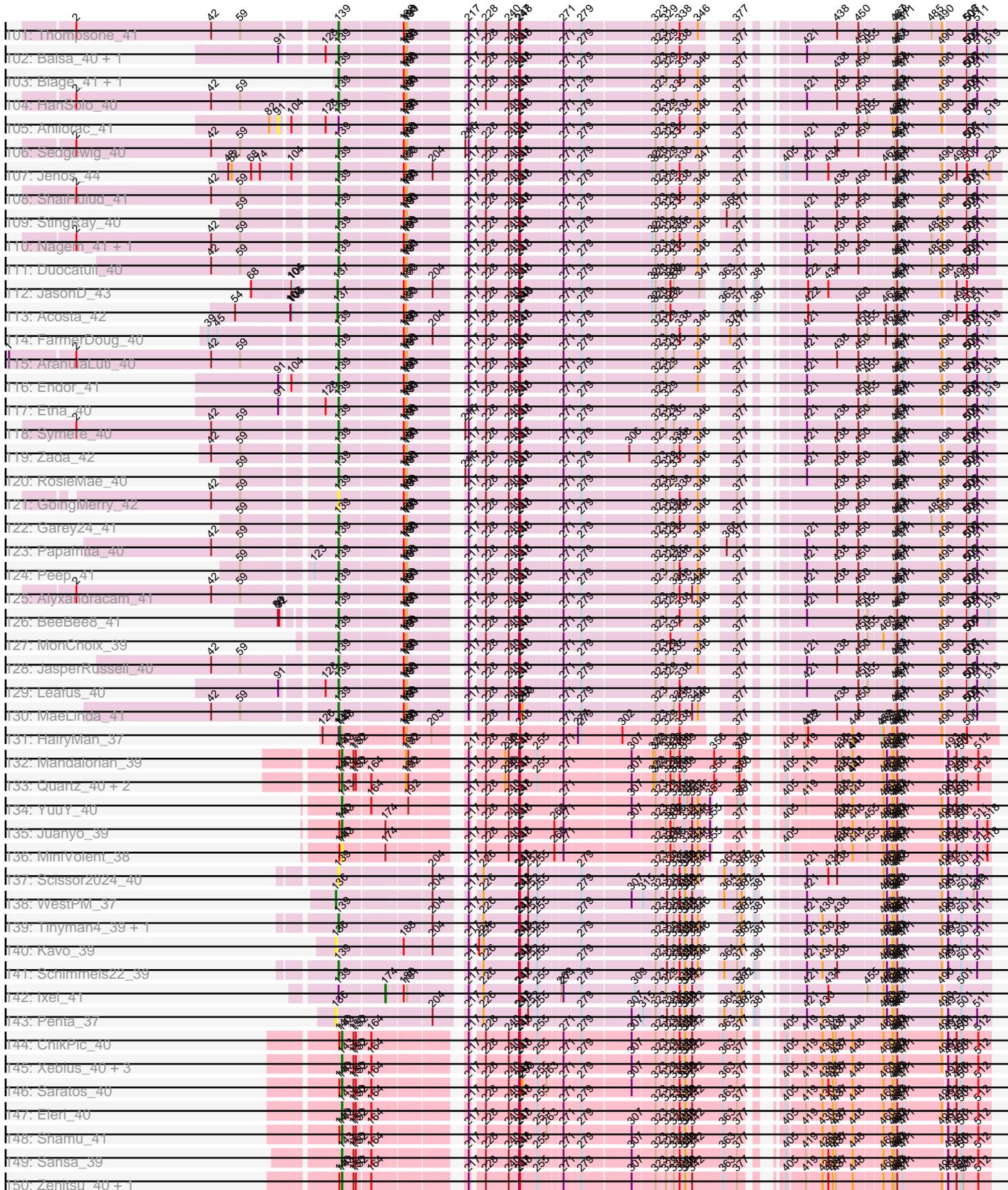






Pham 283378







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 283378 Report

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

Pham number 283378 has 424 members, 88 are drafts.

Phages represented in each track:

- Track 1 : NoShow\_58
- Track 2 : LongHai\_51, Salvus\_51
- Track 3 : JacoRen57\_46
- Track 4 : Maco6\_48, Muddy\_50
- Track 5 : FF47\_48, 8UZL\_50
- Track 6 : Wentworth\_70
- Track 7 : Yara\_66
- Track 8 : Wilkos\_72
- Track 9 : Lizz\_70
- Track 10 : PHTown\_70, ShakeNBake\_70
- Track 11 : Greenbelt\_68
- Track 12 : Rooney\_70
- Track 13 : Dryad\_74
- Track 14 : SassyC\_75
- Track 15 : Gibson\_70
- Track 16 : Virizion\_75
- Track 17 : Zuko\_72
- Track 18 : KimJongPhill\_74
- Track 19 : Starburst\_53, Typhonmarchy\_52, RADical\_54
- Track 20 : RSchmailzl\_54, Bubble\_51
- Track 21 : MunkgeeRoachy\_51
- Track 22 : RedBaron\_56
- Track 23 : Yucky\_59, Vine\_59, PotPie\_56
- Track 24 : Nibbles\_48
- Track 25 : CanesSauce\_52, AndPeggy\_50, ChocoMunchkin\_52, Yarn\_50, Caramellatte\_52, SteamedHams\_54
- Track 26 : Orla\_60
- Track 27 : Gibbous\_48, Dre3\_48
- Track 28 : Agatha\_53, Quasar\_53
- Track 29 : Cozz\_51, Socotra\_54
- Track 30 : Amok\_54
- Track 31 : Elliott\_53, PsychoKiller\_52, GoldHunter\_54, Burnsey\_53, Sopespian\_50, Axym\_52
- Track 32 : ElJefes\_58, McDazzle\_58, SheckWes\_60
- Track 33 : Buttrmlkdreams\_55, Troje\_55
- Track 34 : ChickenTender\_56
- Track 35 : Nina\_53, SweatNTears\_55

- Track 36 : Balloona\_55, SummitAcademy\_56
- Track 37 : HippoPololi\_50
- Track 38 : Survivors\_49
- Track 39 : Mayweather\_61
- Track 40 : SketchMex\_53, Biskit\_55
- Track 41 : GTE2\_44
- Track 42 : MScarn\_57
- Track 43 : Emalyn\_52
- Track 44 : AikoCarson\_54
- Track 45 : MaVan\_49, Wolfwood\_51, Azira\_49
- Track 46 : CocoaPuff\_56
- Track 47 : Hexbug\_60
- Track 48 : MAnor\_58
- Track 49 : Button\_57
- Track 50 : KayGee\_58, Elinal\_60
- Track 51 : Zareef\_49
- Track 52 : Margaret\_58
- Track 53 : Horseradish\_55, Yummy\_55
- Track 54 : Lauer\_52
- Track 55 : Pons\_58
- Track 56 : CherryonLim\_57
- Track 57 : Nodigi\_60
- Track 58 : Fribs8\_48
- Track 59 : Cleo\_47
- Track 60 : RanchParmCat\_57
- Track 61 : Carsonalex\_56
- Track 62 : BigChungus\_56, Feastonyeet\_56
- Track 63 : BillDoor\_53
- Track 64 : Blondies\_56
- Track 65 : Jamzy\_58
- Track 66 : Yakult\_55
- Track 67 : Bavidard\_56
- Track 68 : GiKK\_57
- Track 69 : Tolls\_54
- Track 70 : Phendrix\_173
- Track 71 : GodonK\_184
- Track 72 : BlueNGold\_166, Forza\_170, Mareelih\_167, Boopy\_169
- Track 73 : Sixama\_168
- Track 74 : GMA2\_64
- Track 75 : Mercedes\_36
- Track 76 : HankSprout\_41
- Track 77 : McGalleon\_43
- Track 78 : Kale\_40
- Track 79 : KellyGreen\_42, 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 80 : Thorongil\_41
- Track 81 : Redfield\_40, Schnapsidee\_40
- Track 82 : TatarkaPM\_41, Kurt1\_41, MrWorldwide\_41, Pherferi\_41, Inventa\_41, ParleG\_41, PhredFlintston\_41, NickSell\_41, Martin\_42, Rapheph\_41, MillyPhilly\_41, TinSulphur\_42, Phiderman\_41, Shee\_41
- Track 83 : Winzigespinne\_40
- Track 84 : loannes\_41

- Track 85 : Benjalauren\_41, HungryHenry\_40, Chako\_40, CoraRita\_42, StirfryIV\_40, Rog141\_40, Clancy\_40, Gargoyle\_41, KannH\_40, Ilzat\_40, Jerbirus\_42, Gubbabump\_40
- Track 86 : Vispistious\_41, Oxtober96\_42, Knox\_41, Greys\_41, Lovelyunicorn\_41, Convict\_41, AxiPup\_41, Velene\_41, PuppyEggo\_41, Strathdee\_41, WildNOut\_41, Teagan\_41, Den3\_41, BonesMcCoy\_41
- Track 87 : Klimt\_41, SonOfLevi\_41, Chamuel\_40, Pocket\_40
- Track 88 : SoilGremlin\_42, SolidSnake\_43, Phriends\_41, Delphidian\_41, OldNelly\_42, Merida02\_43
- Track 89 : Espinosa\_40, Exploradora\_40, Christoph\_40, Tenda\_40, Kouch\_41, ManRay\_40, JeriBeth\_42, Aubergine\_40
- Track 90 : GardenB\_40, GoneGirl\_41
- Track 91 : Raccoon\_40, Hamlet\_40
- Track 92 : Robinson\_41, AlexAdler\_41, Janus167\_40, Figueroism\_41, Riyhil\_41
- Track 93 : Asta\_40, Nattles\_40, TeddyBear\_40, Gershwin\_40, Oats\_40
- Track 94 : KingJulien\_40, Soror1\_40, Stormbreaker8\_40
- Track 95 : CarisSwetlik\_44
- Track 96 : Agente005\_41
- Track 97 : Bandik\_41, Stanktossa\_41, Byron23\_42
- Track 98 : PhillyPhantom\_40
- Track 99 : Dothraki\_41
- Track 100 : BeautPeep30\_41, Phireproof\_41
- Track 101 : Thompsone\_41
- Track 102 : Balsa\_40, Peppino\_40
- Track 103 : Blage\_41, BigRedClifford\_41
- Track 104 : HanSolo\_40
- Track 105 : Anilorac\_41
- Track 106 : Sedgewig\_40
- Track 107 : Jenos\_44
- Track 108 : ShaiHulud\_41
- Track 109 : StingRay\_40
- Track 110 : Nagem\_41, SJay\_41
- Track 111 : Duocatuli\_40
- Track 112 : JasonD\_43
- Track 113 : Acosta\_42
- Track 114 : FarmerDoug\_40
- Track 115 : AranulaLuti\_40
- Track 116 : Endor\_41
- Track 117 : Etna\_40
- Track 118 : Symere\_40
- Track 119 : Zada\_42
- Track 120 : RosieMae\_40
- Track 121 : GoingMerry\_42
- Track 122 : Garey24\_41
- Track 123 : Papafritta\_40
- Track 124 : Peep\_41
- Track 125 : Alyxandracam\_41
- Track 126 : BeeBee8\_41
- Track 127 : MonChoix\_39
- Track 128 : JasperRussell\_40
- Track 129 : Leafus\_40
- Track 130 : MaeLinda\_41
- Track 131 : HairyMan\_37

- Track 132 : Mandalorian\_39
- Track 133 : Quartz\_40, Carostasia\_39, Nucci\_39
- Track 134 : YuuY\_40
- Track 135 : Juanyo\_39
- Track 136 : MiniVolent\_38
- Track 137 : Scissor2024\_40
- Track 138 : WestPM\_37
- Track 139 : Tinyman4\_39, HerculesXL\_40
- Track 140 : Kavo\_39
- Track 141 : Schimmels22\_39
- Track 142 : Ixel\_41
- Track 143 : Penta\_37
- Track 144 : ChikPic\_40
- Track 145 : Xebius\_40, Andromedas\_40, ColaCorta\_40, Glamour\_40
- Track 146 : Saratos\_40
- Track 147 : Eleri\_40
- Track 148 : Shamu\_41
- Track 149 : Sansa\_39
- Track 150 : Zenitsu\_40, MCubed\_40
- Track 151 : Finny\_41
- Track 152 : Phanita\_41
- Track 153 : PSirce\_40
- Track 154 : Pajaza\_37, Pikmin\_37, Casey\_37
- Track 155 : Koji\_39
- Track 156 : BouleyBill\_39
- Track 157 : Jingles\_39
- Track 158 : Guetzie\_40, SirVictor\_40
- Track 159 : PrincePhergus\_39
- Track 160 : Kauala\_39
- Track 161 : Sinatra\_40, Bustleton\_39, Pherbot\_39
- Track 162 : RenegadeRaider\_42
- Track 163 : Lucky3\_39, Golden\_39
- Track 164 : LilTerminator\_40
- Track 165 : Alakazam\_40
- Track 166 : Clock\_40
- Track 167 : Zayuliv\_40
- Track 168 : CaptainRex\_40, Librie\_40, Hasitha\_40, Fulton\_40
- Track 169 : TwoBits\_38
- Track 170 : Nebulous\_39
- Track 171 : Wardwill\_41
- Track 172 : QuadZero\_39
- Track 173 : GreenIvy\_40
- Track 174 : Zepp\_40
- Track 175 : BaronJohn\_41
- Track 176 : Neferthena\_41
- Track 177 : Luna18\_42, KatChan\_42
- Track 178 : Juicer\_42, Jemerald\_42
- Track 179 : Morrigan\_42
- Track 180 : WilliamStrong\_40
- Track 181 : Chepli\_42
- Track 182 : Schubert\_39
- Track 183 : GaeCeo\_42, ChickenKing\_40
- Track 184 : Cheeto1\_42

- Track 185 : FountainFog\_39
- Track 186 : Poultruss\_39
- Track 187 : JingleBells\_40
- Track 188 : Gilda\_40, Rachella\_40, OhDear\_40, OverHedge\_40, Anakin\_40, PhunaPhoke\_40, AnnaSerena\_40, Pharpay\_40, CoolCookie\_40, Potty\_40, Artiphact\_40, NarutoRun\_40, Kate\_41
- Track 189 : Cybele\_40, Neptune\_40
- Track 190 : SilentWarrior\_40, Hiddenleaf\_40, Crestdrop\_40, Chivey\_40, FreddieHg\_40, Annapurna\_40
- Track 191 : MortySmith\_38
- Track 192 : Kors\_42
- Track 193 : Dauntless\_39, Erudite\_39
- Track 194 : Sparcetus\_42
- Track 195 : Hager\_41
- Track 196 : Krampus\_40
- Track 197 : Snakehole\_40
- Track 198 : TinyMiny\_42
- Track 199 : Tongui\_40
- Track 200 : RikSengupta\_42
- Track 201 : Tedro\_40
- Track 202 : DannyDe\_40
- Track 203 : Aesir\_39, JDawG\_39
- Track 204 : Bramble\_42
- Track 205 : Rie18\_40
- Track 206 : LordBart\_42
- Track 207 : Karate\_39
- Track 208 : Ajin\_42
- Track 209 : Haunter\_40
- Track 210 : Patbob\_102
- Track 211 : Ellewin\_92
- Track 212 : GoldenEssence\_87
- Track 213 : LeoJr\_100, Atuin\_95, ReginaGlobina\_100
- Track 214 : BooTeria\_97, WaddleDee\_88, Emmetator\_93, DunneganBoMo\_90, Artu\_93
- Track 215 : Phrampa\_96
- Track 216 : Talia1610\_101, Bloom\_105, FrostedClock\_104, Racecar\_102, Mimi\_101
- Track 217 : Rockabye\_105
- Track 218 : Chilliams\_99
- Track 219 : Panchaali\_97
- Track 220 : Stewart25555\_92
- Track 221 : FloraSnap32\_101
- Track 222 : SJReid\_105
- Track 223 : KSunshine22\_95
- Track 224 : Roberts\_38, Gerri43\_39, AnnabelLee\_38, ChipsNGuac\_39, ChamoyPickle\_40, CardboardBox\_39, Neuville\_38
- Track 225 : Ezurina\_37
- Track 226 : Studio\_40
- Track 227 : TripleC\_38
- Track 228 : Mireles\_41
- Track 229 : LastNadiia\_40
- Track 230 : TMaxx\_40
- Track 231 : Audell\_37

