\_41, Strathdee\_41, WildNOut\_41, Teagan\_41, Den3\_41, BonesMcCoy\_41
- Track 125 : Winzigespinne\_40
- Track 126 : Ioannes\_41
- Track 127 : Benjalauren\_41, KannH\_40, HungryHenry\_40, Chako\_40, StirfryIV\_40, Rog141\_40, Clancy\_40, Gargoyle\_41, Ilzat\_40, Jerbirus\_42, Gubbabump\_40
- Track 128 : Klimt\_41, Chamuel\_40, SonOfLevi\_41, Pocket\_40
- Track 129 : SoilGremlin\_42, Phriends\_41, Delphidian\_41, OldNelly\_42
- Track 130 : Espinosa\_40, Exploradora\_40, Christoph\_40, Tenda\_40, ManRay\_40, JeriBeth\_42, Aubergine\_40
- Track 131 : GardenB\_40
- Track 132 : Bonino\_40, Baines\_40, Dave\_41, Calix\_40, Etta\_40, Erla\_40, Renzie\_41, Superfresh\_41, Raptor\_41, Antoinette\_41, Gelo\_40, Ludgate\_41

- Track 133 : Raccoon\_40, Hamlet\_40
- Track 134 : Robinson\_41, AlexAdler\_41, Janus167\_40, Figueroism\_41, Riyhil\_41
- Track 135 : Asta\_40, Nattles\_40, TeddyBear\_40, Gershwin\_40, Oats\_40
- Track 136 : CarisSwetlik\_44
- Track 137 : Agente005\_41
- Track 138 : Dothraki\_41
- Track 139 : BeautPeep30\_41, Phireproof\_41
- Track 140 : BigRedClifford\_41, Blage\_41
- Track 141 : Thompsone\_41
- Track 142 : Balsa\_40, Peppino\_40
- Track 143 : HanSolo\_40
- Track 144 : Stanktossa\_41, Byron23\_42, Bandik\_41
- Track 145 : Anilorac\_41
- Track 146 : Sedgewig\_40
- Track 147 : Nagem\_41, SJay\_41
- Track 148 : Jenos\_44
- Track 149 : ShaiHulud\_42
- Track 150 : StingRay\_40
- Track 151 : Duocatuli\_40
- Track 152 : JasonD\_45
- Track 153 : Acosta\_42
- Track 154 : FarmerDoug\_40
- Track 155 : AranulaLuti\_40
- Track 156 : Endor\_41
- Track 157 : Etna\_40
- Track 158 : Symere\_42
- Track 159 : Stormbreaker8\_40
- Track 160 : KingJulien\_40
- Track 161 : RosieMae\_42
- Track 162 : Garey24\_41
- Track 163 : Papafritta\_40
- Track 164 : Peep\_41
- Track 165 : Alyxandracam\_41
- Track 166 : Zada\_42
- Track 167 : BeeBee8\_41
- Track 168 : MonChoix\_39
- Track 169 : JasperRussell\_40
- Track 170 : Leafus\_40
- Track 171 : MaeLinda\_41
- Track 172 : HairyMan\_38
- Track 173 : Mandalorian\_39
- Track 174 : Quartz\_40, Carostasia\_39, Nucci\_39
- Track 175 : YuuY\_40
- Track 176 : Juanyo\_39
- Track 177 : Scissor2024\_40
- Track 178 : WestPM\_37
- Track 179 : Tinyman4\_39, HerculesXL\_40
- Track 180 : Schimmels22\_39
- Track 181 : Ixel\_41
- Track 182 : ChikPic\_40
- Track 183 : Phanita\_39, Finny\_41
- Track 184 : Saratos\_40
- Track 185 : Andromedas\_40, ColaCorta\_40, Glamour\_40

- Track 186 : Eleri\_40
- Track 187 : Sansa\_39
- Track 188 : Zenitsu\_40, MCubed\_40
- Track 189 : Shamu\_41
- Track 190 : PSirce\_39
- Track 191 : Pajaza\_37, Casey\_37, Pikmin\_37
- Track 192 : Koji\_39
- Track 193 : BouleyBill\_39
- Track 194 : Lucky3\_39, Golden\_39
- Track 195 : Jingles\_39
- Track 196 : Guetzie\_40, SirVictor\_40
- Track 197 : PrincePhergus\_39
- Track 198 : Kauala\_39
- Track 199 : Sinatra\_40, Bustleton\_39, Pherbot\_39
- Track 200 : RenegadeRaider\_42
- Track 201 : Alakazam\_40
- Track 202 : Librie\_40, CaptainRex\_40, Hasitha\_40, Fulton\_40
- Track 203 : Clock\_40
- Track 204 : Zayuliv\_40
- Track 205 : LilTerminator\_40
- Track 206 : TwoBits\_38
- Track 207 : Nebulous\_39
- Track 208 : Zepp\_40
- Track 209 : Wardwill\_41
- Track 210 : QuadZero\_39
- Track 211 : GreenIvy\_40
- Track 212 : BaronJohn\_41
- Track 213 : Neferthena\_41
- Track 214 : Luna18\_42, KatChan\_42
- Track 215 : Juicer\_42, Jemerald\_42
- Track 216 : Morrigan\_42
- Track 217 : WilliamStrong\_40
- Track 218 : Chepli\_42
- Track 219 : Schubert\_39
- Track 220 : GaeCeo\_42, ChickenKing\_40
- Track 221 : Cheeto1\_42
- Track 222 : Poultress\_39
- Track 223 : JingleBells\_40
- Track 224 : Gilda\_40, Rachella\_40, OverHedge\_40, Anakin\_40, PhunaPhoke\_40, AnnaSerena\_40, Pharpay\_40, CoolCookie\_40, Potty\_40, Artiphact\_40, NarutoRun\_40, Kate\_41
- Track 225 : SilentWarrior\_40, Crestdrop\_40, Hiddenleaf\_40, Chivey\_40, FreddieHg\_40, Annapurna\_41
- Track 226 : MortySmith\_38
- Track 227 : Kors\_43
- Track 228 : Dauntless\_39, Erudite\_39
- Track 229 : Sparcetus\_42
- Track 230 : Hager\_41
- Track 231 : Krampus\_40
- Track 232 : Snakehole\_40
- Track 233 : TinyMiny\_42
- Track 234 : Tongui\_41
- Track 235 : RikSengupta\_42

- Track 236 : Tedro\_40
- Track 237 : DannyDe\_40
- Track 238 : Neptune\_40, Cybele\_40
- Track 239 : Aesir\_39, JDawG\_39
- Track 240 : Bramble\_43
- Track 241 : Rie18\_40
- Track 242 : LordBart\_42
- Track 243 : Karate\_39
- Track 244 : Ajin\_42
- Track 245 : Haunter\_40
- Track 246 : Dewdrop\_117, Leaf\_117
- Track 247 : Rasputia\_111
- Track 248 : Hendrix\_115
- Track 249 : Huwbert\_59
- Track 250 : Triscuit\_58
- Track 251 : Mbo2\_52
- Track 252 : Reynauld\_56
- Track 253 : Shrew\_71
- Track 254 : Wollypog\_43
- Track 255 : Trogglehumper\_76
- Track 256 : DocB7\_048

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

The start number called the most often in the published annotations is 138, it was called in 140 of the 369 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Acosta\_42, Agente005\_41, AlexAdler\_41, Alyxandracam\_41, Antoinette\_41, AranulaLuti\_40, Asta\_40, Aubergine\_40, AxiPup\_41, Baines\_40, Balsa\_40, Bandik\_41, BeautPeep30\_41, BeeBee8\_41, Benjalauren\_41, BigRedClifford\_41, Blage\_41, BonesMcCoy\_41, Bonino\_40, Byron23\_42, Calix\_40, CaptainRex\_40, Chako\_40, Chamuel\_40, Cheeto1\_42, Chepli\_42, ChickenKing\_40, Christoph\_40, Clancy\_40, Convict\_41, Dave\_41, Delphidian\_41, Den3\_41, Dothraki\_41, Duocatuli\_40, Endor\_41, Erla\_40, Espinosa\_40, Etna\_40, Etta\_40, Exploradora\_40, FarmerDoug\_40, Figueroism\_41, Fulton\_40, GaeCeo\_42, GardenB\_40, Garey24\_41, Gargoyle\_41, Gelo\_40, Gershwin\_40, GreenIvy\_40, Greys\_41, Gubbabump\_40, Hamlet\_40, HanSolo\_40, HankSprout\_41, Hasitha\_40, HerculesXL\_40, HungryHenry\_40, Ilzat\_40, Inventia\_41, Ioannes\_41, Janus167\_40, JasonD\_45, JasperRussell\_40, Jemerald\_42, Jerbirus\_42, JeriBeth\_42, Juicer\_42, Kale\_40, KannH\_40, KatChan\_42, Klimt\_41, Knox\_41, Kurt1\_41, Leafus\_40, Librie\_40, LiTerminator\_40, Lovelyunicorn\_41, Ludgate\_41, Luna18\_42, MaeLinda\_41, ManRay\_40, Martin\_42, Mercedes\_36, MillyPhilly\_41, MonChoix\_39, MrWorldwide\_41, Nagem\_41, Nattles\_40, NickSell\_41, Oats\_40, OldNelly\_42, Oxtober96\_42, Papafritta\_40, ParleG\_41, Peep\_41, Peppino\_40, Pherferi\_41, Phiderman\_41, Phireproof\_41, PhredFlintston\_41, Phriends\_41, Pocket\_40, PuppyEggo\_41, QuadZero\_39, Raccoon\_40, Rapheph\_41, Raptor\_41, Redfield\_40, Renzie\_41, Riyhil\_41, Robinson\_41, Rog141\_40, RosieMae\_42, SJay\_41, Schimmels22\_39, Schnapsidee\_40, Schubert\_39, Scissor2024\_40, Sedgewig\_40, ShaiHulud\_42, Shee\_41, SoilGremlin\_42, SonOfLevi\_41, Stanktossa\_41,

StingRay\_40, StirfryIV\_40, Stormbreaker8\_40, Strathdee\_41, Superfresh\_41, Symere\_42, TatarkaPM\_41, Teagan\_41, TeddyBear\_40, Tenda\_40, Thompsonsone\_41, Thorongil\_41, TinSulphur\_42, Tinyman4\_39, Velene\_41, Vispistious\_41, Wardwill\_41, WildNOut\_41, WilliamStrong\_40, Winzigespinne\_40, Zada\_42, Zayuliv\_40, Zepp\_40,

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

- Anilorac\_41, BaronJohn\_41, HairyMan\_38, Ixel\_41, KingJulien\_40, Morrigan\_42, TwoBits\_38,

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

- 8UZL\_50, ASerpRocky\_55, Adgers\_62, Aesir\_39, Agatha\_53, AikoCarson\_54, Ajin\_42, Alakazam\_40, Amok\_54, Amore2\_62, Anakin\_40, Anamika\_57, AndPeggy\_50, Andromedas\_40, AnnaSerena\_40, Annapurna\_41, Artiphact\_40, Austin\_61, Axym\_52, Azira\_49, Barbochs\_59, Bavillard\_56, Beaver\_62, Benczkowski14\_57, BenoitCattle\_59, Berries\_57, Bianmat\_57, BigChungus\_56, BigShaq\_59, BillDoor\_53, BirksAndSocks\_64, Biskit\_55, Blondies\_55, Boneham\_63, BouleyBill\_39, Bramble\_43, Breezic\_59, Burnsey\_53, Bustleton\_39, Butterball\_62, Button\_57, Buttrmlkdreams\_55, Camerico\_63, CanesSauce\_52, CarisSwetlik\_44, Carostasia\_39, Carsonalex\_56, Casey\_37, CathyBurgh\_58, Charianelly\_57, Chelms\_59, CherryonLim\_57, ChickenTender\_56, ChikPic\_40, Chivey\_40, ChocoMunchkin\_52, CinnamonToast\_65, Cleo\_47, Clock\_40, ColaCorta\_40, CoolCookie\_40, Cozz\_51, Crestdrop\_40, Crete\_60, Cybele\_40, Dakiti\_60, Damp\_57, DannyDe\_40, Dauntless\_39, Demosthenes\_55, Dewdrop\_117, Diabla\_63, DocB7\_048, Dre3\_48, Dryad\_74, Eggsie\_57, Ekhein\_59, Eleri\_40, Elinal\_60, Elliott\_53, Emalyn\_52, Erudite\_39, Exiguo\_58, FF47\_48, Feastonyeet\_56, FelixAlejandro\_64, Finny\_41, Flakey\_58, FreddieHg\_40, Fribs8\_48, GMA3\_58, GMA7\_51, GTE2\_44, GTE7\_50, GalacticEye\_57, GiKK\_57, Gibbles\_56, Gibbous\_48, Gibson\_70, Gilda\_40, Glamour\_40, Gmala1\_55, GoldHunter\_54, Golden\_39, GordDuk1\_59, GordTnk2\_60, Gorko\_58, GourdThymes\_59, Greenbelt\_105, Guetzie\_40, Guillaume\_57, Hager\_41, Hail2Pitt\_56, Harambe\_57, Haunter\_40, HayZem\_62, Hello\_57, Hendrix\_115, Hexbug\_60, Hiddenleaf\_40, HippoPololi\_50, Hollow\_57, Horseradish\_55, Hotorobo\_59, Huwbert\_59, JDawG\_39, JacoRen57\_46, Jams\_57, Jamzy\_58, Jellybones\_61, Jenos\_44, JingleBells\_40, Jingles\_39, John316\_62, Jormungandr\_57, Juanyo\_39, Jumbo\_57, Kampe\_58, Karate\_39, Kaseim\_57, Kate\_41, Katyusha\_57, Kauala\_39, KayGee\_58, KimJongPhill\_74, Koji\_39, Kors\_43, Krampus\_40, Kvothe\_56, Lahirium\_57, Lauer\_52, Leaf\_117, Lidong\_57, Linetti\_59, Lizz\_70, Lizzo\_59, LordBart\_42, Lucky3\_39, Luker\_58, MAnor\_58, MCubed\_40, MScarn\_57, MaVan\_49, Maco6\_48, Mandalorian\_39, Margaret\_58, Mayweather\_61, Mbo2\_52, McGalleon\_43, Minos\_58, Monty\_58, MortySmith\_38, MrWormie\_57, Msay19\_64, Muddy\_50, MunkgeeRoachy\_51, NarutoRun\_40, Nebulous\_39, Neferthena\_41, Neoevie\_57, Neptune\_40, Newt\_58, Niagara\_57, Nibbles\_48, Nimi13\_57, Nina\_53, NoShow\_58, Nodigi\_60, Nucci\_39, Orchid\_57, Orla\_60, OverHedge\_40, PHTowN\_70, PSirce\_39, Pajaza\_37, PatrickStar\_58, Phanita\_39, Pharpay\_40, Pherbot\_39, Philon9\_55, PhunaPhoke\_40, PierreThree\_58, Pikmin\_37, PokyPuppy\_58, Poland\_64, Pons\_58, PotPie\_56, Potty\_40, Poulterress\_39, PrincePhergus\_39, PsychoKiller\_52, Quartz\_40, Quasar\_53, Rachella\_40, RanchParmCat\_57, Rasputia\_111, RedBaron\_56, RemRem\_60, RenegadeRaider\_42, Reynauld\_56, Rie18\_40, RikSengupta\_42, RobinSparkles\_61, Rooney\_70, RoyalG\_59, Sam12\_58, Sansa\_39, Saratos\_40, ShakeNBake\_70, Shamu\_41, SheckWes\_60, Shelley\_57, Shrew\_71, SilentWarrior\_40, Sinatra\_40, SirVictor\_40, SketchMex\_53, Snakehole\_40, Socotra\_54, Sombrero\_60, Sopespian\_50, Sparcetus\_42, Squibbles\_58,

Starburst\_53, SteamedHams\_54, SteveFrench\_58, Sticker17\_57, SummitAcademy\_56, Survivors\_49, SweatNTears\_55, Teal\_57, Teatealatte\_58, Tedro\_40, Teech\_56, TinyMiny\_42, Tolls\_54, Tongui\_41, Tredge\_57, Triscuit\_58, Trogglehumper\_76, Troje\_55, Typhonomachy\_53, Vine\_59, Vitaenoi\_55, Wentworth\_70, WestPM\_37, Wilkos\_72, Woes\_57, Wollypog\_43, Worcestershire\_59, Yakult\_55, Yara\_66, Yarn\_50, Yucky\_60, Yummy\_55, YuuY\_40, Zareef\_51, Zenitsu\_40, Zuko\_72,

### **Summary by start number:**

Start 7:

- Found in 4 of 435 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 4 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dewdrop\_117 (GC), Hendrix\_115 (GC), Leaf\_117 (GC), Rasputia\_111 (GC),

Start 8:

- Found in 7 of 435 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 14.3% of time when present
- Phage (with cluster) where this start called: TinyMiny\_42 (EF),

Start 14:

- Found in 1 of 435 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greenbelt\_105 (BN),

Start 17:

- Found in 9 of 435 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 8 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dryad\_74 (BN), Gibson\_70 (BN), Lizz\_70 (BN), PHTowN\_70 (BN), Rooney\_70 (BN), ShakeNBake\_70 (BN), Wentworth\_70 (BN), Wilkos\_72 (BN), Yara\_66 (BN),

Start 19:

- Found in 1 of 435 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wollypog\_43 (singleton),

Start 22:

- Found in 44 of 435 ( 10.1% ) of genes in pham
- Manual Annotations of this start: 31 of 369
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Aesir\_39 (EF), Anakin\_40 (EF), AnnaSerena\_40 (EF), Annapurna\_41 (EF), Artiphact\_40 (EF), Chivey\_40 (EF), CoolCookie\_40 (EF), Crestdrop\_40 (EF), Cybele\_40 (EF), DannyDe\_40 (EF), Dauntless\_39 (EF), Erudite\_39 (EF), FreddieHg\_40 (EF), Gilda\_40 (EF), Hager\_41 (EF), Haunter\_40 (EF), Hiddenleaf\_40 (EF), JDawG\_39 (EF), JingleBells\_40 (EF), Karate\_39 (EF), Kate\_41 (EF), Krampus\_40 (EF), MortySmith\_38 (EF),

NarutoRun\_40 (EF), Neptune\_40 (EF), OverHedge\_40 (EF), Pharpay\_40 (EF), PhunaPhoke\_40 (EF), Potty\_40 (EF), Poultress\_39 (EF), Rachella\_40 (EF), Rie18\_40 (EF), SilentWarrior\_40 (EF), Snakehole\_40 (EF), Tedro\_40 (EF), Tongui\_41 (EF),

Start 23:

- Found in 7 of 435 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 3 of 369
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Ajin\_42 (EF), Bramble\_43 (EF), Kors\_43 (EF), LordBart\_42 (EF), RikSengupta\_42 (EF), Sparcetus\_42 (EF),

Start 36:

- Found in 12 of 435 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 6 of 369
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Benczkowski14\_57 (CS4), Hollow\_57 (CS4), Katyusha\_57 (CS4), Niagara\_57 (CS4), Teatealatte\_58 (CS4), Tredge\_57 (CS4),

Start 40:

- Found in 15 of 435 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Demosthenes\_55 (CS4), Kvothe\_56 (CS4), Teech\_56 (CS4),

Start 49:

- Found in 5 of 435 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 3 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amore2\_62 (CS1), Austin\_61 (CS1), GMA7\_51 (CS1), GTE7\_50 (CS1), HayZem\_62 (CS1),

Start 78:

- Found in 5 of 435 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 60.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky\_55 (CS4), Philon9\_55 (CS4), Vitaenoi\_55 (CS4),

Start 86:

- Found in 6 of 435 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Anilorac\_41 (EA1),

Start 89:

- Found in 64 of 435 ( 14.7% ) of genes in pham
- Manual Annotations of this start: 3 of 369
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Charianelly\_57 (CS3), CinnamonToast\_65 (CS2), Eggsie\_57 (CS2), Woes\_57 (CS3),

Start 92:

- Found in 5 of 435 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 80.0% of time when present
- Phage (with cluster) where this start called: 8UZL\_50 (AB), FF47\_48 (AB), Maco6\_48 (AB), Muddy\_50 (AB),

Start 96:

- Found in 6 of 435 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: CarisSwetlik\_44 (EA1),

Start 101:

- Found in 4 of 435 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 50.0% of time when present
- Phage (with cluster) where this start called: KimJongPhill\_74 (BR), Zuko\_72 (BR),

Start 105:

- Found in 2 of 435 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Triscuit\_58 (GG),

Start 106:

- Found in 6 of 435 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kaseim\_57 (CS3), Luker\_58 (CS3), RedBaron\_56 (CT),

Start 107:

- Found in 2 of 435 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Huwbert\_59 (GG),

Start 108:

- Found in 45 of 435 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 25 of 369
- Called 64.4% of time when present
- Phage (with cluster) where this start called: Adgers\_62 (CS2), Barbochs\_59 (CS2), Beaver\_62 (CS2), BigShaq\_59 (CS2), BirksAndSocks\_64 (CS2), Boneham\_63 (CS2), Breezic\_59 (CS2), Butterball\_62 (CS2), CathyBurgh\_58 (CS2), Ekhein\_59 (CS2), Exiguo\_58 (CS2), FelixAlejandro\_64 (CS2), Flakey\_58 (CS2), Gorko\_58 (CS2), GourdThymes\_59 (CS2), Hotorobo\_59 (CS2), Jellybones\_61 (CS2), John316\_62 (CS2), Lizzo\_59 (CS2), Monty\_58 (CS2), Msay19\_64 (CS2), Poland\_64 (CS2), RemRem\_60 (CS2), RoyalG\_59 (CS2), Sam12\_58 (CS2), Sombrero\_60 (CS2), Squibbles\_58 (CS2), SteveFrench\_58 (CS2), Worcestershire\_59 (CS2),

Start 109:

- Found in 50 of 435 ( 11.5% ) of genes in pham
- Manual Annotations of this start: 35 of 369
- Called 96.0% of time when present
- Phage (with cluster) where this start called: Agatha\_53 (CT), AikoCarson\_54 (CT), Amok\_54 (CT), AndPeggy\_50 (CT), Axym\_52 (CT), Bavillard\_56 (CT), BigChungus\_56 (CT), BillDoor\_53 (CT), Biskit\_55 (CT), Blondies\_55 (CT), Burnsey\_53 (CT), Buttrmlkdreams\_55 (CT), CanesSauce\_52 (CT), CherryonLim\_57 (CT), ChickenTender\_56 (CT), ChocoMunchkin\_52 (CT), Cozz\_51 (CT), Elinal\_60 (CT), Elliott\_53 (CT), Emalyn\_52 (CT), Feastonyeet\_56 (CT), GoldHunter\_54 (CT), Horseradish\_55 (CT), KayGee\_58 (CT), Lauer\_52 (CT), MAnor\_58 (CT), MScarn\_57 (CT), MunkgeeRoachy\_51 (CT), Nina\_53 (CT), Pons\_58 (CT), PotPie\_56 (CT), PsychoKiller\_52 (CT), Quasar\_53 (CT), SheckWes\_60 (CT), SketchMex\_53 (CT), Socotra\_54 (CT), Sopespian\_50 (CT), Starburst\_53 (CT), SteamedHams\_54 (CT), SummitAcademy\_56 (CT), SweatNTears\_55 (CT), Tolls\_54 (CT), Troje\_55 (CT), Typhonomachy\_53 (CT), Vine\_59 (CT), Yarn\_50 (CT), Yucky\_60 (CT), Yummy\_55 (CT),

Start 110:

- Found in 1 of 435 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shrew\_71 (singleton),

Start 111:

- Found in 7 of 435 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 6 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azira\_49 (CT), Cleo\_47 (CT), HippoPololi\_50 (CT), MaVan\_49 (CT), Nibbles\_48 (CT), Survivors\_49 (CT), Zareef\_51 (CT),

Start 112:

- Found in 18 of 435 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 12 of 369
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Button\_57 (CT), Dre3\_48 (CT), Fribs8\_48 (CT), GiKK\_57 (CT), Gibbous\_48 (CT), Hexbug\_60 (CT), Jamzy\_58 (CT), Margaret\_58 (CT), Nodigi\_60 (CT), Orla\_60 (CT), RanchParmCat\_57 (CT), Yakult\_55 (CT),

Start 113:

- Found in 55 of 435 ( 12.6% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Trogglehumper\_76 (singleton),

Start 114:

- Found in 14 of 435 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 14.3% of time when present
- Phage (with cluster) where this start called: JacoRen57\_46 (AB), NoShow\_58 (AB),

Start 119:

- Found in 3 of 435 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gmala1\_55 (DF1), GordDuk1\_59 (DF1), GordTnk2\_60 (DF1),

Start 120:

- Found in 1 of 435 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PokyPuppy\_58 (CS2),

Start 124:

- Found in 5 of 435 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 5 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gibbles\_56 (CX), Kampe\_58 (CX), Orchid\_57 (CX), PatrickStar\_58 (CX), RobinSparkles\_61 (CX),

Start 126:

- Found in 6 of 435 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 3 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camerico\_63 (DF), DocB7\_048 (singleton), GMA3\_58 (DF2), Jumbo\_57 (DF3), Mbo2\_52 (singleton), Reynauld\_56 (singleton),

Start 135:

- Found in 5 of 435 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 60.0% of time when present
- Phage (with cluster) where this start called: BouleyBill\_39 (EA4), Jingles\_39 (EA4), Kauala\_39 (EA4),

Start 136:

- Found in 6 of 435 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 4 of 369
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Alakazam\_40 (EA5), Clock\_40 (EA5), Nebulous\_39 (EA5), Neferthena\_41 (EA5),

Start 137:

- Found in 1 of 435 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: WestPM\_37 (EA11),

Start 138:

- Found in 156 of 435 ( 35.9% ) of genes in pham
- Manual Annotations of this start: 140 of 369
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Acosta\_42 (EA1), Agente005\_41 (EA1), AlexAdler\_41 (EA1), Alyxandracam\_41 (EA1), Antoinette\_41 (EA1), AranulaLuti\_40

(EA1), Asta\_40 (EA1), Aubergine\_40 (EA1), AxiPup\_41 (EA1), Baines\_40 (EA1), Balsa\_40 (EA1), Bandik\_41 (EA1), BeautPeep30\_41 (EA1), BeeBee8\_41 (EA1), Benjalauren\_41 (EA1), BigRedClifford\_41 (EA1), Blage\_41 (EA1), BonesMcCoy\_41 (EA1), Bonino\_40 (EA1), Byron23\_42 (EA1), Calix\_40 (EA1), CaptainRex\_40 (EA5), Chako\_40 (EA1), Chamuel\_40 (EA1), Cheeto1\_42 (EA9), Chepli\_42 (EA6), ChickenKing\_40 (EA9), Christoph\_40 (EA1), Clancy\_40 (EA1), Convict\_41 (EA1), Dave\_41 (EA1), Delphidian\_41 (EA1), Den3\_41 (EA1), Dothraki\_41 (EA1), Duocatuli\_40 (EA1), Endor\_41 (EA1), Erla\_40 (EA1), Espinosa\_40 (EA1), Etna\_40 (EA1), Etta\_40 (EA1), Exploradora\_40 (EA1), FarmerDoug\_40 (EA1), Figueroism\_41 (EA1), Fulton\_40 (EA5), GaeCeo\_42 (EA9), GardenB\_40 (EA1), Garey24\_41 (EA1), Gargoyle\_41 (EA1), Gelo\_40 (EA1), Gershwin\_40 (EA1), GreenIvy\_40 (EA5), Greys\_41 (EA1), Gubbabump\_40 (EA1), Hamlet\_40 (EA1), HanSolo\_40 (EA1), HankSprout\_41 (EA1), Hasitha\_40 (EA5), HerculesXL\_40 (EA11), HungryHenry\_40 (EA1), Ilzat\_40 (EA1), Inventa\_41 (EA1), Ioannes\_41 (EA1), Janus167\_40 (EA1), JasonD\_45 (EA1), JasperRussell\_40 (EA1), Jemerald\_42 (EA6), Jerbirus\_42 (EA1), JeriBeth\_42 (EA1), Juicer\_42 (EA6), Kale\_40 (EA1), KannH\_40 (EA1), KatChan\_42 (EA6), Klimt\_41 (EA1), Knox\_41 (EA1), Kurt1\_41 (EA1), Leafus\_40 (EA1), Librie\_40 (EA5), LiTerminator\_40 (EA5), Lovelyunicorn\_41 (EA1), Ludgate\_41 (EA1), Luna18\_42 (EA6), MaeLinda\_41 (EA1), ManRay\_40 (EA1), Martin\_42 (EA1), Mercedes\_36 (EA), MillyPhilly\_41 (EA1), MonChoix\_39 (EA1), MrWorldwide\_41 (EA1), Nagem\_41 (EA1), Nattles\_40 (EA1), NickSell\_41 (EA1), Oats\_40 (EA1), OldNelly\_42 (EA1), Oxtober96\_42 (EA1), Papafritta\_40 (EA1), ParleG\_41 (EA1), Peep\_41 (EA1), Peppino\_40 (EA1), Pherferi\_41 (EA1), Phiderman\_41 (EA1), Phireproof\_41 (EA1), PhredFlintston\_41 (EA1), Phriends\_41 (EA1), Pocket\_40 (EA1), PuppyEggo\_41 (EA1), QuadZero\_39 (EA5), Raccoon\_40 (EA1), Rapheph\_41 (EA1), Raptor\_41 (EA1), Redfield\_40 (EA1), Renzie\_41 (EA1), Riyhil\_41 (EA1), Robinson\_41 (EA1), Rog141\_40 (EA1), RosieMae\_42 (EA1), SJay\_41 (EA1), Schimmels22\_39 (EA11), Schnapsidee\_40 (EA1), Schubert\_39 (EA8), Scissor2024\_40 (EA11), Sedgewig\_40 (EA1), ShaiHulud\_42 (EA1), Shee\_41 (EA1), SoilGremlin\_42 (EA1), SonOfLevi\_41 (EA1), Stanktossa\_41 (EA1), StingRay\_40 (EA1), StirfryIV\_40 (EA1), Stormbreaker8\_40 (EA1), Strathdee\_41 (EA1), Superfresh\_41 (EA1), Symere\_42 (EA1), TatarkaPM\_41 (EA1), Teagan\_41 (EA1), TeddyBear\_40 (EA1), Tenda\_40 (EA1), Thompsonsone\_41 (EA1), Thorongii\_41 (EA1), TinSulphur\_42 (EA1), Tinyman4\_39 (EA11), Velene\_41 (EA1), Vispistious\_41 (EA1), Wardwill\_41 (EA5), WildNOut\_41 (EA1), WilliamStrong\_40 (EA6), Winzigespinne\_40 (EA1), Zada\_42 (EA1), Zayuliv\_40 (EA5), Zepp\_40 (EA5),

#### Start 140:

- Found in 30 of 435 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 10 of 369
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bustleton\_39 (EA4), Golden\_39 (EA4), Jenos\_44 (EA1), Koji\_39 (EA4), Lucky3\_39 (EA4), McGalleon\_43 (EA1), Morrigan\_42 (EA6), Pherbot\_39 (EA4), PrincePhergus\_39 (EA4), Sinatra\_40 (EA4),

#### Start 141:

- Found in 41 of 435 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 21 of 369
- Called 53.7% of time when present
- Phage (with cluster) where this start called: Andromedas\_40 (EA2), Carostasia\_39 (EA10), Casey\_37 (EA3), ChikPic\_40 (EA2), ColaCorta\_40 (EA2), Eleri\_40 (EA2), Glamour\_40 (EA2), Guetzie\_40 (EA4), Juanyo\_39 (EA10), MCubed\_40 (EA2), Mandalorian\_39 (EA10), Nucci\_39 (EA10), PSirce\_39 (EA2), Pajaza\_37 (EA3),

Pikmin\_37 (EA3), Quartz\_40 (EA10), Sansa\_39 (EA2), Saratos\_40 (EA2), Shamu\_41 (EA2), SirVictor\_40 (EA4), YuumY\_40 (EA10), Zenitsu\_40 (EA2),

Start 144:

- Found in 82 of 435 ( 18.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Carsonalex\_56 (CT), GTE2\_44 (CT),

Start 147:

- Found in 89 of 435 ( 20.5% ) of genes in pham
- Manual Annotations of this start: 27 of 369
- Called 32.6% of time when present
- Phage (with cluster) where this start called: Anamika\_57 (CS3), BaronJohn\_41 (EA5), BenoitCattle\_59 (CS2), Berries\_57 (CS3), Bianmat\_57 (CS3), Chelms\_59 (CS2), Crete\_60 (CS2), Dakiti\_60 (CS2), Damp\_57 (CS3), Diabla\_63 (CS2), GalacticEye\_57 (CS3), Guillaume\_57 (CS3), Hail2Pitt\_56 (CS3), Harambe\_57 (CS3), Hello\_57 (CS3), Jams\_57 (CS3), Jormungandr\_57 (CS3), Lahirium\_57 (CS3), Lidong\_57 (CS3), Linetti\_59 (CS2), Minos\_58 (CS3), MrWormie\_57 (CS3), Neoevie\_57 (CS3), Newt\_58 (CS3), Nimi13\_57 (CS3), PierreThree\_58 (CS2), Shelley\_57 (CS3), Sticker17\_57 (CS3), Teal\_57 (CS3),

Start 149:

- Found in 61 of 435 ( 14.0% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 3.3% of time when present
- Phage (with cluster) where this start called: Finny\_41 (EA2), Phanita\_39 (EA2),

Start 167:

- Found in 5 of 435 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Ixel\_41 (EA11), TwoBits\_38 (EA5),

Start 181:

- Found in 204 of 435 ( 46.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.0% of time when present
- Phage (with cluster) where this start called: HairyMan\_38 (EA10), RenegadeRaider\_42 (EA4),

Start 183:

- Found in 282 of 435 ( 64.8% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 0.4% of time when present
- Phage (with cluster) where this start called: Mayweather\_61 (CT),

Start 201:

- Found in 53 of 435 ( 12.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.9% of time when present
- Phage (with cluster) where this start called: KingJulien\_40 (EA1),

## **Summary by clusters:**

There are 28 clusters represented in this pham: singleton, DF, BN, BR, DF1, DF3, DF2, CS4, EA6, CS1, CS3, CS2, AB, EF, EA, EA9, EA8, CX, GC, EA1, EA3, EA2, EA5, EA4, CT, GG, EA11, EA10,

Info for manual annotations of cluster AB:

- Start number 92 was manually annotated 2 times for cluster AB.
- Start number 114 was manually annotated 2 times for cluster AB.

Info for manual annotations of cluster BN:

- Start number 17 was manually annotated 8 times for cluster BN.

Info for manual annotations of cluster BR:

- Start number 101 was manually annotated 2 times for cluster BR.

Info for manual annotations of cluster CS1:

- Start number 49 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 89 was manually annotated 1 time for cluster CS2.
- Start number 108 was manually annotated 25 times for cluster CS2.
- Start number 120 was manually annotated 1 time for cluster CS2.
- Start number 147 was manually annotated 6 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 89 was manually annotated 2 times for cluster CS3.
- Start number 106 was manually annotated 1 time for cluster CS3.
- Start number 147 was manually annotated 21 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 36 was manually annotated 6 times for cluster CS4.
- Start number 40 was manually annotated 2 times for cluster CS4.
- Start number 78 was manually annotated 1 time for cluster CS4.

Info for manual annotations of cluster CT:

- Start number 109 was manually annotated 35 times for cluster CT.
- Start number 111 was manually annotated 6 times for cluster CT.
- Start number 112 was manually annotated 12 times for cluster CT.
- Start number 183 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster CX:

- Start number 124 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster DF:

- Start number 126 was manually annotated 1 time for cluster DF.

Info for manual annotations of cluster DF3:

- Start number 126 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster EA:

- Start number 138 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EA1:

- Start number 138 was manually annotated 118 times for cluster EA1.
- Start number 140 was manually annotated 2 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 141 was manually annotated 6 times for cluster EA10.

Info for manual annotations of cluster EA11:

- Start number 137 was manually annotated 1 time for cluster EA11.
- Start number 138 was manually annotated 3 times for cluster EA11.
- Start number 167 was manually annotated 1 time for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 141 was manually annotated 10 times for cluster EA2.
- Start number 149 was manually annotated 1 time for cluster EA2.

Info for manual annotations of cluster EA3:

- Start number 141 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 135 was manually annotated 2 times for cluster EA4.
- Start number 140 was manually annotated 7 times for cluster EA4.
- Start number 141 was manually annotated 2 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 136 was manually annotated 4 times for cluster EA5.
- Start number 138 was manually annotated 8 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 138 was manually annotated 6 times for cluster EA6.
- Start number 140 was manually annotated 1 time for cluster EA6.

Info for manual annotations of cluster EA8:

- Start number 138 was manually annotated 1 time for cluster EA8.

Info for manual annotations of cluster EA9:

- Start number 138 was manually annotated 3 times for cluster EA9.

Info for manual annotations of cluster EF:

- Start number 8 was manually annotated 1 time for cluster EF.
- Start number 22 was manually annotated 31 times for cluster EF.
- Start number 23 was manually annotated 3 times for cluster EF.

Info for manual annotations of cluster GC:

- Start number 7 was manually annotated 4 times for cluster GC.

Info for manual annotations of cluster GG:

- Start number 105 was manually annotated 1 time for cluster GG.
- Start number 107 was manually annotated 1 time for cluster GG.