- Track 232 : Makima\_38
- Track 233 : Agamoto\_38
- Track 234 : Dewdrop\_117, Leaf\_117
- Track 235 : Rasputia\_111
- Track 236 : Hendrix\_115
- Track 237 : Dodo\_114, A3Wally\_114, PauloDiaboli\_114
- Track 238 : Zooman\_98
- Track 239 : Big4\_103
- Track 240 : Erasmago\_105
- Track 241 : Cece\_97
- Track 242 : Pumpnickel\_111
- Track 243 : Huwburt\_59
- Track 244 : Triscuit\_58
- Track 245 : Laure\_105
- Track 246 : Shrew\_71
- Track 247 : Wollypog\_43

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

The start number called the most often in the published annotations is 139, it was called in 146 of the 336 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 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, Benjalaren\_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, CoraRita\_42, 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, GoingMerry\_42, GoneGirl\_41, Greenlvy\_40, Greys\_41, Gubbabump\_40, Hamlet\_40, HanSolo\_40, HankSprout\_41, Hasitha\_40, HerculesXL\_40, HungryHenry\_40, Ilzat\_40, Inventa\_41, Ioannes\_41, Janus167\_40, JasperRussell\_40, Jemerald\_42, Jenos\_44, Jerbirus\_42, JeriBeth\_42, Juicer\_42, Kale\_40, KannH\_40, KatChan\_42, KellyGreen\_42, KingJulien\_40, Klimt\_41, Knox\_41, Kouch\_41, Kurt1\_41, Leafus\_40, Librie\_40, LilTerminator\_40, Lovelyunicorn\_41, Ludgate\_41, Luna18\_42, MaeLinda\_41, ManRay\_40, Martin\_42, McGalleon\_43, Mercedes\_36, Merida02\_43, 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, Rihhil\_41, Robinson\_41, Rog141\_40, RosieMae\_40, SJay\_41, Schimmels22\_39, Schnapsidee\_40, Scissor2024\_40, Sedgewig\_40, ShaiHulud\_41, Shee\_41, SoilGremlin\_42, SolidSnake\_43, SonOfLevi\_41, Soror1\_40, Stanktossa\_41, StingRay\_40, StirfryIV\_40, Stormbreaker8\_40, Strathdee\_41, Superfresh\_41, Symere\_40, TatarkaPM\_41, Teagan\_41, TeddyBear\_40, Tenda\_40, Thompsone\_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:

• Agamoto\_38, Anilorac\_41, AnnabelLee\_38, Artu\_93, Atuin\_95, Audell\_37, BaronJohn\_41, BooTeria\_97, CardboardBox\_39, CarisSwetlik\_44, ChamoyPickle\_40, Chilliams\_99, ChipsNGuac\_39, DunneganBoMo\_90, Ellewin\_92, Emmetator\_93, Ezurina\_37, Gerri43\_39, HairyMan\_37, Ixel\_41, KSunshine22\_95, LastNadiia\_40, Laure\_105, LeoJr\_100, Makima\_38, Mireles\_41, Morrigan\_42, Neuville\_38, Panchaali\_97, PhillyPhantom\_40, ReginaGlobina\_100, Roberts\_38, Rockabye\_105, SJReid\_105, Stewart25555\_92, Studio\_40, TMaxx\_40, TripleC\_38, TwoBits\_38, WaddleDee\_88,

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

• 8UZL\_50, A3Wally\_114, Acosta\_42, Aesir\_39, Agatha\_53, AikoCarson\_54, Ajin\_42, Alakazam\_40, Amok\_54, Anakin\_40, AndPeggy\_50, Andromedas\_40, AnnaSerena\_40, Annapurna\_40, Artiphact\_40, Axym\_52, Azira\_49, Balloona\_55, Bavidard\_56, Big4\_103, BigChungus\_56, BillDoor\_53, Biskit\_55, Blondies\_56, Bloom\_105, BlueNGold\_166, Boopy\_169, BouleyBill\_39, Bramble\_42, Bubble\_51, Burnsey\_53, Bustleton\_39, Button\_57, Buttrmlkdreams\_55, CanesSauce\_52, CaramelLatte\_52, Carostasia\_39, Carsonalex\_56, Casey\_37, Cece\_97, CherryonLim\_57, ChickenTender\_56, ChikPic\_40, Chivey\_40, ChocoMunchkin\_52, Cleo\_47, Clock\_40, CocoaPuff\_56, ColaCorta\_40, CoolCookie\_40, Cozz\_51, Crestdrop\_40, Cybele\_40, DannyDe\_40, Dauntless\_39, Dewdrop\_117, Dodo\_114, Dre3\_48, Dryad\_74, ElJefes\_58, Eleri\_40, Elinal\_60, Elliott\_53, Emalyn\_52, Erasmago\_105, Erudite\_39, FF47\_48, Feastonyet\_56, Finny\_41, FloraSnap32\_101, Forza\_170, FountainFog\_39, FreddieHg\_40, Fribs8\_48, FrostedClock\_104, GMA2\_64, GTE2\_44, GiKK\_57, Gibbous\_48, Gibson\_70, Gilda\_40, Glamour\_40, GodonK\_184, GoldHunter\_54, GoldenEssence\_87, Golden\_39, Greenbelt\_68, Guetzie\_40, Hager\_41, Haunter\_40, Hendrix\_115, Hexbug\_60, Hiddenleaf\_40, HippoPololi\_50, Horseradish\_55, Huwburt\_59, JDawG\_39, JacoRen57\_46, Jamzy\_58, JasonD\_43, JingleBells\_40, Jingles\_39, Juanyo\_39, Karate\_39, Kate\_41, Kauaia\_39, Kavo\_39, KayGee\_58, KimJongPhill\_74, Koji\_39, Kors\_42, Krampus\_40, Lauer\_52, Leaf\_117, Lizz\_70, LongHai\_51, LordBart\_42, Lucky3\_39, MAnor\_58, MCubed\_40, MScarn\_57, MaVan\_49, Maco6\_48, Mandalorian\_39, Mareelih\_167, Margaret\_58, Mayweather\_61, McDazzle\_58, Mimi\_101, MiniVolent\_38, MortySmith\_38, Muddy\_50, MunkgeeRoachy\_51, NarutoRun\_40, Nebulous\_39, Neferthena\_41, Neptune\_40, Nibbles\_48, Nina\_53, NoShow\_58, Nodigi\_60, Nucci\_39, OhDear\_40, Orla\_60, OverHedge\_40, PHTown\_70, PSirce\_40, Pajaza\_37, Patbob\_102, PauloDiaboli\_114, Penta\_37, Phanita\_41, Pharpay\_40, Phendrix\_173, Pherbot\_39, Phrampa\_96, PhunaPhoke\_40, Pikmin\_37, Pons\_58, PotPie\_56, Potty\_40, Poultruss\_39, PrincePhergus\_39, PsychoKiller\_52, Pumpernickel\_111, Quartz\_40, Quasar\_53, RADical\_54, RSchmailzl\_54, Racecar\_102, Rachella\_40, RanchParmCat\_57, Rasputia\_111, RedBaron\_56, RenegadeRaider\_42, Rie18\_40, RikSengupta\_42, Rooney\_70, Salvus\_51, Sansa\_39, Saratos\_40, SassyC\_75, Schubert\_39, ShakeNBake\_70, Shamu\_41, SheckWes\_60, Shrew\_71, SilentWarrior\_40, Sinatra\_40, SirVictor\_40, Sixama\_168, SketchMex\_53, Snakehole\_40, Socotra\_54, Sopeesian\_50, Sparcetus\_42, Starburst\_53, SteamedHams\_54, SummitAcademy\_56, Survivors\_49, SweatNTears\_55, Talia1610\_101, Tedro\_40, TinyMiny\_42, Tolls\_54, Tongui\_40, Triscuit\_58, Troje\_55, Typhonmarchy\_52, Vine\_59, Virizion\_75, Wentworth\_70, WestPM\_37, Wilkos\_72, Wolfwood\_51, Wollypog\_43, Xebius\_40, Yakult\_55, Yara\_66, Yarn\_50, Yucky\_59, Yummy\_55, YuuY\_40, Zareef\_49, Zenitsu\_40, Zooman\_98, Zuko\_72,

## Summary by start number:

### Start 6:

- Found in 8 of 424 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 12.5% of time when present
- Phage (with cluster) where this start called: TinyMiny\_42 (EF),

### Start 12:

- Found in 4 of 424 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 4 of 336
- 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 17:

- Found in 1 of 424 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greenbelt\_68 (BN),

### Start 18:

- Found in 2 of 424 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Cece\_97 (GD3),

### Start 20:

- Found in 5 of 424 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 5 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_166 (DS), Boopy\_169 (DS), Forza\_170 (DS), Mareelih\_167 (DS), Sixama\_168 (DS),

### Start 21:

- Found in 37 of 424 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 16 of 336
- Called 97.3% of time when present
- Phage (with cluster) where this start called: Artu\_93 (FC), Atuin\_95 (FC), Bloom\_105 (FC), BooTeria\_97 (FC), Chilliams\_99 (FC), Dryad\_74 (BN), DunneganBoMo\_90 (FC), Ellewin\_92 (FC), Emmetator\_93 (FC), FloraSnap32\_101 (FC), FrostedClock\_104 (FC), GMA2\_64 (DS), Gibson\_70 (BN), GoldenEssence\_87 (FC), KSunshine22\_95 (FC), Laure\_105 (UNK), LeoJr\_100 (FC), Lizz\_70 (BN), Mimi\_101 (FC), PHTowN\_70 (BN), Panchaali\_97 (FC), Patbob\_102 (FC), Phrampa\_96 (FC), Racecar\_102 (FC), ReginaGlobina\_100 (FC), Rockabye\_105 (FC), Rooney\_70 (BN), SJReid\_105 (FC), SassyC\_75 (BN), ShakeNBake\_70 (BN), Stewart25555\_92 (FC), Talia1610\_101 (FC), WaddleDee\_88 (FC), Wentworth\_70 (BN), Wilkos\_72 (BN), Yara\_66 (BN),

### Start 22:

- Found in 1 of 424 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 336

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wollypog\_43 (singleton),

#### Start 23:

- Found in 25 of 424 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 9 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally\_114 (GD1), Agamoto\_38 (FR), AnnabellLee\_38 (FR), Audell\_37 (FR), Big4\_103 (GD2), CardboardBox\_39 (FR), ChamoyPickle\_40 (FR), ChipsNGuac\_39 (FR), Dodo\_114 (GD1), Erasmago\_105 (GD2), Ezurina\_37 (FR), Gerri43\_39 (FR), GodonK\_184 (DK), LastNadiia\_40 (FR), Makima\_38 (FR), Mireles\_41 (FR), Neuville\_38 (FR), PauloDiaboli\_114 (GD1), Phendrix\_173 (DK), Pumpernickel\_111 (GD4), Roberts\_38 (FR), Studio\_40 (FR), TMaxx\_40 (FR), TripleC\_38 (FR), Zooman\_98 (GD2),

#### Start 26:

- Found in 38 of 424 ( 9.0% ) of genes in pham
- Manual Annotations of this start: 34 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir\_39 (EF), Anakin\_40 (EF), AnnaSerena\_40 (EF), Annapurna\_40 (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), FountainFog\_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), OhDear\_40 (EF), OverHedge\_40 (EF), Pharpay\_40 (EF), PhunaPhoke\_40 (EF), Potty\_40 (EF), Poultruss\_39 (EF), Rachella\_40 (EF), Rie18\_40 (EF), SilentWarrior\_40 (EF), Snakehole\_40 (EF), Tedro\_40 (EF), Tongui\_40 (EF),

#### Start 28:

- Found in 16 of 424 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 6 of 336
- Called 43.8% of time when present
- Phage (with cluster) where this start called: Ajin\_42 (EF), Bramble\_42 (EF), Kors\_42 (EF), LordBart\_42 (EF), RikSengupta\_42 (EF), Sparcetus\_42 (EF), Virizion\_75 (BN),

#### Start 91:

- Found in 12 of 424 ( 2.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Anilorac\_41 (EA1),

#### Start 99:

- Found in 6 of 424 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 8UZL\_50 (AB), FF47\_48 (AB), LongHai\_51 (AB), Maco6\_48 (AB), Muddy\_50 (AB), Salvus\_51 (AB),

#### Start 104:

- Found in 7 of 424 ( 1.7% ) of genes in pham
- No Manual Annotations of this start.

- Called 14.3% of time when present
- Phage (with cluster) where this start called: CarisSwetlik\_44 (EA1),

#### Start 106:

- Found in 2 of 424 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KimJongPhill\_74 (BR), Zuko\_72 (BR),

#### Start 111:

- Found in 2 of 424 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Triscuit\_58 (GG),

#### Start 113:

- Found in 3 of 424 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: RedBaron\_56 (CT),

#### Start 114:

- Found in 60 of 424 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 1.7% of time when present
- Phage (with cluster) where this start called: Huwbert\_59 (GG),

#### Start 116:

- Found in 66 of 424 ( 15.6% ) of genes in pham
- Manual Annotations of this start: 46 of 336
- Called 95.5% 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), Azira\_49 (CT), Balloona\_55 (CT), Bavailard\_56 (CT), BigChungus\_56 (CT), BillDoor\_53 (CT), Biskit\_55 (CT), Blondies\_56 (CT), Bubble\_51 (CT), Burnsey\_53 (CT), Buttrmlkdreams\_55 (CT), CanesSauce\_52 (CT), CaramelLatte\_52 (CT), CherryonLim\_57 (CT), ChickenTender\_56 (CT), ChocoMunchkin\_52 (CT), Cleo\_47 (CT), Cozz\_51 (CT), ElJefes\_58 (CT), Elinal\_60 (CT), Elliott\_53 (CT), Emalyn\_52 (CT), Feastonyeet\_56 (CT), GoldHunter\_54 (CT), HippoPololi\_50 (CT), Horseradish\_55 (CT), KayGee\_58 (CT), Lauer\_52 (CT), MAnor\_58 (CT), MScarn\_57 (CT), MaVan\_49 (CT), McDazzle\_58 (CT), MunkgeeRoachy\_51 (CT), Nibbles\_48 (CT), Nina\_53 (CT), Pons\_58 (CT), PotPie\_56 (CT), PsychoKiller\_52 (CT), Quasar\_53 (CT), RADical\_54 (CT), RSchmailzl\_54 (CT), SheckWes\_60 (CT), SketchMex\_53 (CT), Socotra\_54 (CT), Sopespian\_50 (CT), Starburst\_53 (CT), SteamedHams\_54 (CT), SummitAcademy\_56 (CT), Survivors\_49 (CT), SweatNTears\_55 (CT), Tolls\_54 (CT), Troje\_55 (CT), Typhonmarchy\_52 (CT), Vine\_59 (CT), Wolfwood\_51 (CT), Yarn\_50 (CT), Yucky\_59 (CT), Yummy\_55 (CT), Zareef\_49 (CT),

#### Start 117:

- Found in 3 of 424 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 3 of 336
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Dre3\_48 (CT), Fribs8\_48 (CT), Gibbous\_48 (CT),

#### Start 119:

- Found in 14 of 424 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 10 of 336
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Button\_57 (CT), GiKK\_57 (CT), Hexbug\_60 (CT), Jamzy\_58 (CT), Margaret\_58 (CT), Nodigi\_60 (CT), Orla\_60 (CT), RanchParmCat\_57 (CT), Shrew\_71 (singleton), Yakult\_55 (CT),

#### Start 120:

- Found in 2 of 424 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57\_46 (AB), NoShow\_58 (AB),

#### Start 134:

- Found in 7 of 424 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 42.9% of time when present
- Phage (with cluster) where this start called: BouleyBill\_39 (EA4), Jingles\_39 (EA4), Kauala\_39 (EA4),

#### Start 136:

- Found in 3 of 424 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kav0\_39 (EA11), Penta\_37 (EA11), WestPM\_37 (EA11),

#### Start 137:

- Found in 6 of 424 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 6 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acosta\_42 (EA1), Alakazam\_40 (EA5), Clock\_40 (EA5), JasonD\_43 (EA1), Nebulous\_39 (EA5), Neferthena\_41 (EA5),

#### Start 138:

- Found in 1 of 424 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Schubert\_39 (EA8),