### **Gene Information:**

Gene: 8UZL\_50 Start: 38971, Stop: 37460, Start Num: 92

Candidate Starts for 8UZL\_50:

(Start: 92 @38971 has 2 MA's), (Start: 112 @38935 has 12 MA's), (143, 38845), (144, 38842), (154, 38794), (172, 38725), (213, 38611), (253, 38482), (261, 38431), (263, 38425), (266, 38419), (270, 38395), (281, 38341), (313, 38200), (314, 38197), (331, 38140), (347, 38068), (348, 38065), (414, 37870), (427, 37825), (450, 37720), (465, 37660), (505, 37492), (511, 37471),

Gene: ASerpRocky\_55 Start: 52672, Stop: 51098, Start Num: 78

Candidate Starts for ASerpRocky\_55:

(Start: 36 @52804 has 6 MA's), (Start: 40 @52792 has 2 MA's), (73, 52693), (Start: 78 @52672 has 1 MA's), (Start: 114 @52606 has 2 MA's), (150, 52507), (160, 52471), (165, 52447), (168, 52438), (170, 52429), (Start: 183 @52381 has 1 MA's), (190, 52357), (201, 52315), (210, 52300), (232, 52225), (251, 52165), (252, 52162), (266, 52096), (267, 52093), (275, 52057), (276, 52054), (284, 52027), (287, 52015), (294, 51967), (303, 51934), (309, 51910), (320, 51886), (325, 51862), (343, 51796), (365, 51697), (389, 51598), (399, 51565), (400, 51562), (444, 51445), (445, 51442), (457, 51385), (462, 51367), (483, 51250), (484, 51247), (488, 51235), (518, 51136), (525, 51115),

Gene: Acosta\_42 Start: 31547, Stop: 30141, Start Num: 138

Candidate Starts for Acosta\_42:

(43, 31790), (94, 31649), (96, 31646), (98, 31643), (Start: 138 @31547 has 140 MA's), (181, 31400), (Start: 183 @31394 has 1 MA's), (221, 31277), (229, 31250), (243, 31190), (251, 31163), (252, 31160), (253, 31157), (272, 31064), (280, 31022), (319, 30860), (323, 30851), (328, 30830), (332, 30824), (362, 30731), (373, 30695), (380, 30671), (405, 30596), (440, 30482), (452, 30422), (459, 30398), (460, 30392), (464, 30380), (490, 30257), (497, 30230), (504, 30203),

Gene: Adgers\_62 Start: 52192, Stop: 50660, Start Num: 108

Candidate Starts for Adgers\_62:

(26, 52447), (34, 52396), (66, 52291), (76, 52261), (Start: 89 @52228 has 3 MA's), (97, 52219), (Start: 108 @52192 has 25 MA's), (160, 52024), (170, 51982), (176, 51964), (Start: 183 @51934 has 1 MA's), (187, 51922), (190, 51910), (192, 51904), (197, 51883), (253, 51715), (272, 51628), (275, 51613), (280, 51601), (287, 51571), (320, 51442), (330, 51400), (336, 51382), (338, 51379), (340, 51370), (343, 51352), (365, 51265), (400, 51130), (403, 51115), (409, 51094), (444, 51013), (445, 51010), (457, 50953), (459, 50947), (462, 50935), (473, 50884), (477, 50860), (483, 50821), (487, 50809), (488, 50806), (515, 50713), (518, 50698),

Gene: Aesir\_39 Start: 25591, Stop: 27498, Start Num: 22

Candidate Starts for Aesir\_39:

(4, 25417), (Start: 22 @25591 has 31 MA's), (27, 25654), (30, 25675), (45, 25729), (93, 25864), (Start: 113 @25906 has 1 MA's), (130, 25951), (177, 26125), (181, 26134), (210, 26224), (221, 26266), (224, 26281), (266, 26467), (290, 26602), (292, 26614), (300, 26647), (326, 26740), (339, 26776), (362, 26866), (371, 26893), (450, 27202), (451, 27205), (465, 27265), (483, 27355), (492, 27385), (504, 27427), (520, 27478),

Gene: Agatha\_53 Start: 38842, Stop: 37364, Start Num: 109

Candidate Starts for Agatha\_53:

(Start: 109 @38842 has 35 MA's), (142, 38755), (144, 38749), (168, 38647), (211, 38524), (212, 38521), (261, 38338), (263, 38332), (266, 38326), (281, 38248), (304, 38134), (313, 38107), (323, 38083), (339, 38023), (347, 37978), (354, 37957), (369, 37918), (374, 37900), (413, 37783), (427, 37735), (428, 37732), (433, 37717), (453, 37621), (459, 37600), (465, 37570),

Gene: Agente005\_41 Start: 31381, Stop: 29990, Start Num: 138

Candidate Starts for Agente005\_41:

(Start: 138 @31381 has 140 MA's), (181, 31234), (Start: 183 @31228 has 1 MA's), (184, 31225), (221, 31111), (243, 31024), (251, 30997), (252, 30994), (272, 30898), (280, 30856), (323, 30685), (328, 30664), (339, 30637), (348, 30589), (373, 30529), (440, 30316), (443, 30298), (459, 30232), (460, 30226), (464, 30214), (481, 30118), (497, 30064), (498, 30061), (513, 30007),

Gene: AikoCarson\_54 Start: 39107, Stop: 37629, Start Num: 109

Candidate Starts for AikoCarson\_54:

(Start: 109 @39107 has 35 MA's), (142, 39020), (144, 39014), (168, 38912), (201, 38813), (209, 38795), (211, 38789), (214, 38780), (252, 38657), (261, 38603), (263, 38597), (266, 38591), (281, 38513), (304, 38399), (313, 38372), (323, 38348), (332, 38309), (343, 38267), (347, 38243), (354, 38222), (374, 38165), (413, 38048), (427, 38000), (428, 37997), (433, 37982), (453, 37886), (459, 37865), (465, 37835), (472, 37805), (505, 37667),

Gene: Ajin\_42 Start: 26641, Stop: 28575, Start Num: 23

Candidate Starts for Ajin\_42:

(3, 26401), (Start: 8 @26545 has 1 MA's), (21, 26635), (Start: 23 @26641 has 3 MA's), (45, 26788), (50, 26806), (54, 26815), (Start: 113 @26965 has 1 MA's), (152, 27091), (177, 27181), (181, 27190), (210, 27280), (221, 27322), (226, 27352), (256, 27484), (292, 27670), (296, 27688), (300, 27703), (317, 27760), (335, 27820), (352, 27892), (388, 28030), (407, 28096), (414, 28126), (439, 28204), (451, 28282), (465, 28342), (474, 28381), (483, 28432), (490, 28450), (522, 28558),

Gene: Alakazam\_40 Start: 30804, Stop: 29374, Start Num: 136

Candidate Starts for Alakazam\_40:

(Start: 136 @30804 has 4 MA's), (146, 30771), (Start: 183 @30651 has 1 MA's), (184, 30648), (201, 30588), (218, 30537), (225, 30516), (228, 30504), (251, 30411), (252, 30408), (279, 30276), (303, 30153), (323, 30096), (328, 30075), (339, 30048), (341, 30036), (344, 30015), (359, 29958), (362, 29937), (373, 29901), (377, 29889), (391, 29847), (399, 29820), (404, 29805), (424, 29742), (429, 29730), (450, 29634), (453, 29625), (457, 29610), (459, 29604), (460, 29598), (484, 29481), (490, 29463), (492, 29451), (504, 29409),

Gene: AlexAdler\_41 Start: 31109, Stop: 29721, Start Num: 138

Candidate Starts for AlexAdler\_41:

(52, 31331), (Start: 138 @31109 has 140 MA's), (181, 30965), (Start: 183 @30959 has 1 MA's), (184, 30956), (221, 30842), (229, 30815), (243, 30755), (251, 30728), (252, 30725), (272, 30629), (280, 30587), (323, 30416), (328, 30395), (335, 30380), (339, 30368), (348, 30320), (373, 30260), (404, 30164), (424, 30101), (440, 30047), (459, 29963), (460, 29957), (464, 29945), (481, 29849), (497, 29795), (498, 29792), (504, 29768),

Gene: Alyxandracam\_41 Start: 31119, Stop: 29731, Start Num: 138

Candidate Starts for Alyxandracam\_41:

(2, 31770), (31, 31416), (52, 31341), (Start: 138 @31119 has 140 MA's), (181, 30975), (Start: 183 @30969 has 1 MA's), (184, 30966), (221, 30852), (229, 30825), (243, 30765), (251, 30738), (252, 30735), (272, 30639), (280, 30597), (323, 30426), (335, 30390), (339, 30378), (344, 30345), (348, 30330), (373, 30270), (404, 30174), (424, 30111), (440, 30057), (459, 29973), (460, 29967), (464, 29955), (481, 29859), (497, 29805), (498, 29802), (504, 29778),

Gene: Amok\_54 Start: 39035, Stop: 37557, Start Num: 109

Candidate Starts for Amok\_54:

(Start: 109 @39035 has 35 MA's), (142, 38948), (144, 38942), (168, 38840), (Start: 183 @38798 has 1 MA's), (201, 38741), (209, 38723), (211, 38717), (252, 38585), (261, 38531), (263, 38525), (266, 38519), (281, 38441), (304, 38327), (313, 38300), (323, 38276), (332, 38237), (343, 38195), (347, 38171), (354, 38150), (372, 38102), (374, 38093), (413, 37976), (427, 37928), (433, 37910), (453,

(37814), (459, 37793), (465, 37763), (472, 37733), (505, 37595),

Gene: Amore2\_62 Start: 52713, Stop: 51082, Start Num: 49

Candidate Starts for Amore2\_62:

(Start: 49 @52713 has 3 MA's), (55, 52701), (74, 52650), (75, 52644), (103, 52587), (160, 52446), (170, 52404), (174, 52392), (Start: 183 @52356 has 1 MA's), (184, 52353), (192, 52326), (201, 52290), (209, 52278), (216, 52263), (247, 52155), (272, 52050), (275, 52035), (303, 51912), (320, 51864), (325, 51840), (330, 51822), (343, 51774), (356, 51723), (365, 51687), (371, 51669), (400, 51552), (420, 51501), (440, 51459), (451, 51399), (462, 51357), (473, 51306), (477, 51282), (518, 51120), (525, 51099),

Gene: Anakin\_40 Start: 25911, Stop: 27818, Start Num: 22

Candidate Starts for Anakin\_40:

(Start: 22 @25911 has 31 MA's), (27, 25974), (30, 25995), (45, 26049), (Start: 113 @26226 has 1 MA's), (130, 26271), (177, 26445), (181, 26454), (210, 26544), (224, 26601), (266, 26787), (290, 26922), (292, 26934), (300, 26967), (339, 27096), (371, 27213), (393, 27288), (450, 27522), (451, 27525), (465, 27585), (483, 27675), (492, 27705), (504, 27747), (520, 27798),

Gene: Anamika\_57 Start: 52887, Stop: 51475, Start Num: 147

Candidate Starts for Anamika\_57:

(26, 53235), (58, 53106), (87, 53019), (Start: 89 @53016 has 3 MA's), (Start: 147 @52887 has 27 MA's), (160, 52842), (Start: 183 @52752 has 1 MA's), (184, 52749), (186, 52743), (192, 52722), (216, 52659), (247, 52551), (253, 52533), (272, 52446), (275, 52431), (287, 52389), (303, 52308), (320, 52260), (330, 52218), (336, 52200), (338, 52197), (343, 52170), (356, 52119), (365, 52083), (380, 52032), (400, 51948), (406, 51927), (457, 51771), (459, 51765), (462, 51753), (487, 51627), (518, 51513),

Gene: AndPeggy\_50 Start: 38315, Stop: 36837, Start Num: 109

Candidate Starts for AndPeggy\_50:

(Start: 109 @38315 has 35 MA's), (144, 38222), (Start: 149 @38195 has 1 MA's), (168, 38120), (Start: 183 @38078 has 1 MA's), (211, 37997), (252, 37865), (261, 37811), (266, 37799), (281, 37721), (304, 37607), (313, 37580), (323, 37556), (332, 37517), (347, 37451), (354, 37430), (374, 37373), (413, 37256), (427, 37208), (433, 37190), (453, 37094), (459, 37073), (465, 37043),

Gene: Andromedas\_40 Start: 31099, Stop: 29687, Start Num: 141

Candidate Starts for Andromedas\_40:

(Start: 141 @31099 has 21 MA's), (Start: 147 @31069 has 27 MA's), (Start: 149 @31063 has 1 MA's), (159, 31030), (221, 30838), (229, 30811), (243, 30751), (251, 30724), (252, 30721), (258, 30679), (272, 30625), (280, 30583), (303, 30469), (323, 30412), (328, 30391), (335, 30376), (339, 30364), (341, 30352), (342, 30349), (344, 30331), (362, 30250), (373, 30214), (391, 30160), (402, 30118), (414, 30088), (420, 30064), (423, 30058), (438, 30016), (450, 29947), (457, 29923), (459, 29917), (460, 29911), (464, 29899), (481, 29803), (484, 29794), (490, 29776), (492, 29764), (505, 29719),

Gene: Anilorac\_41 Start: 31339, Stop: 29834, Start Num: 86

Candidate Starts for Anilorac\_41:

(76, 31363), (86, 31339), (100, 31318), (129, 31255), (Start: 138 @31225 has 140 MA's), (181, 31078), (Start: 183 @31072 has 1 MA's), (184, 31069), (221, 30955), (243, 30868), (251, 30841), (252, 30838), (272, 30742), (280, 30700), (323, 30529), (328, 30508), (339, 30481), (348, 30433), (373, 30373), (440, 30160), (443, 30142), (457, 30082), (459, 30076), (460, 30070), (464, 30058), (481, 29962), (497, 29908), (498, 29905), (513, 29851),

Gene: AnnaSerena\_40 Start: 25946, Stop: 27853, Start Num: 22

Candidate Starts for AnnaSerena\_40:

(Start: 22 @25946 has 31 MA's), (27, 26009), (30, 26030), (45, 26084), (Start: 113 @26261 has 1 MA's), (130, 26306), (177, 26480), (181, 26489), (210, 26579), (224, 26636), (266, 26822), (290, 26957), (292, 26969), (300, 27002), (339, 27131), (371, 27248), (393, 27323), (450, 27557), (451, 27560), (465, 27620), (483, 27710), (492, 27740), (504, 27782), (520, 27833),

Gene: Annapurna\_41 Start: 25220, Stop: 27127, Start Num: 22

Candidate Starts for Annapurna\_41:

(4, 25046), (Start: 22 @25220 has 31 MA's), (27, 25283), (30, 25304), (45, 25358), (93, 25493), (Start: 113 @25535 has 1 MA's), (130, 25580), (177, 25754), (181, 25763), (210, 25853), (221, 25895), (224, 25910), (266, 26096), (290, 26231), (292, 26243), (300, 26276), (339, 26405), (371, 26522), (444, 26795), (451, 26834), (465, 26894), (483, 26984), (492, 27014), (504, 27056), (520, 27107),

Gene: Antoinette\_41 Start: 31109, Stop: 29721, Start Num: 138

Candidate Starts for Antoinette\_41:

(52, 31331), (Start: 138 @31109 has 140 MA's), (181, 30965), (Start: 183 @30959 has 1 MA's), (184, 30956), (221, 30842), (229, 30815), (243, 30755), (251, 30728), (252, 30725), (272, 30629), (280, 30587), (323, 30416), (328, 30395), (335, 30380), (339, 30368), (348, 30320), (373, 30260), (404, 30164), (424, 30101), (440, 30047), (459, 29963), (460, 29957), (464, 29945), (478, 29870), (481, 29849), (497, 29795), (498, 29792), (504, 29768),

Gene: AranulaLuti\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for AranulaLuti\_40:

(1, 31619), (2, 31454), (31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Artiphact\_40 Start: 25935, Stop: 27842, Start Num: 22

Candidate Starts for Artiphact\_40:

(Start: 22 @25935 has 31 MA's), (27, 25998), (30, 26019), (45, 26073), (Start: 113 @26250 has 1 MA's), (130, 26295), (177, 26469), (181, 26478), (210, 26568), (224, 26625), (266, 26811), (290, 26946), (292, 26958), (300, 26991), (339, 27120), (371, 27237), (393, 27312), (450, 27546), (451, 27549), (465, 27609), (483, 27699), (492, 27729), (504, 27771), (520, 27822),

Gene: Asta\_40 Start: 30816, Stop: 29428, Start Num: 138

Candidate Starts for Asta\_40:

(52, 31038), (Start: 138 @30816 has 140 MA's), (181, 30672), (Start: 183 @30666 has 1 MA's), (184, 30663), (221, 30549), (229, 30522), (243, 30462), (251, 30435), (252, 30432), (271, 30339), (272, 30336), (280, 30294), (323, 30123), (328, 30102), (335, 30087), (339, 30075), (348, 30027), (373, 29967), (404, 29871), (424, 29808), (440, 29754), (459, 29670), (460, 29664), (464, 29652), (478, 29577), (481, 29556), (497, 29502), (498, 29499), (504, 29475),

Gene: Aubergine\_40 Start: 30816, Stop: 29428, Start Num: 138

Candidate Starts for Aubergine\_40:

(52, 31038), (Start: 138 @30816 has 140 MA's), (181, 30672), (Start: 183 @30666 has 1 MA's), (184, 30663), (221, 30549), (229, 30522), (243, 30462), (251, 30435), (252, 30432), (272, 30336), (280, 30294), (323, 30123), (328, 30102), (335, 30087), (348, 30027), (373, 29967), (404, 29871), (424, 29808), (440, 29754), (459, 29670), (460, 29664), (464, 29652), (481, 29556), (497, 29502), (498, 29499), (504, 29475),

Gene: Austin\_61 Start: 52711, Stop: 51080, Start Num: 49

Candidate Starts for Austin\_61:

(Start: 49 @52711 has 3 MA's), (55, 52699), (74, 52648), (75, 52642), (103, 52585), (160, 52444), (170, 52402), (174, 52390), (Start: 183 @52354 has 1 MA's), (184, 52351), (192, 52324), (201, 52288), (209, 52276), (216, 52261), (247, 52153), (272, 52048), (275, 52033), (303, 51910), (320, 51862), (325, 51838), (330, 51820), (343, 51772), (356, 51721), (365, 51685), (371, 51667), (400, 51550), (420, 51499), (440, 51457), (451, 51397), (462, 51355), (473, 51304), (477, 51280), (518, 51118), (525, 51097),

Gene: AxiPup\_41 Start: 31088, Stop: 29700, Start Num: 138

Candidate Starts for AxiPup\_41:

(2, 31739), (31, 31385), (52, 31310), (Start: 138 @31088 has 140 MA's), (181, 30944), (Start: 183 @30938 has 1 MA's), (184, 30935), (221, 30821), (229, 30794), (243, 30734), (251, 30707), (252, 30704), (272, 30608), (280, 30566), (323, 30395), (328, 30374), (339, 30347), (348, 30299), (373, 30239), (424, 30080), (440, 30026), (459, 29942), (460, 29936), (464, 29924), (481, 29828), (497, 29774), (498, 29771), (504, 29747),

Gene: Axym\_52 Start: 38739, Stop: 37261, Start Num: 109

Candidate Starts for Axym\_52:

(Start: 109 @38739 has 35 MA's), (142, 38652), (144, 38646), (161, 38565), (168, 38544), (211, 38421), (212, 38418), (261, 38235), (263, 38229), (266, 38223), (281, 38145), (304, 38031), (313, 38004), (323, 37980), (339, 37920), (347, 37875), (354, 37854), (369, 37815), (374, 37797), (413, 37680), (427, 37632), (428, 37629), (433, 37614), (453, 37518), (459, 37497), (465, 37467),

Gene: Azira\_49 Start: 37909, Stop: 36419, Start Num: 111

Candidate Starts for Azira\_49:

(Start: 111 @37909 has 6 MA's), (144, 37819), (Start: 149 @37792 has 1 MA's), (160, 37750), (172, 37702), (Start: 183 @37675 has 1 MA's), (211, 37594), (212, 37591), (214, 37585), (219, 37564), (236, 37498), (261, 37408), (266, 37396), (279, 37333), (281, 37318), (285, 37303), (309, 37186), (313, 37177), (337, 37099), (343, 37072), (344, 37060), (347, 37048), (362, 37009), (369, 36988), (370, 36985), (374, 36970), (394, 36898), (414, 36829), (427, 36784), (440, 36739), (441, 36724), (446, 36694), (453, 36670), (465, 36619), (472, 36589), (485, 36523), (491, 36499), (501, 36466), (511, 36430),

Gene: Baines\_40 Start: 30809, Stop: 29421, Start Num: 138

Candidate Starts for Baines\_40:

(52, 31031), (Start: 138 @30809 has 140 MA's), (181, 30665), (Start: 183 @30659 has 1 MA's), (184, 30656), (221, 30542), (229, 30515), (243, 30455), (251, 30428), (252, 30425), (272, 30329), (280, 30287), (323, 30116), (328, 30095), (335, 30080), (339, 30068), (348, 30020), (373, 29960), (404, 29864), (424, 29801), (440, 29747), (459, 29663), (460, 29657), (464, 29645), (478, 29570), (481, 29549), (497, 29495), (498, 29492), (504, 29468),

Gene: Balsa\_40 Start: 31258, Stop: 29867, Start Num: 138

Candidate Starts for Balsa\_40:

(86, 31372), (129, 31288), (Start: 138 @31258 has 140 MA's), (181, 31111), (Start: 183 @31105 has 1 MA's), (184, 31102), (221, 30988), (229, 30961), (243, 30901), (251, 30874), (252, 30871), (272, 30775), (280, 30733), (323, 30562), (328, 30541), (339, 30514), (373, 30406), (404, 30310), (440, 30193), (443, 30175), (459, 30109), (460, 30103), (481, 29995), (497, 29941), (498, 29938), (504, 29914), (513, 29884),

Gene: Bandik\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Bandik\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (302, 30481), (323, 30421), (335, 30385), (339, 30373), (344,

(30340), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Barbochs\_59 Start: 51736, Stop: 50204, Start Num: 108

Candidate Starts for Barbochs\_59:

(26, 51991), (34, 51940), (47, 51889), (66, 51835), (76, 51805), (Start: 89 @51772 has 3 MA's), (97, 51763), (Start: 108 @51736 has 25 MA's), (160, 51568), (170, 51526), (Start: 183 @51478 has 1 MA's), (187, 51466), (190, 51454), (192, 51448), (197, 51427), (209, 51400), (253, 51259), (272, 51172), (275, 51157), (280, 51145), (287, 51115), (295, 51064), (302, 51037), (320, 50986), (325, 50962), (330, 50944), (336, 50926), (338, 50923), (343, 50896), (353, 50854), (365, 50809), (400, 50674), (403, 50659), (409, 50638), (440, 50581), (444, 50557), (457, 50497), (459, 50491), (460, 50485), (462, 50479), (473, 50428), (477, 50404), (483, 50365), (487, 50353), (488, 50350), (515, 50257), (518, 50242), (525, 50221),

Gene: BaronJohn\_41 Start: 29646, Stop: 28255, Start Num: 147

Candidate Starts for BaronJohn\_41:

(125, 29724), (Start: 138 @29682 has 140 MA's), (146, 29652), (Start: 147 @29646 has 27 MA's), (Start: 183 @29532 has 1 MA's), (184, 29529), (185, 29526), (251, 29292), (252, 29289), (303, 29034), (321, 28983), (323, 28977), (339, 28929), (344, 28896), (373, 28782), (376, 28773), (391, 28728), (393, 28722), (401, 28695), (404, 28686), (424, 28623), (443, 28551), (450, 28515), (453, 28506), (457, 28491), (459, 28485), (464, 28467), (472, 28425), (484, 28362), (504, 28290),

Gene: Bavillard\_56 Start: 40156, Stop: 38678, Start Num: 109

Candidate Starts for Bavillard\_56:

(Start: 109 @40156 has 35 MA's), (134, 40093), (142, 40072), (144, 40066), (Start: 149 @40039 has 1 MA's), (161, 39985), (172, 39949), (177, 39934), (211, 39838), (214, 39829), (219, 39808), (236, 39742), (252, 39706), (261, 39652), (263, 39646), (266, 39640), (281, 39562), (285, 39547), (304, 39448), (326, 39373), (335, 39349), (339, 39337), (343, 39316), (345, 39301), (347, 39292), (354, 39271), (369, 39232), (372, 39223), (394, 39157), (415, 39085), (427, 39043), (428, 39040), (433, 39025), (453, 38929), (465, 38878), (472, 38848), (478, 38815), (491, 38758), (496, 38743),

Gene: BeautPeep30\_41 Start: 31120, Stop: 29732, Start Num: 138

Candidate Starts for BeautPeep30\_41:

(52, 31342), (Start: 138 @31120 has 140 MA's), (181, 30976), (Start: 183 @30970 has 1 MA's), (184, 30967), (221, 30853), (229, 30826), (243, 30766), (251, 30739), (252, 30736), (272, 30640), (280, 30598), (319, 30436), (323, 30427), (328, 30406), (335, 30391), (339, 30379), (348, 30331), (373, 30271), (404, 30175), (424, 30112), (440, 30058), (459, 29974), (460, 29968), (464, 29956), (481, 29860), (497, 29806), (498, 29803), (504, 29779),

Gene: Beaver\_62 Start: 53506, Stop: 51974, Start Num: 108

Candidate Starts for Beaver\_62:

(26, 53761), (34, 53710), (47, 53659), (66, 53605), (76, 53575), (Start: 89 @53542 has 3 MA's), (97, 53533), (Start: 108 @53506 has 25 MA's), (160, 53338), (170, 53296), (Start: 183 @53248 has 1 MA's), (187, 53236), (190, 53224), (192, 53218), (197, 53197), (209, 53170), (253, 53029), (272, 52942), (275, 52927), (280, 52915), (287, 52885), (295, 52834), (302, 52807), (320, 52756), (330, 52714), (336, 52696), (338, 52693), (343, 52666), (353, 52624), (365, 52579), (371, 52561), (400, 52444), (403, 52429), (409, 52408), (440, 52351), (444, 52327), (457, 52267), (459, 52261), (460, 52255), (462, 52249), (473, 52198), (477, 52174), (483, 52135), (487, 52123), (515, 52027), (518, 52012), (525, 51991),

Gene: BeeBee8\_41 Start: 31426, Stop: 30035, Start Num: 138

Candidate Starts for BeeBee8\_41:

(83, 31528), (85, 31525), (87, 31522), (Start: 138 @31426 has 140 MA's), (181, 31279), (Start: 183 @31273 has 1 MA's), (184, 31270), (221, 31156), (229, 31129), (243, 31069), (251, 31042), (252, 31039), (272, 30943), (280, 30901), (323, 30730), (328, 30709), (339, 30682), (348, 30634), (373, 30574), (404, 30478), (440, 30361), (443, 30343), (459, 30277), (460, 30271), (481, 30163), (497, 30109), (498, 30106), (504, 30082), (513, 30052),

Gene: Benczkowski14\_57 Start: 53319, Stop: 51616, Start Num: 36

Candidate Starts for Benczkowski14\_57:

(Start: 36 @53319 has 6 MA's), (Start: 40 @53307 has 2 MA's), (Start: 114 @53124 has 2 MA's), (Start: 147 @53034 has 27 MA's), (150, 53025), (160, 52989), (165, 52965), (168, 52956), (170, 52947), (Start: 183 @52899 has 1 MA's), (190, 52875), (216, 52803), (217, 52800), (220, 52782), (232, 52743), (266, 52614), (275, 52575), (276, 52572), (282, 52554), (284, 52545), (287, 52533), (294, 52485), (303, 52452), (320, 52404), (325, 52380), (343, 52314), (365, 52215), (389, 52116), (392, 52107), (399, 52083), (400, 52080), (440, 51987), (444, 51963), (445, 51960), (457, 51903), (462, 51885), (483, 51768), (484, 51765), (488, 51753), (518, 51654), (525, 51633),

Gene: Benjalauren\_41 Start: 30819, Stop: 29431, Start Num: 138

Candidate Starts for Benjalauren\_41:

(2, 31470), (31, 31116), (52, 31041), (Start: 138 @30819 has 140 MA's), (181, 30675), (Start: 183 @30669 has 1 MA's), (184, 30666), (221, 30552), (229, 30525), (243, 30465), (251, 30438), (252, 30435), (272, 30339), (280, 30297), (323, 30126), (328, 30105), (335, 30090), (348, 30030), (373, 29970), (404, 29874), (424, 29811), (440, 29757), (459, 29673), (460, 29667), (464, 29655), (481, 29559), (497, 29505), (498, 29502), (504, 29478),

Gene: BenoitCattle\_59 Start: 52020, Stop: 50611, Start Num: 147

Candidate Starts for BenoitCattle\_59:

(26, 52398), (34, 52347), (47, 52296), (66, 52242), (76, 52212), (Start: 89 @52179 has 3 MA's), (97, 52170), (Start: 108 @52143 has 25 MA's), (Start: 147 @52020 has 27 MA's), (160, 51975), (170, 51933), (Start: 183 @51885 has 1 MA's), (184, 51882), (186, 51876), (187, 51873), (190, 51861), (192, 51855), (209, 51807), (210, 51804), (247, 51684), (253, 51666), (266, 51603), (272, 51579), (275, 51564), (287, 51522), (295, 51471), (320, 51393), (336, 51333), (338, 51330), (340, 51321), (343, 51303), (353, 51261), (365, 51216), (400, 51081), (403, 51066), (409, 51045), (444, 50964), (445, 50961), (457, 50904), (459, 50898), (462, 50886), (473, 50835), (477, 50811), (483, 50772), (487, 50760), (515, 50664), (518, 50649),

Gene: Berries\_57 Start: 52859, Stop: 51447, Start Num: 147

Candidate Starts for Berries\_57:

(26, 53207), (58, 53078), (Start: 89 @52988 has 3 MA's), (Start: 147 @52859 has 27 MA's), (160, 52814), (Start: 183 @52724 has 1 MA's), (184, 52721), (186, 52715), (192, 52694), (216, 52631), (247, 52523), (253, 52505), (272, 52418), (275, 52403), (287, 52361), (303, 52280), (320, 52232), (330, 52190), (336, 52172), (338, 52169), (343, 52142), (356, 52091), (365, 52055), (380, 52004), (400, 51920), (406, 51899), (457, 51743), (459, 51737), (462, 51725), (487, 51599), (518, 51485),

Gene: Bianmat\_57 Start: 52899, Stop: 51487, Start Num: 147

Candidate Starts for Bianmat\_57:

(26, 53247), (58, 53118), (Start: 89 @53028 has 3 MA's), (Start: 147 @52899 has 27 MA's), (160, 52854), (Start: 183 @52764 has 1 MA's), (184, 52761), (186, 52755), (192, 52734), (216, 52671), (237, 52593), (247, 52563), (253, 52545), (272, 52458), (275, 52443), (287, 52401), (303, 52320), (320, 52272), (330, 52230), (336, 52212), (338, 52209), (343, 52182), (356, 52131), (365, 52095), (380, 52044), (400, 51960), (406, 51939), (457, 51783), (459, 51777), (462, 51765), (487, 51639), (518, 51525),

Gene: BigChungus\_56 Start: 40283, Stop: 38805, Start Num: 109

Candidate Starts for BigChungus\_56:

(67, 40361), (93, 40310), (95, 40307), (Start: 109 @40283 has 35 MA's), (134, 40220), (142, 40199), (144, 40193), (Start: 149 @40166 has 1 MA's), (161, 40112), (172, 40076), (177, 40061), (211, 39965), (214, 39956), (219, 39935), (236, 39869), (252, 39833), (261, 39779), (263, 39773), (266, 39767), (281, 39689), (285, 39674), (304, 39575), (326, 39500), (335, 39476), (339, 39464), (343, 39443), (345, 39428), (347, 39419), (354, 39398), (369, 39359), (372, 39350), (376, 39335), (394, 39284), (415, 39212), (427, 39170), (433, 39152), (453, 39056), (465, 39005), (472, 38975), (478, 38942), (491, 38885), (496, 38870),

Gene: BigRedClifford\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for BigRedClifford\_41:

(Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (339, 30377), (348, 30329), (373, 30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: BigShaq\_59 Start: 52148, Stop: 50616, Start Num: 108

Candidate Starts for BigShaq\_59:

(26, 52403), (34, 52352), (47, 52301), (66, 52247), (76, 52217), (Start: 89 @52184 has 3 MA's), (97, 52175), (Start: 108 @52148 has 25 MA's), (Start: 147 @52025 has 27 MA's), (160, 51980), (170, 51938), (Start: 183 @51890 has 1 MA's), (184, 51887), (186, 51881), (187, 51878), (190, 51866), (192, 51860), (201, 51824), (209, 51812), (210, 51809), (247, 51689), (253, 51671), (272, 51584), (275, 51569), (287, 51527), (295, 51476), (302, 51449), (320, 51398), (336, 51338), (338, 51335), (340, 51326), (343, 51308), (353, 51266), (365, 51221), (400, 51086), (403, 51071), (409, 51050), (444, 50969), (445, 50966), (457, 50909), (459, 50903), (462, 50891), (473, 50840), (476, 50825), (477, 50816), (483, 50777), (487, 50765), (515, 50669), (518, 50654),

Gene: BillDoor\_53 Start: 37991, Stop: 36513, Start Num: 109

Candidate Starts for BillDoor\_53:

(Start: 109 @37991 has 35 MA's), (144, 37898), (Start: 149 @37871 has 1 MA's), (168, 37796), (Start: 183 @37754 has 1 MA's), (211, 37673), (252, 37541), (261, 37487), (266, 37475), (281, 37397), (304, 37283), (309, 37265), (313, 37256), (323, 37232), (332, 37193), (347, 37127), (354, 37106), (369, 37067), (374, 37049), (376, 37043), (413, 36932), (427, 36884), (433, 36866), (453, 36770), (459, 36749), (465, 36719),

Gene: BirksAndSocks\_64 Start: 53856, Stop: 52324, Start Num: 108

Candidate Starts for BirksAndSocks\_64:

(26, 54111), (34, 54060), (66, 53955), (76, 53925), (Start: 89 @53892 has 3 MA's), (97, 53883), (Start: 108 @53856 has 25 MA's), (160, 53688), (170, 53646), (176, 53628), (Start: 183 @53598 has 1 MA's), (187, 53586), (190, 53574), (192, 53568), (197, 53547), (253, 53379), (272, 53292), (275, 53277), (280, 53265), (287, 53235), (320, 53106), (325, 53082), (330, 53064), (336, 53046), (338, 53043), (340, 53034), (343, 53016), (365, 52929), (400, 52794), (403, 52779), (409, 52758), (444, 52677), (445, 52674), (457, 52617), (459, 52611), (462, 52599), (473, 52548), (477, 52524), (483, 52485), (487, 52473), (488, 52470), (515, 52377), (518, 52362),

Gene: Biskit\_55 Start: 38648, Stop: 37170, Start Num: 109

Candidate Starts for Biskit\_55:

(Start: 109 @38648 has 35 MA's), (142, 38561), (144, 38555), (155, 38504), (168, 38453), (172, 38438), (201, 38354), (211, 38330), (214, 38321), (252, 38198), (261, 38144), (263, 38138), (266, 38132), (281, 38054), (304, 37940), (313, 37913), (323, 37889), (343, 37808), (347, 37784), (354, 37763), (369, 37724), (374, 37706), (376, 37700), (413, 37589), (415, 37583), (427, 37541), (433, 37523), (450, 37436), (453, 37427), (459, 37406), (465, 37376), (472, 37346), (478, 37313), (501, 37223),

Gene: Blage\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for Blage\_41:

(Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (339, 30377), (348, 30329), (373, 30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: Blondies\_55 Start: 38965, Stop: 37487, Start Num: 109

Candidate Starts for Blondies\_55:

(Start: 109 @38965 has 35 MA's), (142, 38878), (144, 38872), (155, 38821), (168, 38770), (172, 38755), (201, 38671), (211, 38647), (214, 38638), (252, 38515), (261, 38461), (263, 38455), (266, 38449), (270, 38425), (281, 38371), (304, 38257), (313, 38230), (323, 38206), (343, 38125), (347, 38101), (354, 38080), (369, 38041), (374, 38023), (376, 38017), (413, 37906), (415, 37900), (427, 37858), (433, 37840), (450, 37753), (453, 37744), (459, 37723), (465, 37693), (472, 37663), (478, 37630), (501, 37540),

Gene: Boneham\_63 Start: 53757, Stop: 52225, Start Num: 108

Candidate Starts for Boneham\_63:

(26, 54012), (34, 53961), (66, 53856), (76, 53826), (Start: 89 @53793 has 3 MA's), (97, 53784), (Start: 108 @53757 has 25 MA's), (160, 53589), (170, 53547), (176, 53529), (Start: 183 @53499 has 1 MA's), (187, 53487), (190, 53475), (192, 53469), (197, 53448), (253, 53280), (272, 53193), (275, 53178), (280, 53166), (287, 53136), (320, 53007), (325, 52983), (330, 52965), (336, 52947), (338, 52944), (340, 52935), (343, 52917), (365, 52830), (400, 52695), (403, 52680), (409, 52659), (444, 52578), (445, 52575), (457, 52518), (459, 52512), (462, 52500), (473, 52449), (477, 52425), (483, 52386), (487, 52374), (488, 52371), (515, 52278), (518, 52263),

Gene: BonesMcCoy\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for BonesMcCoy\_41:

(2, 31769), (31, 31415), (52, 31340), (Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (339, 30377), (348, 30329), (373, 30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: Bonino\_40 Start: 30795, Stop: 29407, Start Num: 138

Candidate Starts for Bonino\_40:

(52, 31017), (Start: 138 @30795 has 140 MA's), (181, 30651), (Start: 183 @30645 has 1 MA's), (184, 30642), (221, 30528), (229, 30501), (243, 30441), (251, 30414), (252, 30411), (272, 30315), (280, 30273), (323, 30102), (328, 30081), (335, 30066), (339, 30054), (348, 30006), (373, 29946), (404, 29850), (424, 29787), (440, 29733), (459, 29649), (460, 29643), (464, 29631), (478, 29556), (481, 29535), (497, 29481), (498, 29478), (504, 29454),

Gene: BouleyBill\_39 Start: 30564, Stop: 29158, Start Num: 135

Candidate Starts for BouleyBill\_39:

(75, 30711), (95, 30666), (Start: 108 @30636 has 25 MA's), (131, 30582), (Start: 135 @30564 has 2 MA's), (Start: 140 @30552 has 10 MA's), (Start: 141 @30546 has 21 MA's), (Start: 147 @30516 has 27 MA's), (181, 30408), (Start: 183 @30402 has 1 MA's), (184, 30399), (189, 30384), (243, 30198), (246, 30189), (252, 30168), (258, 30126), (272, 30072), (323, 29859), (328, 29838), (335, 29823), (339, 29811), (342, 29796), (349, 29760), (352, 29751), (362, 29736), (373, 29700), (404, 29601), (424, 29538), (433, 29511), (449, 29436), (450, 29430), (453, 29421), (457, 29406), (459, 29400), (460, 29394), (464, 29382), (490, 29259), (492, 29247), (515, 29172),

Gene: Bramble\_43 Start: 26601, Stop: 28535, Start Num: 23

Candidate Starts for Bramble\_43:

(3, 26361), (Start: 8 @26505 has 1 MA's), (21, 26595), (Start: 23 @26601 has 3 MA's), (45, 26748), (50, 26766), (54, 26775), (Start: 113 @26925 has 1 MA's), (152, 27051), (177, 27141), (181, 27150), (210, 27240), (221, 27282), (226, 27312), (256, 27444), (292, 27630), (296, 27648), (300, 27663), (317, 27720), (335, 27780), (352, 27852), (388, 27990), (407, 28056), (414, 28086), (415, 28089), (439, 28164), (451, 28242), (465, 28302), (483, 28392), (490, 28410),

Gene: Breezic\_59 Start: 51749, Stop: 50217, Start Num: 108

Candidate Starts for Breezic\_59:

(26, 52004), (34, 51953), (47, 51902), (66, 51848), (76, 51818), (Start: 89 @51785 has 3 MA's), (97, 51776), (Start: 108 @51749 has 25 MA's), (160, 51581), (170, 51539), (Start: 183 @51491 has 1 MA's), (187, 51479), (190, 51467), (192, 51461), (197, 51440), (209, 51413), (253, 51272), (272, 51185), (275, 51170), (280, 51158), (287, 51128), (295, 51077), (302, 51050), (320, 50999), (336, 50939), (338, 50936), (343, 50909), (353, 50867), (365, 50822), (400, 50687), (403, 50672), (409, 50651), (440, 50594), (444, 50570), (445, 50567), (457, 50510), (459, 50504), (460, 50498), (462, 50492), (473, 50441), (477, 50417), (483, 50378), (487, 50366), (488, 50363), (515, 50270), (518, 50255), (525, 50234),

Gene: Burnsey\_53 Start: 38833, Stop: 37355, Start Num: 109

Candidate Starts for Burnsey\_53:

(Start: 109 @38833 has 35 MA's), (142, 38746), (144, 38740), (161, 38659), (168, 38638), (211, 38515), (212, 38512), (261, 38329), (263, 38323), (266, 38317), (281, 38239), (304, 38125), (313, 38098), (323, 38074), (339, 38014), (347, 37969), (354, 37948), (369, 37909), (374, 37891), (413, 37774), (427, 37726), (428, 37723), (433, 37708), (453, 37612), (459, 37591), (465, 37561),

Gene: Bustleton\_39 Start: 30567, Stop: 29185, Start Num: 140

Candidate Starts for Bustleton\_39:

(131, 30594), (Start: 140 @30567 has 10 MA's), (Start: 141 @30564 has 21 MA's), (Start: 147 @30534 has 27 MA's), (181, 30426), (Start: 183 @30420 has 1 MA's), (184, 30417), (189, 30402), (243, 30216), (246, 30207), (252, 30186), (258, 30144), (272, 30090), (323, 29877), (328, 29856), (335, 29841), (339, 29829), (342, 29814), (349, 29778), (352, 29769), (362, 29754), (373, 29718), (404, 29619), (424, 29556), (433, 29529), (449, 29454), (450, 29448), (453, 29439), (457, 29424), (459, 29418), (460, 29412), (464, 29400), (490, 29277), (492, 29265),

Gene: Butterball\_62 Start: 53762, Stop: 52230, Start Num: 108

Candidate Starts for Butterball\_62:

(26, 54017), (34, 53966), (66, 53861), (76, 53831), (Start: 89 @53798 has 3 MA's), (97, 53789), (Start: 108 @53762 has 25 MA's), (160, 53594), (170, 53552), (176, 53534), (Start: 183 @53504 has 1 MA's), (187, 53492), (190, 53480), (192, 53474), (197, 53453), (253, 53285), (272, 53198), (275, 53183), (280, 53171), (287, 53141), (320, 53012), (325, 52988), (330, 52970), (336, 52952), (338, 52949), (340, 52940), (343, 52922), (365, 52835), (400, 52700), (403, 52685), (409, 52664), (444, 52583), (445, 52580), (457, 52523), (459, 52517), (462, 52505), (473, 52454), (477, 52430), (483, 52391), (487, 52379), (488, 52376), (515, 52283), (518, 52268),

Gene: Button\_57 Start: 39117, Stop: 37642, Start Num: 112

Candidate Starts for Button\_57:

(Start: 112 @39117 has 12 MA's), (128, 39075), (144, 39027), (Start: 149 @39000 has 1 MA's), (161, 38946), (168, 38925), (170, 38916), (201, 38826), (204, 38817), (212, 38799), (214, 38793), (252, 38670), (261, 38616), (263, 38610), (266, 38604), (275, 38559), (281, 38526), (335, 38313), (343, 38280), (352, 38241), (369, 38196), (374, 38178), (376, 38172), (392, 38127), (394, 38121), (400, 38100), (414, 38052), (415, 38049), (427, 38007), (428, 38004), (433, 37989), (440, 37962), (453, 37893), (465, 37842), (469, 37827), (490, 37731), (492, 37719), (495, 37710), (510, 37656),

Gene: Butrmlkdreams\_55 Start: 39095, Stop: 37617, Start Num: 109

Candidate Starts for Butrmlkdreams\_55:

(Start: 109 @39095 has 35 MA's), (142, 39008), (144, 39002), (155, 38951), (168, 38900), (172, 38885), (201, 38801), (211, 38777), (214, 38768), (252, 38645), (261, 38591), (263, 38585), (266, 38579), (272, 38549), (281, 38501), (304, 38387), (313, 38360), (323, 38336), (343, 38255), (347, 38231), (354, 38210), (369, 38171), (374, 38153), (376, 38147), (413, 38036), (415, 38030), (427, 37988), (433, 37970), (450, 37883), (453, 37874), (459, 37853), (465, 37823), (472, 37793), (478, 37760), (501, 37670),

Gene: Byron23\_42 Start: 31117, Stop: 29729, Start Num: 138

Candidate Starts for Byron23\_42:

(2, 31768), (31, 31414), (52, 31339), (Start: 138 @31117 has 140 MA's), (181, 30973), (Start: 183 @30967 has 1 MA's), (184, 30964), (221, 30850), (229, 30823), (243, 30763), (251, 30736), (252, 30733), (272, 30637), (280, 30595), (302, 30484), (323, 30424), (335, 30388), (339, 30376), (344, 30343), (348, 30328), (373, 30268), (404, 30172), (424, 30109), (440, 30055), (459, 29971), (460, 29965), (464, 29953), (481, 29857), (497, 29803), (498, 29800), (504, 29776),

Gene: Calix\_40 Start: 30802, Stop: 29414, Start Num: 138

Candidate Starts for Calix\_40:

(52, 31024), (Start: 138 @30802 has 140 MA's), (181, 30658), (Start: 183 @30652 has 1 MA's), (184, 30649), (221, 30535), (229, 30508), (243, 30448), (251, 30421), (252, 30418), (272, 30322), (280, 30280), (323, 30109), (328, 30088), (335, 30073), (339, 30061), (348, 30013), (373, 29953), (404, 29857), (424, 29794), (440, 29740), (459, 29656), (460, 29650), (464, 29638), (478, 29563), (481, 29542), (497, 29488), (498, 29485), (504, 29461),

Gene: Camerico\_63 Start: 54751, Stop: 53234, Start Num: 126

Candidate Starts for Camerico\_63:

(Start: 126 @54751 has 3 MA's), (Start: 147 @54673 has 27 MA's), (153, 54655), (156, 54643), (160, 54628), (177, 54574), (Start: 183 @54556 has 1 MA's), (185, 54550), (199, 54496), (207, 54478), (228, 54418), (233, 54394), (255, 54313), (264, 54274), (271, 54247), (276, 54226), (284, 54199), (286, 54190), (320, 54058), (325, 54034), (330, 54016), (336, 53998), (339, 53989), (393, 53773), (395, 53767), (399, 53752), (411, 53701), (426, 53647), (462, 53506), (476, 53440), (477, 53431), (481, 53398),

Gene: CanesSauce\_52 Start: 38485, Stop: 37007, Start Num: 109

Candidate Starts for CanesSauce\_52:

(Start: 109 @38485 has 35 MA's), (144, 38392), (Start: 149 @38365 has 1 MA's), (168, 38290), (Start: 183 @38248 has 1 MA's), (211, 38167), (252, 38035), (261, 37981), (266, 37969), (281, 37891), (304, 37777), (313, 37750), (323, 37726), (332, 37687), (347, 37621), (354, 37600), (374, 37543), (413, 37426), (427, 37378), (433, 37360), (453, 37264), (459, 37243), (465, 37213),

Gene: CaptainRex\_40 Start: 29071, Stop: 27644, Start Num: 138

Candidate Starts for CaptainRex\_40:

(Start: 138 @29071 has 140 MA's), (146, 29041), (Start: 147 @29035 has 27 MA's), (Start: 183 @28921 has 1 MA's), (184, 28918), (251, 28681), (252, 28678), (303, 28423), (321, 28372), (323, 28366), (339, 28318), (344, 28285), (348, 28270), (365, 28198), (373, 28171), (376, 28162), (391, 28117), (393, 28111), (401, 28084), (424, 28012), (443, 27940), (450, 27904), (453, 27895), (457, 27880), (459, 27874), (464, 27856), (472, 27814), (484, 27751), (502, 27688), (504, 27679),

Gene: CarisSwetlik\_44 Start: 32154, Stop: 30658, Start Num: 96

Candidate Starts for CarisSwetlik\_44:

(41, 32295), (57, 32244), (63, 32223), (84, 32172), (96, 32154), (Start: 140 @32061 has 10 MA's),  
(181, 31917), (Start: 183 @31911 has 1 MA's), (201, 31848), (221, 31794), (229, 31767), (243, 31707),  
(251, 31680), (252, 31677), (272, 31581), (280, 31539), (319, 31377), (323, 31368), (328, 31347),  
(339, 31320), (349, 31269), (373, 31212), (391, 31158), (404, 31116), (417, 31071), (452, 30939),  
(459, 30915), (460, 30909), (464, 30897), (481, 30801), (490, 30774), (497, 30747), (514, 30690),

Gene: Carostasia\_39 Start: 30625, Stop: 29213, Start Num: 141

Candidate Starts for Carostasia\_39:

(Start: 140 @30628 has 10 MA's), (Start: 141 @30625 has 21 MA's), (Start: 147 @30595 has 27  
MA's), (Start: 149 @30589 has 1 MA's), (159, 30556), (Start: 183 @30481 has 1 MA's), (185, 30475),  
(221, 30364), (229, 30337), (241, 30286), (243, 30277), (251, 30250), (252, 30247), (258, 30205),  
(272, 30151), (303, 29995), (321, 29944), (323, 29938), (328, 29917), (332, 29911), (335, 29902),  
(339, 29890), (341, 29878), (359, 29800), (373, 29740), (375, 29734), (391, 29686), (402, 29644),  
(424, 29581), (429, 29569), (437, 29545), (438, 29542), (450, 29473), (453, 29464), (457, 29449),  
(459, 29443), (460, 29437), (464, 29425), (484, 29320), (490, 29302), (492, 29290), (505, 29245),

Gene: Carsonalex\_56 Start: 38706, Stop: 37321, Start Num: 144

Candidate Starts for Carsonalex\_56:

(Start: 106 @38805 has 1 MA's), (Start: 112 @38796 has 12 MA's), (142, 38712), (144, 38706), (161,  
38625), (168, 38604), (212, 38478), (261, 38295), (263, 38289), (266, 38283), (281, 38205), (304,  
38091), (313, 38064), (323, 38040), (339, 37980), (347, 37935), (354, 37914), (369, 37875), (374,  
37857), (376, 37851), (413, 37740), (427, 37692), (428, 37689), (433, 37674), (453, 37578), (459,  
37557), (465, 37527),

Gene: Casey\_37 Start: 29766, Stop: 28396, Start Num: 141

Candidate Starts for Casey\_37:

(Start: 141 @29766 has 21 MA's), (176, 29637), (185, 29616), (221, 29505), (222, 29502), (242,  
29418), (243, 29412), (248, 29400), (252, 29382), (255, 29361), (272, 29286), (279, 29253), (319,  
29082), (321, 29079), (323, 29073), (324, 29070), (335, 29037), (348, 28977), (373, 28917), (375,  
28911), (376, 28908), (377, 28905), (402, 28821), (442, 28689), (450, 28650), (457, 28626), (459,  
28620), (464, 28602), (481, 28506), (490, 28479), (492, 28467), (502, 28434), (505, 28422),

Gene: CathyBurgh\_58 Start: 52326, Stop: 50794, Start Num: 108

Candidate Starts for CathyBurgh\_58:

(26, 52581), (34, 52530), (47, 52479), (66, 52425), (76, 52395), (Start: 89 @52362 has 3 MA's), (97,  
52353), (Start: 108 @52326 has 25 MA's), (160, 52158), (170, 52116), (Start: 183 @52068 has 1  
MA's), (187, 52056), (190, 52044), (192, 52038), (197, 52017), (209, 51990), (253, 51849), (272,  
51762), (275, 51747), (280, 51735), (287, 51705), (295, 51654), (302, 51627), (320, 51576), (325,  
51552), (330, 51534), (336, 51516), (338, 51513), (343, 51486), (353, 51444), (365, 51399), (400,  
51264), (403, 51249), (409, 51228), (440, 51171), (444, 51147), (457, 51087), (459, 51081), (460,  
51075), (462, 51069), (473, 51018), (477, 50994), (483, 50955), (487, 50943), (488, 50940), (515,  
50847), (518, 50832), (525, 50811),

Gene: Chako\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Chako\_40:

(2, 31454), (31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183  
@30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252,  
30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373,  
29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481,  
29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Chamuel\_40 Start: 30828, Stop: 29407, Start Num: 138

Candidate Starts for Chamuel\_40:

(52, 31050), (Start: 138 @30828 has 140 MA's), (181, 30684), (Start: 183 @30678 has 1 MA's), (184, 30675), (221, 30561), (229, 30534), (243, 30474), (251, 30447), (252, 30444), (272, 30348), (280, 30306), (319, 30144), (323, 30135), (328, 30114), (339, 30087), (344, 30054), (348, 30039), (368, 29964), (373, 29946), (404, 29850), (424, 29787), (440, 29733), (459, 29649), (460, 29643), (464, 29631), (478, 29556), (481, 29535), (497, 29481), (498, 29478), (504, 29454),

Gene: Charianelly\_57 Start: 52738, Stop: 51197, Start Num: 89

Candidate Starts for Charianelly\_57:

(26, 52957), (58, 52828), (Start: 89 @52738 has 3 MA's), (Start: 147 @52609 has 27 MA's), (160, 52564), (Start: 183 @52474 has 1 MA's), (184, 52471), (186, 52465), (192, 52444), (216, 52381), (237, 52303), (247, 52273), (253, 52255), (272, 52168), (275, 52153), (287, 52111), (303, 52030), (320, 51982), (330, 51940), (336, 51922), (338, 51919), (343, 51892), (356, 51841), (365, 51805), (380, 51754), (400, 51670), (406, 51649), (457, 51493), (459, 51487), (462, 51475), (487, 51349), (518, 51235),

Gene: Cheeto1\_42 Start: 31179, Stop: 29788, Start Num: 138

Candidate Starts for Cheeto1\_42:

(Start: 138 @31179 has 140 MA's), (181, 31035), (Start: 183 @31029 has 1 MA's), (201, 30966), (229, 30885), (243, 30825), (251, 30798), (252, 30795), (272, 30699), (280, 30657), (302, 30546), (323, 30486), (328, 30465), (339, 30438), (349, 30387), (365, 30357), (373, 30330), (377, 30318), (404, 30231), (424, 30168), (429, 30156), (443, 30096), (450, 30060), (452, 30054), (457, 30036), (459, 30030), (460, 30024), (472, 29970), (481, 29916), (490, 29889), (492, 29877),

Gene: Chelms\_59 Start: 52169, Stop: 50760, Start Num: 147

Candidate Starts for Chelms\_59:

(26, 52547), (34, 52496), (47, 52445), (66, 52391), (76, 52361), (Start: 89 @52328 has 3 MA's), (97, 52319), (Start: 108 @52292 has 25 MA's), (Start: 147 @52169 has 27 MA's), (160, 52124), (170, 52082), (Start: 183 @52034 has 1 MA's), (184, 52031), (186, 52025), (187, 52022), (190, 52010), (192, 52004), (209, 51956), (210, 51953), (247, 51833), (253, 51815), (266, 51752), (272, 51728), (275, 51713), (287, 51671), (295, 51620), (302, 51593), (320, 51542), (336, 51482), (338, 51479), (340, 51470), (343, 51452), (353, 51410), (365, 51365), (366, 51362), (400, 51230), (403, 51215), (409, 51194), (444, 51113), (445, 51110), (457, 51053), (459, 51047), (462, 51035), (473, 50984), (476, 50969), (477, 50960), (483, 50921), (487, 50909), (515, 50813), (518, 50798),

Gene: Chepli\_42 Start: 30524, Stop: 29118, Start Num: 138

Candidate Starts for Chepli\_42:

(Start: 138 @30524 has 140 MA's), (146, 30494), (182, 30377), (Start: 183 @30374 has 1 MA's), (184, 30371), (193, 30344), (201, 30311), (210, 30290), (221, 30248), (229, 30221), (251, 30134), (252, 30131), (258, 30089), (270, 30038), (303, 29876), (323, 29819), (341, 29759), (343, 29750), (344, 29738), (362, 29699), (363, 29696), (371, 29672), (372, 29669), (373, 29663), (401, 29576), (404, 29567), (405, 29564), (450, 29396), (453, 29387), (457, 29372), (459, 29366), (460, 29360), (464, 29348), (490, 29225), (496, 29201), (504, 29171),

Gene: CherryonLim\_57 Start: 41741, Stop: 40263, Start Num: 109

Candidate Starts for CherryonLim\_57:

(69, 41822), (95, 41768), (Start: 109 @41741 has 35 MA's), (134, 41678), (144, 41651), (Start: 149 @41624 has 1 MA's), (161, 41570), (168, 41549), (172, 41534), (177, 41519), (214, 41414), (252, 41291), (261, 41237), (263, 41231), (266, 41225), (281, 41147), (304, 41033), (332, 40943), (335, 40934), (339, 40922), (343, 40901), (345, 40886), (347, 40877), (354, 40856), (369, 40817), (372, 40808), (376, 40793), (400, 40721), (414, 40673), (415, 40670), (427, 40628), (433, 40610), (453, 40514), (465, 40463), (472, 40433), (478, 40400), (491, 40343), (496, 40328),

Gene: ChickenKing\_40 Start: 31093, Stop: 29702, Start Num: 138

Candidate Starts for ChickenKing\_40:

(Start: 138 @31093 has 140 MA's), (181, 30949), (Start: 183 @30943 has 1 MA's), (201, 30880), (229, 30799), (243, 30739), (251, 30712), (252, 30709), (254, 30703), (272, 30613), (280, 30571), (323, 30400), (328, 30379), (335, 30364), (339, 30352), (349, 30301), (373, 30244), (377, 30232), (424, 30082), (429, 30070), (443, 30010), (450, 29974), (452, 29968), (457, 29950), (459, 29944), (460, 29938), (472, 29884), (478, 29851), (481, 29830), (492, 29791),

Gene: ChickenTender\_56 Start: 38517, Stop: 37042, Start Num: 109

Candidate Starts for ChickenTender\_56:

(Start: 109 @38517 has 35 MA's), (144, 38427), (161, 38346), (168, 38325), (211, 38202), (212, 38199), (261, 38016), (263, 38010), (266, 38004), (281, 37926), (304, 37812), (313, 37785), (323, 37761), (339, 37701), (347, 37656), (354, 37635), (374, 37578), (413, 37461), (427, 37413), (428, 37410), (453, 37299), (459, 37278), (462, 37266), (465, 37248),

Gene: ChikPic\_40 Start: 30953, Stop: 29541, Start Num: 141

Candidate Starts for ChikPic\_40:

(Start: 140 @30956 has 10 MA's), (Start: 141 @30953 has 21 MA's), (Start: 147 @30923 has 27 MA's), (Start: 149 @30917 has 1 MA's), (159, 30884), (221, 30692), (229, 30665), (243, 30605), (251, 30578), (252, 30575), (258, 30533), (272, 30479), (280, 30437), (303, 30323), (323, 30266), (328, 30245), (335, 30230), (339, 30218), (341, 30206), (342, 30203), (344, 30185), (362, 30104), (373, 30068), (391, 30014), (402, 29972), (414, 29942), (420, 29918), (423, 29912), (438, 29870), (450, 29801), (457, 29777), (459, 29771), (460, 29765), (464, 29753), (481, 29657), (484, 29648), (490, 29630), (492, 29618), (505, 29573),

Gene: Chivey\_40 Start: 25169, Stop: 27076, Start Num: 22

Candidate Starts for Chivey\_40:

(4, 24995), (Start: 22 @25169 has 31 MA's), (27, 25232), (30, 25253), (45, 25307), (93, 25442), (Start: 113 @25484 has 1 MA's), (130, 25529), (177, 25703), (181, 25712), (210, 25802), (221, 25844), (224, 25859), (266, 26045), (290, 26180), (292, 26192), (300, 26225), (339, 26354), (371, 26471), (444, 26744), (451, 26783), (465, 26843), (483, 26933), (492, 26963), (504, 27005), (520, 27056),

Gene: ChocoMunchkin\_52 Start: 38485, Stop: 37007, Start Num: 109

Candidate Starts for ChocoMunchkin\_52:

(Start: 109 @38485 has 35 MA's), (144, 38392), (Start: 149 @38365 has 1 MA's), (168, 38290), (Start: 183 @38248 has 1 MA's), (211, 38167), (252, 38035), (261, 37981), (266, 37969), (281, 37891), (304, 37777), (313, 37750), (323, 37726), (332, 37687), (347, 37621), (354, 37600), (374, 37543), (413, 37426), (427, 37378), (433, 37360), (453, 37264), (459, 37243), (465, 37213),

Gene: Christoph\_40 Start: 30815, Stop: 29427, Start Num: 138

Candidate Starts for Christoph\_40:

(52, 31037), (Start: 138 @30815 has 140 MA's), (181, 30671), (Start: 183 @30665 has 1 MA's), (184, 30662), (221, 30548), (229, 30521), (243, 30461), (251, 30434), (252, 30431), (272, 30335), (280, 30293), (323, 30122), (328, 30101), (335, 30086), (348, 30026), (373, 29966), (404, 29870), (424, 29807), (440, 29753), (459, 29669), (460, 29663), (464, 29651), (481, 29555), (497, 29501), (498, 29498), (504, 29474),

Gene: CinnamonToast\_65 Start: 53852, Stop: 52284, Start Num: 89

Candidate Starts for CinnamonToast\_65:

(26, 54071), (34, 54020), (58, 53942), (66, 53915), (76, 53885), (Start: 89 @53852 has 3 MA's), (97, 53843), (Start: 108 @53816 has 25 MA's), (160, 53648), (170, 53606), (176, 53588), (Start: 183 @53558 has 1 MA's), (187, 53546), (192, 53528), (209, 53480), (253, 53339), (272, 53252), (275, 53237), (280, 53225), (287, 53195), (295, 53144), (320, 53066), (325, 53042), (330, 53024), (336, 53006), (338, 53003), (340, 52994), (343, 52976), (365, 52889), (400, 52754), (403, 52739), (409,

(52718), (440, 52661), (444, 52637), (445, 52634), (457, 52577), (459, 52571), (462, 52559), (473, 52508), (477, 52484), (483, 52445), (487, 52433), (488, 52430), (515, 52337), (518, 52322), (525, 52301),

Gene: Clancy\_40 Start: 30848, Stop: 29460, Start Num: 138

Candidate Starts for Clancy\_40:

(2, 31499), (31, 31145), (52, 31070), (Start: 138 @30848 has 140 MA's), (181, 30704), (Start: 183 @30698 has 1 MA's), (184, 30695), (221, 30581), (229, 30554), (243, 30494), (251, 30467), (252, 30464), (272, 30368), (280, 30326), (323, 30155), (328, 30134), (335, 30119), (348, 30059), (373, 29999), (404, 29903), (424, 29840), (440, 29786), (459, 29702), (460, 29696), (464, 29684), (481, 29588), (497, 29534), (498, 29531), (504, 29507),

Gene: Cleo\_47 Start: 37658, Stop: 36168, Start Num: 111

Candidate Starts for Cleo\_47:

(Start: 111 @37658 has 6 MA's), (128, 37616), (142, 37574), (144, 37568), (Start: 149 @37541 has 1 MA's), (161, 37487), (163, 37481), (172, 37451), (Start: 183 @37424 has 1 MA's), (211, 37343), (212, 37340), (214, 37334), (219, 37313), (236, 37247), (252, 37211), (256, 37187), (261, 37157), (263, 37151), (266, 37145), (281, 37067), (309, 36935), (313, 36926), (337, 36848), (344, 36809), (347, 36797), (348, 36794), (362, 36758), (368, 36740), (369, 36737), (370, 36734), (374, 36719), (382, 36692), (385, 36680), (394, 36647), (414, 36578), (427, 36533), (428, 36530), (440, 36488), (441, 36473), (451, 36425), (453, 36419), (465, 36368), (485, 36272), (491, 36248), (501, 36215), (510, 36182), (511, 36179),

Gene: Clock\_40 Start: 31950, Stop: 30520, Start Num: 136

Candidate Starts for Clock\_40:

(Start: 136 @31950 has 4 MA's), (146, 31917), (159, 31872), (Start: 183 @31797 has 1 MA's), (184, 31794), (225, 31662), (228, 31650), (251, 31557), (252, 31554), (321, 31248), (323, 31242), (328, 31221), (339, 31194), (341, 31182), (342, 31179), (344, 31161), (359, 31104), (373, 31047), (377, 31035), (391, 30993), (401, 30960), (404, 30951), (412, 30927), (424, 30888), (440, 30834), (450, 30780), (453, 30771), (457, 30756), (459, 30750), (484, 30627), (490, 30609), (496, 30585),

Gene: ColaCorta\_40 Start: 31099, Stop: 29687, Start Num: 141

Candidate Starts for ColaCorta\_40:

(Start: 141 @31099 has 21 MA's), (Start: 147 @31069 has 27 MA's), (Start: 149 @31063 has 1 MA's), (159, 31030), (221, 30838), (229, 30811), (243, 30751), (251, 30724), (252, 30721), (258, 30679), (272, 30625), (280, 30583), (303, 30469), (323, 30412), (328, 30391), (335, 30376), (339, 30364), (341, 30352), (342, 30349), (344, 30331), (362, 30250), (373, 30214), (391, 30160), (402, 30118), (414, 30088), (420, 30064), (423, 30058), (438, 30016), (450, 29947), (457, 29923), (459, 29917), (460, 29911), (464, 29899), (481, 29803), (484, 29794), (490, 29776), (492, 29764), (505, 29719),

Gene: Convict\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for Convict\_41:

(2, 31769), (31, 31415), (52, 31340), (Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (339, 30377), (348, 30329), (373, 30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: CoolCookie\_40 Start: 25941, Stop: 27848, Start Num: 22

Candidate Starts for CoolCookie\_40:

(Start: 22 @25941 has 31 MA's), (27, 26004), (30, 26025), (45, 26079), (Start: 113 @26256 has 1 MA's), (130, 26301), (177, 26475), (181, 26484), (210, 26574), (224, 26631), (266, 26817), (290, 26952), (292, 26964), (300, 26997), (339, 27126), (371, 27243), (393, 27318), (450, 27552), (451,

(27555), (465, 27615), (483, 27705), (492, 27735), (504, 27777), (520, 27828),

Gene: Cozz\_51 Start: 38430, Stop: 36952, Start Num: 109

Candidate Starts for Cozz\_51:

(Start: 109 @38430 has 35 MA's), (142, 38343), (144, 38337), (161, 38256), (168, 38235), (212, 38109), (261, 37926), (263, 37920), (266, 37914), (281, 37836), (304, 37722), (313, 37695), (323, 37671), (339, 37611), (347, 37566), (354, 37545), (369, 37506), (374, 37488), (413, 37371), (427, 37323), (428, 37320), (433, 37305), (453, 37209), (459, 37188), (465, 37158), (511, 36969),

Gene: Crestdrop\_40 Start: 25203, Stop: 27110, Start Num: 22

Candidate Starts for Crestdrop\_40:

(4, 25029), (Start: 22 @25203 has 31 MA's), (27, 25266), (30, 25287), (45, 25341), (93, 25476), (Start: 113 @25518 has 1 MA's), (130, 25563), (177, 25737), (181, 25746), (210, 25836), (221, 25878), (224, 25893), (266, 26079), (290, 26214), (292, 26226), (300, 26259), (339, 26388), (371, 26505), (444, 26778), (451, 26817), (465, 26877), (483, 26967), (492, 26997), (504, 27039), (520, 27090),

Gene: Crete\_60 Start: 52291, Stop: 50882, Start Num: 147

Candidate Starts for Crete\_60:

(26, 52669), (34, 52618), (47, 52567), (66, 52513), (76, 52483), (Start: 89 @52450 has 3 MA's), (97, 52441), (Start: 108 @52414 has 25 MA's), (Start: 147 @52291 has 27 MA's), (160, 52246), (170, 52204), (Start: 183 @52156 has 1 MA's), (184, 52153), (186, 52147), (187, 52144), (190, 52132), (192, 52126), (209, 52078), (210, 52075), (247, 51955), (253, 51937), (266, 51874), (272, 51850), (275, 51835), (287, 51793), (295, 51742), (302, 51715), (320, 51664), (336, 51604), (338, 51601), (340, 51592), (343, 51574), (353, 51532), (365, 51487), (371, 51469), (400, 51352), (403, 51337), (409, 51316), (444, 51235), (445, 51232), (457, 51175), (459, 51169), (462, 51157), (473, 51106), (476, 51091), (477, 51082), (483, 51043), (487, 51031), (515, 50935), (518, 50920),

Gene: Cybele\_40 Start: 25911, Stop: 27818, Start Num: 22

Candidate Starts for Cybele\_40:

(Start: 22 @25911 has 31 MA's), (27, 25974), (30, 25995), (45, 26049), (Start: 113 @26226 has 1 MA's), (130, 26271), (177, 26445), (181, 26454), (210, 26544), (266, 26787), (290, 26922), (292, 26934), (300, 26967), (339, 27096), (371, 27213), (393, 27288), (450, 27522), (451, 27525), (465, 27585), (483, 27675), (492, 27705), (504, 27747), (520, 27798),

Gene: Dakiti\_60 Start: 53037, Stop: 51628, Start Num: 147

Candidate Starts for Dakiti\_60:

(26, 53415), (34, 53364), (47, 53313), (66, 53259), (76, 53229), (Start: 89 @53196 has 3 MA's), (97, 53187), (Start: 108 @53160 has 25 MA's), (Start: 147 @53037 has 27 MA's), (160, 52992), (170, 52950), (Start: 183 @52902 has 1 MA's), (184, 52899), (186, 52893), (187, 52890), (190, 52878), (192, 52872), (209, 52824), (210, 52821), (247, 52701), (253, 52683), (266, 52620), (272, 52596), (275, 52581), (287, 52539), (295, 52488), (302, 52461), (320, 52410), (336, 52350), (338, 52347), (340, 52338), (343, 52320), (353, 52278), (365, 52233), (366, 52230), (400, 52098), (403, 52083), (409, 52062), (444, 51981), (445, 51978), (457, 51921), (459, 51915), (462, 51903), (473, 51852), (476, 51837), (477, 51828), (483, 51789), (487, 51777), (515, 51681), (518, 51666),

Gene: Damp\_57 Start: 51773, Stop: 50361, Start Num: 147

Candidate Starts for Damp\_57:

(26, 52121), (58, 51992), (87, 51905), (Start: 89 @51902 has 3 MA's), (Start: 147 @51773 has 27 MA's), (160, 51728), (Start: 183 @51638 has 1 MA's), (184, 51635), (186, 51629), (192, 51608), (216, 51545), (247, 51437), (253, 51419), (272, 51332), (275, 51317), (287, 51275), (303, 51194), (320, 51146), (330, 51104), (336, 51086), (338, 51083), (343, 51056), (356, 51005), (365, 50969), (380, 50918), (400, 50834), (406, 50813), (457, 50657), (459, 50651), (462, 50639), (487, 50513), (518, 50399),

Gene: DannyDe\_40 Start: 25175, Stop: 27082, Start Num: 22

Candidate Starts for DannyDe\_40:

(4, 25001), (Start: 22 @25175 has 31 MA's), (27, 25238), (45, 25313), (93, 25448), (Start: 113 @25490 has 1 MA's), (130, 25535), (177, 25709), (181, 25718), (210, 25808), (221, 25850), (224, 25865), (266, 26051), (290, 26186), (292, 26198), (300, 26231), (339, 26360), (371, 26477), (444, 26750), (451, 26789), (465, 26849), (483, 26939), (492, 26969), (504, 27011), (520, 27062),

Gene: Dauntless\_39 Start: 25497, Stop: 27404, Start Num: 22

Candidate Starts for Dauntless\_39:

(4, 25323), (Start: 22 @25497 has 31 MA's), (27, 25560), (30, 25581), (45, 25635), (93, 25770), (104, 25797), (Start: 113 @25812 has 1 MA's), (130, 25857), (177, 26031), (181, 26040), (210, 26130), (221, 26172), (224, 26187), (266, 26373), (290, 26508), (292, 26520), (300, 26553), (339, 26682), (361, 26769), (371, 26799), (444, 27072), (451, 27111), (465, 27171), (483, 27261), (492, 27291), (504, 27333), (520, 27384),

Gene: Dave\_41 Start: 31109, Stop: 29721, Start Num: 138

Candidate Starts for Dave\_41:

(52, 31331), (Start: 138 @31109 has 140 MA's), (181, 30965), (Start: 183 @30959 has 1 MA's), (184, 30956), (221, 30842), (229, 30815), (243, 30755), (251, 30728), (252, 30725), (272, 30629), (280, 30587), (323, 30416), (328, 30395), (335, 30380), (339, 30368), (348, 30320), (373, 30260), (404, 30164), (424, 30101), (440, 30047), (459, 29963), (460, 29957), (464, 29945), (478, 29870), (481, 29849), (497, 29795), (498, 29792), (504, 29768),

Gene: Delphidian\_41 Start: 31117, Stop: 29729, Start Num: 138

Candidate Starts for Delphidian\_41:

(52, 31339), (Start: 138 @31117 has 140 MA's), (181, 30973), (Start: 183 @30967 has 1 MA's), (184, 30964), (221, 30850), (229, 30823), (243, 30763), (251, 30736), (252, 30733), (254, 30727), (272, 30637), (280, 30595), (323, 30424), (335, 30388), (339, 30376), (344, 30343), (348, 30328), (373, 30268), (404, 30172), (424, 30109), (440, 30055), (459, 29971), (460, 29965), (464, 29953), (481, 29857), (497, 29803), (498, 29800), (504, 29776),

Gene: Demosthenes\_55 Start: 52768, Stop: 51074, Start Num: 40

Candidate Starts for Demosthenes\_55:

(Start: 36 @52780 has 6 MA's), (Start: 40 @52768 has 2 MA's), (73, 52669), (Start: 78 @52648 has 1 MA's), (Start: 114 @52582 has 2 MA's), (150, 52483), (160, 52447), (165, 52423), (168, 52414), (170, 52405), (Start: 183 @52357 has 1 MA's), (190, 52333), (201, 52291), (210, 52276), (216, 52261), (231, 52204), (232, 52201), (251, 52141), (252, 52138), (266, 52072), (267, 52069), (275, 52033), (276, 52030), (282, 52012), (284, 52003), (287, 51991), (294, 51943), (303, 51910), (309, 51886), (320, 51862), (325, 51838), (343, 51772), (365, 51673), (399, 51541), (400, 51538), (432, 51472), (444, 51421), (445, 51418), (457, 51361), (462, 51343), (483, 51226), (484, 51223), (488, 51211), (518, 51112), (525, 51091),

Gene: Den3\_41 Start: 31123, Stop: 29735, Start Num: 138

Candidate Starts for Den3\_41:

(2, 31774), (31, 31420), (52, 31345), (Start: 138 @31123 has 140 MA's), (181, 30979), (Start: 183 @30973 has 1 MA's), (184, 30970), (221, 30856), (229, 30829), (243, 30769), (251, 30742), (252, 30739), (272, 30643), (280, 30601), (323, 30430), (328, 30409), (339, 30382), (348, 30334), (373, 30274), (424, 30115), (440, 30061), (459, 29977), (460, 29971), (464, 29959), (481, 29863), (497, 29809), (498, 29806), (504, 29782),

Gene: Dewdrop\_117 Start: 70672, Stop: 72663, Start Num: 7

Candidate Starts for Dewdrop\_117:

(Start: 7 @70672 has 4 MA's), (12, 70705), (38, 70900), (Start: 40 @70906 has 2 MA's), (42, 70909), (51, 70939), (59, 70960), (61, 70972), (80, 71026), (99, 71053), (102, 71062), (132, 71116), (Start: 141 @71134 has 21 MA's), (142, 71137), (154, 71188), (164, 71230), (195, 71332), (240, 71494), (247, 71518), (252, 71542), (253, 71545), (258, 71587), (265, 71608), (269, 71632), (272, 71653), (277, 71674), (278, 71683), (295, 71779), (296, 71782), (299, 71794), (301, 71806), (308, 71833), (309, 71842), (311, 71845), (318, 71863), (335, 71917), (344, 71962), (355, 71998), (371, 72046), (397, 72124), (408, 72160), (410, 72175), (414, 72178), (438, 72250), (443, 72292), (452, 72337), (458, 72358), (461, 72370), (463, 72382), (474, 72436), (486, 72496), (491, 72523), (504, 72568), (526, 72646),

Gene: Diabla\_63 Start: 53692, Stop: 52283, Start Num: 147

Candidate Starts for Diabla\_63:

(26, 54070), (34, 54019), (66, 53914), (76, 53884), (Start: 89 @53851 has 3 MA's), (97, 53842), (Start: 108 @53815 has 25 MA's), (Start: 147 @53692 has 27 MA's), (160, 53647), (170, 53605), (Start: 183 @53557 has 1 MA's), (184, 53554), (186, 53548), (187, 53545), (192, 53527), (197, 53506), (209, 53479), (247, 53356), (253, 53338), (272, 53251), (275, 53236), (295, 53143), (320, 53065), (325, 53041), (336, 53005), (338, 53002), (343, 52975), (353, 52933), (365, 52888), (371, 52870), (386, 52804), (400, 52753), (403, 52738), (409, 52717), (440, 52660), (445, 52633), (457, 52576), (459, 52570), (462, 52558), (473, 52507), (477, 52483), (483, 52444), (487, 52432), (488, 52429), (515, 52336), (518, 52321), (525, 52300),

Gene: DocB7\_048 Start: 43676, Stop: 42174, Start Num: 126

Candidate Starts for DocB7\_048:

(Start: 126 @43676 has 3 MA's), (153, 43580), (160, 43553), (168, 43520), (175, 43496), (Start: 183 @43466 has 1 MA's), (207, 43391), (233, 43310), (237, 43295), (266, 43184), (271, 43163), (282, 43124), (315, 42986), (320, 42974), (322, 42971), (325, 42950), (344, 42872), (365, 42812), (399, 42677), (400, 42674), (416, 42623), (422, 42602), (434, 42575), (447, 42509), (454, 42482), (456, 42473), (462, 42452), (470, 42416), (477, 42377), (490, 42311), (517, 42215),

Gene: Dothraki\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Dothraki\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (302, 30481), (323, 30421), (335, 30385), (339, 30373), (344, 30340), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Dre3\_48 Start: 37401, Stop: 35911, Start Num: 112

Candidate Starts for Dre3\_48:

(Start: 112 @37401 has 12 MA's), (128, 37359), (142, 37317), (144, 37311), (Start: 149 @37284 has 1 MA's), (161, 37230), (163, 37224), (172, 37194), (Start: 183 @37167 has 1 MA's), (211, 37086), (212, 37083), (214, 37077), (219, 37056), (236, 36990), (252, 36954), (256, 36930), (261, 36900), (263, 36894), (266, 36888), (279, 36825), (281, 36810), (285, 36795), (313, 36669), (337, 36591), (344, 36552), (347, 36540), (348, 36537), (362, 36501), (368, 36483), (369, 36480), (370, 36477), (374, 36462), (382, 36435), (385, 36423), (414, 36321), (427, 36276), (428, 36273), (440, 36231), (441, 36216), (451, 36168), (453, 36162), (465, 36111), (485, 36015), (491, 35991), (501, 35958), (510, 35925), (511, 35922),

Gene: Dryad\_74 Start: 51068, Stop: 49182, Start Num: 17

Candidate Starts for Dryad\_74:

(9, 51137), (10, 51128), (11, 51125), (Start: 17 @51068 has 8 MA's), (27, 50990), (28, 50981), (44, 50921), (48, 50900), (58, 50876), (77, 50813), (Start: 113 @50738 has 1 MA's), (123, 50714), (177, 50516), (181, 50507), (215, 50399), (254, 50243), (273, 50138), (283, 50087), (292, 50027), (316,

49940), (317, 49937), (333, 49883), (344, 49832), (346, 49823), (350, 49811), (361, 49778), (381, 49712), (392, 49685), (393, 49682), (424, 49583), (433, 49556), (451, 49466), (465, 49406), (468, 49397), (471, 49382), (481, 49322), (489, 49307), (499, 49268),

Gene: Duocatuli\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Duocatuli\_40:

(31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (478, 29564), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Eggsie\_57 Start: 51628, Stop: 50060, Start Num: 89

Candidate Starts for Eggsie\_57:

(26, 51847), (47, 51745), (58, 51718), (66, 51691), (74, 51670), (76, 51661), (Start: 89 @51628 has 3 MA's), (97, 51619), (Start: 108 @51592 has 25 MA's), (Start: 147 @51469 has 27 MA's), (160, 51424), (170, 51382), (Start: 183 @51334 has 1 MA's), (184, 51331), (186, 51325), (187, 51322), (192, 51304), (197, 51283), (209, 51256), (247, 51133), (253, 51115), (272, 51028), (275, 51013), (295, 50920), (320, 50842), (325, 50818), (336, 50782), (338, 50779), (343, 50752), (353, 50710), (365, 50665), (371, 50647), (386, 50581), (400, 50530), (403, 50515), (409, 50494), (440, 50437), (445, 50410), (457, 50353), (459, 50347), (462, 50335), (473, 50284), (477, 50260), (483, 50221), (487, 50209), (488, 50206), (515, 50113), (518, 50098), (525, 50077),

Gene: Ekhein\_59 Start: 51454, Stop: 49922, Start Num: 108

Candidate Starts for Ekhein\_59:

(26, 51709), (34, 51658), (47, 51607), (66, 51553), (76, 51523), (Start: 89 @51490 has 3 MA's), (97, 51481), (Start: 108 @51454 has 25 MA's), (160, 51286), (170, 51244), (Start: 183 @51196 has 1 MA's), (187, 51184), (190, 51172), (192, 51166), (197, 51145), (209, 51118), (253, 50977), (272, 50890), (275, 50875), (280, 50863), (287, 50833), (295, 50782), (302, 50755), (320, 50704), (330, 50662), (336, 50644), (338, 50641), (343, 50614), (353, 50572), (365, 50527), (400, 50392), (403, 50377), (409, 50356), (440, 50299), (444, 50275), (445, 50272), (457, 50215), (459, 50209), (460, 50203), (462, 50197), (473, 50146), (477, 50122), (483, 50083), (487, 50071), (488, 50068), (515, 49975), (518, 49960), (525, 49939),

Gene: Eleri\_40 Start: 30943, Stop: 29531, Start Num: 141

Candidate Starts for Eleri\_40:

(Start: 141 @30943 has 21 MA's), (Start: 147 @30913 has 27 MA's), (Start: 149 @30907 has 1 MA's), (159, 30874), (221, 30682), (229, 30655), (243, 30595), (251, 30568), (252, 30565), (258, 30523), (272, 30469), (280, 30427), (323, 30256), (328, 30235), (335, 30220), (339, 30208), (341, 30196), (342, 30193), (344, 30175), (362, 30094), (373, 30058), (391, 30004), (402, 29962), (414, 29932), (420, 29908), (423, 29902), (438, 29860), (450, 29791), (457, 29767), (459, 29761), (460, 29755), (464, 29743), (481, 29647), (484, 29638), (490, 29620), (492, 29608), (505, 29563),

Gene: Elinal\_60 Start: 40792, Stop: 39314, Start Num: 109

Candidate Starts for Elinal\_60:

(Start: 109 @40792 has 35 MA's), (134, 40729), (142, 40708), (144, 40702), (Start: 149 @40675 has 1 MA's), (161, 40621), (172, 40585), (177, 40570), (211, 40474), (214, 40465), (219, 40444), (236, 40378), (252, 40342), (261, 40288), (263, 40282), (266, 40276), (281, 40198), (285, 40183), (304, 40084), (326, 40009), (335, 39985), (339, 39973), (343, 39952), (345, 39937), (347, 39928), (354, 39907), (369, 39868), (372, 39859), (376, 39844), (394, 39793), (415, 39721), (427, 39679), (428, 39676), (433, 39661), (453, 39565), (465, 39514), (472, 39484), (478, 39451), (491, 39394), (496, 39379),

Gene: Elliott\_53 Start: 38726, Stop: 37248, Start Num: 109

Candidate Starts for Elliott\_53:

(Start: 109 @38726 has 35 MA's), (142, 38639), (144, 38633), (161, 38552), (168, 38531), (211, 38408), (212, 38405), (261, 38222), (263, 38216), (266, 38210), (281, 38132), (304, 38018), (313, 37991), (323, 37967), (339, 37907), (347, 37862), (354, 37841), (369, 37802), (374, 37784), (413, 37667), (427, 37619), (428, 37616), (433, 37601), (453, 37505), (459, 37484), (465, 37454),

Gene: Emalyn\_52 Start: 37827, Stop: 36349, Start Num: 109

Candidate Starts for Emalyn\_52:

(Start: 109 @37827 has 35 MA's), (142, 37740), (144, 37734), (168, 37632), (Start: 183 @37590 has 1 MA's), (201, 37533), (209, 37515), (211, 37509), (252, 37377), (261, 37323), (263, 37317), (266, 37311), (281, 37233), (304, 37119), (313, 37092), (323, 37068), (332, 37029), (343, 36987), (347, 36963), (354, 36942), (369, 36903), (374, 36885), (376, 36879), (400, 36813), (413, 36768), (427, 36720), (428, 36717), (433, 36702), (453, 36606), (459, 36585), (465, 36555), (472, 36525), (505, 36387),

Gene: Endor\_41 Start: 31504, Stop: 30116, Start Num: 138

Candidate Starts for Endor\_41:

(86, 31618), (100, 31597), (Start: 138 @31504 has 140 MA's), (181, 31360), (Start: 183 @31354 has 1 MA's), (184, 31351), (221, 31237), (229, 31210), (243, 31150), (251, 31123), (252, 31120), (272, 31024), (280, 30982), (323, 30811), (328, 30790), (348, 30715), (373, 30655), (404, 30559), (440, 30442), (443, 30424), (459, 30358), (460, 30352), (464, 30340), (481, 30244), (497, 30190), (498, 30187), (504, 30163), (513, 30133),

Gene: Erla\_40 Start: 30799, Stop: 29411, Start Num: 138

Candidate Starts for Erla\_40:

(52, 31021), (Start: 138 @30799 has 140 MA's), (181, 30655), (Start: 183 @30649 has 1 MA's), (184, 30646), (221, 30532), (229, 30505), (243, 30445), (251, 30418), (252, 30415), (272, 30319), (280, 30277), (323, 30106), (328, 30085), (335, 30070), (339, 30058), (348, 30010), (373, 29950), (404, 29854), (424, 29791), (440, 29737), (459, 29653), (460, 29647), (464, 29635), (478, 29560), (481, 29539), (497, 29485), (498, 29482), (504, 29458),

Gene: Erudite\_39 Start: 25497, Stop: 27404, Start Num: 22

Candidate Starts for Erudite\_39:

(4, 25323), (Start: 22 @25497 has 31 MA's), (27, 25560), (30, 25581), (45, 25635), (93, 25770), (104, 25797), (Start: 113 @25812 has 1 MA's), (130, 25857), (177, 26031), (181, 26040), (210, 26130), (221, 26172), (224, 26187), (266, 26373), (290, 26508), (292, 26520), (300, 26553), (339, 26682), (361, 26769), (371, 26799), (444, 27072), (451, 27111), (465, 27171), (483, 27261), (492, 27291), (504, 27333), (520, 27384),

Gene: Espinosa\_40 Start: 30814, Stop: 29426, Start Num: 138

Candidate Starts for Espinosa\_40:

(52, 31036), (Start: 138 @30814 has 140 MA's), (181, 30670), (Start: 183 @30664 has 1 MA's), (184, 30661), (221, 30547), (229, 30520), (243, 30460), (251, 30433), (252, 30430), (272, 30334), (280, 30292), (323, 30121), (328, 30100), (335, 30085), (348, 30025), (373, 29965), (404, 29869), (424, 29806), (440, 29752), (459, 29668), (460, 29662), (464, 29650), (481, 29554), (497, 29500), (498, 29497), (504, 29473),

Gene: Etna\_40 Start: 31284, Stop: 29893, Start Num: 138

Candidate Starts for Etna\_40:

(86, 31398), (129, 31314), (Start: 138 @31284 has 140 MA's), (181, 31137), (Start: 183 @31131 has 1 MA's), (184, 31128), (221, 31014), (229, 30987), (243, 30927), (251, 30900), (252, 30897), (272, 30801), (280, 30759), (323, 30588), (328, 30567), (373, 30432), (404, 30336), (440, 30219), (443,

(30201), (459, 30135), (460, 30129), (464, 30117), (481, 30021), (497, 29967), (498, 29964), (504, 29940), (513, 29910),

Gene: Etta\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Etta\_40:

(52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (339, 30062), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (478, 29564), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Exiguo\_58 Start: 51466, Stop: 49934, Start Num: 108

Candidate Starts for Exiguo\_58:

(26, 51721), (34, 51670), (47, 51619), (66, 51565), (76, 51535), (Start: 89 @51502 has 3 MA's), (97, 51493), (Start: 108 @51466 has 25 MA's), (160, 51298), (170, 51256), (Start: 183 @51208 has 1 MA's), (187, 51196), (190, 51184), (192, 51178), (197, 51157), (209, 51130), (253, 50989), (272, 50902), (275, 50887), (280, 50875), (287, 50845), (295, 50794), (302, 50767), (320, 50716), (330, 50674), (336, 50656), (338, 50653), (343, 50626), (353, 50584), (365, 50539), (400, 50404), (403, 50389), (409, 50368), (440, 50311), (444, 50287), (445, 50284), (457, 50227), (459, 50221), (460, 50215), (462, 50209), (473, 50158), (477, 50134), (483, 50095), (487, 50083), (488, 50080), (515, 49987), (518, 49972), (525, 49951),

Gene: Exploradora\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Exploradora\_40:

(52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: FF47\_48 Start: 38882, Stop: 37371, Start Num: 92

Candidate Starts for FF47\_48:

(Start: 92 @38882 has 2 MA's), (Start: 112 @38846 has 12 MA's), (143, 38756), (144, 38753), (154, 38705), (172, 38636), (213, 38522), (253, 38393), (261, 38342), (263, 38336), (266, 38330), (270, 38306), (281, 38252), (313, 38111), (314, 38108), (331, 38051), (347, 37979), (348, 37976), (414, 37781), (427, 37736), (450, 37631), (465, 37571), (505, 37403), (511, 37382),

Gene: FarmerDoug\_40 Start: 31139, Stop: 29748, Start Num: 138

Candidate Starts for FarmerDoug\_40:

(29, 31427), (35, 31406), (Start: 138 @31139 has 140 MA's), (181, 30992), (Start: 183 @30986 has 1 MA's), (184, 30983), (201, 30923), (221, 30869), (229, 30842), (243, 30782), (251, 30755), (252, 30752), (272, 30656), (280, 30614), (323, 30443), (328, 30422), (339, 30395), (348, 30347), (368, 30305), (373, 30287), (404, 30191), (440, 30074), (443, 30056), (452, 30014), (459, 29990), (460, 29984), (464, 29972), (481, 29876), (497, 29822), (498, 29819), (504, 29795), (513, 29765),

Gene: Feastonyeet\_56 Start: 40283, Stop: 38805, Start Num: 109

Candidate Starts for Feastonyeet\_56:

(67, 40361), (93, 40310), (95, 40307), (Start: 109 @40283 has 35 MA's), (134, 40220), (142, 40199), (144, 40193), (Start: 149 @40166 has 1 MA's), (161, 40112), (172, 40076), (177, 40061), (211, 39965), (214, 39956), (219, 39935), (236, 39869), (252, 39833), (261, 39779), (263, 39773), (266, 39767), (281, 39689), (285, 39674), (304, 39575), (326, 39500), (335, 39476), (339, 39464), (343, 39443), (345, 39428), (347, 39419), (354, 39398), (369, 39359), (372, 39350), (376, 39335), (394, 39284), (415, 39212), (427, 39170), (433, 39152), (453, 39056), (465, 39005), (472, 38975), (478, 38942),

(491, 38885), (496, 38870),

Gene: FelixAlejandro\_64 Start: 54160, Stop: 52628, Start Num: 108

Candidate Starts for FelixAlejandro\_64:

(26, 54415), (34, 54364), (66, 54259), (76, 54229), (Start: 89 @54196 has 3 MA's), (97, 54187), (Start: 108 @54160 has 25 MA's), (150, 54028), (160, 53992), (170, 53950), (176, 53932), (Start: 183 @53902 has 1 MA's), (187, 53890), (190, 53878), (192, 53872), (197, 53851), (253, 53683), (272, 53596), (275, 53581), (280, 53569), (287, 53539), (295, 53488), (320, 53410), (325, 53386), (330, 53368), (336, 53350), (338, 53347), (340, 53338), (343, 53320), (365, 53233), (400, 53098), (403, 53083), (409, 53062), (444, 52981), (445, 52978), (457, 52921), (459, 52915), (462, 52903), (473, 52852), (477, 52828), (483, 52789), (487, 52777), (488, 52774), (515, 52681), (518, 52666), (525, 52645),

Gene: Figueroism\_41 Start: 31108, Stop: 29720, Start Num: 138

Candidate Starts for Figueroism\_41:

(52, 31330), (Start: 138 @31108 has 140 MA's), (181, 30964), (Start: 183 @30958 has 1 MA's), (184, 30955), (221, 30841), (229, 30814), (243, 30754), (251, 30727), (252, 30724), (272, 30628), (280, 30586), (323, 30415), (328, 30394), (335, 30379), (339, 30367), (348, 30319), (373, 30259), (404, 30163), (424, 30100), (440, 30046), (459, 29962), (460, 29956), (464, 29944), (481, 29848), (497, 29794), (498, 29791), (504, 29767),

Gene: Finny\_41 Start: 30901, Stop: 29525, Start Num: 149

Candidate Starts for Finny\_41:

(Start: 140 @30940 has 10 MA's), (Start: 141 @30937 has 21 MA's), (Start: 147 @30907 has 27 MA's), (Start: 149 @30901 has 1 MA's), (159, 30868), (221, 30676), (229, 30649), (243, 30589), (251, 30562), (252, 30559), (258, 30517), (272, 30463), (280, 30421), (303, 30307), (323, 30250), (328, 30229), (339, 30202), (341, 30190), (342, 30187), (344, 30169), (362, 30088), (373, 30052), (391, 29998), (402, 29956), (414, 29926), (420, 29902), (423, 29896), (438, 29854), (450, 29785), (457, 29761), (459, 29755), (460, 29749), (464, 29737), (490, 29614), (492, 29602), (505, 29557),

Gene: Flakey\_58 Start: 52330, Stop: 50798, Start Num: 108

Candidate Starts for Flakey\_58:

(26, 52585), (34, 52534), (47, 52483), (66, 52429), (76, 52399), (Start: 89 @52366 has 3 MA's), (97, 52357), (Start: 108 @52330 has 25 MA's), (160, 52162), (170, 52120), (Start: 183 @52072 has 1 MA's), (187, 52060), (190, 52048), (192, 52042), (197, 52021), (209, 51994), (253, 51853), (272, 51766), (275, 51751), (280, 51739), (287, 51709), (295, 51658), (302, 51631), (320, 51580), (330, 51538), (336, 51520), (338, 51517), (343, 51490), (353, 51448), (365, 51403), (400, 51268), (403, 51253), (409, 51232), (440, 51175), (444, 51151), (445, 51148), (457, 51091), (459, 51085), (460, 51079), (462, 51073), (473, 51022), (477, 50998), (483, 50959), (487, 50947), (488, 50944), (515, 50851), (518, 50836), (525, 50815),

Gene: FreddieHg\_40 Start: 25185, Stop: 27092, Start Num: 22

Candidate Starts for FreddieHg\_40:

(4, 25011), (Start: 22 @25185 has 31 MA's), (27, 25248), (30, 25269), (45, 25323), (93, 25458), (Start: 113 @25500 has 1 MA's), (130, 25545), (177, 25719), (181, 25728), (210, 25818), (221, 25860), (224, 25875), (266, 26061), (290, 26196), (292, 26208), (300, 26241), (339, 26370), (371, 26487), (444, 26760), (451, 26799), (465, 26859), (483, 26949), (492, 26979), (504, 27021), (520, 27072),

Gene: Fribs8\_48 Start: 37679, Stop: 36189, Start Num: 112

Candidate Starts for Fribs8\_48:

(Start: 112 @37679 has 12 MA's), (142, 37595), (144, 37589), (Start: 149 @37562 has 1 MA's), (161, 37508), (163, 37502), (172, 37472), (Start: 183 @37445 has 1 MA's), (211, 37364), (212, 37361), (214, 37355), (219, 37334), (236, 37268), (252, 37232), (256, 37208), (261, 37178), (262, 37175), (263,

(37172), (266, 37166), (279, 37103), (281, 37088), (285, 37073), (313, 36947), (326, 36899), (343, 36842), (344, 36830), (347, 36818), (348, 36815), (362, 36779), (369, 36758), (370, 36755), (374, 36740), (382, 36713), (391, 36677), (394, 36668), (414, 36599), (427, 36554), (440, 36509), (441, 36494), (446, 36464), (453, 36440), (465, 36389), (472, 36359), (485, 36293), (491, 36269), (501, 36236), (511, 36200),

Gene: Fulton\_40 Start: 29072, Stop: 27645, Start Num: 138

Candidate Starts for Fulton\_40:

(Start: 138 @29072 has 140 MA's), (146, 29042), (Start: 147 @29036 has 27 MA's), (Start: 183 @28922 has 1 MA's), (184, 28919), (251, 28682), (252, 28679), (303, 28424), (321, 28373), (323, 28367), (339, 28319), (344, 28286), (348, 28271), (365, 28199), (373, 28172), (376, 28163), (391, 28118), (393, 28112), (401, 28085), (424, 28013), (443, 27941), (450, 27905), (453, 27896), (457, 27881), (459, 27875), (464, 27857), (472, 27815), (484, 27752), (502, 27689), (504, 27680),

Gene: GMA3\_58 Start: 50868, Stop: 49351, Start Num: 126

Candidate Starts for GMA3\_58:

(33, 51117), (35, 51111), (56, 51039), (Start: 126 @50868 has 3 MA's), (153, 50772), (160, 50745), (165, 50727), (168, 50718), (177, 50691), (Start: 183 @50673 has 1 MA's), (192, 50643), (199, 50613), (207, 50592), (216, 50571), (237, 50493), (247, 50463), (252, 50448), (255, 50427), (276, 50334), (286, 50298), (295, 50244), (320, 50166), (338, 50103), (343, 50076), (345, 50061), (347, 50052), (369, 49989), (380, 49950), (392, 49890), (398, 49869), (399, 49866), (400, 49863), (411, 49815), (451, 49653), (462, 49611), (472, 49563), (483, 49497), (487, 49485),

Gene: GMA7\_51 Start: 46927, Stop: 45296, Start Num: 49

Candidate Starts for GMA7\_51:

(Start: 49 @46927 has 3 MA's), (55, 46915), (74, 46864), (75, 46858), (103, 46801), (160, 46660), (170, 46618), (174, 46606), (Start: 183 @46570 has 1 MA's), (184, 46567), (192, 46540), (201, 46504), (209, 46492), (216, 46477), (247, 46369), (272, 46264), (275, 46249), (303, 46126), (320, 46078), (325, 46054), (330, 46036), (343, 45988), (356, 45937), (365, 45901), (371, 45883), (400, 45766), (420, 45715), (440, 45673), (451, 45613), (462, 45571), (473, 45520), (477, 45496), (518, 45334), (525, 45313),

Gene: GTE2\_44 Start: 38337, Stop: 36952, Start Num: 144

Candidate Starts for GTE2\_44:

(Start: 109 @38430 has 35 MA's), (144, 38337), (Start: 149 @38310 has 1 MA's), (168, 38235), (172, 38220), (Start: 183 @38193 has 1 MA's), (211, 38112), (252, 37980), (261, 37926), (263, 37920), (266, 37914), (281, 37836), (304, 37722), (313, 37695), (332, 37632), (347, 37566), (354, 37545), (369, 37506), (374, 37488), (376, 37482), (413, 37371), (427, 37323), (433, 37305), (453, 37209), (459, 37188), (465, 37158),

Gene: GTE7\_50 Start: 46958, Stop: 45327, Start Num: 49

Candidate Starts for GTE7\_50:

(Start: 49 @46958 has 3 MA's), (55, 46946), (74, 46895), (75, 46889), (103, 46832), (160, 46691), (170, 46649), (174, 46637), (Start: 183 @46601 has 1 MA's), (184, 46598), (192, 46571), (209, 46523), (216, 46508), (247, 46400), (272, 46295), (275, 46280), (303, 46157), (320, 46109), (325, 46085), (330, 46067), (343, 46019), (356, 45968), (365, 45932), (371, 45914), (400, 45797), (420, 45746), (440, 45704), (451, 45644), (462, 45602), (473, 45551), (477, 45527), (518, 45365), (525, 45344),

Gene: GaeCeo\_42 Start: 31326, Stop: 29935, Start Num: 138

Candidate Starts for GaeCeo\_42:

(Start: 138 @31326 has 140 MA's), (181, 31182), (Start: 183 @31176 has 1 MA's), (201, 31113), (229, 31032), (243, 30972), (251, 30945), (252, 30942), (254, 30936), (272, 30846), (280, 30804), (323, 30633), (328, 30612), (335, 30597), (339, 30585), (349, 30534), (373, 30477), (377, 30465), (424,

(30315), (429, 30303), (443, 30243), (450, 30207), (452, 30201), (457, 30183), (459, 30177), (460, 30171), (472, 30117), (478, 30084), (481, 30063), (492, 30024),

Gene: GalacticEye\_57 Start: 52570, Stop: 51158, Start Num: 147

Candidate Starts for GalacticEye\_57:

(26, 52918), (58, 52789), (87, 52702), (Start: 89 @52699 has 3 MA's), (Start: 147 @52570 has 27 MA's), (160, 52525), (Start: 183 @52435 has 1 MA's), (184, 52432), (186, 52426), (192, 52405), (216, 52342), (247, 52234), (253, 52216), (272, 52129), (275, 52114), (287, 52072), (303, 51991), (320, 51943), (330, 51901), (336, 51883), (338, 51880), (343, 51853), (356, 51802), (365, 51766), (380, 51715), (400, 51631), (406, 51610), (457, 51454), (459, 51448), (462, 51436), (487, 51310), (518, 51196),

Gene: GardenB\_40 Start: 31225, Stop: 29840, Start Num: 138

Candidate Starts for GardenB\_40:

(129, 31255), (Start: 138 @31225 has 140 MA's), (172, 31102), (181, 31081), (Start: 183 @31075 has 1 MA's), (184, 31072), (221, 30958), (243, 30871), (251, 30844), (252, 30841), (272, 30745), (280, 30703), (323, 30532), (335, 30496), (373, 30376), (380, 30352), (424, 30217), (440, 30163), (452, 30103), (459, 30079), (460, 30073), (464, 30061), (481, 29965), (497, 29911),

Gene: Garey24\_41 Start: 30782, Stop: 29394, Start Num: 138

Candidate Starts for Garey24\_41:

(52, 31004), (Start: 138 @30782 has 140 MA's), (181, 30638), (Start: 183 @30632 has 1 MA's), (184, 30629), (221, 30515), (229, 30488), (243, 30428), (251, 30401), (252, 30398), (272, 30302), (280, 30260), (323, 30089), (328, 30068), (335, 30053), (339, 30041), (348, 29993), (373, 29933), (424, 29774), (440, 29720), (459, 29636), (460, 29630), (464, 29618), (478, 29543), (481, 29522), (497, 29468), (498, 29465), (504, 29441),

Gene: Gargoyle\_41 Start: 31123, Stop: 29735, Start Num: 138

Candidate Starts for Gargoyle\_41:

(2, 31774), (31, 31420), (52, 31345), (Start: 138 @31123 has 140 MA's), (181, 30979), (Start: 183 @30973 has 1 MA's), (184, 30970), (221, 30856), (229, 30829), (243, 30769), (251, 30742), (252, 30739), (272, 30643), (280, 30601), (323, 30430), (328, 30409), (335, 30394), (348, 30334), (373, 30274), (404, 30178), (424, 30115), (440, 30061), (459, 29977), (460, 29971), (464, 29959), (481, 29863), (497, 29809), (498, 29806), (504, 29782),

Gene: Gelo\_40 Start: 30809, Stop: 29421, Start Num: 138

Candidate Starts for Gelo\_40:

(52, 31031), (Start: 138 @30809 has 140 MA's), (181, 30665), (Start: 183 @30659 has 1 MA's), (184, 30656), (221, 30542), (229, 30515), (243, 30455), (251, 30428), (252, 30425), (272, 30329), (280, 30287), (323, 30116), (328, 30095), (335, 30080), (339, 30068), (348, 30020), (373, 29960), (404, 29864), (424, 29801), (440, 29747), (459, 29663), (460, 29657), (464, 29645), (478, 29570), (481, 29549), (497, 29495), (498, 29492), (504, 29468),

Gene: Gershwin\_40 Start: 30816, Stop: 29428, Start Num: 138

Candidate Starts for Gershwin\_40:

(52, 31038), (Start: 138 @30816 has 140 MA's), (181, 30672), (Start: 183 @30666 has 1 MA's), (184, 30663), (221, 30549), (229, 30522), (243, 30462), (251, 30435), (252, 30432), (271, 30339), (272, 30336), (280, 30294), (323, 30123), (328, 30102), (335, 30087), (339, 30075), (348, 30027), (373, 29967), (404, 29871), (424, 29808), (440, 29754), (459, 29670), (460, 29664), (464, 29652), (478, 29577), (481, 29556), (497, 29502), (498, 29499), (504, 29475),

Gene: GiKK\_57 Start: 39360, Stop: 37885, Start Num: 112

Candidate Starts for GiKK\_57:

(Start: 112 @39360 has 12 MA's), (128, 39318), (144, 39270), (Start: 149 @39243 has 1 MA's), (161, 39189), (168, 39168), (170, 39159), (172, 39153), (201, 39069), (204, 39060), (212, 39042), (214, 39036), (252, 38913), (261, 38859), (263, 38853), (266, 38847), (275, 38802), (281, 38769), (335, 38556), (343, 38523), (352, 38484), (369, 38439), (374, 38421), (376, 38415), (392, 38370), (394, 38364), (400, 38343), (414, 38295), (415, 38292), (427, 38250), (428, 38247), (433, 38232), (453, 38136), (465, 38085), (466, 38082), (478, 38022), (485, 37989), (490, 37974), (491, 37965), (504, 37920), (510, 37899),

Gene: Gibbles\_56 Start: 50443, Stop: 48953, Start Num: 124

Candidate Starts for Gibbles\_56:

(Start: 124 @50443 has 5 MA's), (150, 50350), (153, 50341), (156, 50329), (160, 50314), (165, 50296), (184, 50239), (204, 50167), (205, 50164), (230, 50071), (239, 50038), (251, 50005), (252, 50002), (255, 49981), (272, 49912), (282, 49876), (299, 49789), (314, 49738), (320, 49726), (322, 49723), (327, 49693), (345, 49621), (347, 49612), (384, 49489), (386, 49483), (445, 49309), (454, 49264), (462, 49234), (523, 48982),

Gene: Gibbous\_48 Start: 37401, Stop: 35911, Start Num: 112

Candidate Starts for Gibbous\_48:

(Start: 112 @37401 has 12 MA's), (128, 37359), (142, 37317), (144, 37311), (Start: 149 @37284 has 1 MA's), (161, 37230), (163, 37224), (172, 37194), (Start: 183 @37167 has 1 MA's), (211, 37086), (212, 37083), (214, 37077), (219, 37056), (236, 36990), (252, 36954), (256, 36930), (261, 36900), (263, 36894), (266, 36888), (279, 36825), (281, 36810), (285, 36795), (313, 36669), (337, 36591), (344, 36552), (347, 36540), (348, 36537), (362, 36501), (368, 36483), (369, 36480), (370, 36477), (374, 36462), (382, 36435), (385, 36423), (414, 36321), (427, 36276), (428, 36273), (440, 36231), (441, 36216), (451, 36168), (453, 36162), (465, 36111), (485, 36015), (491, 35991), (501, 35958), (510, 35925), (511, 35922),

Gene: Gibson\_70 Start: 50318, Stop: 48432, Start Num: 17

Candidate Starts for Gibson\_70:

(Start: 17 @50318 has 8 MA's), (Start: 22 @50303 has 31 MA's), (27, 50240), (28, 50231), (58, 50126), (71, 50087), (77, 50063), (Start: 113 @49988 has 1 MA's), (123, 49964), (164, 49805), (177, 49766), (181, 49757), (215, 49649), (241, 49541), (273, 49388), (283, 49337), (292, 49277), (316, 49190), (317, 49187), (344, 49082), (346, 49073), (350, 49061), (381, 48962), (419, 48845), (424, 48833), (433, 48806), (451, 48716), (455, 48701), (468, 48647), (479, 48590), (508, 48482), (515, 48464),

Gene: Gilda\_40 Start: 25935, Stop: 27842, Start Num: 22

Candidate Starts for Gilda\_40:

(Start: 22 @25935 has 31 MA's), (27, 25998), (30, 26019), (45, 26073), (Start: 113 @26250 has 1 MA's), (130, 26295), (177, 26469), (181, 26478), (210, 26568), (224, 26625), (266, 26811), (290, 26946), (292, 26958), (300, 26991), (339, 27120), (371, 27237), (393, 27312), (450, 27546), (451, 27549), (465, 27609), (483, 27699), (492, 27729), (504, 27771), (520, 27822),

Gene: Glamour\_40 Start: 31091, Stop: 29679, Start Num: 141

Candidate Starts for Glamour\_40:

(Start: 141 @31091 has 21 MA's), (Start: 147 @31061 has 27 MA's), (Start: 149 @31055 has 1 MA's), (159, 31022), (221, 30830), (229, 30803), (243, 30743), (251, 30716), (252, 30713), (258, 30671), (272, 30617), (280, 30575), (303, 30461), (323, 30404), (328, 30383), (335, 30368), (339, 30356), (341, 30344), (342, 30341), (344, 30323), (362, 30242), (373, 30206), (391, 30152), (402, 30110), (414, 30080), (420, 30056), (423, 30050), (438, 30008), (450, 29939), (457, 29915), (459, 29909), (460, 29903), (464, 29891), (481, 29795), (484, 29786), (490, 29768), (492, 29756), (505, 29711),

Gene: Gmala1\_55 Start: 48612, Stop: 47071, Start Num: 119

Candidate Starts for Gmala1\_55:

(119, 48612), (153, 48507), (160, 48480), (177, 48426), (Start: 183 @48408 has 1 MA's), (199, 48348), (202, 48339), (220, 48288), (229, 48264), (231, 48252), (233, 48246), (247, 48201), (252, 48186), (255, 48165), (256, 48162), (280, 48063), (286, 48036), (303, 47952), (309, 47928), (320, 47904), (327, 47871), (347, 47790), (364, 47742), (369, 47727), (390, 47634), (398, 47607), (399, 47604), (418, 47520), (431, 47484), (435, 47469), (444, 47424), (460, 47352), (462, 47346), (490, 47205), (523, 47106), (524, 47103),

Gene: GoldHunter\_54 Start: 38843, Stop: 37365, Start Num: 109

Candidate Starts for GoldHunter\_54:

(Start: 109 @38843 has 35 MA's), (142, 38756), (144, 38750), (161, 38669), (168, 38648), (211, 38525), (212, 38522), (261, 38339), (263, 38333), (266, 38327), (281, 38249), (304, 38135), (313, 38108), (323, 38084), (339, 38024), (347, 37979), (354, 37958), (369, 37919), (374, 37901), (413, 37784), (427, 37736), (428, 37733), (433, 37718), (453, 37622), (459, 37601), (465, 37571),

Gene: Golden\_39 Start: 30647, Stop: 29256, Start Num: 140

Candidate Starts for Golden\_39:

(Start: 140 @30647 has 10 MA's), (Start: 141 @30644 has 21 MA's), (Start: 147 @30614 has 27 MA's), (181, 30506), (184, 30497), (199, 30443), (228, 30362), (243, 30296), (252, 30266), (259, 30221), (272, 30170), (319, 29966), (323, 29957), (335, 29918), (339, 29906), (341, 29894), (342, 29891), (349, 29855), (352, 29846), (362, 29831), (373, 29795), (377, 29783), (380, 29771), (404, 29696), (424, 29636), (450, 29528), (453, 29519), (457, 29504), (459, 29498), (460, 29492), (515, 29270),

Gene: GordDuk1\_59 Start: 49176, Stop: 47635, Start Num: 119

Candidate Starts for GordDuk1\_59:

(119, 49176), (153, 49071), (160, 49044), (177, 48990), (Start: 183 @48972 has 1 MA's), (199, 48912), (202, 48903), (220, 48852), (229, 48828), (231, 48816), (233, 48810), (247, 48765), (252, 48750), (255, 48729), (256, 48726), (280, 48627), (286, 48600), (303, 48516), (309, 48492), (320, 48468), (327, 48435), (330, 48426), (343, 48378), (347, 48354), (364, 48306), (390, 48198), (398, 48171), (418, 48084), (431, 48048), (435, 48033), (444, 47988), (460, 47916), (462, 47910), (523, 47670), (524, 47667),

Gene: GordTnk2\_60 Start: 49330, Stop: 47789, Start Num: 119

Candidate Starts for GordTnk2\_60:

(119, 49330), (153, 49225), (160, 49198), (177, 49144), (Start: 183 @49126 has 1 MA's), (199, 49066), (202, 49057), (220, 49006), (229, 48982), (231, 48970), (233, 48964), (247, 48919), (252, 48904), (255, 48883), (256, 48880), (280, 48781), (286, 48754), (303, 48670), (309, 48646), (320, 48622), (327, 48589), (347, 48508), (364, 48460), (390, 48352), (398, 48325), (399, 48322), (418, 48238), (431, 48202), (435, 48187), (444, 48142), (460, 48070), (462, 48064), (490, 47923), (523, 47824), (524, 47821),

Gene: Gorko\_58 Start: 51458, Stop: 49926, Start Num: 108

Candidate Starts for Gorko\_58:

(26, 51713), (34, 51662), (47, 51611), (66, 51557), (76, 51527), (Start: 89 @51494 has 3 MA's), (97, 51485), (Start: 108 @51458 has 25 MA's), (160, 51290), (170, 51248), (Start: 183 @51200 has 1 MA's), (187, 51188), (190, 51176), (192, 51170), (197, 51149), (209, 51122), (253, 50981), (272, 50894), (275, 50879), (280, 50867), (287, 50837), (295, 50786), (302, 50759), (320, 50708), (336, 50648), (338, 50645), (343, 50618), (353, 50576), (365, 50531), (400, 50396), (403, 50381), (409, 50360), (444, 50279), (445, 50276), (457, 50219), (459, 50213), (460, 50207), (462, 50201), (477, 50126), (483, 50087), (487, 50075), (488, 50072), (515, 49979), (518, 49964), (525, 49943),

Gene: GourdThymes\_59 Start: 52332, Stop: 50800, Start Num: 108

Candidate Starts for GourdThymes\_59:

(26, 52587), (34, 52536), (47, 52485), (66, 52431), (76, 52401), (Start: 89 @52368 has 3 MA's), (97, 52359), (Start: 108 @52332 has 25 MA's), (160, 52164), (170, 52122), (Start: 183 @52074 has 1 MA's), (187, 52062), (190, 52050), (192, 52044), (197, 52023), (209, 51996), (253, 51855), (272, 51768), (275, 51753), (280, 51741), (287, 51711), (295, 51660), (302, 51633), (320, 51582), (325, 51558), (330, 51540), (336, 51522), (338, 51519), (343, 51492), (353, 51450), (365, 51405), (400, 51270), (403, 51255), (409, 51234), (440, 51177), (444, 51153), (445, 51150), (457, 51093), (459, 51087), (460, 51081), (462, 51075), (473, 51024), (477, 51000), (483, 50961), (487, 50949), (488, 50946), (515, 50853), (518, 50838), (525, 50817),

Gene: Greenlv\_40 Start: 29681, Stop: 28254, Start Num: 138

Candidate Starts for Greenlv\_40:

(38, 29951), (46, 29927), (55, 29900), (70, 29852), (82, 29813), (Start: 138 @29681 has 140 MA's), (146, 29651), (Start: 147 @29645 has 27 MA's), (Start: 183 @29531 has 1 MA's), (184, 29528), (185, 29525), (251, 29291), (252, 29288), (303, 29033), (321, 28982), (323, 28976), (339, 28928), (344, 28895), (373, 28781), (376, 28772), (391, 28727), (393, 28721), (401, 28694), (424, 28622), (443, 28550), (450, 28514), (453, 28505), (457, 28490), (459, 28484), (464, 28466), (472, 28424), (484, 28361), (504, 28289),

Gene: Greenbelt\_105 Start: 46451, Stop: 44553, Start Num: 14

Candidate Starts for Greenbelt\_105:

(11, 46496), (14, 46451), (15, 46445), (18, 46433), (28, 46355), (45, 46289), (50, 46271), (58, 46250), (72, 46205), (77, 46187), (90, 46157), (Start: 113 @46112 has 1 MA's), (123, 46088), (158, 45962), (180, 45887), (181, 45884), (191, 45851), (200, 45818), (215, 45779), (242, 45668), (252, 45629), (267, 45554), (292, 45407), (300, 45374), (317, 45317), (344, 45212), (350, 45191), (396, 45050), (424, 44960), (436, 44927), (455, 44828), (465, 44783), (468, 44774), (500, 44639), (520, 44573), (522, 44570),

Gene: Greys\_41 Start: 31116, Stop: 29728, Start Num: 138

Candidate Starts for Greys\_41:

(2, 31767), (31, 31413), (52, 31338), (Start: 138 @31116 has 140 MA's), (181, 30972), (Start: 183 @30966 has 1 MA's), (184, 30963), (221, 30849), (229, 30822), (243, 30762), (251, 30735), (252, 30732), (272, 30636), (280, 30594), (323, 30423), (328, 30402), (339, 30375), (348, 30327), (373, 30267), (424, 30108), (440, 30054), (459, 29970), (460, 29964), (464, 29952), (481, 29856), (497, 29802), (498, 29799), (504, 29775),

Gene: Gubbabump\_40 Start: 30796, Stop: 29408, Start Num: 138

Candidate Starts for Gubbabump\_40:

(2, 31447), (31, 31093), (52, 31018), (Start: 138 @30796 has 140 MA's), (181, 30652), (Start: 183 @30646 has 1 MA's), (184, 30643), (221, 30529), (229, 30502), (243, 30442), (251, 30415), (252, 30412), (272, 30316), (280, 30274), (323, 30103), (328, 30082), (335, 30067), (348, 30007), (373, 29947), (404, 29851), (424, 29788), (440, 29734), (459, 29650), (460, 29644), (464, 29632), (481, 29536), (497, 29482), (498, 29479), (504, 29455),

Gene: Guetzie\_40 Start: 30629, Stop: 29241, Start Num: 141

Candidate Starts for Guetzie\_40:

(Start: 140 @30632 has 10 MA's), (Start: 141 @30629 has 21 MA's), (Start: 147 @30599 has 27 MA's), (181, 30491), (184, 30482), (199, 30428), (228, 30347), (243, 30281), (252, 30251), (259, 30206), (272, 30155), (319, 29951), (323, 29942), (335, 29903), (339, 29891), (341, 29879), (342, 29876), (349, 29840), (352, 29831), (362, 29816), (373, 29780), (377, 29768), (380, 29756), (404, 29681), (424, 29621), (450, 29513), (453, 29504), (457, 29489), (459, 29483), (460, 29477), (515, 29255),

Gene: Guillaume\_57 Start: 52620, Stop: 51208, Start Num: 147

Candidate Starts for Guillaume\_57:

(26, 52968), (58, 52839), (Start: 89 @52749 has 3 MA's), (Start: 147 @52620 has 27 MA's), (160, 52575), (Start: 183 @52485 has 1 MA's), (184, 52482), (186, 52476), (192, 52455), (216, 52392), (247, 52284), (253, 52266), (272, 52179), (275, 52164), (287, 52122), (303, 52041), (320, 51993), (330, 51951), (336, 51933), (338, 51930), (343, 51903), (356, 51852), (365, 51816), (380, 51765), (400, 51681), (406, 51660), (457, 51504), (459, 51498), (462, 51486), (487, 51360), (518, 51246),

Gene: Hager\_41 Start: 25422, Stop: 27329, Start Num: 22

Candidate Starts for Hager\_41:

(4, 25248), (Start: 22 @25422 has 31 MA's), (27, 25485), (30, 25506), (45, 25560), (104, 25722), (Start: 113 @25737 has 1 MA's), (130, 25782), (177, 25956), (181, 25965), (210, 26055), (211, 26058), (221, 26097), (224, 26112), (227, 26130), (266, 26298), (284, 26391), (288, 26406), (290, 26433), (292, 26445), (300, 26478), (339, 26607), (371, 26724), (444, 26997), (451, 27036), (465, 27096), (483, 27186), (492, 27216), (504, 27258), (520, 27309),

Gene: Hail2Pitt\_56 Start: 53096, Stop: 51684, Start Num: 147

Candidate Starts for Hail2Pitt\_56:

(26, 53444), (58, 53315), (87, 53228), (Start: 89 @53225 has 3 MA's), (Start: 147 @53096 has 27 MA's), (160, 53051), (Start: 183 @52961 has 1 MA's), (184, 52958), (186, 52952), (192, 52931), (216, 52868), (247, 52760), (253, 52742), (272, 52655), (275, 52640), (287, 52598), (303, 52517), (320, 52469), (330, 52427), (336, 52409), (338, 52406), (343, 52379), (356, 52328), (365, 52292), (380, 52241), (400, 52157), (406, 52136), (457, 51980), (459, 51974), (462, 51962), (487, 51836), (518, 51722),

Gene: HairyMan\_38 Start: 29994, Stop: 28738, Start Num: 181

Candidate Starts for HairyMan\_38:

(122, 30183), (Start: 136 @30141 has 4 MA's), (Start: 138 @30138 has 140 MA's), (Start: 141 @30132 has 21 MA's), (181, 29994), (Start: 183 @29988 has 1 MA's), (184, 29985), (200, 29928), (229, 29844), (252, 29754), (272, 29658), (279, 29625), (280, 29616), (298, 29523), (323, 29445), (328, 29424), (339, 29397), (373, 29286), (402, 29193), (405, 29187), (438, 29088), (449, 29025), (450, 29019), (457, 28995), (459, 28989), (460, 28983), (464, 28971), (481, 28875), (497, 28821),

Gene: Hamlet\_40 Start: 31266, Stop: 29875, Start Num: 138

Candidate Starts for Hamlet\_40:

(83, 31368), (85, 31365), (87, 31362), (Start: 138 @31266 has 140 MA's), (181, 31119), (Start: 183 @31113 has 1 MA's), (184, 31110), (221, 30996), (229, 30969), (243, 30909), (251, 30882), (252, 30879), (272, 30783), (280, 30741), (323, 30570), (328, 30549), (339, 30522), (373, 30414), (404, 30318), (440, 30201), (443, 30183), (459, 30117), (460, 30111), (464, 30099), (481, 30003), (497, 29949), (498, 29946), (504, 29922), (513, 29892),

Gene: HanSolo\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for HanSolo\_40:

(2, 31454), (31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: HankSprout\_41 Start: 30683, Stop: 29295, Start Num: 138

Candidate Starts for HankSprout\_41:

(52, 30905), (Start: 138 @30683 has 140 MA's), (181, 30539), (Start: 183 @30533 has 1 MA's), (184, 30530), (221, 30416), (229, 30389), (243, 30329), (251, 30302), (252, 30299), (272, 30203), (280, 30161), (302, 30050), (323, 29990), (328, 29969), (335, 29954), (348, 29894), (373, 29834), (404,

(29738), (424, 29675), (440, 29621), (459, 29537), (460, 29531), (464, 29519), (481, 29423), (497, 29369), (498, 29366), (504, 29342),

Gene: Harambe\_57 Start: 52887, Stop: 51475, Start Num: 147

Candidate Starts for Harambe\_57:

(26, 53235), (58, 53106), (87, 53019), (Start: 89 @53016 has 3 MA's), (Start: 147 @52887 has 27 MA's), (160, 52842), (Start: 183 @52752 has 1 MA's), (184, 52749), (186, 52743), (192, 52722), (216, 52659), (247, 52551), (253, 52533), (272, 52446), (275, 52431), (287, 52389), (303, 52308), (320, 52260), (330, 52218), (336, 52200), (338, 52197), (343, 52170), (356, 52119), (365, 52083), (380, 52032), (400, 51948), (406, 51927), (457, 51771), (459, 51765), (462, 51753), (487, 51627), (518, 51513),

Gene: Hasitha\_40 Start: 29084, Stop: 27657, Start Num: 138

Candidate Starts for Hasitha\_40:

(Start: 138 @29084 has 140 MA's), (146, 29054), (Start: 147 @29048 has 27 MA's), (Start: 183 @28934 has 1 MA's), (184, 28931), (251, 28694), (252, 28691), (303, 28436), (321, 28385), (323, 28379), (339, 28331), (344, 28298), (348, 28283), (365, 28211), (373, 28184), (376, 28175), (391, 28130), (393, 28124), (401, 28097), (424, 28025), (443, 27953), (450, 27917), (453, 27908), (457, 27893), (459, 27887), (464, 27869), (472, 27827), (484, 27764), (502, 27701), (504, 27692),

Gene: Haunter\_40 Start: 25327, Stop: 27234, Start Num: 22

Candidate Starts for Haunter\_40:

(Start: 22 @25327 has 31 MA's), (27, 25390), (30, 25411), (45, 25465), (59, 25507), (Start: 113 @25642 has 1 MA's), (130, 25687), (177, 25861), (181, 25870), (210, 25960), (224, 26017), (266, 26203), (290, 26338), (292, 26350), (300, 26383), (312, 26428), (339, 26512), (371, 26629), (444, 26902), (450, 26938), (451, 26941), (465, 27001), (483, 27091), (492, 27121), (504, 27163), (520, 27214),

Gene: HayZem\_62 Start: 52710, Stop: 51079, Start Num: 49

Candidate Starts for HayZem\_62:

(Start: 49 @52710 has 3 MA's), (55, 52698), (74, 52647), (75, 52641), (103, 52584), (160, 52443), (170, 52401), (174, 52389), (Start: 183 @52353 has 1 MA's), (184, 52350), (192, 52323), (201, 52287), (209, 52275), (216, 52260), (247, 52152), (272, 52047), (275, 52032), (303, 51909), (320, 51861), (325, 51837), (330, 51819), (343, 51771), (356, 51720), (365, 51684), (371, 51666), (400, 51549), (420, 51498), (440, 51456), (451, 51396), (462, 51354), (473, 51303), (477, 51279), (518, 51117), (525, 51096),

Gene: Hello\_57 Start: 52849, Stop: 51437, Start Num: 147

Candidate Starts for Hello\_57:

(26, 53197), (58, 53068), (87, 52981), (Start: 89 @52978 has 3 MA's), (Start: 147 @52849 has 27 MA's), (160, 52804), (Start: 183 @52714 has 1 MA's), (184, 52711), (186, 52705), (192, 52684), (216, 52621), (247, 52513), (253, 52495), (272, 52408), (275, 52393), (287, 52351), (303, 52270), (320, 52222), (330, 52180), (336, 52162), (338, 52159), (343, 52132), (356, 52081), (365, 52045), (380, 51994), (400, 51910), (406, 51889), (457, 51733), (459, 51727), (462, 51715), (487, 51589), (518, 51475),

Gene: Hendrix\_115 Start: 71918, Stop: 73936, Start Num: 7

Candidate Starts for Hendrix\_115:

(5, 71888), (Start: 7 @71918 has 4 MA's), (35, 72131), (Start: 40 @72152 has 2 MA's), (51, 72185), (61, 72218), (80, 72272), (Start: 108 @72323 has 25 MA's), (121, 72353), (139, 72404), (163, 72506), (168, 72521), (223, 72707), (234, 72749), (235, 72752), (240, 72773), (247, 72797), (252, 72821), (254, 72827), (258, 72866), (267, 72899), (272, 72932), (278, 72962), (295, 73058), (299, 73073), (301, 73085), (308, 73112), (311, 73124), (318, 73142), (335, 73196), (344, 73241), (347, 73253),

(348, 73256), (371, 73325), (397, 73403), (414, 73457), (438, 73529), (443, 73571), (448, 73598),  
(452, 73616), (458, 73637), (463, 73661), (486, 73775), (504, 73847), (519, 73895), (521, 73898),

Gene: HerculesXL\_40 Start: 29477, Stop: 28092, Start Num: 138

Candidate Starts for HerculesXL\_40:

(Start: 138 @29477 has 140 MA's), (201, 29264), (221, 29201), (228, 29180), (251, 29087), (252,  
29084), (255, 29063), (258, 29042), (280, 28946), (323, 28775), (329, 28751), (335, 28739), (339,  
28727), (341, 28715), (342, 28712), (344, 28694), (348, 28679), (373, 28619), (377, 28607), (380,  
28595), (404, 28523), (414, 28493), (424, 28460), (450, 28352), (453, 28343), (457, 28328), (459,  
28322), (460, 28316), (464, 28304), (481, 28208), (484, 28199), (492, 28169), (504, 28127),

Gene: Hexbug\_60 Start: 41082, Stop: 39607, Start Num: 112

Candidate Starts for Hexbug\_60:

(Start: 112 @41082 has 12 MA's), (128, 41040), (144, 40992), (Start: 149 @40965 has 1 MA's), (168,  
40890), (170, 40881), (172, 40875), (201, 40791), (209, 40773), (212, 40764), (214, 40758), (252,  
40635), (261, 40581), (263, 40575), (266, 40569), (279, 40506), (281, 40491), (285, 40476), (335,  
40278), (343, 40245), (352, 40206), (369, 40161), (390, 40098), (394, 40086), (400, 40065), (403,  
40050), (414, 40017), (415, 40014), (428, 39969), (441, 39912), (453, 39858), (465, 39807), (490,  
39696), (495, 39675),

Gene: Hiddenleaf\_40 Start: 25169, Stop: 27076, Start Num: 22

Candidate Starts for Hiddenleaf\_40:

(4, 24995), (Start: 22 @25169 has 31 MA's), (27, 25232), (30, 25253), (45, 25307), (93, 25442), (Start:  
113 @25484 has 1 MA's), (130, 25529), (177, 25703), (181, 25712), (210, 25802), (221, 25844), (224,  
25859), (266, 26045), (290, 26180), (292, 26192), (300, 26225), (339, 26354), (371, 26471), (444,  
26744), (451, 26783), (465, 26843), (483, 26933), (492, 26963), (504, 27005), (520, 27056),

Gene: HippoPololi\_50 Start: 37814, Stop: 36324, Start Num: 111

Candidate Starts for HippoPololi\_50:

(Start: 111 @37814 has 6 MA's), (128, 37772), (142, 37730), (144, 37724), (Start: 149 @37697 has 1  
MA's), (161, 37643), (172, 37607), (Start: 183 @37580 has 1 MA's), (211, 37499), (212, 37496), (214,  
37490), (219, 37469), (236, 37403), (252, 37367), (256, 37343), (261, 37313), (263, 37307), (266,  
37301), (281, 37223), (313, 37082), (337, 37004), (344, 36965), (348, 36950), (362, 36914), (369,  
36893), (370, 36890), (374, 36875), (382, 36848), (394, 36803), (414, 36734), (427, 36689), (428,  
36686), (440, 36644), (441, 36629), (450, 36584), (451, 36581), (453, 36575), (465, 36524), (472,  
36494), (491, 36404), (501, 36371), (511, 36335),

Gene: Hollow\_57 Start: 53503, Stop: 51797, Start Num: 36

Candidate Starts for Hollow\_57:

(Start: 36 @53503 has 6 MA's), (Start: 40 @53491 has 2 MA's), (73, 53392), (Start: 78 @53371 has 1  
MA's), (Start: 114 @53305 has 2 MA's), (150, 53206), (160, 53170), (165, 53146), (168, 53137), (170,  
53128), (Start: 183 @53080 has 1 MA's), (190, 53056), (201, 53014), (210, 52999), (216, 52984), (231,  
52927), (232, 52924), (251, 52864), (252, 52861), (266, 52795), (267, 52792), (275, 52756), (276,  
52753), (282, 52735), (284, 52726), (287, 52714), (294, 52666), (303, 52633), (309, 52609), (320,  
52585), (325, 52561), (343, 52495), (365, 52396), (399, 52264), (400, 52261), (444, 52144), (445,  
52141), (457, 52084), (462, 52066), (483, 51949), (484, 51946), (488, 51934), (518, 51835), (525,  
51814),

Gene: Horseradish\_55 Start: 38581, Stop: 37103, Start Num: 109

Candidate Starts for Horseradish\_55:

(Start: 109 @38581 has 35 MA's), (142, 38494), (144, 38488), (155, 38437), (168, 38386), (172,  
38371), (201, 38287), (211, 38263), (214, 38254), (252, 38131), (261, 38077), (263, 38071), (266,  
38065), (272, 38035), (281, 37987), (304, 37873), (313, 37846), (323, 37822), (343, 37741), (347,

(37717), (354, 37696), (369, 37657), (374, 37639), (376, 37633), (413, 37522), (415, 37516), (427, 37474), (433, 37456), (450, 37369), (453, 37360), (459, 37339), (465, 37309), (472, 37279), (478, 37246), (492, 37186), (501, 37156),

Gene: Hotorobo\_59 Start: 52337, Stop: 50805, Start Num: 108

Candidate Starts for Hotorobo\_59:

(26, 52592), (34, 52541), (47, 52490), (66, 52436), (76, 52406), (Start: 89 @52373 has 3 MA's), (97, 52364), (Start: 108 @52337 has 25 MA's), (160, 52169), (170, 52127), (Start: 183 @52079 has 1 MA's), (187, 52067), (190, 52055), (192, 52049), (197, 52028), (209, 52001), (253, 51860), (272, 51773), (275, 51758), (280, 51746), (287, 51716), (295, 51665), (302, 51638), (320, 51587), (336, 51527), (338, 51524), (343, 51497), (353, 51455), (365, 51410), (400, 51275), (403, 51260), (409, 51239), (444, 51158), (445, 51155), (457, 51098), (459, 51092), (460, 51086), (462, 51080), (477, 51005), (483, 50966), (487, 50954), (488, 50951), (515, 50858), (518, 50843), (525, 50822),

Gene: HungryHenry\_40 Start: 30808, Stop: 29420, Start Num: 138

Candidate Starts for HungryHenry\_40:

(2, 31459), (31, 31105), (52, 31030), (Start: 138 @30808 has 140 MA's), (181, 30664), (Start: 183 @30658 has 1 MA's), (184, 30655), (221, 30541), (229, 30514), (243, 30454), (251, 30427), (252, 30424), (272, 30328), (280, 30286), (323, 30115), (328, 30094), (335, 30079), (348, 30019), (373, 29959), (404, 29863), (424, 29800), (440, 29746), (459, 29662), (460, 29656), (464, 29644), (481, 29548), (497, 29494), (498, 29491), (504, 29467),

Gene: Huwbert\_59 Start: 36808, Stop: 38358, Start Num: 107

Candidate Starts for Huwbert\_59:

(Start: 105 @36805 has 1 MA's), (Start: 107 @36808 has 1 MA's), (134, 36874), (144, 36904), (150, 36934), (160, 36973), (166, 37000), (170, 37015), (190, 37069), (198, 37099), (224, 37183), (242, 37267), (244, 37276), (245, 37279), (272, 37399), (275, 37414), (289, 37501), (303, 37567), (309, 37591), (344, 37714), (347, 37726), (379, 37813), (407, 37912), (413, 37930), (446, 38068), (501, 38296), (503, 38305), (504, 38308),

Gene: Ilzat\_40 Start: 30819, Stop: 29431, Start Num: 138

Candidate Starts for Ilzat\_40:

(2, 31470), (31, 31116), (52, 31041), (Start: 138 @30819 has 140 MA's), (181, 30675), (Start: 183 @30669 has 1 MA's), (184, 30666), (221, 30552), (229, 30525), (243, 30465), (251, 30438), (252, 30435), (272, 30339), (280, 30297), (323, 30126), (328, 30105), (335, 30090), (348, 30030), (373, 29970), (404, 29874), (424, 29811), (440, 29757), (459, 29673), (460, 29667), (464, 29655), (481, 29559), (497, 29505), (498, 29502), (504, 29478),

Gene: Inventa\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Inventa\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (319, 30430), (323, 30421), (328, 30400), (335, 30385), (339, 30373), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Ioannes\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for Ioannes\_41:

(52, 31340), (Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (271, 30641), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (335, 30389), (339, 30377), (348, 30329), (373, 30269), (404, 30173), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (478, 29879), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: Ixel\_41 Start: 29711, Stop: 28434, Start Num: 167

Candidate Starts for Ixel\_41:

(Start: 138 @29819 has 140 MA's), (Start: 167 @29711 has 1 MA's), (181, 29675), (184, 29666), (221, 29543), (228, 29522), (251, 29429), (252, 29426), (258, 29384), (270, 29336), (272, 29330), (280, 29288), (305, 29165), (323, 29117), (328, 29096), (339, 29069), (341, 29057), (342, 29054), (344, 29036), (373, 28961), (377, 28949), (404, 28865), (417, 28820), (443, 28730), (450, 28694), (453, 28685), (457, 28670), (459, 28664), (460, 28658), (464, 28646), (481, 28550), (492, 28511),