#### Start 139:

- Found in 197 of 424 ( 46.5% ) of genes in pham
- Manual Annotations of this start: 146 of 336
- Called 79.7% of time when present
- Phage (with cluster) where this start called: 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), CoraRita\_42 (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), GoingMerry\_42 (EA1), GoneGirl\_41 (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), JasperRussell\_40 (EA1), Jemerald\_42 (EA6), Jenos\_44 (EA1), Jerbirus\_42 (EA1), JeriBeth\_42 (EA1), Juicer\_42 (EA6), Kale\_40 (EA1), KannH\_40 (EA1), KatChan\_42 (EA6), KellyGreen\_42 (EA1), KingJulien\_40 (EA1), Klimt\_41 (EA1), Knox\_41 (EA1), Kouch\_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), McGalleon\_43 (EA1), Mercedes\_36 (EA), Merida02\_43 (EA1), 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), Rappheph\_41 (EA1), Raptor\_41 (EA1), Redfield\_40 (EA1), Renzie\_41 (EA1), Riyhil\_41 (EA1), Robinson\_41 (EA1), Rog141\_40 (EA1), RosieMae\_40 (EA1), SJay\_41 (EA1), Schimmels22\_39 (EA11), Schnapsidee\_40 (EA1), Scissor2024\_40 (EA11), Sedgewig\_40 (EA1), ShaiHulud\_41 (EA1), Shee\_41 (EA1), SoilGremlin\_42 (EA1), SolidSnake\_43 (EA1), SonOfLevi\_41 (EA1), Soror1\_40 (EA1), Stanktossa\_41 (EA1), StingRay\_40 (EA1), StirfryIV\_40 (EA1), Stormbreaker8\_40 (EA1), Strathdee\_41 (EA1), Superfresh\_41 (EA1), Symere\_40 (EA1), TatarkaPM\_41 (EA1), Teagan\_41 (EA1), TeddyBear\_40 (EA1), Tenda\_40 (EA1), Thompsone\_41 (EA1), Thorongil\_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 27 of 424 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 8 of 336
- Called 29.6% of time when present
- Phage (with cluster) where this start called: Bustleton\_39 (EA4), Golden\_39 (EA4), Koji\_39 (EA4), Lucky3\_39 (EA4), Phanita\_41 (EA2), Pherbot\_39 (EA4), PrincePhergus\_39 (EA4), Sinatra\_40 (EA4),

Start 141:

- Found in 2 of 424 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 336
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HairyMan\_37 (EA10), Morrigan\_42 (EA6),

Start 143:

- Found in 41 of 424 ( 9.7% ) of genes in pham

- Manual Annotations of this start: 22 of 336
- Called 58.5% 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), MiniVolent\_38 (EA10), Nucci\_39 (EA10), PSirce\_40 (EA2), Pajaza\_37 (EA3), Pikmin\_37 (EA3), Quartz\_40 (EA10), Sansa\_39 (EA2), Saratos\_40 (EA2), Shamu\_41 (EA2), SirVictor\_40 (EA4), Xebius\_40 (EA2), YuuY\_40 (EA10), Zenitsu\_40 (EA2),

#### Start 146:

- Found in 93 of 424 ( 21.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Carsonalex\_56 (CT), CocoaPuff\_56 (CT), GTE2\_44 (CT),

#### Start 150:

- Found in 44 of 424 ( 10.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.3% of time when present
- Phage (with cluster) where this start called: BaronJohn\_41 (EA5),

#### Start 152:

- Found in 69 of 424 ( 16.3% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 1.4% of time when present
- Phage (with cluster) where this start called: Finny\_41 (EA2),

#### Start 174:

- Found in 6 of 424 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ixel\_41 (EA11), TwoBits\_38 (EA5),

#### Start 188:

- Found in 162 of 424 ( 38.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.2% of time when present
- Phage (with cluster) where this start called: PhillyPhantom\_40 (EA1), RenegadeRaider\_42 (EA4),

#### Start 190:

- Found in 203 of 424 ( 47.9% ) of genes in pham
- Manual Annotations of this start: 1 of 336
- Called 0.5% of time when present
- Phage (with cluster) where this start called: Mayweather\_61 (CT),

### Summary by clusters:

There are 28 clusters represented in this pham: GD1, FR, GD3, GD4, DK, BN, GD2, FC, BR, DS, EA2, EA6, AB, EF, EA, EA3, EA8, GC, EA1, singleton, UNK, EA5, EA4, CT, EA9, EA11, EA10, GG,

Info for manual annotations of cluster AB:

- Start number 99 was manually annotated 2 times for cluster AB.
- Start number 120 was manually annotated 2 times for cluster AB.

Info for manual annotations of cluster BN:

- Start number 17 was manually annotated 1 time for cluster BN.
- Start number 21 was manually annotated 8 times for cluster BN.

Info for manual annotations of cluster BR:

- Start number 106 was manually annotated 2 times for cluster BR.

Info for manual annotations of cluster CT:

- Start number 116 was manually annotated 46 times for cluster CT.
- Start number 117 was manually annotated 3 times for cluster CT.
- Start number 119 was manually annotated 9 times for cluster CT.
- Start number 190 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster DK:

- Start number 23 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DS:

- Start number 20 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster EA:

- Start number 139 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EA1:

- Start number 137 was manually annotated 2 times for cluster EA1.
- Start number 139 was manually annotated 124 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 141 was manually annotated 1 time for cluster EA10.
- Start number 143 was manually annotated 6 times for cluster EA10.

Info for manual annotations of cluster EA11:

- Start number 136 was manually annotated 1 time for cluster EA11.
- Start number 139 was manually annotated 3 times for cluster EA11.
- Start number 174 was manually annotated 1 time for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 140 was manually annotated 1 time for cluster EA2.
- Start number 143 was manually annotated 11 times for cluster EA2.
- Start number 152 was manually annotated 1 time for cluster EA2.

Info for manual annotations of cluster EA3:

- Start number 143 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 134 was manually annotated 2 times for cluster EA4.
- Start number 140 was manually annotated 7 times for cluster EA4.
- Start number 143 was manually annotated 2 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 137 was manually annotated 4 times for cluster EA5.
- Start number 139 was manually annotated 9 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 139 was manually annotated 6 times for cluster EA6.
- Start number 141 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 139 was manually annotated 3 times for cluster EA9.

Info for manual annotations of cluster EF:

- Start number 6 was manually annotated 1 time for cluster EF.
- Start number 26 was manually annotated 34 times for cluster EF.
- Start number 28 was manually annotated 6 times for cluster EF.

Info for manual annotations of cluster FC:

- Start number 21 was manually annotated 8 times for cluster FC.

Info for manual annotations of cluster FR:

- Start number 23 was manually annotated 2 times for cluster FR.

Info for manual annotations of cluster GC:

- Start number 12 was manually annotated 4 times for cluster GC.

Info for manual annotations of cluster GD1:

- Start number 23 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 23 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 18 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 23 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster GG:

- Start number 111 was manually annotated 1 time for cluster GG.
- Start number 114 was manually annotated 1 time for cluster GG.

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

Gene: 8UZL\_50 Start: 38971, Stop: 37460, Start Num: 99

Candidate Starts for 8UZL\_50:

(Start: 99 @38971 has 2 MA's), (118, 38935), (145, 38845), (146, 38842), (159, 38794), (181, 38725), (213, 38611), (249, 38482), (259, 38431), (261, 38425), (263, 38419), (269, 38395), (281, 38341),

(318, 38200), (319, 38197), (331, 38140), (345, 38068), (346, 38065), (430, 37870), (441, 37825), (460, 37720), (473, 37660), (512, 37492), (517, 37471),

Gene: A3Wally\_114 Start: 79188, Stop: 77338, Start Num: 23

Candidate Starts for A3Wally\_114:

(8, 79257), (11, 79251), (Start: 23 @79188 has 9 MA's), (33, 79143), (34, 79131), (65, 79005), (85, 78942), (125, 78867), (157, 78759), (163, 78741), (183, 78672), (192, 78645), (217, 78585), (255, 78420), (288, 78276), (304, 78189), (311, 78162), (321, 78126), (323, 78117), (337, 78060), (338, 78054), (345, 78009), (349, 77997), (359, 77976), (367, 77952), (382, 77916), (401, 77871), (431, 77787), (432, 77784), (433, 77778), (448, 77715), (467, 77613), (484, 77526), (492, 77484), (506, 77433),

Gene: Acosta\_42 Start: 31547, Stop: 30141, Start Num: 137

Candidate Starts for Acosta\_42:

(54, 31790), (103, 31649), (104, 31646), (105, 31643), (Start: 137 @31547 has 6 MA's), (188, 31400), (Start: 190 @31394 has 1 MA's), (217, 31277), (228, 31250), (240, 31190), (247, 31163), (248, 31160), (249, 31157), (271, 31064), (279, 31022), (321, 30860), (323, 30851), (329, 30830), (332, 30824), (363, 30731), (377, 30695), (387, 30671), (422, 30596), (450, 30482), (462, 30422), (467, 30398), (468, 30392), (471, 30380), (498, 30257), (506, 30230), (511, 30203),

Gene: Aesir\_39 Start: 25591, Stop: 27498, Start Num: 26

Candidate Starts for Aesir\_39:

(4, 25417), (Start: 26 @25591 has 34 MA's), (36, 25654), (41, 25675), (51, 25729), (94, 25864), (Start: 114 @25906 has 1 MA's), (129, 25951), (182, 26125), (185, 26134), (207, 26224), (216, 26266), (219, 26281), (263, 26467), (292, 26602), (294, 26614), (303, 26647), (328, 26740), (338, 26776), (363, 26866), (375, 26893), (460, 27202), (461, 27205), (473, 27265), (490, 27355), (498, 27385), (508, 27427), (522, 27478),

Gene: Agamoto\_38 Start: 29155, Stop: 27347, Start Num: 23

Candidate Starts for Agamoto\_38:

(14, 29200), (Start: 23 @29155 has 9 MA's), (34, 29095), (47, 29032), (92, 28894), (133, 28777), (Start: 139 @28765 has 146 MA's), (165, 28681), (220, 28543), (262, 28357), (278, 28264), (285, 28243), (323, 28072), (326, 28057), (338, 28009), (369, 27940), (373, 27934), (378, 27919), (396, 27880), (399, 27871), (408, 27853), (418, 27817), (420, 27814), (427, 27796), (430, 27778), (431, 27775), (463, 27622), (469, 27589), (475, 27562), (480, 27541), (484, 27514), (505, 27424), (516, 27373),

Gene: Agatha\_53 Start: 38842, Stop: 37364, Start Num: 116

Candidate Starts for Agatha\_53:

(Start: 116 @38842 has 46 MA's), (144, 38755), (146, 38749), (175, 38647), (211, 38524), (212, 38521), (259, 38338), (261, 38332), (263, 38326), (281, 38248), (308, 38134), (318, 38107), (323, 38083), (338, 38023), (345, 37978), (351, 37957), (372, 37918), (379, 37900), (429, 37783), (441, 37735), (442, 37732), (445, 37717), (463, 37621), (467, 37600), (473, 37570),

Gene: Agente005\_41 Start: 31381, Stop: 29990, Start Num: 139

Candidate Starts for Agente005\_41:

(Start: 139 @31381 has 146 MA's), (188, 31234), (Start: 190 @31228 has 1 MA's), (191, 31225), (217, 31111), (240, 31024), (247, 30997), (248, 30994), (271, 30898), (279, 30856), (323, 30685), (329, 30664), (338, 30637), (346, 30589), (377, 30529), (450, 30316), (455, 30298), (467, 30232), (468, 30226), (471, 30214), (490, 30118), (506, 30064), (507, 30061), (519, 30007),

Gene: AikoCarson\_54 Start: 39107, Stop: 37629, Start Num: 116

Candidate Starts for AikoCarson\_54:

(Start: 116 @39107 has 46 MA's), (144, 39020), (146, 39014), (175, 38912), (204, 38813), (209, 38795), (211, 38789), (214, 38780), (248, 38657), (259, 38603), (261, 38597), (263, 38591), (281, 38513), (308, 38399), (318, 38372), (323, 38348), (332, 38309), (341, 38267), (345, 38243), (351, 38222), (379, 38165), (429, 38048), (441, 38000), (442, 37997), (445, 37982), (463, 37886), (467, 37865), (473, 37835), (480, 37805), (512, 37667),

Gene: Ajin\_42 Start: 26641, Stop: 28575, Start Num: 28

Candidate Starts for Ajin\_42:

(3, 26401), (Start: 6 @26545 has 1 MA's), (25, 26635), (Start: 28 @26641 has 6 MA's), (51, 26788), (57, 26806), (60, 26815), (Start: 114 @26965 has 1 MA's), (154, 27091), (182, 27181), (185, 27190), (207, 27280), (216, 27322), (222, 27352), (253, 27484), (294, 27670), (299, 27688), (303, 27703), (319, 27760), (335, 27820), (350, 27892), (400, 28030), (424, 28096), (430, 28126), (449, 28204), (461, 28282), (473, 28342), (482, 28381), (490, 28432), (497, 28450), (523, 28558),

Gene: Alakazam\_40 Start: 30804, Stop: 29374, Start Num: 137

Candidate Starts for Alakazam\_40:

(Start: 137 @30804 has 6 MA's), (148, 30771), (Start: 190 @30651 has 1 MA's), (191, 30648), (204, 30588), (215, 30537), (224, 30516), (226, 30504), (247, 30411), (248, 30408), (277, 30276), (307, 30153), (323, 30096), (329, 30075), (338, 30048), (339, 30036), (342, 30015), (356, 29958), (363, 29937), (377, 29901), (382, 29889), (405, 29847), (414, 29820), (421, 29805), (438, 29742), (443, 29730), (460, 29634), (463, 29625), (466, 29610), (467, 29604), (468, 29598), (493, 29481), (498, 29463), (501, 29451), (511, 29409),

Gene: AlexAdler\_41 Start: 31109, Stop: 29721, Start Num: 139

Candidate Starts for AlexAdler\_41:

(59, 31331), (Start: 139 @31109 has 146 MA's), (188, 30965), (Start: 190 @30959 has 1 MA's), (191, 30956), (217, 30842), (228, 30815), (240, 30755), (247, 30728), (248, 30725), (271, 30629), (279, 30587), (323, 30416), (329, 30395), (335, 30380), (338, 30368), (346, 30320), (377, 30260), (421, 30164), (438, 30101), (450, 30047), (467, 29963), (468, 29957), (471, 29945), (490, 29849), (506, 29795), (507, 29792), (511, 29768),

Gene: Alyxandracam\_41 Start: 31119, Stop: 29731, Start Num: 139

Candidate Starts for Alyxandracam\_41:

(2, 31770), (42, 31416), (59, 31341), (Start: 139 @31119 has 146 MA's), (188, 30975), (Start: 190 @30969 has 1 MA's), (191, 30966), (217, 30852), (228, 30825), (240, 30765), (247, 30738), (248, 30735), (271, 30639), (279, 30597), (323, 30426), (335, 30390), (338, 30378), (342, 30345), (346, 30330), (377, 30270), (421, 30174), (438, 30111), (450, 30057), (467, 29973), (468, 29967), (471, 29955), (490, 29859), (506, 29805), (507, 29802), (511, 29778),

Gene: Amok\_54 Start: 39035, Stop: 37557, Start Num: 116

Candidate Starts for Amok\_54:

(Start: 116 @39035 has 46 MA's), (144, 38948), (146, 38942), (175, 38840), (Start: 190 @38798 has 1 MA's), (204, 38741), (209, 38723), (211, 38717), (248, 38585), (259, 38531), (261, 38525), (263, 38519), (281, 38441), (308, 38327), (318, 38300), (323, 38276), (332, 38237), (341, 38195), (345, 38171), (351, 38150), (376, 38102), (379, 38093), (429, 37976), (441, 37928), (445, 37910), (463, 37814), (467, 37793), (473, 37763), (480, 37733), (512, 37595),

Gene: Anakin\_40 Start: 25911, Stop: 27818, Start Num: 26

Candidate Starts for Anakin\_40:

(Start: 26 @25911 has 34 MA's), (36, 25974), (41, 25995), (51, 26049), (Start: 114 @26226 has 1 MA's), (129, 26271), (182, 26445), (185, 26454), (207, 26544), (219, 26601), (263, 26787), (292, 26922), (294, 26934), (303, 26967), (338, 27096), (375, 27213), (408, 27288), (460, 27522), (461, 27525), (473, 27585), (490, 27675), (498, 27705), (508, 27747), (522, 27798),

Gene: AndPeggy\_50 Start: 38315, Stop: 36837, Start Num: 116

Candidate Starts for AndPeggy\_50:

(Start: 116 @38315 has 46 MA's), (146, 38222), (Start: 152 @38195 has 1 MA's), (175, 38120), (Start: 190 @38078 has 1 MA's), (211, 37997), (248, 37865), (259, 37811), (263, 37799), (281, 37721), (308, 37607), (318, 37580), (323, 37556), (332, 37517), (345, 37451), (351, 37430), (379, 37373), (429, 37256), (441, 37208), (445, 37190), (463, 37094), (467, 37073), (473, 37043),

Gene: Andromedas\_40 Start: 31099, Stop: 29687, Start Num: 143

Candidate Starts for Andromedas\_40:

(Start: 143 @31099 has 22 MA's), (150, 31069), (Start: 152 @31063 has 1 MA's), (164, 31030), (217, 30838), (228, 30811), (240, 30751), (247, 30724), (248, 30721), (255, 30679), (271, 30625), (279, 30583), (307, 30469), (323, 30412), (329, 30391), (335, 30376), (338, 30364), (339, 30352), (340, 30349), (342, 30331), (363, 30250), (377, 30214), (405, 30160), (419, 30118), (430, 30088), (436, 30064), (437, 30058), (448, 30016), (460, 29947), (466, 29923), (467, 29917), (468, 29911), (471, 29899), (490, 29803), (493, 29794), (498, 29776), (501, 29764), (512, 29719),

Gene: Anilorac\_41 Start: 31339, Stop: 29834, Start Num: 91

Candidate Starts for Anilorac\_41:

(82, 31363), (91, 31339), (104, 31318), (128, 31255), (Start: 139 @31225 has 146 MA's), (188, 31078), (Start: 190 @31072 has 1 MA's), (191, 31069), (217, 30955), (240, 30868), (247, 30841), (248, 30838), (271, 30742), (279, 30700), (323, 30529), (329, 30508), (338, 30481), (346, 30433), (377, 30373), (450, 30160), (455, 30142), (466, 30082), (467, 30076), (468, 30070), (471, 30058), (490, 29962), (506, 29908), (507, 29905), (519, 29851),

Gene: AnnaSerena\_40 Start: 25946, Stop: 27853, Start Num: 26

Candidate Starts for AnnaSerena\_40:

(Start: 26 @25946 has 34 MA's), (36, 26009), (41, 26030), (51, 26084), (Start: 114 @26261 has 1 MA's), (129, 26306), (182, 26480), (185, 26489), (207, 26579), (219, 26636), (263, 26822), (292, 26957), (294, 26969), (303, 27002), (338, 27131), (375, 27248), (408, 27323), (460, 27557), (461, 27560), (473, 27620), (490, 27710), (498, 27740), (508, 27782), (522, 27833),

Gene: AnnabelLee\_38 Start: 26373, Stop: 24541, Start Num: 23

Candidate Starts for AnnabelLee\_38:

(Start: 23 @26373 has 9 MA's), (34, 26316), (92, 26115), (Start: 139 @25980 has 146 MA's), (180, 25845), (187, 25818), (220, 25761), (223, 25746), (233, 25692), (255, 25596), (257, 25590), (262, 25575), (270, 25530), (278, 25482), (285, 25461), (289, 25443), (297, 25392), (320, 25299), (323, 25287), (338, 25224), (361, 25152), (389, 25092), (396, 25071), (420, 25005), (427, 24987), (430, 24969), (431, 24966), (440, 24930), (460, 24822), (463, 24813), (475, 24753), (484, 24705),

Gene: Annapurna\_40 Start: 25220, Stop: 27127, Start Num: 26

Candidate Starts for Annapurna\_40:

(4, 25046), (Start: 26 @25220 has 34 MA's), (36, 25283), (41, 25304), (51, 25358), (94, 25493), (Start: 114 @25535 has 1 MA's), (129, 25580), (182, 25754), (185, 25763), (207, 25853), (216, 25895), (219, 25910), (263, 26096), (292, 26231), (294, 26243), (303, 26276), (338, 26405), (375, 26522), (456, 26795), (461, 26834), (473, 26894), (490, 26984), (498, 27014), (508, 27056), (522, 27107),

Gene: Antoinette\_41 Start: 31109, Stop: 29721, Start Num: 139

Candidate Starts for Antoinette\_41:

(59, 31331), (Start: 139 @31109 has 146 MA's), (188, 30965), (Start: 190 @30959 has 1 MA's), (191, 30956), (217, 30842), (228, 30815), (240, 30755), (247, 30728), (248, 30725), (271, 30629), (279, 30587), (323, 30416), (329, 30395), (335, 30380), (338, 30368), (346, 30320), (377, 30260), (421, 30164), (438, 30101), (450, 30047), (467, 29963), (468, 29957), (471, 29945), (485, 29870), (490,

29849), (506, 29795), (507, 29792), (511, 29768),

Gene: AranulaLuti\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for AranulaLuti\_40:

(1, 31619), (2, 31454), (42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Artiphact\_40 Start: 25935, Stop: 27842, Start Num: 26

Candidate Starts for Artiphact\_40:

(Start: 26 @25935 has 34 MA's), (36, 25998), (41, 26019), (51, 26073), (Start: 114 @26250 has 1 MA's), (129, 26295), (182, 26469), (185, 26478), (207, 26568), (219, 26625), (263, 26811), (292, 26946), (294, 26958), (303, 26991), (338, 27120), (375, 27237), (408, 27312), (460, 27546), (461, 27549), (473, 27609), (490, 27699), (498, 27729), (508, 27771), (522, 27822),

Gene: Artu\_93 Start: 77224, Stop: 79068, Start Num: 21

Candidate Starts for Artu\_93:

(Start: 21 @77224 has 16 MA's), (87, 77497), (Start: 139 @77605 has 146 MA's), (158, 77671), (180, 77740), (182, 77749), (220, 77824), (290, 78133), (296, 78178), (306, 78217), (311, 78238), (323, 78283), (337, 78340), (338, 78346), (342, 78379), (345, 78391), (349, 78403), (396, 78520), (398, 78526), (430, 78616), (437, 78649), (456, 78733), (474, 78826), (479, 78850), (515, 79018), (516, 79021),

Gene: Asta\_40 Start: 30816, Stop: 29428, Start Num: 139

Candidate Starts for Asta\_40:

(59, 31038), (Start: 139 @30816 has 146 MA's), (188, 30672), (Start: 190 @30666 has 1 MA's), (191, 30663), (217, 30549), (228, 30522), (240, 30462), (247, 30435), (248, 30432), (270, 30339), (271, 30336), (279, 30294), (323, 30123), (329, 30102), (335, 30087), (338, 30075), (346, 30027), (377, 29967), (421, 29871), (438, 29808), (450, 29754), (467, 29670), (468, 29664), (471, 29652), (485, 29577), (490, 29556), (506, 29502), (507, 29499), (511, 29475),

Gene: Atuin\_95 Start: 80621, Stop: 82477, Start Num: 21

Candidate Starts for Atuin\_95:

(Start: 21 @80621 has 16 MA's), (87, 80894), (Start: 139 @80999 has 146 MA's), (175, 81122), (180, 81134), (182, 81143), (225, 81239), (243, 81314), (255, 81374), (290, 81527), (296, 81572), (311, 81632), (323, 81677), (337, 81734), (338, 81740), (342, 81773), (345, 81785), (349, 81797), (396, 81914), (397, 81917), (420, 81974), (430, 82010), (433, 82022), (437, 82043), (456, 82127), (474, 82220), (479, 82244), (515, 82412), (516, 82415),

Gene: Aubergine\_40 Start: 30816, Stop: 29428, Start Num: 139

Candidate Starts for Aubergine\_40:

(59, 31038), (Start: 139 @30816 has 146 MA's), (188, 30672), (Start: 190 @30666 has 1 MA's), (191, 30663), (217, 30549), (228, 30522), (240, 30462), (247, 30435), (248, 30432), (271, 30336), (279, 30294), (323, 30123), (329, 30102), (335, 30087), (346, 30027), (377, 29967), (421, 29871), (438, 29808), (450, 29754), (467, 29670), (468, 29664), (471, 29652), (490, 29556), (506, 29502), (507, 29499), (511, 29475),

Gene: Audell\_37 Start: 28742, Stop: 26934, Start Num: 23

Candidate Starts for Audell\_37:

(Start: 23 @28742 has 9 MA's), (34, 28682), (47, 28619), (89, 28487), (92, 28481), (133, 28364), (Start: 139 @28352 has 146 MA's), (165, 28268), (220, 28130), (262, 27944), (278, 27851), (285,

27830), (288, 27818), (323, 27659), (326, 27644), (334, 27614), (338, 27596), (369, 27527), (373, 27521), (378, 27506), (393, 27479), (396, 27467), (399, 27458), (408, 27440), (418, 27404), (420, 27401), (427, 27383), (430, 27365), (431, 27362), (463, 27209), (469, 27176), (475, 27149), (480, 27128), (484, 27101), (505, 27011), (516, 26960),

Gene: AxiPup\_41 Start: 31088, Stop: 29700, Start Num: 139

Candidate Starts for AxiPup\_41:

(2, 31739), (42, 31385), (59, 31310), (Start: 139 @31088 has 146 MA's), (188, 30944), (Start: 190 @30938 has 1 MA's), (191, 30935), (217, 30821), (228, 30794), (240, 30734), (247, 30707), (248, 30704), (271, 30608), (279, 30566), (323, 30395), (329, 30374), (338, 30347), (346, 30299), (377, 30239), (438, 30080), (450, 30026), (467, 29942), (468, 29936), (471, 29924), (490, 29828), (506, 29774), (507, 29771), (511, 29747),

Gene: Axym\_52 Start: 38739, Stop: 37261, Start Num: 116

Candidate Starts for Axym\_52:

(Start: 116 @38739 has 46 MA's), (144, 38652), (146, 38646), (168, 38565), (175, 38544), (211, 38421), (212, 38418), (259, 38235), (261, 38229), (263, 38223), (281, 38145), (308, 38031), (318, 38004), (323, 37980), (338, 37920), (345, 37875), (351, 37854), (372, 37815), (379, 37797), (429, 37680), (441, 37632), (442, 37629), (445, 37614), (463, 37518), (467, 37497), (473, 37467),

Gene: Azira\_49 Start: 37909, Stop: 36419, Start Num: 116

Candidate Starts for Azira\_49:

(Start: 116 @37909 has 46 MA's), (146, 37819), (Start: 152 @37792 has 1 MA's), (166, 37750), (181, 37702), (Start: 190 @37675 has 1 MA's), (211, 37594), (212, 37591), (214, 37585), (216, 37564), (232, 37498), (259, 37408), (263, 37396), (277, 37333), (281, 37318), (286, 37303), (315, 37186), (318, 37177), (336, 37099), (341, 37072), (342, 37060), (345, 37048), (363, 37009), (372, 36988), (374, 36985), (379, 36970), (409, 36898), (430, 36829), (441, 36784), (450, 36739), (453, 36724), (458, 36694), (463, 36670), (473, 36619), (480, 36589), (495, 36523), (500, 36499), (508, 36466), (517, 36430),

Gene: Baines\_40 Start: 30809, Stop: 29421, Start Num: 139

Candidate Starts for Baines\_40:

(59, 31031), (Start: 139 @30809 has 146 MA's), (188, 30665), (Start: 190 @30659 has 1 MA's), (191, 30656), (217, 30542), (228, 30515), (240, 30455), (247, 30428), (248, 30425), (271, 30329), (279, 30287), (323, 30116), (329, 30095), (335, 30080), (338, 30068), (346, 30020), (377, 29960), (421, 29864), (438, 29801), (450, 29747), (467, 29663), (468, 29657), (471, 29645), (485, 29570), (490, 29549), (506, 29495), (507, 29492), (511, 29468),

Gene: Balloona\_55 Start: 40742, Stop: 39264, Start Num: 116

Candidate Starts for Balloona\_55:

(79, 40820), (101, 40769), (103, 40766), (Start: 116 @40742 has 46 MA's), (135, 40679), (144, 40658), (146, 40652), (Start: 152 @40625 has 1 MA's), (168, 40571), (181, 40535), (186, 40520), (211, 40424), (214, 40415), (216, 40394), (232, 40328), (248, 40292), (259, 40238), (261, 40232), (263, 40226), (281, 40148), (286, 40133), (308, 40034), (328, 39959), (335, 39935), (338, 39923), (341, 39902), (343, 39887), (345, 39878), (351, 39857), (372, 39818), (376, 39809), (381, 39794), (409, 39743), (431, 39671), (441, 39629), (442, 39626), (445, 39611), (463, 39515), (473, 39464), (480, 39434), (485, 39401), (500, 39344), (505, 39329),

Gene: Balsa\_40 Start: 31258, Stop: 29867, Start Num: 139

Candidate Starts for Balsa\_40:

(91, 31372), (128, 31288), (Start: 139 @31258 has 146 MA's), (188, 31111), (Start: 190 @31105 has 1 MA's), (191, 31102), (217, 30988), (228, 30961), (240, 30901), (247, 30874), (248, 30871), (271, 30775), (279, 30733), (323, 30562), (329, 30541), (338, 30514), (377, 30406), (421, 30310), (450,

30193), (455, 30175), (467, 30109), (468, 30103), (490, 29995), (506, 29941), (507, 29938), (511, 29914), (519, 29884),

Gene: Bandik\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Bandik\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (306, 30481), (323, 30421), (335, 30385), (338, 30373), (342, 30340), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: BaronJohn\_41 Start: 29646, Stop: 28255, Start Num: 150

Candidate Starts for BaronJohn\_41:

(125, 29724), (Start: 139 @29682 has 146 MA's), (148, 29652), (150, 29646), (Start: 190 @29532 has 1 MA's), (191, 29529), (192, 29526), (247, 29292), (248, 29289), (307, 29034), (322, 28983), (323, 28977), (338, 28929), (342, 28896), (377, 28782), (381, 28773), (405, 28728), (408, 28722), (417, 28695), (421, 28686), (438, 28623), (455, 28551), (460, 28515), (463, 28506), (466, 28491), (467, 28485), (471, 28467), (480, 28425), (493, 28362), (511, 28290),

Gene: Bavilard\_56 Start: 40156, Stop: 38678, Start Num: 116

Candidate Starts for Bavilard\_56:

(Start: 116 @40156 has 46 MA's), (135, 40093), (144, 40072), (146, 40066), (Start: 152 @40039 has 1 MA's), (168, 39985), (181, 39949), (186, 39934), (211, 39838), (214, 39829), (216, 39808), (232, 39742), (248, 39706), (259, 39652), (261, 39646), (263, 39640), (281, 39562), (286, 39547), (308, 39448), (328, 39373), (335, 39349), (338, 39337), (341, 39316), (343, 39301), (345, 39292), (351, 39271), (372, 39232), (376, 39223), (409, 39157), (431, 39085), (441, 39043), (442, 39040), (445, 39025), (463, 38929), (473, 38878), (480, 38848), (485, 38815), (500, 38758), (505, 38743),

Gene: BeautPeep30\_41 Start: 31120, Stop: 29732, Start Num: 139

Candidate Starts for BeautPeep30\_41:

(59, 31342), (Start: 139 @31120 has 146 MA's), (188, 30976), (Start: 190 @30970 has 1 MA's), (191, 30967), (217, 30853), (228, 30826), (240, 30766), (247, 30739), (248, 30736), (271, 30640), (279, 30598), (321, 30436), (323, 30427), (329, 30406), (335, 30391), (338, 30379), (346, 30331), (377, 30271), (421, 30175), (438, 30112), (450, 30058), (467, 29974), (468, 29968), (471, 29956), (490, 29860), (506, 29806), (507, 29803), (511, 29779),

Gene: BeeBee8\_41 Start: 31426, Stop: 30035, Start Num: 139

Candidate Starts for BeeBee8\_41:

(89, 31528), (91, 31525), (92, 31522), (Start: 139 @31426 has 146 MA's), (188, 31279), (Start: 190 @31273 has 1 MA's), (191, 31270), (217, 31156), (228, 31129), (240, 31069), (247, 31042), (248, 31039), (271, 30943), (279, 30901), (323, 30730), (329, 30709), (338, 30682), (346, 30634), (377, 30574), (421, 30478), (450, 30361), (455, 30343), (467, 30277), (468, 30271), (490, 30163), (506, 30109), (507, 30106), (511, 30082), (519, 30052),

Gene: Benjalauren\_41 Start: 30819, Stop: 29431, Start Num: 139

Candidate Starts for Benjalauren\_41:

(2, 31470), (42, 31116), (59, 31041), (Start: 139 @30819 has 146 MA's), (188, 30675), (Start: 190 @30669 has 1 MA's), (191, 30666), (217, 30552), (228, 30525), (240, 30465), (247, 30438), (248, 30435), (271, 30339), (279, 30297), (323, 30126), (329, 30105), (335, 30090), (346, 30030), (377, 29970), (421, 29874), (438, 29811), (450, 29757), (467, 29673), (468, 29667), (471, 29655), (490, 29559), (506, 29505), (507, 29502), (511, 29478),

Gene: Big4\_103 Start: 78367, Stop: 76427, Start Num: 23

Candidate Starts for Big4\_103:

(Start: 23 @78367 has 9 MA's), (56, 78214), (85, 78121), (125, 78046), (149, 77965), (156, 77941), (218, 77665), (288, 77359), (305, 77269), (321, 77209), (323, 77200), (337, 77143), (338, 77137), (342, 77104), (345, 77092), (348, 77083), (359, 77059), (382, 76999), (432, 76867), (433, 76861), (448, 76798), (451, 76777), (452, 76771), (467, 76696), (468, 76690), (472, 76669), (484, 76609), (492, 76567), (498, 76543), (501, 76531),

Gene: BigChungus\_56 Start: 40283, Stop: 38805, Start Num: 116

Candidate Starts for BigChungus\_56:

(79, 40361), (101, 40310), (103, 40307), (Start: 116 @40283 has 46 MA's), (135, 40220), (144, 40199), (146, 40193), (Start: 152 @40166 has 1 MA's), (168, 40112), (181, 40076), (186, 40061), (211, 39965), (214, 39956), (216, 39935), (232, 39869), (248, 39833), (259, 39779), (261, 39773), (263, 39767), (281, 39689), (286, 39674), (308, 39575), (328, 39500), (335, 39476), (338, 39464), (341, 39443), (343, 39428), (345, 39419), (351, 39398), (372, 39359), (376, 39350), (381, 39335), (409, 39284), (431, 39212), (441, 39170), (445, 39152), (463, 39056), (473, 39005), (480, 38975), (485, 38942), (500, 38885), (505, 38870),

Gene: BigRedClifford\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for BigRedClifford\_41:

(Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (338, 30377), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: BillDoor\_53 Start: 37991, Stop: 36513, Start Num: 116

Candidate Starts for BillDoor\_53:

(Start: 116 @37991 has 46 MA's), (146, 37898), (Start: 152 @37871 has 1 MA's), (175, 37796), (Start: 190 @37754 has 1 MA's), (211, 37673), (248, 37541), (259, 37487), (263, 37475), (281, 37397), (308, 37283), (315, 37265), (318, 37256), (323, 37232), (332, 37193), (345, 37127), (351, 37106), (372, 37067), (379, 37049), (381, 37043), (429, 36932), (441, 36884), (445, 36866), (463, 36770), (467, 36749), (473, 36719),

Gene: Biskit\_55 Start: 38648, Stop: 37170, Start Num: 116

Candidate Starts for Biskit\_55:

(Start: 116 @38648 has 46 MA's), (144, 38561), (146, 38555), (160, 38504), (175, 38453), (181, 38438), (204, 38354), (211, 38330), (214, 38321), (248, 38198), (259, 38144), (261, 38138), (263, 38132), (281, 38054), (308, 37940), (318, 37913), (323, 37889), (341, 37808), (345, 37784), (351, 37763), (372, 37724), (379, 37706), (381, 37700), (429, 37589), (431, 37583), (441, 37541), (445, 37523), (460, 37436), (463, 37427), (467, 37406), (473, 37376), (480, 37346), (485, 37313), (508, 37223),

Gene: Blage\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for Blage\_41:

(Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (338, 30377), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: Blondies\_56 Start: 38965, Stop: 37487, Start Num: 116

Candidate Starts for Blondies\_56:

(Start: 116 @38965 has 46 MA's), (144, 38878), (146, 38872), (160, 38821), (175, 38770), (181, 38755), (204, 38671), (211, 38647), (214, 38638), (248, 38515), (259, 38461), (261, 38455), (263, 38449), (269, 38425), (281, 38371), (308, 38257), (318, 38230), (323, 38206), (341, 38125), (345,

38101), (351, 38080), (372, 38041), (379, 38023), (381, 38017), (429, 37906), (431, 37900), (441, 37858), (445, 37840), (460, 37753), (463, 37744), (467, 37723), (473, 37693), (480, 37663), (485, 37630), (508, 37540),

Gene: Bloom\_105 Start: 80738, Stop: 82576, Start Num: 21

Candidate Starts for Bloom\_105:

(Start: 21 @80738 has 16 MA's), (35, 80819), (57, 80897), (87, 80993), (125, 81053), (132, 81083), (169, 81203), (185, 81254), (219, 81314), (293, 81653), (306, 81710), (311, 81731), (323, 81776), (337, 81833), (338, 81839), (342, 81872), (345, 81884), (349, 81896), (366, 81941), (382, 81980), (408, 82037), (410, 82043), (420, 82076), (437, 82145), (456, 82229), (479, 82346), (517, 82520), (526, 82562),

Gene: BlueNGold\_166 Start: 96830, Stop: 94920, Start Num: 20

Candidate Starts for BlueNGold\_166:

(Start: 20 @96830 has 5 MA's), (69, 96626), (85, 96578), (107, 96533), (127, 96452), (131, 96440), (162, 96335), (169, 96308), (217, 96203), (223, 96179), (263, 96014), (321, 95747), (323, 95738), (329, 95711), (342, 95642), (420, 95393), (435, 95327), (443, 95303), (468, 95168), (481, 95108), (496, 95036),

Gene: BonesMcCoy\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for BonesMcCoy\_41:

(2, 31769), (42, 31415), (59, 31340), (Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (338, 30377), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: Bonino\_40 Start: 30795, Stop: 29407, Start Num: 139

Candidate Starts for Bonino\_40:

(59, 31017), (Start: 139 @30795 has 146 MA's), (188, 30651), (Start: 190 @30645 has 1 MA's), (191, 30642), (217, 30528), (228, 30501), (240, 30441), (247, 30414), (248, 30411), (271, 30315), (279, 30273), (323, 30102), (329, 30081), (335, 30066), (338, 30054), (346, 30006), (377, 29946), (421, 29850), (438, 29787), (450, 29733), (467, 29649), (468, 29643), (471, 29631), (485, 29556), (490, 29535), (506, 29481), (507, 29478), (511, 29454),

Gene: BooTeria\_97 Start: 77289, Stop: 79133, Start Num: 21

Candidate Starts for BooTeria\_97:

(Start: 21 @77289 has 16 MA's), (87, 77562), (Start: 139 @77670 has 146 MA's), (158, 77736), (180, 77805), (182, 77814), (220, 77889), (290, 78198), (296, 78243), (306, 78282), (311, 78303), (323, 78348), (337, 78405), (338, 78411), (342, 78444), (345, 78456), (349, 78468), (396, 78585), (398, 78591), (430, 78681), (437, 78714), (456, 78798), (474, 78891), (479, 78915), (515, 79083), (516, 79086),

Gene: Boopy\_169 Start: 96841, Stop: 94931, Start Num: 20

Candidate Starts for Boopy\_169:

(Start: 20 @96841 has 5 MA's), (69, 96637), (85, 96589), (107, 96544), (127, 96463), (131, 96451), (162, 96346), (169, 96319), (217, 96214), (223, 96190), (263, 96025), (321, 95758), (323, 95749), (329, 95722), (342, 95653), (420, 95404), (435, 95338), (443, 95314), (468, 95179), (481, 95119), (496, 95047),

Gene: BouleyBill\_39 Start: 30564, Stop: 29158, Start Num: 134

Candidate Starts for BouleyBill\_39:

(83, 30711), (98, 30666), (112, 30636), (130, 30582), (Start: 134 @30564 has 2 MA's), (Start: 140 @30552 has 8 MA's), (Start: 143 @30546 has 22 MA's), (150, 30516), (188, 30408), (Start: 190 @30402 has 1 MA's), (191, 30399), (194, 30384), (240, 30198), (243, 30189), (248, 30168), (255, 30126), (271, 30072), (323, 29859), (329, 29838), (335, 29823), (338, 29811), (340, 29796), (347, 29760), (350, 29751), (363, 29736), (377, 29700), (421, 29601), (438, 29538), (445, 29511), (459, 29436), (460, 29430), (463, 29421), (466, 29406), (467, 29400), (468, 29394), (471, 29382), (498, 29259), (501, 29247), (521, 29172),

Gene: Bramble\_42 Start: 26601, Stop: 28535, Start Num: 28

Candidate Starts for Bramble\_42:

(3, 26361), (Start: 6 @26505 has 1 MA's), (25, 26595), (Start: 28 @26601 has 6 MA's), (51, 26748), (57, 26766), (60, 26775), (Start: 114 @26925 has 1 MA's), (154, 27051), (182, 27141), (185, 27150), (207, 27240), (216, 27282), (222, 27312), (253, 27444), (294, 27630), (299, 27648), (303, 27663), (319, 27720), (335, 27780), (350, 27852), (400, 27990), (424, 28056), (430, 28086), (431, 28089), (449, 28164), (461, 28242), (473, 28302), (490, 28392), (497, 28410),

Gene: Bubble\_51 Start: 38427, Stop: 36949, Start Num: 116

Candidate Starts for Bubble\_51:

(Start: 116 @38427 has 46 MA's), (144, 38340), (146, 38334), (175, 38232), (212, 38106), (259, 37923), (261, 37917), (263, 37911), (281, 37833), (308, 37719), (318, 37692), (323, 37668), (338, 37608), (345, 37563), (351, 37542), (372, 37503), (379, 37485), (429, 37368), (441, 37320), (442, 37317), (445, 37302), (463, 37206), (467, 37185), (473, 37155), (517, 36966),

Gene: Burnsey\_53 Start: 38833, Stop: 37355, Start Num: 116

Candidate Starts for Burnsey\_53:

(Start: 116 @38833 has 46 MA's), (144, 38746), (146, 38740), (168, 38659), (175, 38638), (211, 38515), (212, 38512), (259, 38329), (261, 38323), (263, 38317), (281, 38239), (308, 38125), (318, 38098), (323, 38074), (338, 38014), (345, 37969), (351, 37948), (372, 37909), (379, 37891), (429, 37774), (441, 37726), (442, 37723), (445, 37708), (463, 37612), (467, 37591), (473, 37561),

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

Candidate Starts for Bustleton\_39:

(130, 30594), (Start: 140 @30567 has 8 MA's), (Start: 143 @30564 has 22 MA's), (150, 30534), (188, 30426), (Start: 190 @30420 has 1 MA's), (191, 30417), (194, 30402), (240, 30216), (243, 30207), (248, 30186), (255, 30144), (271, 30090), (323, 29877), (329, 29856), (335, 29841), (338, 29829), (340, 29814), (347, 29778), (350, 29769), (363, 29754), (377, 29718), (421, 29619), (438, 29556), (445, 29529), (459, 29454), (460, 29448), (463, 29439), (466, 29424), (467, 29418), (468, 29412), (471, 29400), (498, 29277), (501, 29265),

Gene: Button\_57 Start: 39117, Stop: 37642, Start Num: 119

Candidate Starts for Button\_57:

(Start: 119 @39117 has 10 MA's), (129, 39075), (146, 39027), (Start: 152 @39000 has 1 MA's), (168, 38946), (175, 38925), (177, 38916), (204, 38826), (206, 38817), (212, 38799), (214, 38793), (248, 38670), (259, 38616), (261, 38610), (263, 38604), (274, 38559), (281, 38526), (335, 38313), (341, 38280), (350, 38241), (372, 38196), (379, 38178), (381, 38172), (407, 38127), (409, 38121), (416, 38100), (430, 38052), (431, 38049), (441, 38007), (442, 38004), (445, 37989), (450, 37962), (463, 37893), (473, 37842), (476, 37827), (498, 37731), (501, 37719), (504, 37710), (516, 37656),

Gene: Buttrmlkdreams\_55 Start: 39095, Stop: 37617, Start Num: 116

Candidate Starts for Buttrmlkdreams\_55:

(Start: 116 @39095 has 46 MA's), (144, 39008), (146, 39002), (160, 38951), (175, 38900), (181, 38885), (204, 38801), (211, 38777), (214, 38768), (248, 38645), (259, 38591), (261, 38585), (263, 38579), (271, 38549), (281, 38501), (308, 38387), (318, 38360), (323, 38336), (341, 38255), (345,

38231), (351, 38210), (372, 38171), (379, 38153), (381, 38147), (429, 38036), (431, 38030), (441, 37988), (445, 37970), (460, 37883), (463, 37874), (467, 37853), (473, 37823), (480, 37793), (485, 37760), (508, 37670),

Gene: Byron23\_42 Start: 31117, Stop: 29729, Start Num: 139

Candidate Starts for Byron23\_42:

(2, 31768), (42, 31414), (59, 31339), (Start: 139 @31117 has 146 MA's), (188, 30973), (Start: 190 @30967 has 1 MA's), (191, 30964), (217, 30850), (228, 30823), (240, 30763), (247, 30736), (248, 30733), (271, 30637), (279, 30595), (306, 30484), (323, 30424), (335, 30388), (338, 30376), (342, 30343), (346, 30328), (377, 30268), (421, 30172), (438, 30109), (450, 30055), (467, 29971), (468, 29965), (471, 29953), (490, 29857), (506, 29803), (507, 29800), (511, 29776),

Gene: Calix\_40 Start: 30802, Stop: 29414, Start Num: 139

Candidate Starts for Calix\_40:

(59, 31024), (Start: 139 @30802 has 146 MA's), (188, 30658), (Start: 190 @30652 has 1 MA's), (191, 30649), (217, 30535), (228, 30508), (240, 30448), (247, 30421), (248, 30418), (271, 30322), (279, 30280), (323, 30109), (329, 30088), (335, 30073), (338, 30061), (346, 30013), (377, 29953), (421, 29857), (438, 29794), (450, 29740), (467, 29656), (468, 29650), (471, 29638), (485, 29563), (490, 29542), (506, 29488), (507, 29485), (511, 29461),

Gene: CanesSauce\_52 Start: 38485, Stop: 37007, Start Num: 116

Candidate Starts for CanesSauce\_52:

(Start: 116 @38485 has 46 MA's), (146, 38392), (Start: 152 @38365 has 1 MA's), (175, 38290), (Start: 190 @38248 has 1 MA's), (211, 38167), (248, 38035), (259, 37981), (263, 37969), (281, 37891), (308, 37777), (318, 37750), (323, 37726), (332, 37687), (345, 37621), (351, 37600), (379, 37543), (429, 37426), (441, 37378), (445, 37360), (463, 37264), (467, 37243), (473, 37213),

Gene: CaptainRex\_40 Start: 29071, Stop: 27644, Start Num: 139

Candidate Starts for CaptainRex\_40:

(Start: 139 @29071 has 146 MA's), (148, 29041), (150, 29035), (Start: 190 @28921 has 1 MA's), (191, 28918), (247, 28681), (248, 28678), (307, 28423), (322, 28372), (323, 28366), (338, 28318), (342, 28285), (346, 28270), (366, 28198), (377, 28171), (381, 28162), (405, 28117), (408, 28111), (417, 28084), (438, 28012), (455, 27940), (460, 27904), (463, 27895), (466, 27880), (467, 27874), (471, 27856), (480, 27814), (493, 27751), (509, 27688), (511, 27679),

Gene: CaramellLatte\_52 Start: 38485, Stop: 37007, Start Num: 116

Candidate Starts for CaramellLatte\_52:

(Start: 116 @38485 has 46 MA's), (146, 38392), (Start: 152 @38365 has 1 MA's), (175, 38290), (Start: 190 @38248 has 1 MA's), (211, 38167), (248, 38035), (259, 37981), (263, 37969), (281, 37891), (308, 37777), (318, 37750), (323, 37726), (332, 37687), (345, 37621), (351, 37600), (379, 37543), (429, 37426), (441, 37378), (445, 37360), (463, 37264), (467, 37243), (473, 37213),

Gene: CardboardBox\_39 Start: 26376, Stop: 24544, Start Num: 23

Candidate Starts for CardboardBox\_39:

(Start: 23 @26376 has 9 MA's), (34, 26319), (92, 26118), (Start: 139 @25983 has 146 MA's), (180, 25848), (187, 25821), (220, 25764), (223, 25749), (233, 25695), (255, 25599), (257, 25593), (262, 25578), (270, 25533), (278, 25485), (285, 25464), (289, 25446), (297, 25395), (320, 25302), (323, 25290), (338, 25227), (361, 25155), (389, 25095), (396, 25074), (420, 25008), (427, 24990), (430, 24972), (431, 24969), (440, 24933), (460, 24825), (463, 24816), (475, 24756), (484, 24708),