Gene: JDawG\_39 Start: 25586, Stop: 27493, Start Num: 22

Candidate Starts for JDawG\_39:

(4, 25412), (Start: 22 @25586 has 31 MA's), (27, 25649), (30, 25670), (45, 25724), (93, 25859), (Start: 113 @25901 has 1 MA's), (130, 25946), (177, 26120), (181, 26129), (210, 26219), (221, 26261), (224, 26276), (266, 26462), (290, 26597), (292, 26609), (300, 26642), (326, 26735), (339, 26771), (362, 26861), (371, 26888), (450, 27197), (451, 27200), (465, 27260), (483, 27350), (492, 27380), (504, 27422), (520, 27473),

Gene: JacoRen57\_46 Start: 39673, Stop: 38201, Start Num: 114

Candidate Starts for JacoRen57\_46:

(Start: 106 @39685 has 1 MA's), (Start: 114 @39673 has 2 MA's), (143, 39586), (144, 39583), (163, 39496), (168, 39481), (170, 39472), (211, 39358), (261, 39172), (266, 39160), (281, 39082), (331, 38881), (344, 38821), (347, 38809), (348, 38806), (427, 38566), (433, 38548), (444, 38494), (453, 38452), (459, 38431), (465, 38401), (469, 38386), (490, 38290), (492, 38278), (509, 38218),

Gene: Jams\_57 Start: 52059, Stop: 50647, Start Num: 147

Candidate Starts for Jams\_57:

(26, 52407), (58, 52278), (Start: 89 @52188 has 3 MA's), (Start: 147 @52059 has 27 MA's), (160, 52014), (Start: 183 @51924 has 1 MA's), (184, 51921), (186, 51915), (192, 51894), (216, 51831), (237, 51753), (247, 51723), (253, 51705), (272, 51618), (275, 51603), (287, 51561), (303, 51480), (320, 51432), (330, 51390), (336, 51372), (338, 51369), (343, 51342), (356, 51291), (365, 51255), (380, 51204), (400, 51120), (406, 51099), (457, 50943), (459, 50937), (462, 50925), (487, 50799), (518, 50685),

Gene: Jamzy\_58 Start: 39427, Stop: 37952, Start Num: 112

Candidate Starts for Jamzy\_58:

(Start: 112 @39427 has 12 MA's), (144, 39337), (Start: 149 @39310 has 1 MA's), (161, 39256), (168, 39235), (170, 39226), (172, 39220), (201, 39136), (204, 39127), (212, 39109), (214, 39103), (252, 38980), (261, 38926), (263, 38920), (266, 38914), (275, 38869), (281, 38836), (335, 38623), (343, 38590), (352, 38551), (369, 38506), (374, 38488), (376, 38482), (392, 38437), (394, 38431), (400, 38410), (414, 38362), (415, 38359), (427, 38317), (428, 38314), (433, 38299), (453, 38203), (465, 38152), (478, 38089), (495, 38020), (510, 37966),

Gene: Janus167\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Janus167\_40:

(52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (339, 30062), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: JasonD\_45 Start: 31699, Stop: 30293, Start Num: 138

Candidate Starts for JasonD\_45:

(57, 31888), (96, 31798), (98, 31795), (Start: 138 @31699 has 140 MA's), (181, 31552), (Start: 183 @31546 has 1 MA's), (201, 31483), (221, 31429), (229, 31402), (243, 31342), (251, 31315), (252, 31312), (272, 31216), (280, 31174), (319, 31012), (323, 31003), (328, 30982), (332, 30976), (335, 30967), (349, 30904), (362, 30883), (373, 30847), (380, 30823), (405, 30748), (417, 30706), (459, 30550), (460, 30544), (464, 30532), (481, 30436), (490, 30409), (497, 30382),

Gene: JasperRussell\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for JasperRussell\_40:

(31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Jellybones\_61 Start: 53432, Stop: 51900, Start Num: 108

Candidate Starts for Jellybones\_61:

(26, 53687), (34, 53636), (58, 53558), (66, 53531), (76, 53501), (Start: 89 @53468 has 3 MA's), (97, 53459), (Start: 108 @53432 has 25 MA's), (150, 53300), (160, 53264), (170, 53222), (176, 53204), (Start: 183 @53174 has 1 MA's), (187, 53162), (192, 53144), (209, 53096), (272, 52868), (275, 52853), (280, 52841), (287, 52811), (295, 52760), (320, 52682), (325, 52658), (330, 52640), (336, 52622), (338, 52619), (340, 52610), (343, 52592), (353, 52550), (365, 52505), (371, 52487), (400, 52370), (403, 52355), (409, 52334), (440, 52277), (444, 52253), (445, 52250), (457, 52193), (459, 52187), (462, 52175), (473, 52124), (477, 52100), (483, 52061), (487, 52049), (488, 52046), (515, 51953), (518, 51938), (525, 51917),

Gene: Jemerald\_42 Start: 31717, Stop: 30299, Start Num: 138

Candidate Starts for Jemerald\_42:

(Start: 138 @31717 has 140 MA's), (Start: 141 @31711 has 21 MA's), (181, 31573), (199, 31510), (221, 31450), (228, 31429), (249, 31342), (251, 31336), (252, 31333), (255, 31312), (266, 31267), (270, 31243), (272, 31237), (280, 31195), (309, 31057), (323, 31024), (329, 31000), (348, 30928), (357, 30901), (365, 30853), (373, 30826), (401, 30739), (404, 30730), (437, 30631), (450, 30559), (453, 30550), (457, 30535), (459, 30529), (481, 30415), (492, 30376), (494, 30370), (504, 30334), (505, 30331),

Gene: Jenos\_44 Start: 32344, Stop: 30941, Start Num: 140

Candidate Starts for Jenos\_44:

(37, 32587), (41, 32578), (57, 32527), (63, 32506), (96, 32437), (Start: 140 @32344 has 10 MA's), (181, 32200), (Start: 183 @32194 has 1 MA's), (201, 32131), (221, 32077), (229, 32050), (243, 31990), (251, 31963), (252, 31960), (272, 31864), (280, 31822), (319, 31660), (323, 31651), (328, 31630), (339, 31603), (349, 31552), (373, 31495), (391, 31441), (404, 31399), (417, 31354), (452, 31222), (459, 31198), (460, 31192), (464, 31180), (481, 31084), (490, 31057), (497, 31030), (514, 30973),

Gene: Jerbirus\_42 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Jerbirus\_42:

(2, 31454), (31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: JeriBeth\_42 Start: 30666, Stop: 29278, Start Num: 138

Candidate Starts for JeriBeth\_42:

(52, 30888), (Start: 138 @30666 has 140 MA's), (181, 30522), (Start: 183 @30516 has 1 MA's), (184, 30513), (221, 30399), (229, 30372), (243, 30312), (251, 30285), (252, 30282), (272, 30186), (280, 30144), (323, 29973), (328, 29952), (335, 29937), (348, 29877), (373, 29817), (404, 29721), (424, 29658), (440, 29604), (459, 29520), (460, 29514), (464, 29502), (481, 29406), (497, 29352), (498, 29349), (504, 29325),

Gene: JingleBells\_40 Start: 25290, Stop: 27197, Start Num: 22

Candidate Starts for JingleBells\_40:

(4, 25116), (Start: 22 @25290 has 31 MA's), (27, 25353), (30, 25374), (45, 25428), (65, 25491), (93, 25563), (Start: 113 @25605 has 1 MA's), (130, 25650), (177, 25824), (181, 25833), (210, 25923), (221, 25965), (224, 25980), (266, 26166), (290, 26301), (292, 26313), (300, 26346), (339, 26475), (371, 26592), (450, 26901), (451, 26904), (465, 26964), (483, 27054), (492, 27084), (504, 27126), (520, 27177),

Gene: Jingles\_39 Start: 30570, Stop: 29173, Start Num: 135

Candidate Starts for Jingles\_39:

(75, 30717), (95, 30672), (Start: 108 @30642 has 25 MA's), (Start: 135 @30570 has 2 MA's), (Start: 140 @30558 has 10 MA's), (Start: 141 @30552 has 21 MA's), (Start: 147 @30522 has 27 MA's), (181, 30414), (Start: 183 @30408 has 1 MA's), (184, 30405), (189, 30390), (241, 30213), (243, 30204), (246, 30195), (252, 30174), (258, 30132), (272, 30078), (323, 29865), (328, 29844), (335, 29829), (339, 29817), (342, 29802), (349, 29766), (352, 29757), (362, 29742), (373, 29706), (404, 29607), (424, 29544), (433, 29517), (449, 29442), (450, 29436), (453, 29427), (457, 29412), (459, 29406), (460, 29400), (464, 29388), (490, 29265), (492, 29253),

Gene: John316\_62 Start: 53495, Stop: 51963, Start Num: 108

Candidate Starts for John316\_62:

(26, 53750), (34, 53699), (47, 53648), (66, 53594), (76, 53564), (Start: 89 @53531 has 3 MA's), (97, 53522), (Start: 108 @53495 has 25 MA's), (160, 53327), (170, 53285), (Start: 183 @53237 has 1 MA's), (187, 53225), (190, 53213), (192, 53207), (197, 53186), (209, 53159), (272, 52931), (275, 52916), (280, 52904), (287, 52874), (295, 52823), (302, 52796), (320, 52745), (330, 52703), (336, 52685), (338, 52682), (343, 52655), (353, 52613), (365, 52568), (400, 52433), (403, 52418), (409, 52397), (444, 52316), (445, 52313), (457, 52256), (459, 52250), (460, 52244), (462, 52238), (477, 52163), (483, 52124), (487, 52112), (488, 52109), (515, 52016), (518, 52001), (525, 51980),

Gene: Jormungandr\_57 Start: 52602, Stop: 51190, Start Num: 147

Candidate Starts for Jormungandr\_57:

(26, 52950), (58, 52821), (Start: 89 @52731 has 3 MA's), (Start: 147 @52602 has 27 MA's), (160, 52557), (Start: 183 @52467 has 1 MA's), (184, 52464), (186, 52458), (192, 52437), (216, 52374), (247, 52266), (253, 52248), (272, 52161), (275, 52146), (287, 52104), (303, 52023), (320, 51975), (330, 51933), (336, 51915), (338, 51912), (343, 51885), (356, 51834), (365, 51798), (380, 51747), (400, 51663), (406, 51642), (457, 51486), (459, 51480), (462, 51468), (487, 51342), (518, 51228),

Gene: Juanyo\_39 Start: 30553, Stop: 29183, Start Num: 141

Candidate Starts for Juanyo\_39:

(Start: 140 @30556 has 10 MA's), (Start: 141 @30553 has 21 MA's), (Start: 167 @30451 has 1 MA's), (221, 30292), (229, 30265), (243, 30205), (251, 30178), (252, 30175), (268, 30094), (272, 30079), (303, 29923), (323, 29866), (328, 29845), (332, 29839), (335, 29830), (341, 29806), (344, 29785), (348, 29770), (358, 29746), (373, 29710), (391, 29656), (424, 29551), (429, 29539), (438, 29512), (443, 29479), (450, 29443), (453, 29434), (457, 29419), (459, 29413), (460, 29407), (464, 29395), (481, 29299), (484, 29290), (490, 29272), (492, 29260), (504, 29218), (512, 29191),

Gene: Juicer\_42 Start: 31717, Stop: 30299, Start Num: 138

Candidate Starts for Juicer\_42:

(Start: 138 @31717 has 140 MA's), (Start: 141 @31711 has 21 MA's), (181, 31573), (199, 31510), (221, 31450), (228, 31429), (249, 31342), (251, 31336), (252, 31333), (255, 31312), (266, 31267), (270, 31243), (272, 31237), (280, 31195), (309, 31057), (323, 31024), (329, 31000), (348, 30928), (357, 30901), (365, 30853), (373, 30826), (401, 30739), (404, 30730), (437, 30631), (450, 30559), (453, 30550), (457, 30535), (459, 30529), (481, 30415), (492, 30376), (494, 30370), (504, 30334), (505, 30331),

Gene: Jumbo\_57 Start: 53259, Stop: 51742, Start Num: 126

Candidate Starts for Jumbo\_57:

(Start: 126 @53259 has 3 MA's), (153, 53163), (156, 53151), (160, 53136), (199, 53004), (210, 52980), (211, 52977), (220, 52944), (252, 52839), (255, 52818), (271, 52746), (286, 52689), (307, 52587), (320, 52557), (339, 52488), (364, 52395), (369, 52380), (379, 52344), (384, 52311), (392, 52281), (398, 52260), (409, 52218), (411, 52206), (438, 52131), (462, 52014), (469, 51981), (477, 51939), (490, 51873), (523, 51774), (524, 51771),

Gene: Kale\_40 Start: 30818, Stop: 29430, Start Num: 138

Candidate Starts for Kale\_40:

(52, 31040), (Start: 138 @30818 has 140 MA's), (181, 30674), (Start: 183 @30668 has 1 MA's), (184, 30665), (221, 30551), (229, 30524), (243, 30464), (251, 30437), (252, 30434), (272, 30338), (280, 30296), (323, 30125), (328, 30104), (335, 30089), (348, 30029), (373, 29969), (404, 29873), (424, 29810), (440, 29756), (459, 29672), (460, 29666), (464, 29654), (478, 29579), (481, 29558), (497, 29504), (498, 29501), (504, 29477),

Gene: Kampe\_58 Start: 50421, Stop: 48931, Start Num: 124

Candidate Starts for Kampe\_58:

(Start: 124 @50421 has 5 MA's), (150, 50328), (153, 50319), (156, 50307), (160, 50292), (165, 50274), (184, 50217), (204, 50145), (205, 50142), (230, 50049), (239, 50016), (251, 49983), (252, 49980), (255, 49959), (272, 49890), (282, 49854), (299, 49767), (320, 49704), (322, 49701), (327, 49671), (345, 49599), (347, 49590), (384, 49467), (386, 49461), (438, 49329), (445, 49287), (454, 49242), (462, 49212), (523, 48960),

Gene: KannH\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for KannH\_40:

(2, 31454), (31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Karate\_39 Start: 25940, Stop: 27847, Start Num: 22

Candidate Starts for Karate\_39:

(4, 25766), (Start: 22 @25940 has 31 MA's), (27, 26003), (30, 26024), (45, 26078), (104, 26240), (Start: 113 @26255 has 1 MA's), (130, 26300), (177, 26474), (181, 26483), (210, 26573), (211, 26576), (224, 26630), (266, 26816), (290, 26951), (292, 26963), (339, 27125), (371, 27242), (451, 27554), (465, 27614), (483, 27704), (492, 27734), (504, 27776), (520, 27827),

Gene: Kaseim\_57 Start: 52137, Stop: 50632, Start Num: 106

Candidate Starts for Kaseim\_57:

(26, 52392), (58, 52263), (Start: 89 @52173 has 3 MA's), (Start: 106 @52137 has 1 MA's), (Start: 147 @52044 has 27 MA's), (160, 51999), (Start: 183 @51909 has 1 MA's), (184, 51906), (186, 51900), (192, 51879), (216, 51816), (247, 51708), (253, 51690), (272, 51603), (275, 51588), (287, 51546), (303, 51465), (320, 51417), (330, 51375), (336, 51357), (338, 51354), (343, 51327), (356, 51276), (365, 51240), (380, 51189), (400, 51105), (406, 51084), (457, 50928), (459, 50922), (462, 50910),

(487, 50784), (518, 50670),

Gene: KatChan\_42 Start: 30536, Stop: 29130, Start Num: 138

Candidate Starts for KatChan\_42:

(Start: 138 @30536 has 140 MA's), (146, 30506), (182, 30389), (Start: 183 @30386 has 1 MA's), (184, 30383), (201, 30323), (210, 30302), (221, 30260), (229, 30233), (251, 30146), (252, 30143), (258, 30101), (270, 30050), (303, 29888), (323, 29831), (341, 29771), (343, 29762), (344, 29750), (362, 29711), (371, 29684), (372, 29681), (373, 29675), (401, 29588), (405, 29576), (450, 29408), (453, 29399), (457, 29384), (459, 29378), (460, 29372), (464, 29360), (490, 29237), (496, 29213), (504, 29183),

Gene: Kate\_41 Start: 25943, Stop: 27850, Start Num: 22

Candidate Starts for Kate\_41:

(Start: 22 @25943 has 31 MA's), (27, 26006), (30, 26027), (45, 26081), (Start: 113 @26258 has 1 MA's), (130, 26303), (177, 26477), (181, 26486), (210, 26576), (224, 26633), (266, 26819), (290, 26954), (292, 26966), (300, 26999), (339, 27128), (371, 27245), (393, 27320), (450, 27554), (451, 27557), (465, 27617), (483, 27707), (492, 27737), (504, 27779), (520, 27830),

Gene: Katyusha\_57 Start: 53319, Stop: 51616, Start Num: 36

Candidate Starts for Katyusha\_57:

(Start: 36 @53319 has 6 MA's), (Start: 40 @53307 has 2 MA's), (Start: 114 @53124 has 2 MA's), (Start: 147 @53034 has 27 MA's), (150, 53025), (160, 52989), (165, 52965), (168, 52956), (170, 52947), (Start: 183 @52899 has 1 MA's), (190, 52875), (216, 52803), (217, 52800), (220, 52782), (232, 52743), (266, 52614), (275, 52575), (276, 52572), (282, 52554), (284, 52545), (287, 52533), (294, 52485), (303, 52452), (320, 52404), (325, 52380), (343, 52314), (365, 52215), (389, 52116), (392, 52107), (399, 52083), (400, 52080), (440, 51987), (444, 51963), (445, 51960), (457, 51903), (462, 51885), (483, 51768), (484, 51765), (488, 51753), (518, 51654), (525, 51633),

Gene: Kauala\_39 Start: 30568, Stop: 29171, Start Num: 135

Candidate Starts for Kauala\_39:

(53, 30784), (75, 30715), (79, 30700), (Start: 108 @30640 has 25 MA's), (Start: 135 @30568 has 2 MA's), (Start: 140 @30556 has 10 MA's), (Start: 141 @30550 has 21 MA's), (Start: 147 @30520 has 27 MA's), (181, 30412), (Start: 183 @30406 has 1 MA's), (184, 30403), (189, 30388), (243, 30202), (252, 30172), (258, 30130), (272, 30076), (279, 30043), (323, 29863), (328, 29842), (335, 29827), (339, 29815), (341, 29803), (342, 29800), (349, 29764), (362, 29740), (368, 29722), (373, 29704), (424, 29542), (440, 29488), (449, 29440), (450, 29434), (453, 29425), (457, 29410), (459, 29404), (460, 29398), (464, 29386), (490, 29263), (492, 29251),

Gene: KayGee\_58 Start: 40792, Stop: 39314, Start Num: 109

Candidate Starts for KayGee\_58:

(Start: 109 @40792 has 35 MA's), (134, 40729), (142, 40708), (144, 40702), (Start: 149 @40675 has 1 MA's), (161, 40621), (172, 40585), (177, 40570), (211, 40474), (214, 40465), (219, 40444), (236, 40378), (252, 40342), (261, 40288), (263, 40282), (266, 40276), (281, 40198), (285, 40183), (304, 40084), (326, 40009), (335, 39985), (339, 39973), (343, 39952), (345, 39937), (347, 39928), (354, 39907), (369, 39868), (372, 39859), (376, 39844), (394, 39793), (415, 39721), (427, 39679), (428, 39676), (433, 39661), (453, 39565), (465, 39514), (472, 39484), (478, 39451), (491, 39394), (496, 39379),

Gene: KimJongPhill\_74 Start: 51796, Stop: 53328, Start Num: 101

Candidate Starts for KimJongPhill\_74:

(12, 51421), (28, 51580), (32, 51595), (68, 51715), (Start: 101 @51796 has 2 MA's), (142, 51910), (144, 51916), (153, 51958), (154, 51964), (155, 51967), (157, 51973), (162, 52000), (169, 52021), (184, 52063), (196, 52105), (202, 52126), (209, 52141), (211, 52147), (212, 52150), (213, 52153),

(250, 52294), (252, 52300), (261, 52354), (266, 52366), (270, 52390), (275, 52411), (281, 52444),  
(291, 52507), (293, 52516), (303, 52558), (337, 52675), (343, 52702), (344, 52714), (347, 52726),  
(348, 52729), (413, 52912), (420, 52942), (425, 52954), (427, 52960), (436, 52984), (451, 53068),  
(465, 53125), (470, 53143), (490, 53236), (493, 53251), (501, 53278),

Gene: KingJulien\_40 Start: 31053, Stop: 29878, Start Num: 201

Candidate Starts for KingJulien\_40:

(29, 31557), (35, 31536), (Start: 138 @31269 has 140 MA's), (181, 31122), (Start: 183 @31116 has 1  
MA's), (184, 31113), (201, 31053), (221, 30999), (229, 30972), (243, 30912), (251, 30885), (252,  
30882), (272, 30786), (280, 30744), (323, 30573), (328, 30552), (373, 30417), (404, 30321), (440,  
30204), (443, 30186), (459, 30120), (460, 30114), (464, 30102), (481, 30006), (497, 29952), (498,  
29949), (504, 29925), (513, 29895),

Gene: Klimt\_41 Start: 30834, Stop: 29413, Start Num: 138

Candidate Starts for Klimt\_41:

(52, 31056), (Start: 138 @30834 has 140 MA's), (181, 30690), (Start: 183 @30684 has 1 MA's), (184,  
30681), (221, 30567), (229, 30540), (243, 30480), (251, 30453), (252, 30450), (272, 30354), (280,  
30312), (319, 30150), (323, 30141), (328, 30120), (339, 30093), (344, 30060), (348, 30045), (368,  
29970), (373, 29952), (404, 29856), (424, 29793), (440, 29739), (459, 29655), (460, 29649), (464,  
29637), (478, 29562), (481, 29541), (497, 29487), (498, 29484), (504, 29460),

Gene: Knox\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for Knox\_41:

(2, 31769), (31, 31415), (52, 31340), (Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183  
@30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252,  
30734), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (339, 30377), (348, 30329), (373,  
30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497,  
29804), (498, 29801), (504, 29777),

Gene: Koji\_39 Start: 30726, Stop: 29332, Start Num: 140

Candidate Starts for Koji\_39:

(75, 30885), (95, 30840), (Start: 108 @30810 has 25 MA's), (131, 30756), (Start: 135 @30738 has 2  
MA's), (Start: 140 @30726 has 10 MA's), (Start: 141 @30720 has 21 MA's), (Start: 147 @30690 has  
27 MA's), (181, 30582), (Start: 183 @30576 has 1 MA's), (184, 30573), (189, 30558), (243, 30372),  
(246, 30363), (252, 30342), (258, 30300), (272, 30246), (323, 30033), (328, 30012), (335, 29997),  
(339, 29985), (342, 29970), (349, 29934), (362, 29910), (373, 29874), (375, 29868), (404, 29775),  
(424, 29712), (433, 29685), (449, 29610), (450, 29604), (453, 29595), (457, 29580), (459, 29574),  
(460, 29568), (464, 29556), (490, 29433), (492, 29421), (515, 29346),

Gene: Kors\_43 Start: 26688, Stop: 28622, Start Num: 23

Candidate Starts for Kors\_43:

(3, 26448), (Start: 8 @26592 has 1 MA's), (21, 26682), (Start: 23 @26688 has 3 MA's), (45, 26835),  
(50, 26853), (54, 26862), (Start: 113 @27012 has 1 MA's), (152, 27138), (177, 27228), (181, 27237),  
(203, 27312), (210, 27327), (221, 27369), (226, 27399), (256, 27531), (292, 27717), (296, 27735),  
(300, 27750), (317, 27807), (335, 27867), (352, 27939), (388, 28077), (407, 28143), (414, 28173),  
(439, 28251), (451, 28329), (465, 28389), (483, 28479), (490, 28497), (522, 28605),

Gene: Krampus\_40 Start: 25943, Stop: 27850, Start Num: 22

Candidate Starts for Krampus\_40:

(4, 25769), (Start: 22 @25943 has 31 MA's), (27, 26006), (30, 26027), (45, 26081), (104, 26243),  
(Start: 113 @26258 has 1 MA's), (130, 26303), (177, 26477), (181, 26486), (210, 26576), (221, 26618),  
(224, 26633), (266, 26819), (290, 26954), (292, 26966), (300, 26999), (339, 27128), (371, 27245),  
(393, 27320), (450, 27554), (451, 27557), (465, 27617), (483, 27707), (492, 27737), (504, 27779),

(520, 27830),

Gene: Kurt1\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Kurt1\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (319, 30430), (323, 30421), (328, 30400), (335, 30385), (339, 30373), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Kvothe\_56 Start: 53206, Stop: 51515, Start Num: 40

Candidate Starts for Kvothe\_56:

(Start: 36 @53218 has 6 MA's), (Start: 40 @53206 has 2 MA's), (Start: 114 @53023 has 2 MA's), (Start: 147 @52933 has 27 MA's), (150, 52924), (160, 52888), (165, 52864), (168, 52855), (170, 52846), (Start: 183 @52798 has 1 MA's), (190, 52774), (216, 52702), (220, 52681), (231, 52645), (232, 52642), (266, 52513), (267, 52510), (275, 52474), (276, 52471), (282, 52453), (284, 52444), (287, 52432), (294, 52384), (303, 52351), (320, 52303), (325, 52279), (343, 52213), (365, 52114), (389, 52015), (392, 52006), (399, 51982), (400, 51979), (440, 51886), (444, 51862), (445, 51859), (457, 51802), (462, 51784), (483, 51667), (484, 51664), (488, 51652), (518, 51553), (525, 51532),

Gene: Lahirium\_57 Start: 53124, Stop: 51712, Start Num: 147

Candidate Starts for Lahirium\_57:

(26, 53472), (58, 53343), (Start: 89 @53253 has 3 MA's), (Start: 147 @53124 has 27 MA's), (160, 53079), (Start: 183 @52989 has 1 MA's), (184, 52986), (186, 52980), (192, 52959), (216, 52896), (247, 52788), (253, 52770), (272, 52683), (275, 52668), (287, 52626), (303, 52545), (320, 52497), (330, 52455), (336, 52437), (338, 52434), (343, 52407), (356, 52356), (365, 52320), (380, 52269), (400, 52185), (406, 52164), (457, 52008), (459, 52002), (462, 51990), (487, 51864), (518, 51750),

Gene: Lauer\_52 Start: 41675, Stop: 40197, Start Num: 109

Candidate Starts for Lauer\_52:

(Start: 109 @41675 has 35 MA's), (134, 41612), (144, 41585), (Start: 149 @41558 has 1 MA's), (161, 41504), (168, 41483), (177, 41453), (214, 41348), (219, 41327), (236, 41261), (252, 41225), (261, 41171), (263, 41165), (266, 41159), (281, 41081), (285, 41066), (304, 40967), (326, 40892), (335, 40868), (339, 40856), (343, 40835), (345, 40820), (347, 40811), (354, 40790), (369, 40751), (372, 40742), (394, 40676), (415, 40604), (427, 40562), (428, 40559), (433, 40544), (453, 40448), (465, 40397), (472, 40367), (478, 40334), (491, 40277), (496, 40262),

Gene: Leaf\_117 Start: 70672, Stop: 72663, Start Num: 7

Candidate Starts for Leaf\_117:

(Start: 7 @70672 has 4 MA's), (12, 70705), (38, 70900), (Start: 40 @70906 has 2 MA's), (42, 70909), (51, 70939), (59, 70960), (61, 70972), (80, 71026), (99, 71053), (102, 71062), (132, 71116), (Start: 141 @71134 has 21 MA's), (142, 71137), (154, 71188), (164, 71230), (195, 71332), (240, 71494), (247, 71518), (252, 71542), (253, 71545), (258, 71587), (265, 71608), (269, 71632), (272, 71653), (277, 71674), (278, 71683), (295, 71779), (296, 71782), (299, 71794), (301, 71806), (308, 71833), (309, 71842), (311, 71845), (318, 71863), (335, 71917), (344, 71962), (355, 71998), (371, 72046), (397, 72124), (408, 72160), (410, 72175), (414, 72178), (438, 72250), (443, 72292), (452, 72337), (458, 72358), (461, 72370), (463, 72382), (474, 72436), (486, 72496), (491, 72523), (504, 72568), (526, 72646),

Gene: Leafus\_40 Start: 31402, Stop: 30011, Start Num: 138

Candidate Starts for Leafus\_40:

(86, 31516), (129, 31432), (Start: 138 @31402 has 140 MA's), (181, 31255), (Start: 183 @31249 has 1 MA's), (184, 31246), (221, 31132), (229, 31105), (243, 31045), (251, 31018), (252, 31015), (272,

(30919), (280, 30877), (323, 30706), (328, 30685), (339, 30658), (373, 30550), (404, 30454), (440, 30337), (443, 30319), (459, 30253), (460, 30247), (464, 30235), (481, 30139), (497, 30085), (498, 30082), (504, 30058), (513, 30028),

Gene: Librie\_40 Start: 29071, Stop: 27644, Start Num: 138

Candidate Starts for Librie\_40:

(Start: 138 @29071 has 140 MA's), (146, 29041), (Start: 147 @29035 has 27 MA's), (Start: 183 @28921 has 1 MA's), (184, 28918), (251, 28681), (252, 28678), (303, 28423), (321, 28372), (323, 28366), (339, 28318), (344, 28285), (348, 28270), (365, 28198), (373, 28171), (376, 28162), (391, 28117), (393, 28111), (401, 28084), (424, 28012), (443, 27940), (450, 27904), (453, 27895), (457, 27880), (459, 27874), (464, 27856), (472, 27814), (484, 27751), (502, 27688), (504, 27679),

Gene: Lidong\_57 Start: 52859, Stop: 51447, Start Num: 147

Candidate Starts for Lidong\_57:

(26, 53207), (58, 53078), (Start: 89 @52988 has 3 MA's), (Start: 147 @52859 has 27 MA's), (160, 52814), (Start: 183 @52724 has 1 MA's), (184, 52721), (186, 52715), (192, 52694), (216, 52631), (237, 52553), (247, 52523), (253, 52505), (272, 52418), (275, 52403), (287, 52361), (303, 52280), (320, 52232), (330, 52190), (336, 52172), (338, 52169), (343, 52142), (356, 52091), (365, 52055), (380, 52004), (400, 51920), (406, 51899), (457, 51743), (459, 51737), (462, 51725), (487, 51599), (518, 51485),

Gene: LiTerminator\_40 Start: 29093, Stop: 27666, Start Num: 138

Candidate Starts for LiTerminator\_40:

(Start: 138 @29093 has 140 MA's), (146, 29063), (Start: 147 @29057 has 27 MA's), (Start: 183 @28943 has 1 MA's), (184, 28940), (185, 28937), (228, 28796), (251, 28703), (252, 28700), (303, 28445), (321, 28394), (323, 28388), (339, 28340), (341, 28328), (344, 28307), (373, 28193), (376, 28184), (391, 28139), (393, 28133), (401, 28106), (424, 28034), (443, 27962), (450, 27926), (453, 27917), (457, 27902), (459, 27896), (464, 27878), (472, 27836), (484, 27773), (504, 27701),

Gene: Linetti\_59 Start: 53022, Stop: 51613, Start Num: 147

Candidate Starts for Linetti\_59:

(26, 53400), (34, 53349), (47, 53298), (66, 53244), (76, 53214), (Start: 89 @53181 has 3 MA's), (97, 53172), (Start: 108 @53145 has 25 MA's), (Start: 147 @53022 has 27 MA's), (160, 52977), (170, 52935), (Start: 183 @52887 has 1 MA's), (184, 52884), (186, 52878), (187, 52875), (190, 52863), (192, 52857), (201, 52821), (209, 52809), (210, 52806), (247, 52686), (253, 52668), (266, 52605), (272, 52581), (275, 52566), (287, 52524), (302, 52446), (320, 52395), (336, 52335), (338, 52332), (340, 52323), (343, 52305), (353, 52263), (365, 52218), (400, 52083), (403, 52068), (409, 52047), (444, 51966), (445, 51963), (457, 51906), (459, 51900), (462, 51888), (473, 51837), (476, 51822), (477, 51813), (483, 51774), (487, 51762), (515, 51666), (518, 51651),

Gene: Lizz\_70 Start: 50158, Stop: 48272, Start Num: 17

Candidate Starts for Lizz\_70:

(10, 50218), (Start: 17 @50158 has 8 MA's), (Start: 22 @50143 has 31 MA's), (27, 50080), (28, 50071), (30, 50059), (58, 49966), (77, 49903), (83, 49885), (Start: 113 @49828 has 1 MA's), (123, 49804), (164, 49645), (177, 49606), (181, 49597), (215, 49489), (241, 49381), (265, 49276), (283, 49177), (292, 49117), (316, 49030), (317, 49027), (344, 48922), (346, 48913), (350, 48901), (381, 48802), (419, 48685), (424, 48673), (433, 48646), (451, 48556), (455, 48541), (468, 48487), (479, 48430), (515, 48304),

Gene: Lizzo\_59 Start: 52326, Stop: 50794, Start Num: 108

Candidate Starts for Lizzo\_59:

(26, 52581), (34, 52530), (47, 52479), (66, 52425), (76, 52395), (Start: 89 @52362 has 3 MA's), (97, 52353), (Start: 108 @52326 has 25 MA's), (160, 52158), (170, 52116), (Start: 183 @52068 has 1

MA's), (187, 52056), (190, 52044), (192, 52038), (197, 52017), (209, 51990), (253, 51849), (272, 51762), (275, 51747), (280, 51735), (287, 51705), (295, 51654), (302, 51627), (320, 51576), (325, 51552), (330, 51534), (336, 51516), (338, 51513), (343, 51486), (353, 51444), (365, 51399), (400, 51264), (403, 51249), (409, 51228), (440, 51171), (444, 51147), (457, 51087), (459, 51081), (460, 51075), (462, 51069), (473, 51018), (477, 50994), (483, 50955), (487, 50943), (488, 50940), (515, 50847), (518, 50832), (525, 50811),

Gene: LordBart\_42 Start: 26597, Stop: 28531, Start Num: 23

Candidate Starts for LordBart\_42:

(3, 26357), (Start: 8 @26501 has 1 MA's), (21, 26591), (Start: 23 @26597 has 3 MA's), (45, 26744), (50, 26762), (Start: 113 @26921 has 1 MA's), (177, 27137), (181, 27146), (210, 27236), (221, 27278), (226, 27308), (256, 27440), (292, 27626), (296, 27644), (300, 27659), (317, 27716), (335, 27776), (352, 27848), (388, 27986), (407, 28052), (414, 28082), (415, 28085), (439, 28160), (451, 28238), (465, 28298), (483, 28388), (490, 28406),

Gene: Lovelyunicorn\_41 Start: 31119, Stop: 29731, Start Num: 138

Candidate Starts for Lovelyunicorn\_41:

(2, 31770), (31, 31416), (52, 31341), (Start: 138 @31119 has 140 MA's), (181, 30975), (Start: 183 @30969 has 1 MA's), (184, 30966), (221, 30852), (229, 30825), (243, 30765), (251, 30738), (252, 30735), (272, 30639), (280, 30597), (323, 30426), (328, 30405), (339, 30378), (348, 30330), (373, 30270), (424, 30111), (440, 30057), (459, 29973), (460, 29967), (464, 29955), (481, 29859), (497, 29805), (498, 29802), (504, 29778),

Gene: Lucky3\_39 Start: 30647, Stop: 29256, Start Num: 140

Candidate Starts for Lucky3\_39:

(Start: 140 @30647 has 10 MA's), (Start: 141 @30644 has 21 MA's), (Start: 147 @30614 has 27 MA's), (181, 30506), (184, 30497), (199, 30443), (228, 30362), (243, 30296), (252, 30266), (259, 30221), (272, 30170), (319, 29966), (323, 29957), (335, 29918), (339, 29906), (341, 29894), (342, 29891), (349, 29855), (352, 29846), (362, 29831), (373, 29795), (377, 29783), (380, 29771), (404, 29696), (424, 29636), (450, 29528), (453, 29519), (457, 29504), (459, 29498), (460, 29492), (515, 29270),

Gene: Ludgate\_41 Start: 31117, Stop: 29729, Start Num: 138

Candidate Starts for Ludgate\_41:

(52, 31339), (Start: 138 @31117 has 140 MA's), (181, 30973), (Start: 183 @30967 has 1 MA's), (184, 30964), (221, 30850), (229, 30823), (243, 30763), (251, 30736), (252, 30733), (272, 30637), (280, 30595), (323, 30424), (328, 30403), (335, 30388), (339, 30376), (348, 30328), (373, 30268), (404, 30172), (424, 30109), (440, 30055), (459, 29971), (460, 29965), (464, 29953), (478, 29878), (481, 29857), (497, 29803), (498, 29800), (504, 29776),

Gene: Luker\_58 Start: 53170, Stop: 51665, Start Num: 106

Candidate Starts for Luker\_58:

(26, 53425), (58, 53296), (Start: 89 @53206 has 3 MA's), (Start: 106 @53170 has 1 MA's), (Start: 147 @53077 has 27 MA's), (160, 53032), (Start: 183 @52942 has 1 MA's), (184, 52939), (186, 52933), (192, 52912), (216, 52849), (247, 52741), (253, 52723), (272, 52636), (275, 52621), (287, 52579), (303, 52498), (320, 52450), (330, 52408), (336, 52390), (338, 52387), (343, 52360), (356, 52309), (365, 52273), (380, 52222), (400, 52138), (406, 52117), (457, 51961), (459, 51955), (462, 51943), (487, 51817), (518, 51703),

Gene: Luna18\_42 Start: 30536, Stop: 29130, Start Num: 138

Candidate Starts for Luna18\_42:

(Start: 138 @30536 has 140 MA's), (146, 30506), (182, 30389), (Start: 183 @30386 has 1 MA's), (184, 30383), (201, 30323), (210, 30302), (221, 30260), (229, 30233), (251, 30146), (252, 30143), (258,

(30101), (270, 30050), (303, 29888), (323, 29831), (341, 29771), (343, 29762), (344, 29750), (362, 29711), (371, 29684), (372, 29681), (373, 29675), (401, 29588), (405, 29576), (450, 29408), (453, 29399), (457, 29384), (459, 29378), (460, 29372), (464, 29360), (490, 29237), (496, 29213), (504, 29183),

Gene: MAnor\_58 Start: 41147, Stop: 39669, Start Num: 109

Candidate Starts for MAnor\_58:

(95, 41174), (Start: 109 @41147 has 35 MA's), (134, 41084), (144, 41057), (Start: 149 @41030 has 1 MA's), (161, 40976), (168, 40955), (169, 40952), (172, 40940), (177, 40925), (Start: 183 @40913 has 1 MA's), (214, 40820), (252, 40697), (261, 40643), (263, 40637), (266, 40631), (281, 40553), (285, 40538), (304, 40439), (332, 40349), (335, 40340), (339, 40328), (343, 40307), (345, 40292), (347, 40283), (354, 40262), (369, 40223), (372, 40214), (376, 40199), (391, 40157), (414, 40079), (415, 40076), (427, 40034), (433, 40016), (453, 39920), (465, 39869), (472, 39839), (478, 39806), (491, 39749), (496, 39734),

Gene: MCubed\_40 Start: 30968, Stop: 29556, Start Num: 141

Candidate Starts for MCubed\_40:

(Start: 140 @30971 has 10 MA's), (Start: 141 @30968 has 21 MA's), (Start: 147 @30938 has 27 MA's), (Start: 149 @30932 has 1 MA's), (159, 30899), (221, 30707), (229, 30680), (243, 30620), (251, 30593), (252, 30590), (258, 30548), (272, 30494), (280, 30452), (303, 30338), (323, 30281), (328, 30260), (335, 30245), (339, 30233), (341, 30221), (342, 30218), (344, 30200), (362, 30119), (373, 30083), (391, 30029), (402, 29987), (414, 29957), (417, 29942), (420, 29933), (423, 29927), (438, 29885), (450, 29816), (457, 29792), (459, 29786), (460, 29780), (464, 29768), (481, 29672), (484, 29663), (490, 29645), (492, 29633), (494, 29627), (505, 29588),

Gene: MScarn\_57 Start: 38763, Stop: 37285, Start Num: 109

Candidate Starts for MScarn\_57:

(Start: 109 @38763 has 35 MA's), (142, 38676), (144, 38670), (155, 38619), (168, 38568), (172, 38553), (201, 38469), (211, 38445), (214, 38436), (252, 38313), (261, 38259), (263, 38253), (266, 38247), (281, 38169), (304, 38055), (313, 38028), (323, 38004), (343, 37923), (347, 37899), (354, 37878), (369, 37839), (374, 37821), (376, 37815), (413, 37704), (415, 37698), (427, 37656), (433, 37638), (450, 37551), (453, 37542), (459, 37521), (465, 37491), (472, 37461), (478, 37428), (492, 37368), (501, 37338),

Gene: MaVan\_49 Start: 37938, Stop: 36448, Start Num: 111

Candidate Starts for MaVan\_49:

(Start: 111 @37938 has 6 MA's), (144, 37848), (Start: 149 @37821 has 1 MA's), (160, 37779), (172, 37731), (Start: 183 @37704 has 1 MA's), (211, 37623), (212, 37620), (214, 37614), (219, 37593), (236, 37527), (261, 37437), (266, 37425), (279, 37362), (281, 37347), (285, 37332), (309, 37215), (313, 37206), (337, 37128), (343, 37101), (344, 37089), (347, 37077), (362, 37038), (369, 37017), (370, 37014), (374, 36999), (394, 36927), (414, 36858), (427, 36813), (440, 36768), (441, 36753), (446, 36723), (453, 36699), (465, 36648), (472, 36618), (485, 36552), (491, 36528), (501, 36495), (511, 36459),

Gene: Maco6\_48 Start: 38222, Stop: 36711, Start Num: 92

Candidate Starts for Maco6\_48:

(Start: 92 @38222 has 2 MA's), (Start: 112 @38186 has 12 MA's), (143, 38096), (144, 38093), (154, 38045), (172, 37976), (213, 37862), (253, 37733), (261, 37682), (263, 37676), (266, 37670), (270, 37646), (281, 37592), (313, 37451), (314, 37448), (331, 37391), (347, 37319), (348, 37316), (407, 37142), (414, 37121), (427, 37076), (450, 36971), (465, 36911), (505, 36743), (511, 36722),

Gene: MaeLinda\_41 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for MaeLinda\_41:

(31, 31415), (52, 31340), (Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (254, 30728), (272, 30638), (280, 30596), (323, 30425), (335, 30389), (339, 30377), (344, 30344), (348, 30329), (373, 30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: ManRay\_40 Start: 30816, Stop: 29428, Start Num: 138

Candidate Starts for ManRay\_40:

(52, 31038), (Start: 138 @30816 has 140 MA's), (181, 30672), (Start: 183 @30666 has 1 MA's), (184, 30663), (221, 30549), (229, 30522), (243, 30462), (251, 30435), (252, 30432), (272, 30336), (280, 30294), (323, 30123), (328, 30102), (335, 30087), (348, 30027), (373, 29967), (404, 29871), (424, 29808), (440, 29754), (459, 29670), (460, 29664), (464, 29652), (481, 29556), (497, 29502), (498, 29499), (504, 29475),

Gene: Mandalorian\_39 Start: 30635, Stop: 29223, Start Num: 141

Candidate Starts for Mandalorian\_39:

(Start: 140 @30638 has 10 MA's), (Start: 141 @30635 has 21 MA's), (Start: 147 @30605 has 27 MA's), (Start: 149 @30599 has 1 MA's), (Start: 183 @30491 has 1 MA's), (185, 30485), (221, 30374), (229, 30347), (241, 30296), (243, 30287), (251, 30260), (252, 30257), (258, 30215), (272, 30161), (303, 30005), (321, 29954), (323, 29948), (328, 29927), (332, 29921), (335, 29912), (339, 29900), (341, 29888), (359, 29810), (373, 29750), (375, 29744), (391, 29696), (402, 29654), (424, 29591), (429, 29579), (437, 29555), (438, 29552), (450, 29483), (453, 29474), (457, 29459), (459, 29453), (460, 29447), (464, 29435), (484, 29330), (490, 29312), (492, 29300), (505, 29255),