Gene: CarisSwetlik\_44 Start: 32154, Stop: 30658, Start Num: 104

Candidate Starts for CarisSwetlik\_44:

(52, 32295), (68, 32244), (74, 32223), (96, 32172), (104, 32154), (Start: 139 @32061 has 146 MA's), (188, 31917), (Start: 190 @31911 has 1 MA's), (204, 31848), (217, 31794), (228, 31767), (240, 31707), (247, 31680), (248, 31677), (271, 31581), (279, 31539), (321, 31377), (323, 31368), (329, 31347), (338, 31320), (347, 31269), (377, 31212), (405, 31158), (421, 31116), (434, 31071), (462, 30939), (467, 30915), (468, 30909), (471, 30897), (490, 30801), (498, 30774), (506, 30747), (520, 30690),

Gene: Carostasia\_39 Start: 30625, Stop: 29213, Start Num: 143

Candidate Starts for Carostasia\_39:

(Start: 140 @30628 has 8 MA's), (Start: 143 @30625 has 22 MA's), (150, 30595), (Start: 152 @30589 has 1 MA's), (164, 30556), (Start: 190 @30481 has 1 MA's), (192, 30475), (217, 30364), (228, 30337), (238, 30286), (240, 30277), (247, 30250), (248, 30247), (255, 30205), (271, 30151), (307, 29995), (322, 29944), (323, 29938), (329, 29917), (332, 29911), (335, 29902), (338, 29890), (339, 29878), (356, 29800), (377, 29740), (380, 29734), (405, 29686), (419, 29644), (438, 29581), (443, 29569), (447, 29545), (448, 29542), (460, 29473), (463, 29464), (466, 29449), (467, 29443), (468, 29437), (471, 29425), (493, 29320), (498, 29302), (501, 29290), (512, 29245),

Gene: Carsonalex\_56 Start: 38706, Stop: 37321, Start Num: 146

Candidate Starts for Carsonalex\_56:

(113, 38805), (Start: 119 @38796 has 10 MA's), (144, 38712), (146, 38706), (168, 38625), (175, 38604), (212, 38478), (259, 38295), (261, 38289), (263, 38283), (281, 38205), (308, 38091), (318, 38064), (323, 38040), (338, 37980), (345, 37935), (351, 37914), (372, 37875), (379, 37857), (381, 37851), (429, 37740), (441, 37692), (442, 37689), (445, 37674), (463, 37578), (467, 37557), (473, 37527),

Gene: Casey\_37 Start: 29766, Stop: 28396, Start Num: 143

Candidate Starts for Casey\_37:

(Start: 143 @29766 has 22 MA's), (185, 29637), (192, 29616), (217, 29505), (218, 29502), (239, 29418), (240, 29412), (244, 29400), (248, 29382), (252, 29361), (271, 29286), (277, 29253), (321, 29082), (322, 29079), (323, 29073), (324, 29070), (335, 29037), (346, 28977), (377, 28917), (380, 28911), (381, 28908), (382, 28905), (419, 28821), (454, 28689), (460, 28650), (466, 28626), (467, 28620), (471, 28602), (490, 28506), (498, 28479), (501, 28467), (509, 28434), (512, 28422),

Gene: Cece\_97 Start: 81318, Stop: 79462, Start Num: 18

Candidate Starts for Cece\_97:

(Start: 18 @81318 has 1 MA's), (34, 81255), (47, 81186), (81, 81078), (125, 80991), (Start: 152 @80901 has 1 MA's), (162, 80868), (165, 80862), (185, 80790), (217, 80709), (219, 80703), (255, 80544), (288, 80400), (298, 80340), (305, 80310), (321, 80250), (323, 80241), (337, 80184), (338, 80178), (342, 80145), (345, 80133), (359, 80100), (382, 80040), (431, 79911), (432, 79908), (437, 79881), (448, 79839), (451, 79818), (468, 79731), (484, 79650), (492, 79608), (498, 79584), (512, 79527),

Gene: Chako\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Chako\_40:

(2, 31454), (42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: ChamoyPickle\_40 Start: 26916, Stop: 25084, Start Num: 23

Candidate Starts for ChamoyPickle\_40:

(Start: 23 @26916 has 9 MA's), (34, 26859), (92, 26658), (Start: 139 @26523 has 146 MA's), (180, 26388), (187, 26361), (220, 26304), (223, 26289), (233, 26235), (255, 26139), (257, 26133), (262,

26118), (270, 26073), (278, 26025), (285, 26004), (289, 25986), (297, 25935), (320, 25842), (323, 25830), (338, 25767), (361, 25695), (389, 25635), (396, 25614), (420, 25548), (427, 25530), (430, 25512), (431, 25509), (440, 25473), (460, 25365), (463, 25356), (475, 25296), (484, 25248),

Gene: Chamuel\_40 Start: 30828, Stop: 29407, Start Num: 139

Candidate Starts for Chamuel\_40:

(59, 31050), (Start: 139 @30828 has 146 MA's), (188, 30684), (Start: 190 @30678 has 1 MA's), (191, 30675), (217, 30561), (228, 30534), (240, 30474), (247, 30447), (248, 30444), (271, 30348), (279, 30306), (321, 30144), (323, 30135), (329, 30114), (338, 30087), (342, 30054), (346, 30039), (370, 29964), (377, 29946), (421, 29850), (438, 29787), (450, 29733), (467, 29649), (468, 29643), (471, 29631), (485, 29556), (490, 29535), (506, 29481), (507, 29478), (511, 29454),

Gene: Cheeto1\_42 Start: 31179, Stop: 29788, Start Num: 139

Candidate Starts for Cheeto1\_42:

(Start: 139 @31179 has 146 MA's), (188, 31035), (Start: 190 @31029 has 1 MA's), (204, 30966), (228, 30885), (240, 30825), (247, 30798), (248, 30795), (271, 30699), (279, 30657), (306, 30546), (323, 30486), (329, 30465), (338, 30438), (347, 30387), (366, 30357), (377, 30330), (382, 30318), (421, 30231), (438, 30168), (443, 30156), (455, 30096), (460, 30060), (462, 30054), (466, 30036), (467, 30030), (468, 30024), (480, 29970), (490, 29916), (498, 29889), (501, 29877),

Gene: Chepli\_42 Start: 30524, Stop: 29118, Start Num: 139

Candidate Starts for Chepli\_42:

(Start: 139 @30524 has 146 MA's), (148, 30494), (189, 30377), (Start: 190 @30374 has 1 MA's), (191, 30371), (196, 30344), (204, 30311), (210, 30290), (217, 30248), (228, 30221), (247, 30134), (248, 30131), (255, 30089), (269, 30038), (307, 29876), (323, 29819), (339, 29759), (341, 29750), (342, 29738), (363, 29699), (364, 29696), (375, 29672), (376, 29669), (377, 29663), (417, 29576), (421, 29567), (422, 29564), (460, 29396), (463, 29387), (466, 29372), (467, 29366), (468, 29360), (471, 29348), (498, 29225), (505, 29201), (511, 29171),

Gene: CherryonLim\_57 Start: 41741, Stop: 40263, Start Num: 116

Candidate Starts for CherryonLim\_57:

(79, 41822), (103, 41768), (Start: 116 @41741 has 46 MA's), (135, 41678), (146, 41651), (Start: 152 @41624 has 1 MA's), (168, 41570), (175, 41549), (181, 41534), (186, 41519), (214, 41414), (248, 41291), (259, 41237), (261, 41231), (263, 41225), (281, 41147), (308, 41033), (332, 40943), (335, 40934), (338, 40922), (341, 40901), (343, 40886), (345, 40877), (351, 40856), (372, 40817), (376, 40808), (381, 40793), (416, 40721), (430, 40673), (431, 40670), (441, 40628), (445, 40610), (463, 40514), (473, 40463), (480, 40433), (485, 40400), (500, 40343), (505, 40328),

Gene: ChickenKing\_40 Start: 31093, Stop: 29702, Start Num: 139

Candidate Starts for ChickenKing\_40:

(Start: 139 @31093 has 146 MA's), (188, 30949), (Start: 190 @30943 has 1 MA's), (204, 30880), (228, 30799), (240, 30739), (247, 30712), (248, 30709), (250, 30703), (271, 30613), (279, 30571), (323, 30400), (329, 30379), (335, 30364), (338, 30352), (347, 30301), (377, 30244), (382, 30232), (438, 30082), (443, 30070), (455, 30010), (460, 29974), (462, 29968), (466, 29950), (467, 29944), (468, 29938), (480, 29884), (485, 29851), (490, 29830), (501, 29791),

Gene: ChickenTender\_56 Start: 38517, Stop: 37042, Start Num: 116

Candidate Starts for ChickenTender\_56:

(Start: 116 @38517 has 46 MA's), (146, 38427), (168, 38346), (175, 38325), (211, 38202), (212, 38199), (259, 38016), (261, 38010), (263, 38004), (281, 37926), (308, 37812), (318, 37785), (323, 37761), (338, 37701), (345, 37656), (351, 37635), (379, 37578), (429, 37461), (441, 37413), (442, 37410), (463, 37299), (467, 37278), (469, 37266), (473, 37248),

Gene: ChikPic\_40 Start: 30953, Stop: 29541, Start Num: 143

Candidate Starts for ChikPic\_40:

(Start: 140 @30956 has 8 MA's), (Start: 143 @30953 has 22 MA's), (150, 30923), (Start: 152 @30917 has 1 MA's), (164, 30884), (217, 30692), (228, 30665), (240, 30605), (247, 30578), (248, 30575), (255, 30533), (271, 30479), (279, 30437), (307, 30323), (323, 30266), (329, 30245), (335, 30230), (338, 30218), (339, 30206), (340, 30203), (342, 30185), (363, 30104), (377, 30068), (405, 30014), (419, 29972), (430, 29942), (436, 29918), (437, 29912), (448, 29870), (460, 29801), (466, 29777), (467, 29771), (468, 29765), (471, 29753), (490, 29657), (493, 29648), (498, 29630), (501, 29618), (512, 29573),

Gene: Chilliams\_99 Start: 73536, Stop: 75392, Start Num: 21

Candidate Starts for Chilliams\_99:

(Start: 21 @73536 has 16 MA's), (72, 73752), (87, 73794), (89, 73800), (115, 73833), (132, 73902), (Start: 139 @73917 has 146 MA's), (149, 73953), (161, 73992), (185, 74073), (219, 74133), (251, 74268), (311, 74550), (323, 74595), (338, 74658), (342, 74691), (345, 74703), (363, 74751), (370, 74769), (390, 74814), (396, 74835), (408, 74856), (420, 74895), (429, 74928), (437, 74964), (443, 74979), (448, 75006), (454, 75042), (456, 75048), (479, 75165), (484, 75195), (516, 75336),

Gene: ChipsNGuac\_39 Start: 26376, Stop: 24544, Start Num: 23

Candidate Starts for ChipsNGuac\_39:

(Start: 23 @26376 has 9 MA's), (34, 26319), (92, 26118), (Start: 139 @25983 has 146 MA's), (180, 25848), (187, 25821), (220, 25764), (223, 25749), (233, 25695), (255, 25599), (257, 25593), (262, 25578), (270, 25533), (278, 25485), (285, 25464), (289, 25446), (297, 25395), (320, 25302), (323, 25290), (338, 25227), (361, 25155), (389, 25095), (396, 25074), (420, 25008), (427, 24990), (430, 24972), (431, 24969), (440, 24933), (460, 24825), (463, 24816), (475, 24756), (484, 24708),

Gene: Chivey\_40 Start: 25169, Stop: 27076, Start Num: 26

Candidate Starts for Chivey\_40:

(4, 24995), (Start: 26 @25169 has 34 MA's), (36, 25232), (41, 25253), (51, 25307), (94, 25442), (Start: 114 @25484 has 1 MA's), (129, 25529), (182, 25703), (185, 25712), (207, 25802), (216, 25844), (219, 25859), (263, 26045), (292, 26180), (294, 26192), (303, 26225), (338, 26354), (375, 26471), (456, 26744), (461, 26783), (473, 26843), (490, 26933), (498, 26963), (508, 27005), (522, 27056),

Gene: ChocoMunchkin\_52 Start: 38485, Stop: 37007, Start Num: 116

Candidate Starts for ChocoMunchkin\_52:

(Start: 116 @38485 has 46 MA's), (146, 38392), (Start: 152 @38365 has 1 MA's), (175, 38290), (Start: 190 @38248 has 1 MA's), (211, 38167), (248, 38035), (259, 37981), (263, 37969), (281, 37891), (308, 37777), (318, 37750), (323, 37726), (332, 37687), (345, 37621), (351, 37600), (379, 37543), (429, 37426), (441, 37378), (445, 37360), (463, 37264), (467, 37243), (473, 37213),

Gene: Christoph\_40 Start: 30815, Stop: 29427, Start Num: 139

Candidate Starts for Christoph\_40:

(59, 31037), (Start: 139 @30815 has 146 MA's), (188, 30671), (Start: 190 @30665 has 1 MA's), (191, 30662), (217, 30548), (228, 30521), (240, 30461), (247, 30434), (248, 30431), (271, 30335), (279, 30293), (323, 30122), (329, 30101), (335, 30086), (346, 30026), (377, 29966), (421, 29870), (438, 29807), (450, 29753), (467, 29669), (468, 29663), (471, 29651), (490, 29555), (506, 29501), (507, 29498), (511, 29474),

Gene: Clancy\_40 Start: 30848, Stop: 29460, Start Num: 139

Candidate Starts for Clancy\_40:

(2, 31499), (42, 31145), (59, 31070), (Start: 139 @30848 has 146 MA's), (188, 30704), (Start: 190 @30698 has 1 MA's), (191, 30695), (217, 30581), (228, 30554), (240, 30494), (247, 30467), (248, 30464), (271, 30368), (279, 30326), (323, 30155), (329, 30134), (335, 30119), (346, 30059), (377,

29999), (421, 29903), (438, 29840), (450, 29786), (467, 29702), (468, 29696), (471, 29684), (490, 29588), (506, 29534), (507, 29531), (511, 29507),

Gene: Cleo\_47 Start: 37658, Stop: 36168, Start Num: 116

Candidate Starts for Cleo\_47:

(Start: 116 @37658 has 46 MA's), (129, 37616), (144, 37574), (146, 37568), (Start: 152 @37541 has 1 MA's), (168, 37487), (170, 37481), (181, 37451), (Start: 190 @37424 has 1 MA's), (211, 37343), (212, 37340), (214, 37334), (216, 37313), (232, 37247), (248, 37211), (253, 37187), (259, 37157), (261, 37151), (263, 37145), (281, 37067), (315, 36935), (318, 36926), (336, 36848), (342, 36809), (345, 36797), (346, 36794), (363, 36758), (370, 36740), (372, 36737), (374, 36734), (379, 36719), (391, 36692), (395, 36680), (409, 36647), (430, 36578), (441, 36533), (442, 36530), (450, 36488), (453, 36473), (461, 36425), (463, 36419), (473, 36368), (495, 36272), (500, 36248), (508, 36215), (516, 36182), (517, 36179),

Gene: Clock\_40 Start: 31950, Stop: 30520, Start Num: 137

Candidate Starts for Clock\_40:

(Start: 137 @31950 has 6 MA's), (148, 31917), (164, 31872), (Start: 190 @31797 has 1 MA's), (191, 31794), (224, 31662), (226, 31650), (247, 31557), (248, 31554), (322, 31248), (323, 31242), (329, 31221), (338, 31194), (339, 31182), (340, 31179), (342, 31161), (356, 31104), (377, 31047), (382, 31035), (405, 30993), (417, 30960), (421, 30951), (428, 30927), (438, 30888), (450, 30834), (460, 30780), (463, 30771), (466, 30756), (467, 30750), (493, 30627), (498, 30609), (505, 30585),

Gene: CocoaPuff\_56 Start: 40198, Stop: 38810, Start Num: 146

Candidate Starts for CocoaPuff\_56:

(79, 40366), (101, 40315), (103, 40312), (Start: 116 @40288 has 46 MA's), (135, 40225), (144, 40204), (146, 40198), (Start: 152 @40171 has 1 MA's), (168, 40117), (181, 40081), (186, 40066), (211, 39970), (214, 39961), (216, 39940), (232, 39874), (248, 39838), (259, 39784), (261, 39778), (263, 39772), (281, 39694), (286, 39679), (308, 39580), (328, 39505), (335, 39481), (338, 39469), (341, 39448), (343, 39433), (345, 39424), (351, 39403), (372, 39364), (376, 39355), (381, 39340), (409, 39289), (431, 39217), (441, 39175), (442, 39172), (445, 39157), (463, 39061), (473, 39010), (480, 38980), (485, 38947), (500, 38890), (505, 38875),

Gene: ColaCorta\_40 Start: 31099, Stop: 29687, Start Num: 143

Candidate Starts for ColaCorta\_40:

(Start: 143 @31099 has 22 MA's), (150, 31069), (Start: 152 @31063 has 1 MA's), (164, 31030), (217, 30838), (228, 30811), (240, 30751), (247, 30724), (248, 30721), (255, 30679), (271, 30625), (279, 30583), (307, 30469), (323, 30412), (329, 30391), (335, 30376), (338, 30364), (339, 30352), (340, 30349), (342, 30331), (363, 30250), (377, 30214), (405, 30160), (419, 30118), (430, 30088), (436, 30064), (437, 30058), (448, 30016), (460, 29947), (466, 29923), (467, 29917), (468, 29911), (471, 29899), (490, 29803), (493, 29794), (498, 29776), (501, 29764), (512, 29719),

Gene: Convict\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for Convict\_41:

(2, 31769), (42, 31415), (59, 31340), (Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (338, 30377), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: CoolCookie\_40 Start: 25941, Stop: 27848, Start Num: 26

Candidate Starts for CoolCookie\_40:

(Start: 26 @25941 has 34 MA's), (36, 26004), (41, 26025), (51, 26079), (Start: 114 @26256 has 1 MA's), (129, 26301), (182, 26475), (185, 26484), (207, 26574), (219, 26631), (263, 26817), (292,

26952), (294, 26964), (303, 26997), (338, 27126), (375, 27243), (408, 27318), (460, 27552), (461, 27555), (473, 27615), (490, 27705), (498, 27735), (508, 27777), (522, 27828),

Gene: CoraRita\_42 Start: 30818, Stop: 29430, Start Num: 139

Candidate Starts for CoraRita\_42:

(2, 31469), (42, 31115), (59, 31040), (Start: 139 @30818 has 146 MA's), (188, 30674), (Start: 190 @30668 has 1 MA's), (191, 30665), (217, 30551), (228, 30524), (240, 30464), (247, 30437), (248, 30434), (271, 30338), (279, 30296), (323, 30125), (329, 30104), (335, 30089), (346, 30029), (377, 29969), (421, 29873), (438, 29810), (450, 29756), (467, 29672), (468, 29666), (471, 29654), (490, 29558), (506, 29504), (507, 29501), (511, 29477),

Gene: Cozz\_51 Start: 38430, Stop: 36952, Start Num: 116

Candidate Starts for Cozz\_51:

(Start: 116 @38430 has 46 MA's), (144, 38343), (146, 38337), (168, 38256), (175, 38235), (212, 38109), (259, 37926), (261, 37920), (263, 37914), (281, 37836), (308, 37722), (318, 37695), (323, 37671), (338, 37611), (345, 37566), (351, 37545), (372, 37506), (379, 37488), (429, 37371), (441, 37323), (442, 37320), (445, 37305), (463, 37209), (467, 37188), (473, 37158), (517, 36969),

Gene: Crestdrop\_40 Start: 25203, Stop: 27110, Start Num: 26

Candidate Starts for Crestdrop\_40:

(4, 25029), (Start: 26 @25203 has 34 MA's), (36, 25266), (41, 25287), (51, 25341), (94, 25476), (Start: 114 @25518 has 1 MA's), (129, 25563), (182, 25737), (185, 25746), (207, 25836), (216, 25878), (219, 25893), (263, 26079), (292, 26214), (294, 26226), (303, 26259), (338, 26388), (375, 26505), (456, 26778), (461, 26817), (473, 26877), (490, 26967), (498, 26997), (508, 27039), (522, 27090),

Gene: Cybele\_40 Start: 25911, Stop: 27818, Start Num: 26

Candidate Starts for Cybele\_40:

(Start: 26 @25911 has 34 MA's), (36, 25974), (41, 25995), (51, 26049), (Start: 114 @26226 has 1 MA's), (129, 26271), (182, 26445), (185, 26454), (207, 26544), (263, 26787), (292, 26922), (294, 26934), (303, 26967), (338, 27096), (375, 27213), (408, 27288), (460, 27522), (461, 27525), (473, 27585), (490, 27675), (498, 27705), (508, 27747), (522, 27798),

Gene: DannyDe\_40 Start: 25175, Stop: 27082, Start Num: 26

Candidate Starts for DannyDe\_40:

(4, 25001), (Start: 26 @25175 has 34 MA's), (36, 25238), (51, 25313), (94, 25448), (Start: 114 @25490 has 1 MA's), (129, 25535), (182, 25709), (185, 25718), (207, 25808), (216, 25850), (219, 25865), (263, 26051), (292, 26186), (294, 26198), (303, 26231), (338, 26360), (375, 26477), (456, 26750), (461, 26789), (473, 26849), (490, 26939), (498, 26969), (508, 27011), (522, 27062),

Gene: Dauntless\_39 Start: 25497, Stop: 27404, Start Num: 26

Candidate Starts for Dauntless\_39:

(4, 25323), (Start: 26 @25497 has 34 MA's), (36, 25560), (41, 25581), (51, 25635), (94, 25770), (108, 25797), (Start: 114 @25812 has 1 MA's), (129, 25857), (182, 26031), (185, 26040), (207, 26130), (216, 26172), (219, 26187), (263, 26373), (292, 26508), (294, 26520), (303, 26553), (338, 26682), (362, 26769), (375, 26799), (456, 27072), (461, 27111), (473, 27171), (490, 27261), (498, 27291), (508, 27333), (522, 27384),

Gene: Dave\_41 Start: 31109, Stop: 29721, Start Num: 139

Candidate Starts for Dave\_41:

(59, 31331), (Start: 139 @31109 has 146 MA's), (188, 30965), (Start: 190 @30959 has 1 MA's), (191, 30956), (217, 30842), (228, 30815), (240, 30755), (247, 30728), (248, 30725), (271, 30629), (279, 30587), (323, 30416), (329, 30395), (335, 30380), (338, 30368), (346, 30320), (377, 30260), (421, 30164), (438, 30101), (450, 30047), (467, 29963), (468, 29957), (471, 29945), (485, 29870), (490,

29849), (506, 29795), (507, 29792), (511, 29768),

Gene: Delphidian\_41 Start: 31117, Stop: 29729, Start Num: 139

Candidate Starts for Delphidian\_41:

(59, 31339), (Start: 139 @31117 has 146 MA's), (188, 30973), (Start: 190 @30967 has 1 MA's), (191, 30964), (217, 30850), (228, 30823), (240, 30763), (247, 30736), (248, 30733), (250, 30727), (271, 30637), (279, 30595), (323, 30424), (335, 30388), (338, 30376), (342, 30343), (346, 30328), (377, 30268), (421, 30172), (438, 30109), (450, 30055), (467, 29971), (468, 29965), (471, 29953), (490, 29857), (506, 29803), (507, 29800), (511, 29776),

Gene: Den3\_41 Start: 31123, Stop: 29735, Start Num: 139

Candidate Starts for Den3\_41:

(2, 31774), (42, 31420), (59, 31345), (Start: 139 @31123 has 146 MA's), (188, 30979), (Start: 190 @30973 has 1 MA's), (191, 30970), (217, 30856), (228, 30829), (240, 30769), (247, 30742), (248, 30739), (271, 30643), (279, 30601), (323, 30430), (329, 30409), (338, 30382), (346, 30334), (377, 30274), (438, 30115), (450, 30061), (467, 29977), (468, 29971), (471, 29959), (490, 29863), (506, 29809), (507, 29806), (511, 29782),

Gene: Dewdrop\_117 Start: 70672, Stop: 72663, Start Num: 12

Candidate Starts for Dewdrop\_117:

(Start: 12 @70672 has 4 MA's), (16, 70705), (55, 70900), (57, 70906), (58, 70909), (67, 70939), (72, 70960), (78, 70972), (95, 71026), (107, 71053), (110, 71062), (Start: 134 @71116 has 2 MA's), (144, 71134), (145, 71137), (159, 71188), (172, 71230), (198, 71332), (235, 71494), (242, 71518), (248, 71542), (249, 71545), (256, 71587), (263, 71608), (269, 71632), (274, 71653), (277, 71674), (279, 71683), (299, 71779), (300, 71782), (303, 71794), (306, 71806), (313, 71833), (316, 71842), (317, 71845), (321, 71863), (335, 71917), (342, 71962), (352, 71998), (375, 72046), (413, 72124), (426, 72160), (429, 72175), (430, 72178), (447, 72250), (455, 72292), (461, 72337), (466, 72358), (468, 72370), (470, 72382), (482, 72436), (493, 72496), (500, 72523), (511, 72568), (527, 72646),

Gene: Dodo\_114 Start: 79498, Stop: 77648, Start Num: 23

Candidate Starts for Dodo\_114:

(8, 79567), (11, 79561), (Start: 23 @79498 has 9 MA's), (33, 79453), (34, 79441), (65, 79315), (85, 79252), (125, 79177), (157, 79069), (163, 79051), (183, 78982), (192, 78955), (217, 78895), (255, 78730), (288, 78586), (304, 78499), (311, 78472), (321, 78436), (323, 78427), (337, 78370), (338, 78364), (345, 78319), (349, 78307), (359, 78286), (367, 78262), (382, 78226), (401, 78181), (431, 78097), (432, 78094), (433, 78088), (448, 78025), (467, 77923), (484, 77836), (492, 77794), (506, 77743),

Gene: Dothraki\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Dothraki\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (306, 30481), (323, 30421), (335, 30385), (338, 30373), (342, 30340), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: Dre3\_48 Start: 37401, Stop: 35911, Start Num: 117

Candidate Starts for Dre3\_48:

(Start: 117 @37401 has 3 MA's), (129, 37359), (144, 37317), (146, 37311), (Start: 152 @37284 has 1 MA's), (168, 37230), (170, 37224), (181, 37194), (Start: 190 @37167 has 1 MA's), (211, 37086), (212, 37083), (214, 37077), (216, 37056), (232, 36990), (248, 36954), (253, 36930), (259, 36900), (261, 36894), (263, 36888), (277, 36825), (281, 36810), (286, 36795), (318, 36669), (336, 36591), (342, 36552), (345, 36540), (346, 36537), (363, 36501), (370, 36483), (372, 36480), (374, 36477), (379,

36462), (391, 36435), (395, 36423), (430, 36321), (441, 36276), (442, 36273), (450, 36231), (453, 36216), (461, 36168), (463, 36162), (473, 36111), (495, 36015), (500, 35991), (508, 35958), (516, 35925), (517, 35922),

Gene: Dryad\_74 Start: 51068, Stop: 49182, Start Num: 21

Candidate Starts for Dryad\_74:

(7, 51137), (9, 51128), (10, 51125), (Start: 21 @51068 has 16 MA's), (36, 50990), (38, 50981), (49, 50921), (56, 50900), (63, 50876), (84, 50813), (Start: 114 @50738 has 1 MA's), (124, 50714), (182, 50516), (185, 50507), (212, 50399), (250, 50243), (272, 50138), (283, 50087), (294, 50027), (318, 49940), (319, 49937), (333, 49883), (342, 49832), (344, 49823), (348, 49811), (362, 49778), (388, 49712), (407, 49685), (408, 49682), (438, 49583), (445, 49556), (461, 49466), (473, 49406), (475, 49397), (478, 49382), (488, 49322), (493, 49307), (504, 49268),

Gene: DunneganBoMo\_90 Start: 76558, Stop: 78402, Start Num: 21

Candidate Starts for DunneganBoMo\_90:

(Start: 21 @76558 has 16 MA's), (87, 76831), (Start: 139 @76939 has 146 MA's), (158, 77005), (180, 77074), (182, 77083), (220, 77158), (290, 77467), (296, 77512), (306, 77551), (311, 77572), (323, 77617), (337, 77674), (338, 77680), (342, 77713), (345, 77725), (349, 77737), (396, 77854), (398, 77860), (430, 77950), (437, 77983), (456, 78067), (474, 78160), (479, 78184), (515, 78352), (516, 78355),

Gene: Duocatuli\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Duocatuli\_40:

(42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (485, 29564), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: ElJefes\_58 Start: 40827, Stop: 39349, Start Num: 116

Candidate Starts for ElJefes\_58:

(79, 40908), (103, 40854), (Start: 116 @40827 has 46 MA's), (135, 40764), (144, 40743), (146, 40737), (Start: 152 @40710 has 1 MA's), (168, 40656), (175, 40635), (181, 40620), (186, 40605), (206, 40524), (214, 40500), (232, 40413), (248, 40377), (259, 40323), (261, 40317), (263, 40311), (281, 40233), (286, 40218), (306, 40128), (308, 40119), (318, 40092), (332, 40029), (335, 40020), (338, 40008), (341, 39987), (343, 39972), (345, 39963), (351, 39942), (372, 39903), (376, 39894), (381, 39879), (405, 39837), (416, 39807), (430, 39759), (431, 39756), (441, 39714), (445, 39696), (463, 39600), (473, 39549), (480, 39519), (485, 39486), (500, 39429), (505, 39414),

Gene: Eleri\_40 Start: 30943, Stop: 29531, Start Num: 143

Candidate Starts for Eleri\_40:

(Start: 143 @30943 has 22 MA's), (150, 30913), (Start: 152 @30907 has 1 MA's), (164, 30874), (217, 30682), (228, 30655), (240, 30595), (247, 30568), (248, 30565), (255, 30523), (271, 30469), (279, 30427), (323, 30256), (329, 30235), (335, 30220), (338, 30208), (339, 30196), (340, 30193), (342, 30175), (363, 30094), (377, 30058), (405, 30004), (419, 29962), (430, 29932), (436, 29908), (437, 29902), (448, 29860), (460, 29791), (466, 29767), (467, 29761), (468, 29755), (471, 29743), (490, 29647), (493, 29638), (498, 29620), (501, 29608), (512, 29563),

Gene: Elinal\_60 Start: 40792, Stop: 39314, Start Num: 116

Candidate Starts for Elinal\_60:

(Start: 116 @40792 has 46 MA's), (135, 40729), (144, 40708), (146, 40702), (Start: 152 @40675 has 1 MA's), (168, 40621), (181, 40585), (186, 40570), (211, 40474), (214, 40465), (216, 40444), (232, 40378), (248, 40342), (259, 40288), (261, 40282), (263, 40276), (281, 40198), (286, 40183), (308,

40084), (328, 40009), (335, 39985), (338, 39973), (341, 39952), (343, 39937), (345, 39928), (351, 39907), (372, 39868), (376, 39859), (381, 39844), (409, 39793), (431, 39721), (441, 39679), (442, 39676), (445, 39661), (463, 39565), (473, 39514), (480, 39484), (485, 39451), (500, 39394), (505, 39379),

Gene: Elliott\_53 Start: 38726, Stop: 37248, Start Num: 116

Candidate Starts for Elliott\_53:

(Start: 116 @38726 has 46 MA's), (144, 38639), (146, 38633), (168, 38552), (175, 38531), (211, 38408), (212, 38405), (259, 38222), (261, 38216), (263, 38210), (281, 38132), (308, 38018), (318, 37991), (323, 37967), (338, 37907), (345, 37862), (351, 37841), (372, 37802), (379, 37784), (429, 37667), (441, 37619), (442, 37616), (445, 37601), (463, 37505), (467, 37484), (473, 37454),

Gene: Ellewin\_92 Start: 75969, Stop: 77813, Start Num: 21

Candidate Starts for Ellewin\_92:

(Start: 21 @75969 has 16 MA's), (87, 76242), (Start: 139 @76350 has 146 MA's), (158, 76416), (180, 76485), (182, 76494), (220, 76569), (243, 76665), (290, 76878), (296, 76923), (306, 76962), (311, 76983), (323, 77028), (338, 77091), (342, 77124), (345, 77136), (349, 77148), (396, 77265), (398, 77271), (423, 77334), (433, 77373), (437, 77394), (456, 77478), (474, 77571), (479, 77595), (515, 77763), (516, 77766),