Gene: Margaret\_58 Start: 39745, Stop: 38270, Start Num: 112

Candidate Starts for Margaret\_58:

(Start: 112 @39745 has 12 MA's), (128, 39703), (144, 39655), (Start: 149 @39628 has 1 MA's), (157, 39598), (161, 39574), (168, 39553), (170, 39544), (172, 39538), (Start: 183 @39511 has 1 MA's), (201, 39454), (204, 39445), (212, 39427), (214, 39421), (252, 39298), (261, 39244), (263, 39238), (266, 39232), (279, 39169), (281, 39154), (285, 39139), (332, 38950), (335, 38941), (339, 38929), (343, 38908), (352, 38869), (355, 38860), (369, 38824), (374, 38806), (376, 38800), (392, 38755), (394, 38749), (414, 38680), (428, 38632), (433, 38617), (440, 38590), (441, 38575), (453, 38521), (465, 38470), (478, 38407), (490, 38359), (492, 38347), (495, 38338),

Gene: Martin\_42 Start: 31123, Stop: 29735, Start Num: 138

Candidate Starts for Martin\_42:

(2, 31774), (31, 31420), (52, 31345), (Start: 138 @31123 has 140 MA's), (181, 30979), (Start: 183 @30973 has 1 MA's), (184, 30970), (221, 30856), (229, 30829), (243, 30769), (251, 30742), (252, 30739), (272, 30643), (280, 30601), (319, 30439), (323, 30430), (328, 30409), (335, 30394), (339, 30382), (348, 30334), (373, 30274), (404, 30178), (424, 30115), (440, 30061), (459, 29977), (460, 29971), (464, 29959), (481, 29863), (497, 29809), (498, 29806), (504, 29782),

Gene: Mayweather\_61 Start: 41658, Stop: 40414, Start Num: 183

Candidate Starts for Mayweather\_61:

(Start: 109 @41892 has 35 MA's), (134, 41829), (144, 41802), (Start: 149 @41775 has 1 MA's), (161, 41721), (168, 41700), (169, 41697), (172, 41685), (177, 41670), (Start: 183 @41658 has 1 MA's), (214, 41565), (252, 41442), (261, 41388), (263, 41382), (266, 41376), (281, 41298), (285, 41283), (304, 41184), (332, 41094), (335, 41085), (339, 41073), (343, 41052), (345, 41037), (347, 41028), (354, 41007), (369, 40968), (372, 40959), (376, 40944), (391, 40902), (414, 40824), (415, 40821), (427, 40779), (433, 40761), (453, 40665), (465, 40614), (472, 40584), (478, 40551), (491, 40494), (496, 40479),

Gene: Mbo2\_52 Start: 42925, Stop: 41438, Start Num: 126

Candidate Starts for Mbo2\_52:

(81, 43012), (Start: 126 @42925 has 3 MA's), (150, 42838), (160, 42802), (165, 42784), (170, 42769), (175, 42754), (179, 42742), (Start: 183 @42730 has 1 MA's), (185, 42724), (196, 42682), (237, 42559), (267, 42445), (286, 42370), (295, 42316), (318, 42241), (320, 42238), (325, 42214), (338, 42175), (344, 42136), (360, 42094), (406, 41911), (428, 41851), (434, 41833), (444, 41788), (445, 41785), (454, 41737), (456, 41728), (462, 41707), (465, 41689), (471, 41665), (476, 41641), (483, 41599), (490, 41572), (492, 41560), (501, 41530), (505, 41515), (518, 41473),

Gene: McGalleon\_43 Start: 32555, Stop: 31152, Start Num: 140

Candidate Starts for McGalleon\_43:

(41, 32789), (57, 32738), (96, 32648), (Start: 140 @32555 has 10 MA's), (181, 32411), (Start: 183 @32405 has 1 MA's), (201, 32342), (221, 32288), (229, 32261), (243, 32201), (251, 32174), (252, 32171), (271, 32078), (272, 32075), (280, 32033), (319, 31871), (323, 31862), (328, 31841), (339, 31814), (349, 31763), (373, 31706), (391, 31652), (404, 31610), (417, 31565), (452, 31433), (459, 31409), (460, 31403), (464, 31391), (481, 31295), (490, 31268), (497, 31241), (504, 31214), (514, 31184),

Gene: Mercedes\_36 Start: 28234, Stop: 26813, Start Num: 138

Candidate Starts for Mercedes\_36:

(Start: 138 @28234 has 140 MA's), (Start: 147 @28198 has 27 MA's), (171, 28114), (199, 28027), (201, 28021), (225, 27949), (228, 27937), (251, 27844), (252, 27841), (260, 27790), (303, 27586), (323, 27529), (339, 27481), (344, 27448), (349, 27430), (373, 27334), (376, 27325), (391, 27280), (393, 27274), (404, 27238), (417, 27193), (424, 27175), (450, 27067), (453, 27058), (457, 27043), (459, 27037), (496, 26872),

Gene: MillyPhilly\_41 Start: 31111, Stop: 29723, Start Num: 138

Candidate Starts for MillyPhilly\_41:

(2, 31762), (31, 31408), (52, 31333), (Start: 138 @31111 has 140 MA's), (181, 30967), (Start: 183 @30961 has 1 MA's), (184, 30958), (221, 30844), (229, 30817), (243, 30757), (251, 30730), (252, 30727), (272, 30631), (280, 30589), (319, 30427), (323, 30418), (328, 30397), (335, 30382), (339, 30370), (348, 30322), (373, 30262), (404, 30166), (424, 30103), (440, 30049), (459, 29965), (460, 29959), (464, 29947), (481, 29851), (497, 29797), (498, 29794), (504, 29770),

Gene: Minos\_58 Start: 52601, Stop: 51189, Start Num: 147

Candidate Starts for Minos\_58:

(26, 52949), (58, 52820), (87, 52733), (Start: 89 @52730 has 3 MA's), (Start: 147 @52601 has 27 MA's), (160, 52556), (Start: 183 @52466 has 1 MA's), (184, 52463), (186, 52457), (192, 52436), (216, 52373), (247, 52265), (253, 52247), (272, 52160), (275, 52145), (287, 52103), (303, 52022), (320, 51974), (330, 51932), (336, 51914), (338, 51911), (343, 51884), (356, 51833), (365, 51797), (380, 51746), (400, 51662), (406, 51641), (457, 51485), (459, 51479), (462, 51467), (487, 51341), (518, 51227),

Gene: MonChoix\_39 Start: 31157, Stop: 29766, Start Num: 138

Candidate Starts for MonChoix\_39:

(Start: 138 @31157 has 140 MA's), (181, 31010), (Start: 183 @31004 has 1 MA's), (184, 31001), (221, 30887), (229, 30860), (243, 30800), (251, 30773), (252, 30770), (272, 30674), (280, 30632), (323, 30461), (332, 30434), (348, 30365), (373, 30305), (440, 30092), (443, 30074), (450, 30038), (459, 30008), (460, 30002), (464, 29990), (481, 29894), (497, 29840), (498, 29837),

Gene: Monty\_58 Start: 51476, Stop: 49944, Start Num: 108

Candidate Starts for Monty\_58:

(26, 51731), (34, 51680), (47, 51629), (66, 51575), (76, 51545), (Start: 89 @51512 has 3 MA's), (97, 51503), (Start: 108 @51476 has 25 MA's), (160, 51308), (170, 51266), (Start: 183 @51218 has 1

MA's), (187, 51206), (190, 51194), (192, 51188), (197, 51167), (209, 51140), (253, 50999), (272, 50912), (275, 50897), (280, 50885), (287, 50855), (295, 50804), (302, 50777), (320, 50726), (336, 50666), (338, 50663), (343, 50636), (353, 50594), (365, 50549), (400, 50414), (403, 50399), (409, 50378), (444, 50297), (445, 50294), (457, 50237), (459, 50231), (460, 50225), (462, 50219), (477, 50144), (483, 50105), (487, 50093), (488, 50090), (515, 49997), (518, 49982), (525, 49961),

Gene: Morrigan\_42 Start: 30540, Stop: 29155, Start Num: 140

Candidate Starts for Morrigan\_42:

(Start: 138 @30543 has 140 MA's), (Start: 140 @30540 has 10 MA's), (146, 30513), (Start: 149 @30501 has 1 MA's), (150, 30498), (Start: 167 @30435 has 1 MA's), (201, 30330), (218, 30279), (221, 30267), (251, 30153), (252, 30150), (258, 30108), (270, 30057), (323, 29838), (339, 29790), (341, 29778), (342, 29775), (343, 29769), (344, 29757), (362, 29718), (373, 29682), (377, 29670), (391, 29628), (401, 29595), (404, 29586), (405, 29583), (424, 29523), (450, 29415), (453, 29406), (457, 29391), (459, 29385), (460, 29379), (464, 29367), (484, 29262), (490, 29244), (496, 29220), (504, 29190),

Gene: MortySmith\_38 Start: 24974, Stop: 26881, Start Num: 22

Candidate Starts for MortySmith\_38:

(4, 24800), (Start: 22 @24974 has 31 MA's), (27, 25037), (30, 25058), (45, 25112), (93, 25247), (Start: 113 @25289 has 1 MA's), (130, 25334), (177, 25508), (181, 25517), (210, 25607), (221, 25649), (224, 25664), (266, 25850), (290, 25985), (292, 25997), (300, 26030), (339, 26159), (371, 26276), (450, 26585), (451, 26588), (465, 26648), (483, 26738), (492, 26768), (504, 26810), (520, 26861),

Gene: MrWorldwide\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for MrWorldwide\_41:

(2, 31772), (31, 31418), (52, 31343), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (319, 30437), (323, 30428), (328, 30407), (335, 30392), (339, 30380), (348, 30332), (373, 30272), (404, 30176), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: MrWormie\_57 Start: 51762, Stop: 50350, Start Num: 147

Candidate Starts for MrWormie\_57:

(26, 52110), (58, 51981), (Start: 89 @51891 has 3 MA's), (Start: 147 @51762 has 27 MA's), (160, 51717), (Start: 183 @51627 has 1 MA's), (184, 51624), (186, 51618), (192, 51597), (216, 51534), (247, 51426), (253, 51408), (272, 51321), (275, 51306), (287, 51264), (303, 51183), (320, 51135), (330, 51093), (336, 51075), (338, 51072), (343, 51045), (356, 50994), (365, 50958), (380, 50907), (400, 50823), (406, 50802), (457, 50646), (459, 50640), (462, 50628), (487, 50502), (518, 50388),

Gene: Msay19\_64 Start: 54046, Stop: 52514, Start Num: 108

Candidate Starts for Msay19\_64:

(26, 54301), (34, 54250), (66, 54145), (76, 54115), (Start: 89 @54082 has 3 MA's), (97, 54073), (Start: 108 @54046 has 25 MA's), (160, 53878), (170, 53836), (176, 53818), (Start: 183 @53788 has 1 MA's), (187, 53776), (190, 53764), (192, 53758), (197, 53737), (253, 53569), (272, 53482), (275, 53467), (280, 53455), (287, 53425), (295, 53374), (320, 53296), (325, 53272), (330, 53254), (336, 53236), (338, 53233), (340, 53224), (343, 53206), (353, 53164), (365, 53119), (371, 53101), (400, 52984), (403, 52969), (409, 52948), (444, 52867), (445, 52864), (457, 52807), (459, 52801), (462, 52789), (477, 52714), (483, 52675), (487, 52663), (488, 52660), (515, 52567), (518, 52552),

Gene: Muddy\_50 Start: 39454, Stop: 37943, Start Num: 92

Candidate Starts for Muddy\_50:

(Start: 92 @39454 has 2 MA's), (Start: 112 @39418 has 12 MA's), (143, 39328), (144, 39325), (154, 39277), (172, 39208), (213, 39094), (253, 38965), (261, 38914), (263, 38908), (266, 38902), (270,

(38878), (281, 38824), (313, 38683), (314, 38680), (331, 38623), (347, 38551), (348, 38548), (407, 38374), (414, 38353), (427, 38308), (450, 38203), (465, 38143), (505, 37975), (511, 37954),

Gene: MunkgeeRoachy\_51 Start: 38189, Stop: 36711, Start Num: 109

Candidate Starts for MunkgeeRoachy\_51:

(Start: 109 @38189 has 35 MA's), (144, 38096), (161, 38015), (168, 37994), (211, 37871), (212, 37868), (261, 37685), (263, 37679), (266, 37673), (272, 37643), (281, 37595), (304, 37481), (313, 37454), (323, 37430), (339, 37370), (347, 37325), (354, 37304), (369, 37265), (374, 37247), (376, 37241), (427, 37082), (428, 37079), (433, 37064), (453, 36968), (459, 36947), (465, 36917),

Gene: Nagem\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Nagem\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (319, 30430), (323, 30421), (328, 30400), (335, 30385), (339, 30373), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (478, 29875), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: NarutoRun\_40 Start: 25911, Stop: 27818, Start Num: 22

Candidate Starts for NarutoRun\_40:

(Start: 22 @25911 has 31 MA's), (27, 25974), (30, 25995), (45, 26049), (Start: 113 @26226 has 1 MA's), (130, 26271), (177, 26445), (181, 26454), (210, 26544), (224, 26601), (266, 26787), (290, 26922), (292, 26934), (300, 26967), (339, 27096), (371, 27213), (393, 27288), (450, 27522), (451, 27525), (465, 27585), (483, 27675), (492, 27705), (504, 27747), (520, 27798),

Gene: Nattles\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Nattles\_40:

(52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183 @30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252, 30419), (271, 30326), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (339, 30062), (348, 30014), (373, 29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (478, 29564), (481, 29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Nebulous\_39 Start: 32131, Stop: 30701, Start Num: 136

Candidate Starts for Nebulous\_39:

(Start: 136 @32131 has 4 MA's), (146, 32098), (159, 32053), (Start: 183 @31978 has 1 MA's), (184, 31975), (225, 31843), (228, 31831), (251, 31738), (252, 31735), (253, 31732), (279, 31603), (321, 31429), (323, 31423), (328, 31402), (339, 31375), (341, 31363), (342, 31360), (344, 31342), (359, 31285), (373, 31228), (377, 31216), (391, 31174), (404, 31132), (412, 31108), (424, 31069), (440, 31015), (450, 30961), (453, 30952), (457, 30937), (459, 30931), (484, 30808), (490, 30790), (496, 30766),

Gene: Neferthena\_41 Start: 31335, Stop: 29905, Start Num: 136

Candidate Starts for Neferthena\_41:

(Start: 136 @31335 has 4 MA's), (146, 31302), (159, 31257), (181, 31188), (Start: 183 @31182 has 1 MA's), (184, 31179), (225, 31047), (251, 30942), (252, 30939), (321, 30633), (323, 30627), (328, 30606), (339, 30579), (344, 30546), (359, 30489), (369, 30447), (373, 30432), (377, 30420), (391, 30378), (404, 30336), (412, 30312), (417, 30291), (424, 30273), (440, 30219), (450, 30165), (453, 30156), (457, 30141), (459, 30135), (481, 30021), (494, 29976), (496, 29970), (502, 29949), (504, 29940),

Gene: Neoevie\_57 Start: 52863, Stop: 51451, Start Num: 147

Candidate Starts for Neoevie\_57:

(26, 53211), (58, 53082), (87, 52995), (Start: 89 @52992 has 3 MA's), (Start: 147 @52863 has 27 MA's), (160, 52818), (Start: 183 @52728 has 1 MA's), (184, 52725), (186, 52719), (192, 52698), (216, 52635), (247, 52527), (253, 52509), (272, 52422), (275, 52407), (287, 52365), (303, 52284), (320, 52236), (330, 52194), (336, 52176), (338, 52173), (343, 52146), (356, 52095), (365, 52059), (380, 52008), (400, 51924), (406, 51903), (457, 51747), (459, 51741), (462, 51729), (487, 51603), (518, 51489),

Gene: Neptune\_40 Start: 25911, Stop: 27818, Start Num: 22

Candidate Starts for Neptune\_40:

(Start: 22 @25911 has 31 MA's), (27, 25974), (30, 25995), (45, 26049), (Start: 113 @26226 has 1 MA's), (130, 26271), (177, 26445), (181, 26454), (210, 26544), (266, 26787), (290, 26922), (292, 26934), (300, 26967), (339, 27096), (371, 27213), (393, 27288), (450, 27522), (451, 27525), (465, 27585), (483, 27675), (492, 27705), (504, 27747), (520, 27798),

Gene: Newt\_58 Start: 53091, Stop: 51679, Start Num: 147

Candidate Starts for Newt\_58:

(26, 53439), (58, 53310), (87, 53223), (Start: 89 @53220 has 3 MA's), (Start: 147 @53091 has 27 MA's), (160, 53046), (Start: 183 @52956 has 1 MA's), (184, 52953), (186, 52947), (192, 52926), (216, 52863), (247, 52755), (253, 52737), (272, 52650), (275, 52635), (287, 52593), (303, 52512), (320, 52464), (330, 52422), (336, 52404), (338, 52401), (343, 52374), (356, 52323), (365, 52287), (380, 52236), (400, 52152), (406, 52131), (457, 51975), (459, 51969), (462, 51957), (487, 51831), (518, 51717),

Gene: Niagara\_57 Start: 53309, Stop: 51606, Start Num: 36

Candidate Starts for Niagara\_57:

(Start: 36 @53309 has 6 MA's), (Start: 40 @53297 has 2 MA's), (Start: 114 @53114 has 2 MA's), (Start: 147 @53024 has 27 MA's), (150, 53015), (160, 52979), (165, 52955), (168, 52946), (170, 52937), (Start: 183 @52889 has 1 MA's), (190, 52865), (216, 52793), (220, 52772), (231, 52736), (232, 52733), (266, 52604), (267, 52601), (275, 52565), (276, 52562), (282, 52544), (284, 52535), (287, 52523), (294, 52475), (303, 52442), (320, 52394), (325, 52370), (343, 52304), (365, 52205), (389, 52106), (392, 52097), (399, 52073), (400, 52070), (440, 51977), (444, 51953), (445, 51950), (457, 51893), (462, 51875), (483, 51758), (484, 51755), (488, 51743), (518, 51644), (525, 51623),

Gene: Nibbles\_48 Start: 37634, Stop: 36144, Start Num: 111

Candidate Starts for Nibbles\_48:

(Start: 111 @37634 has 6 MA's), (144, 37544), (Start: 149 @37517 has 1 MA's), (160, 37475), (170, 37433), (172, 37427), (Start: 183 @37400 has 1 MA's), (211, 37319), (212, 37316), (214, 37310), (219, 37289), (236, 37223), (261, 37133), (266, 37121), (281, 37043), (285, 37028), (309, 36911), (313, 36902), (337, 36824), (343, 36797), (344, 36785), (347, 36773), (362, 36734), (369, 36713), (370, 36710), (374, 36695), (394, 36623), (427, 36509), (440, 36464), (441, 36449), (446, 36419), (453, 36395), (465, 36344), (466, 36341), (472, 36314), (485, 36248), (491, 36224), (501, 36191), (511, 36155),

Gene: NickSell\_41 Start: 31124, Stop: 29736, Start Num: 138

Candidate Starts for NickSell\_41:

(2, 31775), (31, 31421), (52, 31346), (Start: 138 @31124 has 140 MA's), (181, 30980), (Start: 183 @30974 has 1 MA's), (184, 30971), (221, 30857), (229, 30830), (243, 30770), (251, 30743), (252, 30740), (272, 30644), (280, 30602), (319, 30440), (323, 30431), (328, 30410), (335, 30395), (339, 30383), (348, 30335), (373, 30275), (404, 30179), (424, 30116), (440, 30062), (459, 29978), (460, 29972), (464, 29960), (481, 29864), (497, 29810), (498, 29807), (504, 29783),

Gene: Nimi13\_57 Start: 52610, Stop: 51198, Start Num: 147

Candidate Starts for Nimi13\_57:

(26, 52958), (58, 52829), (Start: 89 @52739 has 3 MA's), (Start: 147 @52610 has 27 MA's), (160, 52565), (Start: 183 @52475 has 1 MA's), (184, 52472), (186, 52466), (192, 52445), (216, 52382), (247, 52274), (253, 52256), (272, 52169), (275, 52154), (287, 52112), (303, 52031), (320, 51983), (330, 51941), (336, 51923), (338, 51920), (343, 51893), (356, 51842), (365, 51806), (380, 51755), (400, 51671), (406, 51650), (457, 51494), (459, 51488), (462, 51476), (487, 51350), (518, 51236),

Gene: Nina\_53 Start: 39329, Stop: 37851, Start Num: 109

Candidate Starts for Nina\_53:

(Start: 109 @39329 has 35 MA's), (142, 39242), (144, 39236), (161, 39155), (211, 39011), (212, 39008), (261, 38825), (263, 38819), (266, 38813), (281, 38735), (304, 38621), (313, 38594), (323, 38570), (339, 38510), (347, 38465), (354, 38444), (369, 38405), (374, 38387), (413, 38270), (427, 38222), (428, 38219), (433, 38204), (453, 38108), (459, 38087), (465, 38057),

Gene: NoShow\_58 Start: 42406, Stop: 40934, Start Num: 114

Candidate Starts for NoShow\_58:

(Start: 114 @42406 has 2 MA's), (144, 42316), (Start: 149 @42289 has 1 MA's), (163, 42229), (201, 42115), (213, 42085), (261, 41905), (263, 41899), (266, 41893), (281, 41815), (331, 41614), (347, 41542), (348, 41539), (352, 41527), (369, 41482), (391, 41422), (400, 41392), (433, 41281), (444, 41227), (453, 41185), (465, 41134), (485, 41038), (492, 41011), (505, 40966),

Gene: Nodigi\_60 Start: 41112, Stop: 39637, Start Num: 112

Candidate Starts for Nodigi\_60:

(62, 41229), (64, 41223), (Start: 112 @41112 has 12 MA's), (128, 41070), (144, 41022), (Start: 149 @40995 has 1 MA's), (168, 40920), (170, 40911), (172, 40905), (201, 40821), (209, 40803), (212, 40794), (214, 40788), (252, 40665), (261, 40611), (263, 40605), (266, 40599), (279, 40536), (281, 40521), (285, 40506), (335, 40308), (343, 40275), (352, 40236), (369, 40191), (390, 40128), (392, 40122), (394, 40116), (400, 40095), (403, 40080), (414, 40047), (415, 40044), (428, 39999), (441, 39942), (453, 39888), (465, 39837), (478, 39774), (490, 39726), (495, 39705),

Gene: Nucci\_39 Start: 30618, Stop: 29206, Start Num: 141

Candidate Starts for Nucci\_39:

(Start: 140 @30621 has 10 MA's), (Start: 141 @30618 has 21 MA's), (Start: 147 @30588 has 27 MA's), (Start: 149 @30582 has 1 MA's), (159, 30549), (Start: 183 @30474 has 1 MA's), (185, 30468), (221, 30357), (229, 30330), (241, 30279), (243, 30270), (251, 30243), (252, 30240), (258, 30198), (272, 30144), (303, 29988), (321, 29937), (323, 29931), (328, 29910), (332, 29904), (335, 29895), (339, 29883), (341, 29871), (359, 29793), (373, 29733), (375, 29727), (391, 29679), (402, 29637), (424, 29574), (429, 29562), (437, 29538), (438, 29535), (450, 29466), (453, 29457), (457, 29442), (459, 29436), (460, 29430), (464, 29418), (484, 29313), (490, 29295), (492, 29283), (505, 29238),

Gene: Oats\_40 Start: 30816, Stop: 29428, Start Num: 138

Candidate Starts for Oats\_40:

(52, 31038), (Start: 138 @30816 has 140 MA's), (181, 30672), (Start: 183 @30666 has 1 MA's), (184, 30663), (221, 30549), (229, 30522), (243, 30462), (251, 30435), (252, 30432), (271, 30339), (272, 30336), (280, 30294), (323, 30123), (328, 30102), (335, 30087), (339, 30075), (348, 30027), (373, 29967), (404, 29871), (424, 29808), (440, 29754), (459, 29670), (460, 29664), (464, 29652), (478, 29577), (481, 29556), (497, 29502), (498, 29499), (504, 29475),

Gene: OldNelly\_42 Start: 31120, Stop: 29732, Start Num: 138

Candidate Starts for OldNelly\_42:

(52, 31342), (Start: 138 @31120 has 140 MA's), (181, 30976), (Start: 183 @30970 has 1 MA's), (184, 30967), (221, 30853), (229, 30826), (243, 30766), (251, 30739), (252, 30736), (254, 30730), (272, 30640), (280, 30598), (323, 30427), (335, 30391), (339, 30379), (344, 30346), (348, 30331), (373, 30271), (404, 30175), (424, 30112), (440, 30058), (459, 29974), (460, 29968), (464, 29956), (481,

(29860), (497, 29806), (498, 29803), (504, 29779),

Gene: Orchid\_57 Start: 50422, Stop: 48932, Start Num: 124

Candidate Starts for Orchid\_57:

(Start: 124 @50422 has 5 MA's), (150, 50329), (153, 50320), (156, 50308), (160, 50293), (165, 50275), (184, 50218), (204, 50146), (205, 50143), (230, 50050), (239, 50017), (251, 49984), (252, 49981), (255, 49960), (272, 49891), (282, 49855), (299, 49768), (320, 49705), (322, 49702), (327, 49672), (345, 49600), (347, 49591), (384, 49468), (386, 49462), (438, 49330), (445, 49288), (454, 49243), (462, 49213), (523, 48961),

Gene: Orla\_60 Start: 41041, Stop: 39566, Start Num: 112

Candidate Starts for Orla\_60:

(Start: 112 @41041 has 12 MA's), (128, 40999), (144, 40951), (Start: 149 @40924 has 1 MA's), (168, 40849), (170, 40840), (172, 40834), (201, 40750), (209, 40732), (212, 40723), (214, 40717), (252, 40594), (261, 40540), (263, 40534), (266, 40528), (279, 40465), (281, 40450), (285, 40435), (335, 40237), (343, 40204), (352, 40165), (369, 40120), (390, 40057), (392, 40051), (394, 40045), (414, 39976), (415, 39973), (428, 39928), (441, 39871), (453, 39817), (465, 39766), (490, 39655), (495, 39634),

Gene: OverHedge\_40 Start: 25901, Stop: 27808, Start Num: 22

Candidate Starts for OverHedge\_40:

(Start: 22 @25901 has 31 MA's), (27, 25964), (30, 25985), (45, 26039), (Start: 113 @26216 has 1 MA's), (130, 26261), (177, 26435), (181, 26444), (210, 26534), (224, 26591), (266, 26777), (290, 26912), (292, 26924), (300, 26957), (339, 27086), (371, 27203), (393, 27278), (450, 27512), (451, 27515), (465, 27575), (483, 27665), (492, 27695), (504, 27737), (520, 27788),

Gene: Oxtober96\_42 Start: 31119, Stop: 29731, Start Num: 138

Candidate Starts for Oxtober96\_42:

(2, 31770), (31, 31416), (52, 31341), (Start: 138 @31119 has 140 MA's), (181, 30975), (Start: 183 @30969 has 1 MA's), (184, 30966), (221, 30852), (229, 30825), (243, 30765), (251, 30738), (252, 30735), (272, 30639), (280, 30597), (323, 30426), (328, 30405), (339, 30378), (348, 30330), (373, 30270), (424, 30111), (440, 30057), (459, 29973), (460, 29967), (464, 29955), (481, 29859), (497, 29805), (498, 29802), (504, 29778),

Gene: PHTowN\_70 Start: 50156, Stop: 48270, Start Num: 17

Candidate Starts for PHTowN\_70:

(10, 50216), (Start: 17 @50156 has 8 MA's), (Start: 22 @50141 has 31 MA's), (27, 50078), (28, 50069), (30, 50057), (58, 49964), (77, 49901), (83, 49883), (Start: 113 @49826 has 1 MA's), (123, 49802), (164, 49643), (177, 49604), (181, 49595), (215, 49487), (241, 49379), (265, 49274), (283, 49175), (292, 49115), (316, 49028), (317, 49025), (344, 48920), (346, 48911), (350, 48899), (381, 48800), (396, 48761), (419, 48683), (424, 48671), (433, 48644), (451, 48554), (455, 48539), (468, 48485), (479, 48428), (515, 48302),

Gene: PSirce\_39 Start: 31102, Stop: 29690, Start Num: 141

Candidate Starts for PSirce\_39:

(Start: 140 @31105 has 10 MA's), (Start: 141 @31102 has 21 MA's), (Start: 147 @31072 has 27 MA's), (Start: 149 @31066 has 1 MA's), (159, 31033), (221, 30841), (229, 30814), (243, 30754), (251, 30727), (252, 30724), (258, 30682), (266, 30658), (272, 30628), (280, 30586), (323, 30415), (328, 30394), (335, 30379), (339, 30367), (341, 30355), (342, 30352), (344, 30334), (362, 30253), (373, 30217), (391, 30163), (402, 30121), (414, 30091), (420, 30067), (423, 30061), (437, 30022), (438, 30019), (450, 29950), (457, 29926), (459, 29920), (460, 29914), (464, 29902), (481, 29806), (484, 29797), (490, 29779), (492, 29767), (505, 29722),

Gene: Pajaza\_37 Start: 29766, Stop: 28396, Start Num: 141

Candidate Starts for Pajaza\_37:

(Start: 141 @29766 has 21 MA's), (176, 29637), (185, 29616), (221, 29505), (222, 29502), (242, 29418), (243, 29412), (248, 29400), (252, 29382), (255, 29361), (272, 29286), (279, 29253), (319, 29082), (321, 29079), (323, 29073), (324, 29070), (335, 29037), (348, 28977), (373, 28917), (375, 28911), (376, 28908), (377, 28905), (402, 28821), (442, 28689), (450, 28650), (457, 28626), (459, 28620), (464, 28602), (481, 28506), (490, 28479), (492, 28467), (502, 28434), (505, 28422),

Gene: Papafrutta\_40 Start: 30824, Stop: 29436, Start Num: 138

Candidate Starts for Papafrutta\_40:

(31, 31121), (52, 31046), (Start: 138 @30824 has 140 MA's), (181, 30680), (Start: 183 @30674 has 1 MA's), (184, 30671), (221, 30557), (229, 30530), (243, 30470), (251, 30443), (252, 30440), (272, 30344), (280, 30302), (323, 30131), (328, 30110), (335, 30095), (348, 30035), (365, 30002), (373, 29975), (404, 29879), (424, 29816), (440, 29762), (459, 29678), (460, 29672), (464, 29660), (481, 29564), (497, 29510), (498, 29507), (504, 29483),

Gene: ParleG\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for ParleG\_41:

(2, 31772), (31, 31418), (52, 31343), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (319, 30437), (323, 30428), (328, 30407), (335, 30392), (339, 30380), (348, 30332), (373, 30272), (404, 30176), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: PatrickStar\_58 Start: 50421, Stop: 48931, Start Num: 124

Candidate Starts for PatrickStar\_58:

(Start: 124 @50421 has 5 MA's), (150, 50328), (153, 50319), (156, 50307), (160, 50292), (165, 50274), (184, 50217), (204, 50145), (205, 50142), (230, 50049), (239, 50016), (251, 49983), (252, 49980), (255, 49959), (272, 49890), (282, 49854), (299, 49767), (320, 49704), (322, 49701), (327, 49671), (345, 49599), (347, 49590), (384, 49467), (386, 49461), (438, 49329), (445, 49287), (454, 49242), (462, 49212), (523, 48960),

Gene: Peep\_41 Start: 31106, Stop: 29718, Start Num: 138

Candidate Starts for Peep\_41:

(52, 31328), (118, 31166), (Start: 138 @31106 has 140 MA's), (181, 30962), (Start: 183 @30956 has 1 MA's), (184, 30953), (221, 30839), (229, 30812), (243, 30752), (251, 30725), (252, 30722), (272, 30626), (280, 30584), (323, 30413), (328, 30392), (335, 30377), (339, 30365), (348, 30317), (373, 30257), (404, 30161), (424, 30098), (440, 30044), (459, 29960), (460, 29954), (464, 29942), (481, 29846), (497, 29792), (498, 29789), (504, 29765),

Gene: Peppino\_40 Start: 31250, Stop: 29859, Start Num: 138

Candidate Starts for Peppino\_40:

(86, 31364), (129, 31280), (Start: 138 @31250 has 140 MA's), (181, 31103), (Start: 183 @31097 has 1 MA's), (184, 31094), (221, 30980), (229, 30953), (243, 30893), (251, 30866), (252, 30863), (272, 30767), (280, 30725), (323, 30554), (328, 30533), (339, 30506), (373, 30398), (404, 30302), (440, 30185), (443, 30167), (459, 30101), (460, 30095), (481, 29987), (497, 29933), (498, 29930), (504, 29906), (513, 29876),

Gene: Phanita\_39 Start: 30844, Stop: 29468, Start Num: 149

Candidate Starts for Phanita\_39:

(Start: 140 @30883 has 10 MA's), (Start: 141 @30880 has 21 MA's), (Start: 147 @30850 has 27 MA's), (Start: 149 @30844 has 1 MA's), (159, 30811), (221, 30619), (229, 30592), (243, 30532), (251, 30505), (252, 30502), (258, 30460), (272, 30406), (280, 30364), (303, 30250), (323, 30193), (328,

(30172), (339, 30145), (341, 30133), (342, 30130), (344, 30112), (362, 30031), (373, 29995), (391, 29941), (402, 29899), (414, 29869), (420, 29845), (423, 29839), (438, 29797), (450, 29728), (457, 29704), (459, 29698), (460, 29692), (464, 29680), (490, 29557), (492, 29545), (505, 29500),

Gene: Pharpay\_40 Start: 25956, Stop: 27863, Start Num: 22

Candidate Starts for Pharpay\_40:

(Start: 22 @25956 has 31 MA's), (27, 26019), (30, 26040), (45, 26094), (Start: 113 @26271 has 1 MA's), (130, 26316), (177, 26490), (181, 26499), (210, 26589), (224, 26646), (266, 26832), (290, 26967), (292, 26979), (300, 27012), (339, 27141), (371, 27258), (393, 27333), (450, 27567), (451, 27570), (465, 27630), (483, 27720), (492, 27750), (504, 27792), (520, 27843),

Gene: Pherbot\_39 Start: 30554, Stop: 29172, Start Num: 140

Candidate Starts for Pherbot\_39:

(131, 30581), (Start: 140 @30554 has 10 MA's), (Start: 141 @30551 has 21 MA's), (Start: 147 @30521 has 27 MA's), (181, 30413), (Start: 183 @30407 has 1 MA's), (184, 30404), (189, 30389), (243, 30203), (246, 30194), (252, 30173), (258, 30131), (272, 30077), (323, 29864), (328, 29843), (335, 29828), (339, 29816), (342, 29801), (349, 29765), (352, 29756), (362, 29741), (373, 29705), (404, 29606), (424, 29543), (433, 29516), (449, 29441), (450, 29435), (453, 29426), (457, 29411), (459, 29405), (460, 29399), (464, 29387), (490, 29264), (492, 29252),

Gene: Pherferi\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Pherferi\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (319, 30430), (323, 30421), (328, 30400), (335, 30385), (339, 30373), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Phiderman\_41 Start: 31111, Stop: 29723, Start Num: 138

Candidate Starts for Phiderman\_41:

(2, 31762), (31, 31408), (52, 31333), (Start: 138 @31111 has 140 MA's), (181, 30967), (Start: 183 @30961 has 1 MA's), (184, 30958), (221, 30844), (229, 30817), (243, 30757), (251, 30730), (252, 30727), (272, 30631), (280, 30589), (319, 30427), (323, 30418), (328, 30397), (335, 30382), (339, 30370), (348, 30322), (373, 30262), (404, 30166), (424, 30103), (440, 30049), (459, 29965), (460, 29959), (464, 29947), (481, 29851), (497, 29797), (498, 29794), (504, 29770),

Gene: Philon9\_55 Start: 53812, Stop: 52235, Start Num: 78

Candidate Starts for Philon9\_55:

(Start: 36 @53944 has 6 MA's), (Start: 40 @53932 has 2 MA's), (Start: 78 @53812 has 1 MA's), (Start: 101 @53779 has 2 MA's), (Start: 114 @53749 has 2 MA's), (117, 53743), (150, 53635), (160, 53599), (165, 53575), (168, 53566), (170, 53557), (Start: 183 @53509 has 1 MA's), (184, 53506), (186, 53500), (187, 53497), (228, 53374), (232, 53353), (251, 53293), (267, 53221), (272, 53200), (275, 53185), (276, 53182), (280, 53173), (320, 53014), (334, 52963), (338, 52951), (339, 52945), (343, 52924), (354, 52879), (365, 52834), (378, 52792), (389, 52735), (398, 52705), (399, 52702), (400, 52699), (421, 52645), (457, 52522), (462, 52504), (483, 52387), (484, 52384), (488, 52372), (525, 52252),

Gene: Phireproof\_41 Start: 31120, Stop: 29732, Start Num: 138

Candidate Starts for Phireproof\_41:

(52, 31342), (Start: 138 @31120 has 140 MA's), (181, 30976), (Start: 183 @30970 has 1 MA's), (184, 30967), (221, 30853), (229, 30826), (243, 30766), (251, 30739), (252, 30736), (272, 30640), (280, 30598), (319, 30436), (323, 30427), (328, 30406), (335, 30391), (339, 30379), (348, 30331), (373, 30271), (404, 30175), (424, 30112), (440, 30058), (459, 29974), (460, 29968), (464, 29956), (481, 29860), (497, 29806), (498, 29803), (504, 29779),

Gene: PhredFlintston\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for PhredFlintston\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (319, 30430), (323, 30421), (328, 30400), (335, 30385), (339, 30373), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Phriends\_41 Start: 31120, Stop: 29732, Start Num: 138

Candidate Starts for Phriends\_41:

(52, 31342), (Start: 138 @31120 has 140 MA's), (181, 30976), (Start: 183 @30970 has 1 MA's), (184, 30967), (221, 30853), (229, 30826), (243, 30766), (251, 30739), (252, 30736), (254, 30730), (272, 30640), (280, 30598), (323, 30427), (335, 30391), (339, 30379), (344, 30346), (348, 30331), (373, 30271), (404, 30175), (424, 30112), (440, 30058), (459, 29974), (460, 29968), (464, 29956), (481, 29860), (497, 29806), (498, 29803), (504, 29779),

Gene: PhunaPhoke\_40 Start: 25929, Stop: 27836, Start Num: 22

Candidate Starts for PhunaPhoke\_40:

(Start: 22 @25929 has 31 MA's), (27, 25992), (30, 26013), (45, 26067), (Start: 113 @26244 has 1 MA's), (130, 26289), (177, 26463), (181, 26472), (210, 26562), (224, 26619), (266, 26805), (290, 26940), (292, 26952), (300, 26985), (339, 27114), (371, 27231), (393, 27306), (450, 27540), (451, 27543), (465, 27603), (483, 27693), (492, 27723), (504, 27765), (520, 27816),

Gene: PierreThree\_58 Start: 52668, Stop: 51259, Start Num: 147

Candidate Starts for PierreThree\_58:

(26, 53046), (34, 52995), (47, 52944), (66, 52890), (76, 52860), (Start: 89 @52827 has 3 MA's), (97, 52818), (Start: 108 @52791 has 25 MA's), (Start: 147 @52668 has 27 MA's), (160, 52623), (170, 52581), (Start: 183 @52533 has 1 MA's), (184, 52530), (186, 52524), (187, 52521), (190, 52509), (192, 52503), (209, 52455), (210, 52452), (247, 52332), (253, 52314), (266, 52251), (272, 52227), (275, 52212), (295, 52119), (320, 52041), (336, 51981), (338, 51978), (340, 51969), (343, 51951), (353, 51909), (365, 51864), (371, 51846), (400, 51729), (403, 51714), (409, 51693), (444, 51612), (445, 51609), (457, 51552), (459, 51546), (462, 51534), (473, 51483), (476, 51468), (477, 51459), (483, 51420), (487, 51408), (515, 51312), (518, 51297),

Gene: Pikmin\_37 Start: 29766, Stop: 28396, Start Num: 141

Candidate Starts for Pikmin\_37:

(Start: 141 @29766 has 21 MA's), (176, 29637), (185, 29616), (221, 29505), (222, 29502), (242, 29418), (243, 29412), (248, 29400), (252, 29382), (255, 29361), (272, 29286), (279, 29253), (319, 29082), (321, 29079), (323, 29073), (324, 29070), (335, 29037), (348, 28977), (373, 28917), (375, 28911), (376, 28908), (377, 28905), (402, 28821), (442, 28689), (450, 28650), (457, 28626), (459, 28620), (464, 28602), (481, 28506), (490, 28479), (492, 28467), (502, 28434), (505, 28422),

Gene: Pocket\_40 Start: 30843, Stop: 29422, Start Num: 138

Candidate Starts for Pocket\_40:

(52, 31065), (Start: 138 @30843 has 140 MA's), (181, 30699), (Start: 183 @30693 has 1 MA's), (184, 30690), (221, 30576), (229, 30549), (243, 30489), (251, 30462), (252, 30459), (272, 30363), (280, 30321), (319, 30159), (323, 30150), (328, 30129), (339, 30102), (344, 30069), (348, 30054), (368, 29979), (373, 29961), (404, 29865), (424, 29802), (440, 29748), (459, 29664), (460, 29658), (464, 29646), (478, 29571), (481, 29550), (497, 29496), (498, 29493), (504, 29469),

Gene: PokyPuppy\_58 Start: 52764, Stop: 51256, Start Num: 120

Candidate Starts for PokyPuppy\_58:

(26, 53043), (34, 52992), (47, 52941), (63, 52893), (66, 52887), (76, 52857), (Start: 89 @52824 has 3 MA's), (97, 52815), (Start: 108 @52788 has 25 MA's), (Start: 120 @52764 has 1 MA's), (Start: 147 @52665 has 27 MA's), (160, 52620), (170, 52578), (Start: 183 @52530 has 1 MA's), (184, 52527), (186, 52521), (187, 52518), (192, 52500), (209, 52452), (247, 52329), (253, 52311), (272, 52224), (275, 52209), (295, 52116), (302, 52089), (320, 52038), (336, 51978), (338, 51975), (340, 51966), (343, 51948), (353, 51906), (365, 51861), (400, 51726), (403, 51711), (409, 51690), (440, 51633), (445, 51606), (457, 51549), (459, 51543), (462, 51531), (473, 51480), (477, 51456), (483, 51417), (487, 51405), (488, 51402), (515, 51309), (518, 51294),

Gene: Poland\_64 Start: 54025, Stop: 52493, Start Num: 108

Candidate Starts for Poland\_64:

(26, 54280), (34, 54229), (66, 54124), (76, 54094), (Start: 89 @54061 has 3 MA's), (97, 54052), (Start: 108 @54025 has 25 MA's), (160, 53857), (170, 53815), (176, 53797), (Start: 183 @53767 has 1 MA's), (187, 53755), (190, 53743), (192, 53737), (197, 53716), (253, 53548), (272, 53461), (275, 53446), (280, 53434), (287, 53404), (295, 53353), (320, 53275), (325, 53251), (330, 53233), (336, 53215), (338, 53212), (340, 53203), (343, 53185), (353, 53143), (365, 53098), (371, 53080), (400, 52963), (403, 52948), (409, 52927), (444, 52846), (445, 52843), (457, 52786), (459, 52780), (462, 52768), (477, 52693), (483, 52654), (487, 52642), (488, 52639), (515, 52546), (518, 52531),

Gene: Pons\_58 Start: 40779, Stop: 39301, Start Num: 109

Candidate Starts for Pons\_58:

(69, 40860), (95, 40806), (Start: 109 @40779 has 35 MA's), (134, 40716), (144, 40689), (Start: 149 @40662 has 1 MA's), (161, 40608), (168, 40587), (169, 40584), (177, 40557), (Start: 183 @40545 has 1 MA's), (214, 40452), (252, 40329), (261, 40275), (263, 40269), (266, 40263), (281, 40185), (285, 40170), (302, 40080), (304, 40071), (313, 40044), (332, 39981), (335, 39972), (339, 39960), (343, 39939), (345, 39924), (347, 39915), (354, 39894), (369, 39855), (372, 39846), (376, 39831), (414, 39711), (415, 39708), (427, 39666), (433, 39648), (453, 39552), (465, 39501), (472, 39471), (478, 39438), (491, 39381), (496, 39366),

Gene: PotPie\_56 Start: 41318, Stop: 39840, Start Num: 109

Candidate Starts for PotPie\_56:

(67, 41396), (93, 41345), (95, 41342), (Start: 109 @41318 has 35 MA's), (134, 41255), (142, 41234), (144, 41228), (Start: 149 @41201 has 1 MA's), (161, 41147), (172, 41111), (177, 41096), (211, 41000), (214, 40991), (219, 40970), (236, 40904), (252, 40868), (261, 40814), (263, 40808), (266, 40802), (281, 40724), (285, 40709), (304, 40610), (326, 40535), (335, 40511), (339, 40499), (343, 40478), (345, 40463), (347, 40454), (354, 40433), (369, 40394), (372, 40385), (376, 40370), (394, 40319), (414, 40250), (415, 40247), (427, 40205), (433, 40187), (453, 40091), (465, 40040), (472, 40010), (478, 39977), (491, 39920), (496, 39905),

Gene: Potty\_40 Start: 25934, Stop: 27841, Start Num: 22

Candidate Starts for Potty\_40:

(Start: 22 @25934 has 31 MA's), (27, 25997), (30, 26018), (45, 26072), (Start: 113 @26249 has 1 MA's), (130, 26294), (177, 26468), (181, 26477), (210, 26567), (224, 26624), (266, 26810), (290, 26945), (292, 26957), (300, 26990), (339, 27119), (371, 27236), (393, 27311), (450, 27545), (451, 27548), (465, 27608), (483, 27698), (492, 27728), (504, 27770), (520, 27821),

Gene: Poultress\_39 Start: 26280, Stop: 28187, Start Num: 22

Candidate Starts for Poultress\_39:

(Start: 22 @26280 has 31 MA's), (27, 26343), (30, 26364), (45, 26418), (Start: 113 @26595 has 1 MA's), (130, 26640), (177, 26814), (181, 26823), (210, 26913), (224, 26970), (266, 27156), (290, 27291), (292, 27303), (300, 27336), (339, 27465), (371, 27582), (451, 27894), (465, 27954), (483, 28044), (492, 28074), (504, 28116), (520, 28167),

Gene: PrincePhergus\_39 Start: 30573, Stop: 29191, Start Num: 140

Candidate Starts for PrincePhergus\_39:

(131, 30600), (Start: 140 @30573 has 10 MA's), (Start: 141 @30570 has 21 MA's), (Start: 147 @30540 has 27 MA's), (181, 30432), (Start: 183 @30426 has 1 MA's), (184, 30423), (189, 30408), (241, 30231), (243, 30222), (246, 30213), (252, 30192), (258, 30150), (272, 30096), (323, 29883), (328, 29862), (335, 29847), (339, 29835), (342, 29820), (349, 29784), (352, 29775), (362, 29760), (373, 29724), (404, 29625), (424, 29562), (433, 29535), (449, 29460), (450, 29454), (453, 29445), (457, 29430), (459, 29424), (460, 29418), (464, 29406), (490, 29283), (492, 29271),

Gene: PsychoKiller\_52 Start: 38727, Stop: 37249, Start Num: 109

Candidate Starts for PsychoKiller\_52:

(Start: 109 @38727 has 35 MA's), (142, 38640), (144, 38634), (161, 38553), (168, 38532), (211, 38409), (212, 38406), (261, 38223), (263, 38217), (266, 38211), (281, 38133), (304, 38019), (313, 37992), (323, 37968), (339, 37908), (347, 37863), (354, 37842), (369, 37803), (374, 37785), (413, 37668), (427, 37620), (428, 37617), (433, 37602), (453, 37506), (459, 37485), (465, 37455),

Gene: PuppyEggo\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for PuppyEggo\_41:

(2, 31772), (31, 31418), (52, 31343), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (323, 30428), (328, 30407), (339, 30380), (348, 30332), (373, 30272), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: QuadZero\_39 Start: 29101, Stop: 27674, Start Num: 138

Candidate Starts for QuadZero\_39:

(116, 29158), (Start: 138 @29101 has 140 MA's), (146, 29071), (Start: 147 @29065 has 27 MA's), (Start: 183 @28951 has 1 MA's), (184, 28948), (185, 28945), (251, 28711), (252, 28708), (303, 28453), (321, 28402), (323, 28396), (339, 28348), (344, 28315), (348, 28300), (373, 28201), (391, 28147), (393, 28141), (401, 28114), (424, 28042), (443, 27970), (450, 27934), (453, 27925), (457, 27910), (459, 27904), (464, 27886), (472, 27844), (484, 27781), (504, 27709),

Gene: Quartz\_40 Start: 30748, Stop: 29336, Start Num: 141

Candidate Starts for Quartz\_40:

(Start: 140 @30751 has 10 MA's), (Start: 141 @30748 has 21 MA's), (Start: 147 @30718 has 27 MA's), (Start: 149 @30712 has 1 MA's), (159, 30679), (Start: 183 @30604 has 1 MA's), (185, 30598), (221, 30487), (229, 30460), (241, 30409), (243, 30400), (251, 30373), (252, 30370), (258, 30328), (272, 30274), (303, 30118), (321, 30067), (323, 30061), (328, 30040), (332, 30034), (335, 30025), (339, 30013), (341, 30001), (359, 29923), (373, 29863), (375, 29857), (391, 29809), (402, 29767), (424, 29704), (429, 29692), (437, 29668), (438, 29665), (450, 29596), (453, 29587), (457, 29572), (459, 29566), (460, 29560), (464, 29548), (484, 29443), (490, 29425), (492, 29413), (505, 29368),

Gene: Quasar\_53 Start: 39431, Stop: 37953, Start Num: 109

Candidate Starts for Quasar\_53:

(Start: 109 @39431 has 35 MA's), (142, 39344), (144, 39338), (168, 39236), (211, 39113), (212, 39110), (261, 38927), (263, 38921), (266, 38915), (281, 38837), (304, 38723), (313, 38696), (323, 38672), (339, 38612), (347, 38567), (354, 38546), (369, 38507), (374, 38489), (413, 38372), (427, 38324), (428, 38321), (433, 38306), (453, 38210), (459, 38189), (465, 38159),

Gene: Raccoon\_40 Start: 31223, Stop: 29832, Start Num: 138

Candidate Starts for Raccoon\_40:

(83, 31325), (85, 31322), (87, 31319), (Start: 138 @31223 has 140 MA's), (181, 31076), (Start: 183 @31070 has 1 MA's), (184, 31067), (221, 30953), (229, 30926), (243, 30866), (251, 30839), (252,

(30836), (272, 30740), (280, 30698), (323, 30527), (328, 30506), (339, 30479), (373, 30371), (404, 30275), (440, 30158), (443, 30140), (459, 30074), (460, 30068), (464, 30056), (481, 29960), (497, 29906), (498, 29903), (504, 29879), (513, 29849),

Gene: Rachella\_40 Start: 25937, Stop: 27844, Start Num: 22

Candidate Starts for Rachella\_40:

(Start: 22 @25937 has 31 MA's), (27, 26000), (30, 26021), (45, 26075), (Start: 113 @26252 has 1 MA's), (130, 26297), (177, 26471), (181, 26480), (210, 26570), (224, 26627), (266, 26813), (290, 26948), (292, 26960), (300, 26993), (339, 27122), (371, 27239), (393, 27314), (450, 27548), (451, 27551), (465, 27611), (483, 27701), (492, 27731), (504, 27773), (520, 27824),

Gene: RanchParmCat\_57 Start: 39886, Stop: 38411, Start Num: 112

Candidate Starts for RanchParmCat\_57:

(Start: 112 @39886 has 12 MA's), (128, 39844), (144, 39796), (Start: 149 @39769 has 1 MA's), (157, 39739), (161, 39715), (168, 39694), (170, 39685), (172, 39679), (Start: 183 @39652 has 1 MA's), (201, 39595), (204, 39586), (212, 39568), (214, 39562), (252, 39439), (261, 39385), (263, 39379), (266, 39373), (279, 39310), (281, 39295), (285, 39280), (332, 39091), (335, 39082), (343, 39049), (352, 39010), (355, 39001), (369, 38965), (374, 38947), (376, 38941), (392, 38896), (394, 38890), (414, 38821), (428, 38773), (433, 38758), (441, 38716), (453, 38662), (462, 38629), (465, 38611), (478, 38548), (490, 38500), (492, 38488), (495, 38479), (511, 38422),

Gene: Rapheph\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Rapheph\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (319, 30430), (323, 30421), (328, 30400), (335, 30385), (339, 30373), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Raptor\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for Raptor\_41:

(52, 31343), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (323, 30428), (328, 30407), (335, 30392), (339, 30380), (348, 30332), (373, 30272), (404, 30176), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (478, 29882), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: Rasputia\_111 Start: 69328, Stop: 71340, Start Num: 7

Candidate Starts for Rasputia\_111:

(Start: 7 @69328 has 4 MA's), (35, 69541), (38, 69556), (39, 69559), (51, 69595), (59, 69616), (61, 69628), (80, 69682), (139, 69802), (171, 69931), (195, 70009), (223, 70105), (235, 70150), (240, 70171), (247, 70195), (252, 70219), (258, 70264), (265, 70285), (272, 70330), (278, 70360), (295, 70456), (299, 70471), (301, 70483), (308, 70510), (311, 70522), (318, 70540), (335, 70594), (344, 70639), (348, 70654), (371, 70723), (389, 70777), (397, 70801), (401, 70810), (414, 70855), (415, 70858), (438, 70930), (443, 70972), (448, 70999), (451, 71014), (452, 71017), (458, 71038), (486, 71176), (491, 71203), (504, 71248), (527, 71329),

Gene: RedBaron\_56 Start: 39388, Stop: 37904, Start Num: 106

Candidate Starts for RedBaron\_56:

(Start: 106 @39388 has 1 MA's), (Start: 112 @39379 has 12 MA's), (134, 39316), (142, 39295), (144, 39289), (161, 39208), (168, 39187), (211, 39064), (212, 39061), (254, 38926), (261, 38878), (263, 38872), (266, 38866), (281, 38788), (304, 38674), (313, 38647), (323, 38623), (339, 38563), (347, 38518), (354, 38497), (369, 38458), (374, 38440), (413, 38323), (427, 38275), (428, 38272), (433,

(38257), (453, 38161), (459, 38140), (465, 38110),

Gene: Redfield\_40 Start: 31255, Stop: 29864, Start Num: 138

Candidate Starts for Redfield\_40:

(83, 31357), (85, 31354), (87, 31351), (Start: 138 @31255 has 140 MA's), (181, 31108), (Start: 183 @31102 has 1 MA's), (184, 31099), (221, 30985), (229, 30958), (243, 30898), (251, 30871), (252, 30868), (272, 30772), (280, 30730), (323, 30559), (328, 30538), (339, 30511), (373, 30403), (404, 30307), (440, 30190), (443, 30172), (459, 30106), (460, 30100), (464, 30088), (481, 29992), (497, 29938), (498, 29935), (504, 29911), (513, 29881),

Gene: RemRem\_60 Start: 51466, Stop: 49934, Start Num: 108

Candidate Starts for RemRem\_60:

(26, 51721), (34, 51670), (47, 51619), (66, 51565), (76, 51535), (Start: 89 @51502 has 3 MA's), (97, 51493), (Start: 108 @51466 has 25 MA's), (160, 51298), (170, 51256), (Start: 183 @51208 has 1 MA's), (187, 51196), (190, 51184), (192, 51178), (197, 51157), (209, 51130), (253, 50989), (272, 50902), (275, 50887), (280, 50875), (287, 50845), (295, 50794), (302, 50767), (320, 50716), (330, 50674), (336, 50656), (338, 50653), (343, 50626), (353, 50584), (365, 50539), (400, 50404), (403, 50389), (409, 50368), (440, 50311), (444, 50287), (445, 50284), (457, 50227), (459, 50221), (460, 50215), (462, 50209), (473, 50158), (477, 50134), (483, 50095), (487, 50083), (488, 50080), (515, 49987), (518, 49972), (525, 49951),

Gene: RenegadeRaider\_42 Start: 30486, Stop: 29236, Start Num: 181

Candidate Starts for RenegadeRaider\_42:

(75, 30789), (95, 30744), (Start: 108 @30714 has 25 MA's), (131, 30660), (Start: 135 @30642 has 2 MA's), (Start: 140 @30630 has 10 MA's), (Start: 141 @30624 has 21 MA's), (Start: 147 @30594 has 27 MA's), (181, 30486), (Start: 183 @30480 has 1 MA's), (184, 30477), (189, 30462), (243, 30276), (246, 30267), (252, 30246), (258, 30204), (272, 30150), (323, 29937), (328, 29916), (335, 29901), (339, 29889), (342, 29874), (349, 29838), (352, 29829), (362, 29814), (373, 29778), (404, 29679), (424, 29616), (433, 29589), (449, 29514), (450, 29508), (453, 29499), (457, 29484), (459, 29478), (460, 29472), (490, 29337), (492, 29325), (515, 29250),

Gene: Renzie\_41 Start: 31109, Stop: 29721, Start Num: 138

Candidate Starts for Renzie\_41:

(52, 31331), (Start: 138 @31109 has 140 MA's), (181, 30965), (Start: 183 @30959 has 1 MA's), (184, 30956), (221, 30842), (229, 30815), (243, 30755), (251, 30728), (252, 30725), (272, 30629), (280, 30587), (323, 30416), (328, 30395), (335, 30380), (339, 30368), (348, 30320), (373, 30260), (404, 30164), (424, 30101), (440, 30047), (459, 29963), (460, 29957), (464, 29945), (478, 29870), (481, 29849), (497, 29795), (498, 29792), (504, 29768),

Gene: Reynaud\_56 Start: 50676, Stop: 49183, Start Num: 126

Candidate Starts for Reynaud\_56:

(Start: 126 @50676 has 3 MA's), (Start: 136 @50640 has 4 MA's), (145, 50607), (Start: 147 @50598 has 27 MA's), (150, 50589), (153, 50580), (155, 50571), (160, 50553), (178, 50493), (Start: 183 @50481 has 1 MA's), (186, 50472), (233, 50325), (251, 50268), (255, 50244), (270, 50181), (295, 50067), (318, 49992), (320, 49989), (325, 49965), (330, 49947), (338, 49926), (344, 49887), (347, 49875), (348, 49872), (398, 49695), (408, 49659), (462, 49446), (471, 49404), (481, 49338), (501, 49263), (505, 49248),

Gene: Rie18\_40 Start: 25493, Stop: 27400, Start Num: 22

Candidate Starts for Rie18\_40:

(4, 25319), (Start: 22 @25493 has 31 MA's), (27, 25556), (30, 25577), (45, 25631), (104, 25793), (Start: 113 @25808 has 1 MA's), (130, 25853), (177, 26027), (181, 26036), (210, 26126), (211, 26129), (221, 26168), (224, 26183), (257, 26333), (266, 26369), (288, 26477), (290, 26504), (292, 26516),

(300, 26549), (339, 26678), (371, 26795), (451, 27107), (465, 27167), (483, 27257), (492, 27287),  
(494, 27293), (504, 27329), (520, 27380),

Gene: RikSengupta\_42 Start: 26725, Stop: 28659, Start Num: 23

Candidate Starts for RikSengupta\_42:

(Start: 8 @26629 has 1 MA's), (21, 26719), (Start: 23 @26725 has 3 MA's), (45, 26872), (50, 26890),  
(Start: 113 @27049 has 1 MA's), (152, 27175), (177, 27265), (181, 27274), (210, 27364), (221, 27406),  
(226, 27436), (256, 27568), (292, 27754), (296, 27772), (300, 27787), (317, 27844), (335, 27904),  
(352, 27976), (383, 28093), (388, 28114), (407, 28180), (414, 28210), (439, 28288), (451, 28366),  
(465, 28426), (474, 28465), (483, 28516), (490, 28534), (522, 28642),

Gene: Riyhil\_41 Start: 31124, Stop: 29736, Start Num: 138

Candidate Starts for Riyhil\_41:

(52, 31346), (Start: 138 @31124 has 140 MA's), (181, 30980), (Start: 183 @30974 has 1 MA's), (184,  
30971), (221, 30857), (229, 30830), (243, 30770), (251, 30743), (252, 30740), (272, 30644), (280,  
30602), (323, 30431), (328, 30410), (335, 30395), (339, 30383), (348, 30335), (373, 30275), (404,  
30179), (424, 30116), (440, 30062), (459, 29978), (460, 29972), (464, 29960), (481, 29864), (497,  
29810), (498, 29807), (504, 29783),

Gene: RobinSparkles\_61 Start: 50974, Stop: 49484, Start Num: 124

Candidate Starts for RobinSparkles\_61:

(Start: 124 @50974 has 5 MA's), (150, 50881), (153, 50872), (156, 50860), (160, 50845), (165, 50827),  
(184, 50770), (204, 50698), (205, 50695), (230, 50602), (239, 50569), (251, 50536), (252, 50533),  
(255, 50512), (272, 50443), (282, 50407), (299, 50320), (320, 50257), (322, 50254), (327, 50224),  
(345, 50152), (347, 50143), (384, 50020), (386, 50014), (438, 49882), (445, 49840), (454, 49795),  
(462, 49765), (523, 49513),

Gene: Robinson\_41 Start: 31112, Stop: 29724, Start Num: 138

Candidate Starts for Robinson\_41:

(52, 31334), (Start: 138 @31112 has 140 MA's), (181, 30968), (Start: 183 @30962 has 1 MA's), (184,  
30959), (221, 30845), (229, 30818), (243, 30758), (251, 30731), (252, 30728), (272, 30632), (280,  
30590), (323, 30419), (328, 30398), (335, 30383), (339, 30371), (348, 30323), (373, 30263), (404,  
30167), (424, 30104), (440, 30050), (459, 29966), (460, 29960), (464, 29948), (481, 29852), (497,  
29798), (498, 29795), (504, 29771),

Gene: Rog141\_40 Start: 30803, Stop: 29415, Start Num: 138

Candidate Starts for Rog141\_40:

(2, 31454), (31, 31100), (52, 31025), (Start: 138 @30803 has 140 MA's), (181, 30659), (Start: 183  
@30653 has 1 MA's), (184, 30650), (221, 30536), (229, 30509), (243, 30449), (251, 30422), (252,  
30419), (272, 30323), (280, 30281), (323, 30110), (328, 30089), (335, 30074), (348, 30014), (373,  
29954), (404, 29858), (424, 29795), (440, 29741), (459, 29657), (460, 29651), (464, 29639), (481,  
29543), (497, 29489), (498, 29486), (504, 29462),

Gene: Rooney\_70 Start: 50294, Stop: 48408, Start Num: 17

Candidate Starts for Rooney\_70:

(Start: 17 @50294 has 8 MA's), (Start: 22 @50279 has 31 MA's), (27, 50216), (28, 50207), (58, 50102),  
(71, 50063), (77, 50039), (Start: 113 @49964 has 1 MA's), (123, 49940), (164, 49781), (177, 49742),  
(181, 49733), (215, 49625), (241, 49517), (254, 49469), (273, 49364), (283, 49313), (292, 49253),  
(308, 49187), (316, 49166), (317, 49163), (344, 49058), (346, 49049), (350, 49037), (381, 48938),  
(419, 48821), (424, 48809), (433, 48782), (451, 48692), (455, 48677), (468, 48623), (479, 48566),  
(508, 48458), (515, 48440),

Gene: RosieMae\_42 Start: 30861, Stop: 29473, Start Num: 138

Candidate Starts for RosieMae\_42:

(52, 31083), (Start: 138 @30861 has 140 MA's), (181, 30717), (Start: 183 @30711 has 1 MA's), (184, 30708), (219, 30603), (221, 30594), (229, 30567), (243, 30507), (251, 30480), (252, 30477), (272, 30381), (280, 30339), (323, 30168), (328, 30147), (335, 30132), (348, 30072), (373, 30012), (404, 29916), (424, 29853), (440, 29799), (459, 29715), (460, 29709), (464, 29697), (481, 29601), (497, 29547), (498, 29544), (504, 29520),

Gene: RoyalG\_59 Start: 52241, Stop: 50709, Start Num: 108

Candidate Starts for RoyalG\_59:

(26, 52496), (34, 52445), (66, 52340), (76, 52310), (Start: 89 @52277 has 3 MA's), (97, 52268), (Start: 108 @52241 has 25 MA's), (Start: 147 @52118 has 27 MA's), (160, 52073), (170, 52031), (Start: 183 @51983 has 1 MA's), (184, 51980), (186, 51974), (187, 51971), (192, 51953), (197, 51932), (209, 51905), (247, 51782), (253, 51764), (272, 51677), (275, 51662), (295, 51569), (320, 51491), (325, 51467), (336, 51431), (343, 51401), (353, 51359), (365, 51314), (400, 51179), (403, 51164), (409, 51143), (445, 51059), (457, 51002), (459, 50996), (462, 50984), (473, 50933), (477, 50909), (483, 50870), (487, 50858), (488, 50855), (515, 50762), (518, 50747),

Gene: SJay\_41 Start: 31115, Stop: 29727, Start Num: 138

Candidate Starts for SJay\_41:

(2, 31766), (31, 31412), (52, 31337), (Start: 138 @31115 has 140 MA's), (181, 30971), (Start: 183 @30965 has 1 MA's), (184, 30962), (221, 30848), (229, 30821), (243, 30761), (251, 30734), (252, 30731), (272, 30635), (280, 30593), (319, 30431), (323, 30422), (328, 30401), (335, 30386), (339, 30374), (348, 30326), (373, 30266), (404, 30170), (424, 30107), (440, 30053), (459, 29969), (460, 29963), (464, 29951), (478, 29876), (481, 29855), (497, 29801), (498, 29798), (504, 29774),

Gene: Sam12\_58 Start: 51466, Stop: 49934, Start Num: 108

Candidate Starts for Sam12\_58:

(26, 51721), (34, 51670), (47, 51619), (66, 51565), (76, 51535), (Start: 89 @51502 has 3 MA's), (97, 51493), (Start: 108 @51466 has 25 MA's), (160, 51298), (170, 51256), (Start: 183 @51208 has 1 MA's), (187, 51196), (190, 51184), (192, 51178), (197, 51157), (209, 51130), (253, 50989), (272, 50902), (275, 50887), (280, 50875), (287, 50845), (295, 50794), (302, 50767), (320, 50716), (330, 50674), (336, 50656), (338, 50653), (343, 50626), (353, 50584), (365, 50539), (400, 50404), (403, 50389), (409, 50368), (440, 50311), (444, 50287), (445, 50284), (457, 50227), (459, 50221), (460, 50215), (462, 50209), (473, 50158), (477, 50134), (483, 50095), (487, 50083), (488, 50080), (515, 49987), (518, 49972), (525, 49951),

Gene: Sansa\_39 Start: 31177, Stop: 29765, Start Num: 141

Candidate Starts for Sansa\_39:

(Start: 141 @31177 has 21 MA's), (Start: 147 @31147 has 27 MA's), (Start: 149 @31141 has 1 MA's), (159, 31108), (221, 30916), (229, 30889), (243, 30829), (251, 30802), (252, 30799), (258, 30757), (272, 30703), (280, 30661), (303, 30547), (323, 30490), (328, 30469), (335, 30454), (339, 30442), (341, 30430), (342, 30427), (344, 30409), (362, 30328), (373, 30292), (391, 30238), (402, 30196), (414, 30166), (417, 30151), (420, 30142), (423, 30136), (438, 30094), (450, 30025), (457, 30001), (459, 29995), (460, 29989), (464, 29977), (484, 29872), (490, 29854), (492, 29842), (505, 29797),

Gene: Saratos\_40 Start: 30928, Stop: 29516, Start Num: 141

Candidate Starts for Saratos\_40:

(Start: 140 @30931 has 10 MA's), (Start: 141 @30928 has 21 MA's), (Start: 147 @30898 has 27 MA's), (Start: 149 @30892 has 1 MA's), (159, 30859), (221, 30667), (229, 30640), (243, 30580), (251, 30553), (252, 30550), (254, 30544), (258, 30508), (266, 30484), (272, 30454), (280, 30412), (303, 30298), (323, 30241), (328, 30220), (335, 30205), (339, 30193), (341, 30181), (342, 30178), (344, 30160), (362, 30079), (373, 30043), (391, 29989), (402, 29947), (414, 29917), (417, 29902), (420, 29893), (423, 29887), (438, 29845), (450, 29776), (457, 29752), (459, 29746), (460, 29740), (464,

(29728), (484, 29623), (490, 29605), (492, 29593), (505, 29548),

Gene: Schimmels22\_39 Start: 29851, Stop: 28466, Start Num: 138

Candidate Starts for Schimmels22\_39:

(Start: 138 @29851 has 140 MA's), (221, 29575), (228, 29554), (251, 29461), (252, 29458), (255, 29437), (258, 29416), (280, 29320), (323, 29149), (329, 29125), (335, 29113), (339, 29101), (341, 29089), (342, 29086), (344, 29068), (348, 29053), (363, 29026), (373, 28993), (380, 28969), (404, 28897), (414, 28867), (424, 28834), (450, 28726), (453, 28717), (457, 28702), (459, 28696), (460, 28690), (464, 28678), (481, 28582), (484, 28573), (492, 28543), (504, 28501),

Gene: Schnapsidee\_40 Start: 31262, Stop: 29871, Start Num: 138

Candidate Starts for Schnapsidee\_40:

(83, 31364), (85, 31361), (87, 31358), (Start: 138 @31262 has 140 MA's), (181, 31115), (Start: 183 @31109 has 1 MA's), (184, 31106), (221, 30992), (229, 30965), (243, 30905), (251, 30878), (252, 30875), (272, 30779), (280, 30737), (323, 30566), (328, 30545), (339, 30518), (373, 30410), (404, 30314), (440, 30197), (443, 30179), (459, 30113), (460, 30107), (464, 30095), (481, 29999), (497, 29945), (498, 29942), (504, 29918), (513, 29888),

Gene: Schubert\_39 Start: 30441, Stop: 29047, Start Num: 138

Candidate Starts for Schubert\_39:

(Start: 138 @30441 has 140 MA's), (181, 30297), (Start: 183 @30291 has 1 MA's), (184, 30288), (185, 30285), (229, 30147), (243, 30087), (252, 30057), (272, 29961), (280, 29919), (302, 29808), (323, 29748), (335, 29712), (339, 29700), (349, 29649), (351, 29643), (373, 29592), (377, 29580), (400, 29508), (402, 29496), (424, 29433), (450, 29325), (457, 29301), (459, 29295), (460, 29289), (464, 29277), (472, 29235), (490, 29154), (492, 29142), (505, 29097),

Gene: Scissor2024\_40 Start: 29498, Stop: 28113, Start Num: 138

Candidate Starts for Scissor2024\_40:

(Start: 138 @29498 has 140 MA's), (201, 29285), (221, 29222), (228, 29201), (251, 29108), (252, 29105), (255, 29084), (258, 29063), (280, 28967), (323, 28796), (329, 28772), (335, 28760), (339, 28748), (341, 28736), (342, 28733), (344, 28715), (348, 28700), (363, 28673), (373, 28640), (377, 28628), (380, 28616), (404, 28544), (417, 28499), (424, 28481), (450, 28373), (453, 28364), (457, 28349), (459, 28343), (460, 28337), (481, 28229), (484, 28220), (492, 28190), (504, 28148),

Gene: Sedgewig\_40 Start: 30801, Stop: 29413, Start Num: 138

Candidate Starts for Sedgewig\_40:

(2, 31452), (31, 31098), (52, 31023), (Start: 138 @30801 has 140 MA's), (181, 30657), (Start: 183 @30651 has 1 MA's), (184, 30648), (219, 30543), (221, 30534), (229, 30507), (243, 30447), (251, 30420), (252, 30417), (272, 30321), (280, 30279), (323, 30108), (328, 30087), (335, 30072), (348, 30012), (373, 29952), (404, 29856), (424, 29793), (440, 29739), (459, 29655), (460, 29649), (464, 29637), (497, 29487), (498, 29484), (504, 29460),

Gene: ShaiHulud\_42 Start: 31118, Stop: 29730, Start Num: 138

Candidate Starts for ShaiHulud\_42:

(2, 31769), (31, 31415), (52, 31340), (Start: 138 @31118 has 140 MA's), (181, 30974), (Start: 183 @30968 has 1 MA's), (184, 30965), (221, 30851), (229, 30824), (243, 30764), (251, 30737), (252, 30734), (272, 30638), (280, 30596), (323, 30425), (328, 30404), (339, 30377), (348, 30329), (373, 30269), (424, 30110), (440, 30056), (459, 29972), (460, 29966), (464, 29954), (481, 29858), (497, 29804), (498, 29801), (504, 29777),

Gene: ShakeNBake\_70 Start: 50183, Stop: 48297, Start Num: 17

Candidate Starts for ShakeNBake\_70:

(10, 50243), (Start: 17 @50183 has 8 MA's), (Start: 22 @50168 has 31 MA's), (27, 50105), (28, 50096), (30, 50084), (58, 49991), (77, 49928), (83, 49910), (Start: 113 @49853 has 1 MA's), (123, 49829), (164, 49670), (177, 49631), (181, 49622), (215, 49514), (241, 49406), (265, 49301), (283, 49202), (292, 49142), (316, 49055), (317, 49052), (344, 48947), (346, 48938), (350, 48926), (381, 48827), (396, 48788), (419, 48710), (424, 48698), (433, 48671), (451, 48581), (455, 48566), (468, 48512), (479, 48455), (515, 48329),

Gene: Shamu\_41 Start: 31107, Stop: 29695, Start Num: 141

Candidate Starts for Shamu\_41:

(Start: 140 @31110 has 10 MA's), (Start: 141 @31107 has 21 MA's), (Start: 147 @31077 has 27 MA's), (Start: 149 @31071 has 1 MA's), (159, 31038), (221, 30846), (229, 30819), (243, 30759), (251, 30732), (252, 30729), (258, 30687), (266, 30663), (272, 30633), (280, 30591), (303, 30477), (323, 30420), (328, 30399), (335, 30384), (339, 30372), (341, 30360), (342, 30357), (344, 30339), (362, 30258), (373, 30222), (391, 30168), (402, 30126), (414, 30096), (420, 30072), (423, 30066), (438, 30024), (450, 29955), (457, 29931), (459, 29925), (460, 29919), (464, 29907), (481, 29811), (484, 29802), (490, 29784), (492, 29772), (505, 29727),

Gene: ScheckWes\_60 Start: 40367, Stop: 38889, Start Num: 109

Candidate Starts for ScheckWes\_60:

(69, 40448), (95, 40394), (Start: 109 @40367 has 35 MA's), (134, 40304), (142, 40283), (144, 40277), (Start: 149 @40250 has 1 MA's), (161, 40196), (168, 40175), (172, 40160), (177, 40145), (204, 40064), (214, 40040), (236, 39953), (252, 39917), (261, 39863), (263, 39857), (266, 39851), (281, 39773), (285, 39758), (302, 39668), (304, 39659), (313, 39632), (332, 39569), (335, 39560), (339, 39548), (343, 39527), (345, 39512), (347, 39503), (354, 39482), (369, 39443), (372, 39434), (376, 39419), (391, 39377), (400, 39347), (414, 39299), (415, 39296), (427, 39254), (433, 39236), (453, 39140), (465, 39089), (472, 39059), (478, 39026), (491, 38969), (496, 38954),

Gene: Shee\_41 Start: 31111, Stop: 29723, Start Num: 138

Candidate Starts for Shee\_41:

(2, 31762), (31, 31408), (52, 31333), (Start: 138 @31111 has 140 MA's), (181, 30967), (Start: 183 @30961 has 1 MA's), (184, 30958), (221, 30844), (229, 30817), (243, 30757), (251, 30730), (252, 30727), (272, 30631), (280, 30589), (319, 30427), (323, 30418), (328, 30397), (335, 30382), (339, 30370), (348, 30322), (373, 30262), (404, 30166), (424, 30103), (440, 30049), (459, 29965), (460, 29959), (464, 29947), (481, 29851), (497, 29797), (498, 29794), (504, 29770),

Gene: Shelley\_57 Start: 52086, Stop: 50674, Start Num: 147

Candidate Starts for Shelley\_57:

(26, 52434), (58, 52305), (Start: 89 @52215 has 3 MA's), (Start: 147 @52086 has 27 MA's), (160, 52041), (Start: 183 @51951 has 1 MA's), (184, 51948), (186, 51942), (192, 51921), (216, 51858), (237, 51780), (247, 51750), (253, 51732), (272, 51645), (275, 51630), (287, 51588), (303, 51507), (320, 51459), (330, 51417), (336, 51399), (338, 51396), (343, 51369), (356, 51318), (365, 51282), (380, 51231), (400, 51147), (406, 51126), (457, 50970), (459, 50964), (462, 50952), (487, 50826), (518, 50712),

Gene: Shrew\_71 Start: 40994, Stop: 42517, Start Num: 110

Candidate Starts for Shrew\_71:

(88, 40949), (91, 40955), (Start: 110 @40994 has 1 MA's), (128, 41036), (133, 41054), (144, 41087), (155, 41138), (162, 41171), (170, 41198), (181, 41225), (212, 41315), (261, 41531), (262, 41534), (270, 41567), (274, 41585), (289, 41660), (297, 41699), (298, 41705), (344, 41873), (347, 41885), (394, 42023), (407, 42071), (496, 42440), (497, 42443), (504, 42470), (506, 42476),

Gene: SilentWarrior\_40 Start: 25182, Stop: 27089, Start Num: 22

Candidate Starts for SilentWarrior\_40:

(4, 25008), (Start: 22 @25182 has 31 MA's), (27, 25245), (30, 25266), (45, 25320), (93, 25455), (Start: 113 @25497 has 1 MA's), (130, 25542), (177, 25716), (181, 25725), (210, 25815), (221, 25857), (224, 25872), (266, 26058), (290, 26193), (292, 26205), (300, 26238), (339, 26367), (371, 26484), (444, 26757), (451, 26796), (465, 26856), (483, 26946), (492, 26976), (504, 27018), (520, 27069),

Gene: Sinatra\_40 Start: 30565, Stop: 29183, Start Num: 140

Candidate Starts for Sinatra\_40:

(131, 30592), (Start: 140 @30565 has 10 MA's), (Start: 141 @30562 has 21 MA's), (Start: 147 @30532 has 27 MA's), (181, 30424), (Start: 183 @30418 has 1 MA's), (184, 30415), (189, 30400), (243, 30214), (246, 30205), (252, 30184), (258, 30142), (272, 30088), (323, 29875), (328, 29854), (335, 29839), (339, 29827), (342, 29812), (349, 29776), (352, 29767), (362, 29752), (373, 29716), (404, 29617), (424, 29554), (433, 29527), (449, 29452), (450, 29446), (453, 29437), (457, 29422), (459, 29416), (460, 29410), (464, 29398), (490, 29275), (492, 29263),

Gene: SirVictor\_40 Start: 30629, Stop: 29241, Start Num: 141

Candidate Starts for SirVictor\_40:

(Start: 140 @30632 has 10 MA's), (Start: 141 @30629 has 21 MA's), (Start: 147 @30599 has 27 MA's), (181, 30491), (184, 30482), (199, 30428), (228, 30347), (243, 30281), (252, 30251), (259, 30206), (272, 30155), (319, 29951), (323, 29942), (335, 29903), (339, 29891), (341, 29879), (342, 29876), (349, 29840), (352, 29831), (362, 29816), (373, 29780), (377, 29768), (380, 29756), (404, 29681), (424, 29621), (450, 29513), (453, 29504), (457, 29489), (459, 29483), (460, 29477), (515, 29255),

Gene: SketchMex\_53 Start: 38648, Stop: 37170, Start Num: 109

Candidate Starts for SketchMex\_53:

(Start: 109 @38648 has 35 MA's), (142, 38561), (144, 38555), (155, 38504), (168, 38453), (172, 38438), (201, 38354), (211, 38330), (214, 38321), (252, 38198), (261, 38144), (263, 38138), (266, 38132), (281, 38054), (304, 37940), (313, 37913), (323, 37889), (343, 37808), (347, 37784), (354, 37763), (369, 37724), (374, 37706), (376, 37700), (413, 37589), (415, 37583), (427, 37541), (433, 37523), (450, 37436), (453, 37427), (459, 37406), (465, 37376), (472, 37346), (478, 37313), (501, 37223),

Gene: Snakehole\_40 Start: 25114, Stop: 27021, Start Num: 22

Candidate Starts for Snakehole\_40:

(Start: 22 @25114 has 31 MA's), (27, 25177), (30, 25198), (45, 25252), (Start: 113 @25429 has 1 MA's), (130, 25474), (177, 25648), (181, 25657), (210, 25747), (224, 25804), (266, 25990), (290, 26125), (292, 26137), (300, 26170), (339, 26299), (371, 26416), (450, 26725), (451, 26728), (465, 26788), (483, 26878), (492, 26908), (504, 26950), (520, 27001),

Gene: Socotra\_54 Start: 38839, Stop: 37361, Start Num: 109

Candidate Starts for Socotra\_54:

(Start: 109 @38839 has 35 MA's), (142, 38752), (144, 38746), (161, 38665), (168, 38644), (212, 38518), (261, 38335), (263, 38329), (266, 38323), (281, 38245), (304, 38131), (313, 38104), (323, 38080), (339, 38020), (347, 37975), (354, 37954), (369, 37915), (374, 37897), (413, 37780), (427, 37732), (428, 37729), (433, 37714), (453, 37618), (459, 37597), (465, 37567), (511, 37378),

Gene: SoilGremlin\_42 Start: 31117, Stop: 29729, Start Num: 138

Candidate Starts for SoilGremlin\_42:

(52, 31339), (Start: 138 @31117 has 140 MA's), (181, 30973), (Start: 183 @30967 has 1 MA's), (184, 30964), (221, 30850), (229, 30823), (243, 30763), (251, 30736), (252, 30733), (254, 30727), (272, 30637), (280, 30595), (323, 30424), (335, 30388), (339, 30376), (344, 30343), (348, 30328), (373, 30268), (404, 30172), (424, 30109), (440, 30055), (459, 29971), (460, 29965), (464, 29953), (481, 29857), (497, 29803), (498, 29800), (504, 29776),

Gene: Sombrero\_60 Start: 52033, Stop: 50501, Start Num: 108

Candidate Starts for Sombrero\_60:

(26, 52288), (34, 52237), (66, 52132), (76, 52102), (Start: 89 @52069 has 3 MA's), (97, 52060), (Start: 108 @52033 has 25 MA's), (160, 51865), (170, 51823), (Start: 183 @51775 has 1 MA's), (187, 51763), (190, 51751), (192, 51745), (197, 51724), (253, 51556), (272, 51469), (275, 51454), (280, 51442), (287, 51412), (295, 51361), (320, 51283), (325, 51259), (330, 51241), (336, 51223), (338, 51220), (340, 51211), (343, 51193), (365, 51106), (400, 50971), (403, 50956), (409, 50935), (444, 50854), (445, 50851), (457, 50794), (459, 50788), (462, 50776), (473, 50725), (477, 50701), (483, 50662), (487, 50650), (488, 50647), (515, 50554), (518, 50539), (525, 50518),

Gene: SonOfLevi\_41 Start: 30834, Stop: 29413, Start Num: 138

Candidate Starts for SonOfLevi\_41:

(52, 31056), (Start: 138 @30834 has 140 MA's), (181, 30690), (Start: 183 @30684 has 1 MA's), (184, 30681), (221, 30567), (229, 30540), (243, 30480), (251, 30453), (252, 30450), (272, 30354), (280, 30312), (319, 30150), (323, 30141), (328, 30120), (339, 30093), (344, 30060), (348, 30045), (368, 29970), (373, 29952), (404, 29856), (424, 29793), (440, 29739), (459, 29655), (460, 29649), (464, 29637), (478, 29562), (481, 29541), (497, 29487), (498, 29484), (504, 29460),

Gene: Sopespian\_50 Start: 38728, Stop: 37250, Start Num: 109

Candidate Starts for Sopespian\_50:

(Start: 109 @38728 has 35 MA's), (142, 38641), (144, 38635), (161, 38554), (168, 38533), (211, 38410), (212, 38407), (261, 38224), (263, 38218), (266, 38212), (281, 38134), (304, 38020), (313, 37993), (323, 37969), (339, 37909), (347, 37864), (354, 37843), (369, 37804), (374, 37786), (413, 37669), (427, 37621), (428, 37618), (433, 37603), (453, 37507), (459, 37486), (465, 37456),

Gene: Sparcetus\_42 Start: 26604, Stop: 28538, Start Num: 23

Candidate Starts for Sparcetus\_42:

(Start: 8 @26508 has 1 MA's), (21, 26598), (Start: 23 @26604 has 3 MA's), (45, 26751), (50, 26769), (Start: 113 @26928 has 1 MA's), (152, 27054), (177, 27144), (181, 27153), (210, 27243), (226, 27315), (256, 27447), (292, 27633), (296, 27651), (300, 27666), (317, 27723), (335, 27783), (352, 27855), (388, 27993), (407, 28059), (414, 28089), (415, 28092), (439, 28167), (451, 28245), (465, 28305), (474, 28344), (483, 28395), (490, 28413), (522, 28521),

Gene: Squibbles\_58 Start: 52329, Stop: 50797, Start Num: 108

Candidate Starts for Squibbles\_58:

(26, 52584), (34, 52533), (47, 52482), (66, 52428), (76, 52398), (Start: 89 @52365 has 3 MA's), (97, 52356), (Start: 108 @52329 has 25 MA's), (160, 52161), (170, 52119), (Start: 183 @52071 has 1 MA's), (187, 52059), (190, 52047), (192, 52041), (197, 52020), (209, 51993), (253, 51852), (272, 51765), (275, 51750), (280, 51738), (287, 51708), (295, 51657), (302, 51630), (320, 51579), (330, 51537), (336, 51519), (338, 51516), (343, 51489), (353, 51447), (365, 51402), (400, 51267), (403, 51252), (409, 51231), (440, 51174), (445, 51147), (457, 51090), (459, 51084), (460, 51078), (462, 51072), (473, 51021), (477, 50997), (483, 50958), (487, 50946), (488, 50943), (515, 50850), (518, 50835), (525, 50814),

Gene: Stanktossa\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Stanktossa\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (302, 30481), (323, 30421), (335, 30385), (339, 30373), (344, 30340), (348, 30325), (373, 30265), (404, 30169), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Starburst\_53 Start: 38723, Stop: 37245, Start Num: 109

Candidate Starts for Starburst\_53:

(Start: 109 @38723 has 35 MA's), (142, 38636), (144, 38630), (161, 38549), (168, 38528), (212, 38402), (261, 38219), (263, 38213), (266, 38207), (281, 38129), (304, 38015), (313, 37988), (323, 37964), (339, 37904), (347, 37859), (354, 37838), (369, 37799), (374, 37781), (413, 37664), (427, 37616), (428, 37613), (433, 37598), (453, 37502), (459, 37481), (465, 37451),

Gene: SteamedHams\_54 Start: 38292, Stop: 36814, Start Num: 109

Candidate Starts for SteamedHams\_54:

(Start: 109 @38292 has 35 MA's), (144, 38199), (Start: 149 @38172 has 1 MA's), (168, 38097), (Start: 183 @38055 has 1 MA's), (211, 37974), (252, 37842), (261, 37788), (266, 37776), (281, 37698), (304, 37584), (313, 37557), (323, 37533), (332, 37494), (347, 37428), (354, 37407), (374, 37350), (413, 37233), (427, 37185), (433, 37167), (453, 37071), (459, 37050), (465, 37020),

Gene: SteveFrench\_58 Start: 52481, Stop: 50949, Start Num: 108

Candidate Starts for SteveFrench\_58:

(26, 52736), (34, 52685), (66, 52580), (76, 52550), (Start: 89 @52517 has 3 MA's), (97, 52508), (Start: 108 @52481 has 25 MA's), (Start: 147 @52358 has 27 MA's), (160, 52313), (170, 52271), (Start: 183 @52223 has 1 MA's), (184, 52220), (186, 52214), (187, 52211), (192, 52193), (197, 52172), (209, 52145), (247, 52022), (253, 52004), (272, 51917), (275, 51902), (295, 51809), (320, 51731), (325, 51707), (336, 51671), (343, 51641), (353, 51599), (365, 51554), (400, 51419), (403, 51404), (409, 51383), (445, 51299), (457, 51242), (459, 51236), (462, 51224), (473, 51173), (477, 51149), (483, 51110), (487, 51098), (488, 51095), (515, 51002), (518, 50987),

Gene: Sticker17\_57 Start: 52601, Stop: 51189, Start Num: 147

Candidate Starts for Sticker17\_57:

(26, 52949), (58, 52820), (87, 52733), (Start: 89 @52730 has 3 MA's), (Start: 147 @52601 has 27 MA's), (160, 52556), (Start: 183 @52466 has 1 MA's), (184, 52463), (186, 52457), (192, 52436), (216, 52373), (247, 52265), (253, 52247), (272, 52160), (275, 52145), (287, 52103), (303, 52022), (320, 51974), (330, 51932), (336, 51914), (338, 51911), (343, 51884), (356, 51833), (365, 51797), (380, 51746), (400, 51662), (406, 51641), (457, 51485), (459, 51479), (462, 51467), (487, 51341), (518, 51227),

Gene: StingRay\_40 Start: 30819, Stop: 29431, Start Num: 138

Candidate Starts for StingRay\_40:

(52, 31041), (Start: 138 @30819 has 140 MA's), (181, 30675), (Start: 183 @30669 has 1 MA's), (184, 30666), (221, 30552), (229, 30525), (243, 30465), (251, 30438), (252, 30435), (272, 30339), (280, 30297), (323, 30126), (328, 30105), (335, 30090), (348, 30030), (365, 29997), (373, 29970), (404, 29874), (424, 29811), (440, 29757), (459, 29673), (460, 29667), (464, 29655), (481, 29559), (497, 29505), (498, 29502), (504, 29478),

Gene: StirfryIV\_40 Start: 30812, Stop: 29424, Start Num: 138

Candidate Starts for StirfryIV\_40:

(2, 31463), (31, 31109), (52, 31034), (Start: 138 @30812 has 140 MA's), (181, 30668), (Start: 183 @30662 has 1 MA's), (184, 30659), (221, 30545), (229, 30518), (243, 30458), (251, 30431), (252, 30428), (272, 30332), (280, 30290), (323, 30119), (328, 30098), (335, 30083), (348, 30023), (373, 29963), (404, 29867), (424, 29804), (440, 29750), (459, 29666), (460, 29660), (464, 29648), (481, 29552), (497, 29498), (498, 29495), (504, 29471),

Gene: Stormbreaker8\_40 Start: 31269, Stop: 29878, Start Num: 138

Candidate Starts for Stormbreaker8\_40:

(29, 31557), (35, 31536), (Start: 138 @31269 has 140 MA's), (181, 31122), (Start: 183 @31116 has 1 MA's), (184, 31113), (201, 31053), (221, 30999), (229, 30972), (243, 30912), (251, 30885), (252,

(30882), (272, 30786), (280, 30744), (323, 30573), (328, 30552), (373, 30417), (404, 30321), (440, 30204), (443, 30186), (459, 30120), (460, 30114), (464, 30102), (481, 30006), (497, 29952), (498, 29949), (504, 29925), (513, 29895),

Gene: Strathdee\_41 Start: 31119, Stop: 29731, Start Num: 138

Candidate Starts for Strathdee\_41:

(2, 31770), (31, 31416), (52, 31341), (Start: 138 @31119 has 140 MA's), (181, 30975), (Start: 183 @30969 has 1 MA's), (184, 30966), (221, 30852), (229, 30825), (243, 30765), (251, 30738), (252, 30735), (272, 30639), (280, 30597), (323, 30426), (328, 30405), (339, 30378), (348, 30330), (373, 30270), (424, 30111), (440, 30057), (459, 29973), (460, 29967), (464, 29955), (481, 29859), (497, 29805), (498, 29802), (504, 29778),

Gene: SummitAcademy\_56 Start: 40461, Stop: 38983, Start Num: 109

Candidate Starts for SummitAcademy\_56:

(67, 40539), (93, 40488), (95, 40485), (Start: 109 @40461 has 35 MA's), (134, 40398), (142, 40377), (144, 40371), (Start: 149 @40344 has 1 MA's), (161, 40290), (172, 40254), (177, 40239), (211, 40143), (214, 40134), (219, 40113), (236, 40047), (252, 40011), (261, 39957), (263, 39951), (266, 39945), (281, 39867), (285, 39852), (304, 39753), (326, 39678), (335, 39654), (339, 39642), (343, 39621), (345, 39606), (347, 39597), (354, 39576), (369, 39537), (372, 39528), (376, 39513), (394, 39462), (415, 39390), (427, 39348), (428, 39345), (433, 39330), (453, 39234), (465, 39183), (472, 39153), (478, 39120), (491, 39063), (496, 39048),

Gene: Superfresh\_41 Start: 31109, Stop: 29721, Start Num: 138

Candidate Starts for Superfresh\_41:

(52, 31331), (Start: 138 @31109 has 140 MA's), (181, 30965), (Start: 183 @30959 has 1 MA's), (184, 30956), (221, 30842), (229, 30815), (243, 30755), (251, 30728), (252, 30725), (272, 30629), (280, 30587), (323, 30416), (328, 30395), (335, 30380), (339, 30368), (348, 30320), (373, 30260), (404, 30164), (424, 30101), (440, 30047), (459, 29963), (460, 29957), (464, 29945), (478, 29870), (481, 29849), (497, 29795), (498, 29792), (504, 29768),

Gene: Survivors\_49 Start: 37834, Stop: 36344, Start Num: 111

Candidate Starts for Survivors\_49:

(Start: 111 @37834 has 6 MA's), (144, 37744), (Start: 149 @37717 has 1 MA's), (160, 37675), (170, 37633), (172, 37627), (Start: 183 @37600 has 1 MA's), (211, 37519), (212, 37516), (214, 37510), (219, 37489), (236, 37423), (261, 37333), (266, 37321), (279, 37258), (281, 37243), (285, 37228), (309, 37111), (313, 37102), (337, 37024), (343, 36997), (344, 36985), (347, 36973), (362, 36934), (369, 36913), (370, 36910), (374, 36895), (394, 36823), (427, 36709), (440, 36664), (441, 36649), (446, 36619), (453, 36595), (465, 36544), (472, 36514), (485, 36448), (491, 36424), (501, 36391), (511, 36355),

Gene: SweatNTears\_55 Start: 38970, Stop: 37492, Start Num: 109

Candidate Starts for SweatNTears\_55:

(Start: 109 @38970 has 35 MA's), (142, 38883), (144, 38877), (161, 38796), (211, 38652), (212, 38649), (261, 38466), (263, 38460), (266, 38454), (281, 38376), (304, 38262), (313, 38235), (323, 38211), (339, 38151), (347, 38106), (354, 38085), (369, 38046), (374, 38028), (413, 37911), (427, 37863), (428, 37860), (433, 37845), (453, 37749), (459, 37728), (465, 37698),

Gene: Symere\_42 Start: 30799, Stop: 29411, Start Num: 138

Candidate Starts for Symere\_42:

(2, 31450), (31, 31096), (52, 31021), (Start: 138 @30799 has 140 MA's), (181, 30655), (Start: 183 @30649 has 1 MA's), (184, 30646), (219, 30541), (221, 30532), (229, 30505), (243, 30445), (251, 30418), (252, 30415), (272, 30319), (280, 30277), (323, 30106), (328, 30085), (335, 30070), (348, 30010), (373, 29950), (404, 29854), (424, 29791), (440, 29737), (459, 29653), (460, 29647), (464,

29635), (497, 29485), (498, 29482), (504, 29458),

Gene: TatarkaPM\_41 Start: 31124, Stop: 29736, Start Num: 138

Candidate Starts for TatarkaPM\_41:

(2, 31775), (31, 31421), (52, 31346), (Start: 138 @31124 has 140 MA's), (181, 30980), (Start: 183 @30974 has 1 MA's), (184, 30971), (221, 30857), (229, 30830), (243, 30770), (251, 30743), (252, 30740), (272, 30644), (280, 30602), (319, 30440), (323, 30431), (328, 30410), (335, 30395), (339, 30383), (348, 30335), (373, 30275), (404, 30179), (424, 30116), (440, 30062), (459, 29978), (460, 29972), (464, 29960), (481, 29864), (497, 29810), (498, 29807), (504, 29783),

Gene: Teagan\_41 Start: 31114, Stop: 29726, Start Num: 138

Candidate Starts for Teagan\_41:

(2, 31765), (31, 31411), (52, 31336), (Start: 138 @31114 has 140 MA's), (181, 30970), (Start: 183 @30964 has 1 MA's), (184, 30961), (221, 30847), (229, 30820), (243, 30760), (251, 30733), (252, 30730), (272, 30634), (280, 30592), (323, 30421), (328, 30400), (339, 30373), (348, 30325), (373, 30265), (424, 30106), (440, 30052), (459, 29968), (460, 29962), (464, 29950), (481, 29854), (497, 29800), (498, 29797), (504, 29773),

Gene: Teal\_57 Start: 53068, Stop: 51656, Start Num: 147

Candidate Starts for Teal\_57:

(26, 53416), (58, 53287), (87, 53200), (Start: 89 @53197 has 3 MA's), (Start: 147 @53068 has 27 MA's), (160, 53023), (Start: 183 @52933 has 1 MA's), (184, 52930), (186, 52924), (192, 52903), (216, 52840), (247, 52732), (253, 52714), (272, 52627), (275, 52612), (287, 52570), (303, 52489), (320, 52441), (330, 52399), (336, 52381), (338, 52378), (343, 52351), (356, 52300), (365, 52264), (380, 52213), (400, 52129), (406, 52108), (457, 51952), (459, 51946), (462, 51934), (487, 51808), (518, 51694),

Gene: Teatealatte\_58 Start: 53221, Stop: 51518, Start Num: 36

Candidate Starts for Teatealatte\_58:

(Start: 36 @53221 has 6 MA's), (Start: 40 @53209 has 2 MA's), (Start: 114 @53026 has 2 MA's), (Start: 147 @52936 has 27 MA's), (150, 52927), (160, 52891), (165, 52867), (168, 52858), (170, 52849), (Start: 183 @52801 has 1 MA's), (187, 52789), (190, 52777), (210, 52720), (216, 52705), (217, 52702), (220, 52684), (231, 52648), (232, 52645), (266, 52516), (267, 52513), (275, 52477), (276, 52474), (282, 52456), (284, 52447), (287, 52435), (294, 52387), (303, 52354), (320, 52306), (325, 52282), (343, 52216), (365, 52117), (389, 52018), (399, 51985), (400, 51982), (432, 51916), (444, 51865), (445, 51862), (457, 51805), (462, 51787), (483, 51670), (484, 51667), (488, 51655), (518, 51556), (525, 51535),

Gene: TeddyBear\_40 Start: 30816, Stop: 29428, Start Num: 138

Candidate Starts for TeddyBear\_40:

(52, 31038), (Start: 138 @30816 has 140 MA's), (181, 30672), (Start: 183 @30666 has 1 MA's), (184, 30663), (221, 30549), (229, 30522), (243, 30462), (251, 30435), (252, 30432), (271, 30339), (272, 30336), (280, 30294), (323, 30123), (328, 30102), (335, 30087), (339, 30075), (348, 30027), (373, 29967), (404, 29871), (424, 29808), (440, 29754), (459, 29670), (460, 29664), (464, 29652), (478, 29577), (481, 29556), (497, 29502), (498, 29499), (504, 29475),

Gene: Tedro\_40 Start: 25407, Stop: 27314, Start Num: 22

Candidate Starts for Tedro\_40:

(Start: 22 @25407 has 31 MA's), (27, 25470), (30, 25491), (45, 25545), (Start: 113 @25722 has 1 MA's), (130, 25767), (177, 25941), (181, 25950), (210, 26040), (224, 26097), (266, 26283), (290, 26418), (292, 26430), (300, 26463), (312, 26508), (339, 26592), (371, 26709), (444, 26982), (450, 27018), (451, 27021), (465, 27081), (483, 27171), (492, 27201), (504, 27243), (520, 27294),

Gene: Teech\_56 Start: 53010, Stop: 51319, Start Num: 40

Candidate Starts for Teech\_56:

(Start: 36 @53022 has 6 MA's), (Start: 40 @53010 has 2 MA's), (Start: 114 @52827 has 2 MA's), (Start: 147 @52737 has 27 MA's), (150, 52728), (160, 52692), (165, 52668), (168, 52659), (170, 52650), (Start: 183 @52602 has 1 MA's), (190, 52578), (216, 52506), (220, 52485), (231, 52449), (232, 52446), (266, 52317), (267, 52314), (275, 52278), (276, 52275), (282, 52257), (284, 52248), (287, 52236), (294, 52188), (303, 52155), (320, 52107), (325, 52083), (343, 52017), (365, 51918), (389, 51819), (392, 51810), (399, 51786), (400, 51783), (432, 51717), (444, 51666), (445, 51663), (457, 51606), (462, 51588), (483, 51471), (484, 51468), (488, 51456), (518, 51357), (525, 51336),

Gene: Tenda\_40 Start: 30814, Stop: 29426, Start Num: 138

Candidate Starts for Tenda\_40:

(52, 31036), (Start: 138 @30814 has 140 MA's), (181, 30670), (Start: 183 @30664 has 1 MA's), (184, 30661), (221, 30547), (229, 30520), (243, 30460), (251, 30433), (252, 30430), (272, 30334), (280, 30292), (323, 30121), (328, 30100), (335, 30085), (348, 30025), (373, 29965), (404, 29869), (424, 29806), (440, 29752), (459, 29668), (460, 29662), (464, 29650), (481, 29554), (497, 29500), (498, 29497), (504, 29473),

Gene: Thompsonsone\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for Thompsonsone\_41:

(2, 31772), (31, 31418), (52, 31343), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (323, 30428), (328, 30407), (339, 30380), (348, 30332), (373, 30272), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (478, 29882), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: Thorongil\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for Thorongil\_41:

(Start: 92 @31220 has 2 MA's), (94, 31217), (96, 31214), (134, 31130), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (323, 30428), (328, 30407), (335, 30392), (339, 30380), (348, 30332), (373, 30272), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (478, 29882), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: TinSulphur\_42 Start: 31120, Stop: 29732, Start Num: 138

Candidate Starts for TinSulphur\_42:

(2, 31771), (31, 31417), (52, 31342), (Start: 138 @31120 has 140 MA's), (181, 30976), (Start: 183 @30970 has 1 MA's), (184, 30967), (221, 30853), (229, 30826), (243, 30766), (251, 30739), (252, 30736), (272, 30640), (280, 30598), (319, 30436), (323, 30427), (328, 30406), (335, 30391), (339, 30379), (348, 30331), (373, 30271), (404, 30175), (424, 30112), (440, 30058), (459, 29974), (460, 29968), (464, 29956), (481, 29860), (497, 29806), (498, 29803), (504, 29779),

Gene: TinyMiny\_42 Start: 26527, Stop: 28557, Start Num: 8

Candidate Starts for TinyMiny\_42:

(3, 26383), (Start: 8 @26527 has 1 MA's), (21, 26617), (Start: 23 @26623 has 3 MA's), (45, 26770), (50, 26788), (54, 26797), (Start: 113 @26947 has 1 MA's), (152, 27073), (177, 27163), (181, 27172), (210, 27262), (221, 27304), (256, 27466), (292, 27652), (296, 27670), (300, 27685), (317, 27742), (335, 27802), (352, 27874), (388, 28012), (407, 28078), (414, 28108), (439, 28186), (451, 28264), (465, 28324), (474, 28363), (483, 28414), (490, 28432), (522, 28540),

Gene: Tinyman4\_39 Start: 29477, Stop: 28092, Start Num: 138

Candidate Starts for Tinyman4\_39:

(Start: 138 @29477 has 140 MA's), (201, 29264), (221, 29201), (228, 29180), (251, 29087), (252, 29084), (255, 29063), (258, 29042), (280, 28946), (323, 28775), (329, 28751), (335, 28739), (339, 28727), (341, 28715), (342, 28712), (344, 28694), (348, 28679), (373, 28619), (377, 28607), (380, 28595), (404, 28523), (414, 28493), (424, 28460), (450, 28352), (453, 28343), (457, 28328), (459, 28322), (460, 28316), (464, 28304), (481, 28208), (484, 28199), (492, 28169), (504, 28127),

Gene: Tolls\_54 Start: 38563, Stop: 37085, Start Num: 109

Candidate Starts for Tolls\_54:

(Start: 109 @38563 has 35 MA's), (144, 38470), (Start: 149 @38443 has 1 MA's), (168, 38368), (Start: 183 @38326 has 1 MA's), (211, 38245), (252, 38113), (261, 38059), (266, 38047), (281, 37969), (304, 37855), (313, 37828), (323, 37804), (347, 37699), (354, 37678), (369, 37639), (374, 37621), (376, 37615), (413, 37504), (427, 37456), (433, 37438), (453, 37342), (459, 37321), (465, 37291),

Gene: Tongui\_41 Start: 25537, Stop: 27444, Start Num: 22

Candidate Starts for Tongui\_41:

(4, 25363), (Start: 22 @25537 has 31 MA's), (27, 25600), (30, 25621), (45, 25675), (63, 25735), (104, 25837), (Start: 113 @25852 has 1 MA's), (130, 25897), (177, 26071), (181, 26080), (210, 26170), (211, 26173), (224, 26227), (266, 26413), (288, 26521), (290, 26548), (292, 26560), (339, 26722), (371, 26839), (451, 27151), (465, 27211), (483, 27301), (492, 27331), (504, 27373), (520, 27424),

Gene: Tredge\_57 Start: 53221, Stop: 51518, Start Num: 36

Candidate Starts for Tredge\_57:

(Start: 36 @53221 has 6 MA's), (Start: 40 @53209 has 2 MA's), (Start: 114 @53026 has 2 MA's), (Start: 147 @52936 has 27 MA's), (150, 52927), (160, 52891), (165, 52867), (168, 52858), (170, 52849), (Start: 183 @52801 has 1 MA's), (187, 52789), (190, 52777), (210, 52720), (216, 52705), (217, 52702), (220, 52684), (231, 52648), (232, 52645), (266, 52516), (267, 52513), (275, 52477), (276, 52474), (282, 52456), (284, 52447), (287, 52435), (294, 52387), (303, 52354), (320, 52306), (325, 52282), (343, 52216), (365, 52117), (389, 52018), (399, 51985), (400, 51982), (432, 51916), (444, 51865), (445, 51862), (457, 51805), (462, 51787), (483, 51670), (484, 51667), (488, 51655), (518, 51556), (525, 51535),

Gene: Triscuit\_58 Start: 36727, Stop: 38280, Start Num: 105

Candidate Starts for Triscuit\_58:

(Start: 105 @36727 has 1 MA's), (Start: 107 @36730 has 1 MA's), (144, 36826), (150, 36856), (160, 36895), (166, 36922), (170, 36937), (188, 36982), (190, 36991), (198, 37021), (224, 37105), (242, 37189), (244, 37198), (245, 37201), (272, 37321), (275, 37336), (289, 37423), (309, 37513), (344, 37636), (347, 37648), (379, 37735), (407, 37834), (413, 37852), (446, 37990), (501, 38218), (503, 38227), (504, 38230),

Gene: Trogglehumper\_76 Start: 59717, Stop: 58170, Start Num: 113

Candidate Starts for Trogglehumper\_76:

(66, 59828), (90, 59762), (Start: 113 @59717 has 1 MA's), (151, 59600), (160, 59567), (173, 59525), (175, 59519), (Start: 183 @59495 has 1 MA's), (201, 59429), (206, 59420), (208, 59417), (228, 59354), (237, 59315), (255, 59249), (271, 59183), (275, 59165), (280, 59153), (284, 59135), (292, 59087), (293, 59081), (320, 59003), (330, 58961), (336, 58943), (348, 58886), (351, 58877), (387, 58751), (399, 58709), (400, 58706), (406, 58685), (412, 58652), (430, 58595), (462, 58445), (467, 58421), (477, 58370), (496, 58280), (507, 58241), (516, 58220), (522, 58208), (523, 58205), (525, 58193),

Gene: Troje\_55 Start: 38986, Stop: 37508, Start Num: 109

Candidate Starts for Troje\_55:

(Start: 109 @38986 has 35 MA's), (142, 38899), (144, 38893), (155, 38842), (168, 38791), (172, 38776), (201, 38692), (211, 38668), (214, 38659), (252, 38536), (261, 38482), (263, 38476), (266, 38470), (272, 38440), (281, 38392), (304, 38278), (313, 38251), (323, 38227), (343, 38146), (347,

(38122), (354, 38101), (369, 38062), (374, 38044), (376, 38038), (413, 37927), (415, 37921), (427, 37879), (433, 37861), (450, 37774), (453, 37765), (459, 37744), (465, 37714), (472, 37684), (478, 37651), (501, 37561),

Gene: TwoBits\_38 Start: 29402, Stop: 28083, Start Num: 167

Candidate Starts for TwoBits\_38:

(Start: 138 @29510 has 140 MA's), (146, 29480), (Start: 147 @29474 has 27 MA's), (Start: 167 @29402 has 1 MA's), (182, 29363), (Start: 183 @29360 has 1 MA's), (184, 29357), (201, 29297), (251, 29120), (252, 29117), (270, 29024), (285, 28955), (303, 28862), (323, 28805), (339, 28757), (341, 28745), (344, 28724), (363, 28643), (373, 28610), (391, 28556), (393, 28550), (404, 28514), (405, 28511), (424, 28451), (450, 28343), (453, 28334), (457, 28319), (459, 28313), (464, 28295), (484, 28190), (504, 28118),

Gene: Typhonomachy\_53 Start: 38552, Stop: 37074, Start Num: 109

Candidate Starts for Typhonomachy\_53:

(Start: 109 @38552 has 35 MA's), (142, 38465), (144, 38459), (161, 38378), (168, 38357), (212, 38231), (261, 38048), (263, 38042), (266, 38036), (281, 37958), (304, 37844), (313, 37817), (323, 37793), (339, 37733), (347, 37688), (354, 37667), (369, 37628), (374, 37610), (413, 37493), (427, 37445), (428, 37442), (433, 37427), (453, 37331), (459, 37310), (465, 37280),

Gene: Velene\_41 Start: 31119, Stop: 29731, Start Num: 138

Candidate Starts for Velene\_41:

(2, 31770), (31, 31416), (52, 31341), (Start: 138 @31119 has 140 MA's), (181, 30975), (Start: 183 @30969 has 1 MA's), (184, 30966), (221, 30852), (229, 30825), (243, 30765), (251, 30738), (252, 30735), (272, 30639), (280, 30597), (323, 30426), (328, 30405), (339, 30378), (348, 30330), (373, 30270), (424, 30111), (440, 30057), (459, 29973), (460, 29967), (464, 29955), (481, 29859), (497, 29805), (498, 29802), (504, 29778),

Gene: Vine\_59 Start: 41084, Stop: 39606, Start Num: 109

Candidate Starts for Vine\_59:

(67, 41162), (93, 41111), (95, 41108), (Start: 109 @41084 has 35 MA's), (134, 41021), (142, 41000), (144, 40994), (Start: 149 @40967 has 1 MA's), (161, 40913), (172, 40877), (177, 40862), (211, 40766), (214, 40757), (219, 40736), (236, 40670), (252, 40634), (261, 40580), (263, 40574), (266, 40568), (281, 40490), (285, 40475), (304, 40376), (326, 40301), (335, 40277), (339, 40265), (343, 40244), (345, 40229), (347, 40220), (354, 40199), (369, 40160), (372, 40151), (376, 40136), (394, 40085), (414, 40016), (415, 40013), (427, 39971), (433, 39953), (453, 39857), (465, 39806), (472, 39776), (478, 39743), (491, 39686), (496, 39671),

Gene: Vispistious\_41 Start: 31121, Stop: 29733, Start Num: 138

Candidate Starts for Vispistious\_41:

(2, 31772), (31, 31418), (52, 31343), (Start: 138 @31121 has 140 MA's), (181, 30977), (Start: 183 @30971 has 1 MA's), (184, 30968), (221, 30854), (229, 30827), (243, 30767), (251, 30740), (252, 30737), (272, 30641), (280, 30599), (323, 30428), (328, 30407), (339, 30380), (348, 30332), (373, 30272), (424, 30113), (440, 30059), (459, 29975), (460, 29969), (464, 29957), (481, 29861), (497, 29807), (498, 29804), (504, 29780),

Gene: Vitaenoi\_55 Start: 53796, Stop: 52234, Start Num: 78

Candidate Starts for Vitaenoi\_55:

(Start: 36 @53928 has 6 MA's), (Start: 40 @53916 has 2 MA's), (Start: 78 @53796 has 1 MA's), (Start: 101 @53763 has 2 MA's), (Start: 114 @53733 has 2 MA's), (150, 53634), (160, 53598), (165, 53574), (168, 53565), (170, 53556), (Start: 183 @53508 has 1 MA's), (184, 53505), (186, 53499), (187, 53496), (228, 53373), (232, 53352), (251, 53292), (267, 53220), (272, 53199), (275, 53184), (276, 53181), (280, 53172), (320, 53013), (334, 52962), (338, 52950), (339, 52944), (343, 52923), (354, 52878),

(365, 52833), (378, 52791), (389, 52734), (398, 52704), (399, 52701), (400, 52698), (421, 52644), (457, 52521), (462, 52503), (483, 52386), (484, 52383), (488, 52371), (525, 52251),

Gene: Wardwill\_41 Start: 29255, Stop: 27828, Start Num: 138

Candidate Starts for Wardwill\_41:

(Start: 138 @29255 has 140 MA's), (146, 29225), (Start: 147 @29219 has 27 MA's), (Start: 183 @29105 has 1 MA's), (184, 29102), (185, 29099), (251, 28865), (252, 28862), (303, 28607), (309, 28583), (321, 28556), (323, 28550), (339, 28502), (344, 28469), (373, 28355), (376, 28346), (391, 28301), (393, 28295), (401, 28268), (424, 28196), (443, 28124), (450, 28088), (453, 28079), (457, 28064), (459, 28058), (464, 28040), (472, 27998), (484, 27935), (504, 27863),

Gene: Wentworth\_70 Start: 50269, Stop: 48383, Start Num: 17

Candidate Starts for Wentworth\_70:

(9, 50335), (10, 50326), (13, 50305), (16, 50272), (Start: 17 @50269 has 8 MA's), (Start: 22 @50254 has 31 MA's), (27, 50191), (28, 50182), (30, 50170), (44, 50122), (54, 50089), (58, 50077), (63, 50056), (77, 50014), (Start: 113 @49939 has 1 MA's), (123, 49915), (177, 49717), (181, 49708), (194, 49663), (215, 49600), (241, 49492), (254, 49444), (273, 49339), (283, 49288), (292, 49228), (316, 49141), (317, 49138), (344, 49033), (346, 49024), (350, 49012), (381, 48913), (419, 48796), (424, 48784), (433, 48757), (436, 48751), (451, 48667), (468, 48598), (479, 48541), (481, 48523), (499, 48469), (515, 48415),

Gene: WestPM\_37 Start: 29337, Stop: 27952, Start Num: 137

Candidate Starts for WestPM\_37:

(Start: 137 @29337 has 1 MA's), (201, 29124), (221, 29061), (228, 29040), (251, 28947), (252, 28944), (255, 28923), (258, 28902), (280, 28806), (303, 28692), (309, 28668), (323, 28635), (329, 28611), (335, 28599), (339, 28587), (341, 28575), (342, 28572), (344, 28554), (363, 28512), (373, 28479), (377, 28467), (380, 28455), (404, 28383), (450, 28212), (453, 28203), (457, 28188), (459, 28182), (460, 28176), (481, 28068), (484, 28059), (492, 28029), (502, 27996), (504, 27987),

Gene: WildNOut\_41 Start: 31117, Stop: 29729, Start Num: 138

Candidate Starts for WildNOut\_41:

(2, 31768), (31, 31414), (52, 31339), (Start: 138 @31117 has 140 MA's), (181, 30973), (Start: 183 @30967 has 1 MA's), (184, 30964), (221, 30850), (229, 30823), (243, 30763), (251, 30736), (252, 30733), (272, 30637), (280, 30595), (323, 30424), (328, 30403), (339, 30376), (348, 30328), (373, 30268), (424, 30109), (440, 30055), (459, 29971), (460, 29965), (464, 29953), (481, 29857), (497, 29803), (498, 29800), (504, 29776),

Gene: Wilkos\_72 Start: 50432, Stop: 48546, Start Num: 17

Candidate Starts for Wilkos\_72:

(6, 50525), (9, 50498), (10, 50489), (13, 50468), (16, 50435), (Start: 17 @50432 has 8 MA's), (Start: 22 @50417 has 31 MA's), (27, 50354), (28, 50345), (30, 50333), (44, 50285), (54, 50252), (58, 50240), (63, 50219), (77, 50177), (Start: 113 @50102 has 1 MA's), (146, 49994), (158, 49949), (177, 49880), (181, 49871), (215, 49763), (254, 49607), (269, 49523), (273, 49502), (283, 49451), (292, 49391), (317, 49301), (333, 49247), (344, 49196), (346, 49187), (350, 49175), (361, 49142), (381, 49076), (424, 48947), (433, 48920), (436, 48914), (451, 48830), (468, 48761), (471, 48746), (479, 48704), (481, 48686), (499, 48632), (515, 48578),

Gene: WilliamStrong\_40 Start: 30915, Stop: 29497, Start Num: 138

Candidate Starts for WilliamStrong\_40:

(Start: 138 @30915 has 140 MA's), (Start: 141 @30909 has 21 MA's), (146, 30885), (Start: 167 @30807 has 1 MA's), (182, 30768), (Start: 183 @30765 has 1 MA's), (201, 30702), (218, 30651), (225, 30630), (229, 30612), (238, 30573), (251, 30525), (252, 30522), (253, 30519), (258, 30480), (270, 30429), (303, 30267), (319, 30219), (321, 30216), (323, 30210), (328, 30189), (341, 30150), (344,

(30129), (373, 30015), (377, 30003), (391, 29961), (401, 29928), (404, 29919), (424, 29856), (450, 29748), (453, 29739), (457, 29724), (459, 29718), (460, 29712), (464, 29700), (490, 29577), (492, 29565),

Gene: Winzigespinne\_40 Start: 30802, Stop: 29414, Start Num: 138

Candidate Starts for Winzigespinne\_40:

(52, 31024), (Start: 138 @30802 has 140 MA's), (181, 30658), (Start: 183 @30652 has 1 MA's), (184, 30649), (221, 30535), (229, 30508), (243, 30448), (251, 30421), (252, 30418), (272, 30322), (280, 30280), (323, 30109), (328, 30088), (335, 30073), (339, 30061), (348, 30013), (373, 29953), (404, 29857), (424, 29794), (440, 29740), (459, 29656), (460, 29650), (464, 29638), (478, 29563), (497, 29488), (498, 29485), (504, 29461),

Gene: Woes\_57 Start: 53248, Stop: 51707, Start Num: 89

Candidate Starts for Woes\_57:

(26, 53467), (58, 53338), (87, 53251), (Start: 89 @53248 has 3 MA's), (Start: 147 @53119 has 27 MA's), (160, 53074), (Start: 183 @52984 has 1 MA's), (184, 52981), (186, 52975), (192, 52954), (216, 52891), (247, 52783), (253, 52765), (272, 52678), (275, 52663), (287, 52621), (303, 52540), (320, 52492), (330, 52450), (336, 52432), (338, 52429), (343, 52402), (356, 52351), (365, 52315), (380, 52264), (400, 52180), (406, 52159), (457, 52003), (459, 51997), (462, 51985), (487, 51859), (518, 51745),

Gene: Wollypog\_43 Start: 30596, Stop: 32524, Start Num: 19

Candidate Starts for Wollypog\_43:

(Start: 19 @30596 has 1 MA's), (24, 30620), (45, 30746), (60, 30794), (77, 30848), (Start: 106 @30911 has 1 MA's), (Start: 113 @30923 has 1 MA's), (148, 31034), (164, 31100), (166, 31106), (195, 31199), (203, 31229), (210, 31244), (212, 31250), (272, 31514), (281, 31562), (284, 31574), (290, 31619), (306, 31688), (310, 31709), (344, 31829), (365, 31895), (377, 31934), (395, 31997), (453, 32228), (475, 32327), (480, 32354), (504, 32453), (507, 32462),

Gene: Worcestershire\_59 Start: 51468, Stop: 49936, Start Num: 108

Candidate Starts for Worcestershire\_59:

(26, 51723), (34, 51672), (47, 51621), (66, 51567), (76, 51537), (Start: 89 @51504 has 3 MA's), (97, 51495), (Start: 108 @51468 has 25 MA's), (160, 51300), (170, 51258), (Start: 183 @51210 has 1 MA's), (187, 51198), (190, 51186), (192, 51180), (197, 51159), (209, 51132), (253, 50991), (272, 50904), (275, 50889), (280, 50877), (287, 50847), (295, 50796), (302, 50769), (320, 50718), (325, 50694), (330, 50676), (336, 50658), (338, 50655), (343, 50628), (353, 50586), (365, 50541), (400, 50406), (403, 50391), (409, 50370), (444, 50289), (445, 50286), (457, 50229), (459, 50223), (460, 50217), (462, 50211), (477, 50136), (483, 50097), (487, 50085), (488, 50082), (515, 49989), (518, 49974), (525, 49953),

Gene: Yakult\_55 Start: 39767, Stop: 38292, Start Num: 112

Candidate Starts for Yakult\_55:

(Start: 112 @39767 has 12 MA's), (128, 39725), (144, 39677), (Start: 149 @39650 has 1 MA's), (155, 39626), (161, 39596), (168, 39575), (170, 39566), (172, 39560), (201, 39476), (204, 39467), (209, 39458), (212, 39449), (214, 39443), (252, 39320), (261, 39266), (263, 39260), (266, 39254), (275, 39209), (281, 39176), (332, 38972), (335, 38963), (352, 38891), (369, 38846), (374, 38828), (376, 38822), (392, 38777), (394, 38771), (400, 38750), (414, 38702), (415, 38699), (427, 38657), (428, 38654), (433, 38639), (453, 38543), (465, 38492), (478, 38429), (490, 38381), (495, 38360), (511, 38303),

Gene: Yara\_66 Start: 49125, Stop: 47230, Start Num: 17

Candidate Starts for Yara\_66:

(Start: 17 @49125 has 8 MA's), (20, 49113), (Start: 22 @49110 has 31 MA's), (25, 49071), (27, 49047), (28, 49038), (30, 49026), (58, 48933), (77, 48870), (Start: 113 @48795 has 1 MA's), (123, 48771), (127, 48756), (158, 48645), (161, 48624), (177, 48576), (221, 48438), (267, 48240), (273, 48198), (283, 48147), (292, 48087), (293, 48081), (317, 47997), (344, 47892), (350, 47871), (356, 47853), (367, 47820), (381, 47772), (419, 47649), (424, 47637), (433, 47610), (451, 47520), (452, 47517), (468, 47451), (479, 47394), (481, 47376), (482, 47373), (504, 47301), (520, 47250),

Gene: Yarn\_50 Start: 38320, Stop: 36842, Start Num: 109

Candidate Starts for Yarn\_50:

(Start: 109 @38320 has 35 MA's), (144, 38227), (Start: 149 @38200 has 1 MA's), (168, 38125), (Start: 183 @38083 has 1 MA's), (211, 38002), (252, 37870), (261, 37816), (266, 37804), (281, 37726), (304, 37612), (313, 37585), (323, 37561), (332, 37522), (347, 37456), (354, 37435), (374, 37378), (413, 37261), (427, 37213), (433, 37195), (453, 37099), (459, 37078), (465, 37048),

Gene: Yucky\_60 Start: 40876, Stop: 39398, Start Num: 109

Candidate Starts for Yucky\_60:

(67, 40954), (93, 40903), (95, 40900), (Start: 109 @40876 has 35 MA's), (134, 40813), (142, 40792), (144, 40786), (Start: 149 @40759 has 1 MA's), (161, 40705), (172, 40669), (177, 40654), (211, 40558), (214, 40549), (219, 40528), (236, 40462), (252, 40426), (261, 40372), (263, 40366), (266, 40360), (281, 40282), (285, 40267), (304, 40168), (326, 40093), (335, 40069), (339, 40057), (343, 40036), (345, 40021), (347, 40012), (354, 39991), (369, 39952), (372, 39943), (376, 39928), (394, 39877), (414, 39808), (415, 39805), (427, 39763), (433, 39745), (453, 39649), (465, 39598), (472, 39568), (478, 39535), (491, 39478), (496, 39463),

Gene: Yummy\_55 Start: 38695, Stop: 37217, Start Num: 109

Candidate Starts for Yummy\_55:

(Start: 109 @38695 has 35 MA's), (142, 38608), (144, 38602), (155, 38551), (168, 38500), (172, 38485), (201, 38401), (211, 38377), (214, 38368), (252, 38245), (261, 38191), (263, 38185), (266, 38179), (272, 38149), (281, 38101), (304, 37987), (313, 37960), (323, 37936), (343, 37855), (347, 37831), (354, 37810), (369, 37771), (374, 37753), (376, 37747), (413, 37636), (415, 37630), (427, 37588), (433, 37570), (450, 37483), (453, 37474), (459, 37453), (465, 37423), (472, 37393), (478, 37360), (492, 37300), (501, 37270),

Gene: YuuY\_40 Start: 31212, Stop: 29842, Start Num: 141

Candidate Starts for YuuY\_40:

(Start: 141 @31212 has 21 MA's), (159, 31143), (185, 31062), (221, 30951), (229, 30924), (243, 30864), (251, 30837), (252, 30834), (272, 30738), (303, 30582), (323, 30525), (328, 30504), (335, 30489), (339, 30477), (341, 30465), (343, 30456), (344, 30444), (348, 30429), (358, 30405), (373, 30369), (376, 30360), (391, 30315), (402, 30273), (424, 30210), (429, 30198), (438, 30171), (450, 30102), (453, 30093), (457, 30078), (459, 30072), (460, 30066), (464, 30054), (481, 29958), (484, 29949), (490, 29931), (492, 29919),

Gene: Zada\_42 Start: 31090, Stop: 29702, Start Num: 138

Candidate Starts for Zada\_42:

(31, 31387), (52, 31312), (Start: 138 @31090 has 140 MA's), (181, 30946), (Start: 183 @30940 has 1 MA's), (184, 30937), (221, 30823), (229, 30796), (243, 30736), (251, 30709), (252, 30706), (272, 30610), (280, 30568), (302, 30457), (323, 30397), (335, 30361), (339, 30349), (348, 30301), (373, 30241), (404, 30145), (424, 30082), (440, 30028), (459, 29944), (460, 29938), (464, 29926), (481, 29830), (497, 29776), (498, 29773), (504, 29749),

Gene: Zareef\_51 Start: 37928, Stop: 36438, Start Num: 111

Candidate Starts for Zareef\_51:

(Start: 111 @37928 has 6 MA's), (144, 37838), (Start: 149 @37811 has 1 MA's), (160, 37769), (170, 37727), (172, 37721), (Start: 183 @37694 has 1 MA's), (211, 37613), (212, 37610), (214, 37604), (219, 37583), (236, 37517), (261, 37427), (266, 37415), (279, 37352), (281, 37337), (285, 37322), (309, 37205), (313, 37196), (337, 37118), (343, 37091), (344, 37079), (347, 37067), (362, 37028), (369, 37007), (370, 37004), (374, 36989), (394, 36917), (414, 36848), (427, 36803), (440, 36758), (441, 36743), (446, 36713), (453, 36689), (465, 36638), (472, 36608), (485, 36542), (491, 36518), (501, 36485), (511, 36449),

Gene: Zayuliv\_40 Start: 29694, Stop: 28267, Start Num: 138

Candidate Starts for Zayuliv\_40:

(Start: 138 @29694 has 140 MA's), (146, 29664), (Start: 147 @29658 has 27 MA's), (Start: 183 @29544 has 1 MA's), (184, 29541), (185, 29538), (251, 29304), (252, 29301), (303, 29046), (321, 28995), (323, 28989), (339, 28941), (344, 28908), (373, 28794), (376, 28785), (391, 28740), (393, 28734), (401, 28707), (424, 28635), (443, 28563), (450, 28527), (453, 28518), (457, 28503), (459, 28497), (464, 28479), (472, 28437), (484, 28374), (504, 28302),

Gene: Zenitsu\_40 Start: 30973, Stop: 29561, Start Num: 141

Candidate Starts for Zenitsu\_40:

(Start: 140 @30976 has 10 MA's), (Start: 141 @30973 has 21 MA's), (Start: 147 @30943 has 27 MA's), (Start: 149 @30937 has 1 MA's), (159, 30904), (221, 30712), (229, 30685), (243, 30625), (251, 30598), (252, 30595), (258, 30553), (272, 30499), (280, 30457), (303, 30343), (323, 30286), (328, 30265), (335, 30250), (339, 30238), (341, 30226), (342, 30223), (344, 30205), (362, 30124), (373, 30088), (391, 30034), (402, 29992), (414, 29962), (417, 29947), (420, 29938), (423, 29932), (438, 29890), (450, 29821), (457, 29797), (459, 29791), (460, 29785), (464, 29773), (481, 29677), (484, 29668), (490, 29650), (492, 29638), (494, 29632), (505, 29593),

Gene: Zepp\_40 Start: 29128, Stop: 27701, Start Num: 138

Candidate Starts for Zepp\_40:

(Start: 138 @29128 has 140 MA's), (146, 29098), (Start: 147 @29092 has 27 MA's), (Start: 183 @28978 has 1 MA's), (184, 28975), (241, 28774), (251, 28738), (252, 28735), (303, 28480), (321, 28429), (323, 28423), (339, 28375), (341, 28363), (344, 28342), (365, 28255), (373, 28228), (376, 28219), (391, 28174), (401, 28141), (417, 28087), (424, 28069), (443, 27997), (450, 27961), (453, 27952), (457, 27937), (459, 27931), (464, 27913), (484, 27808), (504, 27736),

Gene: Zuko\_72 Start: 51866, Stop: 53398, Start Num: 101

Candidate Starts for Zuko\_72:

(68, 51788), (Start: 101 @51866 has 2 MA's), (115, 51899), (144, 51986), (153, 52028), (154, 52034), (155, 52037), (157, 52043), (162, 52070), (169, 52091), (170, 52097), (184, 52133), (196, 52175), (202, 52196), (209, 52211), (211, 52217), (212, 52220), (250, 52364), (252, 52370), (253, 52373), (261, 52424), (263, 52430), (266, 52436), (270, 52460), (275, 52481), (281, 52514), (291, 52577), (293, 52586), (308, 52649), (337, 52745), (343, 52772), (344, 52784), (347, 52796), (348, 52799), (394, 52916), (420, 53012), (427, 53030), (436, 53054), (450, 53135), (451, 53138), (452, 53141), (465, 53195), (472, 53225), (482, 53282), (490, 53306), (493, 53321),