Gene: Emalyn\_52 Start: 37827, Stop: 36349, Start Num: 116

Candidate Starts for Emalyn\_52:

(Start: 116 @37827 has 46 MA's), (144, 37740), (146, 37734), (175, 37632), (Start: 190 @37590 has 1 MA's), (204, 37533), (209, 37515), (211, 37509), (248, 37377), (259, 37323), (261, 37317), (263, 37311), (281, 37233), (308, 37119), (318, 37092), (323, 37068), (332, 37029), (341, 36987), (345, 36963), (351, 36942), (372, 36903), (379, 36885), (381, 36879), (416, 36813), (429, 36768), (441, 36720), (442, 36717), (445, 36702), (463, 36606), (467, 36585), (473, 36555), (480, 36525), (512, 36387),

Gene: Emmetator\_93 Start: 76561, Stop: 78405, Start Num: 21

Candidate Starts for Emmetator\_93:

(Start: 21 @76561 has 16 MA's), (87, 76834), (Start: 139 @76942 has 146 MA's), (158, 77008), (180, 77077), (182, 77086), (220, 77161), (290, 77470), (296, 77515), (306, 77554), (311, 77575), (323, 77620), (337, 77677), (338, 77683), (342, 77716), (345, 77728), (349, 77740), (396, 77857), (398, 77863), (430, 77953), (437, 77986), (456, 78070), (474, 78163), (479, 78187), (515, 78355), (516, 78358),

Gene: Endor\_41 Start: 31504, Stop: 30116, Start Num: 139

Candidate Starts for Endor\_41:

(91, 31618), (104, 31597), (Start: 139 @31504 has 146 MA's), (188, 31360), (Start: 190 @31354 has 1 MA's), (191, 31351), (217, 31237), (228, 31210), (240, 31150), (247, 31123), (248, 31120), (271, 31024), (279, 30982), (323, 30811), (329, 30790), (346, 30715), (377, 30655), (421, 30559), (450, 30442), (455, 30424), (467, 30358), (468, 30352), (471, 30340), (490, 30244), (506, 30190), (507, 30187), (511, 30163), (519, 30133),

Gene: Erasmago\_105 Start: 76053, Stop: 74113, Start Num: 23

Candidate Starts for Erasmago\_105:

(Start: 23 @76053 has 9 MA's), (47, 75927), (85, 75807), (125, 75732), (149, 75651), (153, 75639), (162, 75609), (255, 75189), (288, 75045), (301, 74976), (305, 74955), (321, 74895), (323, 74886), (326, 74871), (338, 74823), (342, 74790), (345, 74778), (359, 74745), (382, 74685), (389, 74670), (401, 74640), (432, 74553), (433, 74547), (448, 74484), (452, 74457), (468, 74376), (473, 74352), (484, 74295), (492, 74253), (501, 74217),

Gene: Erla\_40 Start: 30799, Stop: 29411, Start Num: 139

Candidate Starts for Erla\_40:

(59, 31021), (Start: 139 @30799 has 146 MA's), (188, 30655), (Start: 190 @30649 has 1 MA's), (191, 30646), (217, 30532), (228, 30505), (240, 30445), (247, 30418), (248, 30415), (271, 30319), (279, 30277), (323, 30106), (329, 30085), (335, 30070), (338, 30058), (346, 30010), (377, 29950), (421, 29854), (438, 29791), (450, 29737), (467, 29653), (468, 29647), (471, 29635), (485, 29560), (490, 29539), (506, 29485), (507, 29482), (511, 29458),

Gene: Erudite\_39 Start: 25497, Stop: 27404, Start Num: 26

Candidate Starts for Erudite\_39:

(4, 25323), (Start: 26 @25497 has 34 MA's), (36, 25560), (41, 25581), (51, 25635), (94, 25770), (108, 25797), (Start: 114 @25812 has 1 MA's), (129, 25857), (182, 26031), (185, 26040), (207, 26130), (216, 26172), (219, 26187), (263, 26373), (292, 26508), (294, 26520), (303, 26553), (338, 26682), (362, 26769), (375, 26799), (456, 27072), (461, 27111), (473, 27171), (490, 27261), (498, 27291), (508, 27333), (522, 27384),

Gene: Espinosa\_40 Start: 30814, Stop: 29426, Start Num: 139

Candidate Starts for Espinosa\_40:

(59, 31036), (Start: 139 @30814 has 146 MA's), (188, 30670), (Start: 190 @30664 has 1 MA's), (191, 30661), (217, 30547), (228, 30520), (240, 30460), (247, 30433), (248, 30430), (271, 30334), (279, 30292), (323, 30121), (329, 30100), (335, 30085), (346, 30025), (377, 29965), (421, 29869), (438, 29806), (450, 29752), (467, 29668), (468, 29662), (471, 29650), (490, 29554), (506, 29500), (507, 29497), (511, 29473),

Gene: Etna\_40 Start: 31284, Stop: 29893, Start Num: 139

Candidate Starts for Etna\_40:

(91, 31398), (128, 31314), (Start: 139 @31284 has 146 MA's), (188, 31137), (Start: 190 @31131 has 1 MA's), (191, 31128), (217, 31014), (228, 30987), (240, 30927), (247, 30900), (248, 30897), (271, 30801), (279, 30759), (323, 30588), (329, 30567), (377, 30432), (421, 30336), (450, 30219), (455, 30201), (467, 30135), (468, 30129), (471, 30117), (490, 30021), (506, 29967), (507, 29964), (511, 29940), (519, 29910),

Gene: Etta\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Etta\_40:

(59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (338, 30062), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (485, 29564), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Exploradora\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Exploradora\_40:

(59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Ezurina\_37 Start: 27463, Stop: 25631, Start Num: 23

Candidate Starts for Ezurina\_37:

(Start: 23 @27463 has 9 MA's), (34, 27406), (92, 27205), (Start: 139 @27070 has 146 MA's), (187, 26908), (220, 26851), (223, 26836), (255, 26686), (257, 26680), (262, 26665), (270, 26620), (278, 26572), (285, 26551), (289, 26533), (297, 26482), (323, 26377), (338, 26314), (361, 26242), (396,

26161), (410, 26128), (420, 26095), (427, 26077), (430, 26059), (431, 26056), (440, 26020), (460, 25912), (463, 25903), (475, 25843), (484, 25795), (494, 25747),

Gene: FF47\_48 Start: 38882, Stop: 37371, Start Num: 99

Candidate Starts for FF47\_48:

(Start: 99 @38882 has 2 MA's), (118, 38846), (145, 38756), (146, 38753), (159, 38705), (181, 38636), (213, 38522), (249, 38393), (259, 38342), (261, 38336), (263, 38330), (269, 38306), (281, 38252), (318, 38111), (319, 38108), (331, 38051), (345, 37979), (346, 37976), (430, 37781), (441, 37736), (460, 37631), (473, 37571), (512, 37403), (517, 37382),

Gene: FarmerDoug\_40 Start: 31139, Stop: 29748, Start Num: 139

Candidate Starts for FarmerDoug\_40:

(39, 31427), (45, 31406), (Start: 139 @31139 has 146 MA's), (188, 30992), (Start: 190 @30986 has 1 MA's), (191, 30983), (204, 30923), (217, 30869), (228, 30842), (240, 30782), (247, 30755), (248, 30752), (271, 30656), (279, 30614), (323, 30443), (329, 30422), (338, 30395), (346, 30347), (370, 30305), (377, 30287), (421, 30191), (450, 30074), (455, 30056), (462, 30014), (467, 29990), (468, 29984), (471, 29972), (490, 29876), (506, 29822), (507, 29819), (511, 29795), (519, 29765),

Gene: Feastonyeet\_56 Start: 40283, Stop: 38805, Start Num: 116

Candidate Starts for Feastonyeet\_56:

(79, 40361), (101, 40310), (103, 40307), (Start: 116 @40283 has 46 MA's), (135, 40220), (144, 40199), (146, 40193), (Start: 152 @40166 has 1 MA's), (168, 40112), (181, 40076), (186, 40061), (211, 39965), (214, 39956), (216, 39935), (232, 39869), (248, 39833), (259, 39779), (261, 39773), (263, 39767), (281, 39689), (286, 39674), (308, 39575), (328, 39500), (335, 39476), (338, 39464), (341, 39443), (343, 39428), (345, 39419), (351, 39398), (372, 39359), (376, 39350), (381, 39335), (409, 39284), (431, 39212), (441, 39170), (445, 39152), (463, 39056), (473, 39005), (480, 38975), (485, 38942), (500, 38885), (505, 38870),

Gene: Figueroism\_41 Start: 31108, Stop: 29720, Start Num: 139

Candidate Starts for Figueroism\_41:

(59, 31330), (Start: 139 @31108 has 146 MA's), (188, 30964), (Start: 190 @30958 has 1 MA's), (191, 30955), (217, 30841), (228, 30814), (240, 30754), (247, 30727), (248, 30724), (271, 30628), (279, 30586), (323, 30415), (329, 30394), (335, 30379), (338, 30367), (346, 30319), (377, 30259), (421, 30163), (438, 30100), (450, 30046), (467, 29962), (468, 29956), (471, 29944), (490, 29848), (506, 29794), (507, 29791), (511, 29767),

Gene: Finny\_41 Start: 30901, Stop: 29525, Start Num: 152

Candidate Starts for Finny\_41:

(Start: 140 @30940 has 8 MA's), (Start: 143 @30937 has 22 MA's), (150, 30907), (Start: 152 @30901 has 1 MA's), (164, 30868), (217, 30676), (228, 30649), (240, 30589), (247, 30562), (248, 30559), (255, 30517), (271, 30463), (279, 30421), (307, 30307), (323, 30250), (329, 30229), (338, 30202), (339, 30190), (340, 30187), (342, 30169), (363, 30088), (377, 30052), (405, 29998), (419, 29956), (430, 29926), (436, 29902), (437, 29896), (448, 29854), (460, 29785), (466, 29761), (467, 29755), (468, 29749), (471, 29737), (498, 29614), (501, 29602), (512, 29557),

Gene: FloraSnap32\_101 Start: 79635, Stop: 81473, Start Num: 21

Candidate Starts for FloraSnap32\_101:

(Start: 21 @79635 has 16 MA's), (57, 79794), (87, 79890), (125, 79950), (132, 79980), (169, 80100), (185, 80151), (219, 80211), (306, 80607), (311, 80628), (323, 80673), (337, 80730), (338, 80736), (342, 80769), (345, 80781), (349, 80793), (357, 80808), (366, 80838), (382, 80877), (408, 80934), (410, 80940), (420, 80973), (437, 81042), (456, 81126), (469, 81198), (479, 81243), (517, 81417), (526, 81459),

Gene: Forza\_170 Start: 96758, Stop: 94848, Start Num: 20

Candidate Starts for Forza\_170:

(Start: 20 @96758 has 5 MA's), (69, 96554), (85, 96506), (107, 96461), (127, 96380), (131, 96368), (162, 96263), (169, 96236), (217, 96131), (223, 96107), (263, 95942), (321, 95675), (323, 95666), (329, 95639), (342, 95570), (420, 95321), (435, 95255), (443, 95231), (468, 95096), (481, 95036), (496, 94964),

Gene: FountainFog\_39 Start: 25221, Stop: 27128, Start Num: 26

Candidate Starts for FountainFog\_39:

(Start: 26 @25221 has 34 MA's), (36, 25284), (41, 25305), (51, 25359), (108, 25521), (Start: 114 @25536 has 1 MA's), (129, 25581), (182, 25755), (185, 25764), (207, 25854), (208, 25857), (216, 25896), (219, 25911), (263, 26097), (287, 26205), (292, 26232), (294, 26244), (338, 26406), (375, 26523), (460, 26832), (461, 26835), (473, 26895), (490, 26985), (498, 27015), (508, 27057), (522, 27108),

Gene: FreddieHg\_40 Start: 25185, Stop: 27092, Start Num: 26

Candidate Starts for FreddieHg\_40:

(4, 25011), (Start: 26 @25185 has 34 MA's), (36, 25248), (41, 25269), (51, 25323), (94, 25458), (Start: 114 @25500 has 1 MA's), (129, 25545), (182, 25719), (185, 25728), (207, 25818), (216, 25860), (219, 25875), (263, 26061), (292, 26196), (294, 26208), (303, 26241), (338, 26370), (375, 26487), (456, 26760), (461, 26799), (473, 26859), (490, 26949), (498, 26979), (508, 27021), (522, 27072),

Gene: Fribs8\_48 Start: 37679, Stop: 36189, Start Num: 117

Candidate Starts for Fribs8\_48:

(Start: 117 @37679 has 3 MA's), (144, 37595), (146, 37589), (Start: 152 @37562 has 1 MA's), (168, 37508), (170, 37502), (181, 37472), (Start: 190 @37445 has 1 MA's), (211, 37364), (212, 37361), (214, 37355), (216, 37334), (232, 37268), (248, 37232), (253, 37208), (259, 37178), (260, 37175), (261, 37172), (263, 37166), (277, 37103), (281, 37088), (286, 37073), (318, 36947), (328, 36899), (341, 36842), (342, 36830), (345, 36818), (346, 36815), (363, 36779), (372, 36758), (374, 36755), (379, 36740), (391, 36713), (405, 36677), (409, 36668), (430, 36599), (441, 36554), (450, 36509), (453, 36494), (458, 36464), (463, 36440), (473, 36389), (480, 36359), (495, 36293), (500, 36269), (508, 36236), (517, 36200),

Gene: FrostedClock\_104 Start: 80935, Stop: 82773, Start Num: 21

Candidate Starts for FrostedClock\_104:

(Start: 21 @80935 has 16 MA's), (35, 81016), (57, 81094), (87, 81190), (125, 81250), (132, 81280), (169, 81400), (185, 81451), (219, 81511), (293, 81850), (306, 81907), (311, 81928), (323, 81973), (337, 82030), (338, 82036), (342, 82069), (345, 82081), (349, 82093), (366, 82138), (382, 82177), (408, 82234), (410, 82240), (420, 82273), (437, 82342), (456, 82426), (479, 82543), (517, 82717), (526, 82759),

Gene: Fulton\_40 Start: 29072, Stop: 27645, Start Num: 139

Candidate Starts for Fulton\_40:

(Start: 139 @29072 has 146 MA's), (148, 29042), (150, 29036), (Start: 190 @28922 has 1 MA's), (191, 28919), (247, 28682), (248, 28679), (307, 28424), (322, 28373), (323, 28367), (338, 28319), (342, 28286), (346, 28271), (366, 28199), (377, 28172), (381, 28163), (405, 28118), (408, 28112), (417, 28085), (438, 28013), (455, 27941), (460, 27905), (463, 27896), (466, 27881), (467, 27875), (471, 27857), (480, 27815), (493, 27752), (509, 27689), (511, 27680),

Gene: GMA2\_64 Start: 67776, Stop: 65812, Start Num: 21

Candidate Starts for GMA2\_64:

(Start: 21 @67776 has 16 MA's), (47, 67644), (127, 67386), (162, 67269), (165, 67263), (169, 67242), (183, 67197), (217, 67137), (223, 67113), (229, 67077), (248, 67011), (255, 66972), (268, 66918),

(278, 66864), (320, 66684), (323, 66672), (342, 66576), (347, 66558), (364, 66504), (404, 66342), (443, 66198), (462, 66093), (474, 66036), (481, 66003), (512, 65859),

Gene: GTE2\_44 Start: 38337, Stop: 36952, Start Num: 146

Candidate Starts for GTE2\_44:

(Start: 116 @38430 has 46 MA's), (146, 38337), (Start: 152 @38310 has 1 MA's), (175, 38235), (181, 38220), (Start: 190 @38193 has 1 MA's), (211, 38112), (248, 37980), (259, 37926), (261, 37920), (263, 37914), (281, 37836), (308, 37722), (318, 37695), (332, 37632), (345, 37566), (351, 37545), (372, 37506), (379, 37488), (381, 37482), (429, 37371), (441, 37323), (445, 37305), (463, 37209), (467, 37188), (473, 37158),

Gene: GaeCeo\_42 Start: 31326, Stop: 29935, Start Num: 139

Candidate Starts for GaeCeo\_42:

(Start: 139 @31326 has 146 MA's), (188, 31182), (Start: 190 @31176 has 1 MA's), (204, 31113), (228, 31032), (240, 30972), (247, 30945), (248, 30942), (250, 30936), (271, 30846), (279, 30804), (323, 30633), (329, 30612), (335, 30597), (338, 30585), (347, 30534), (377, 30477), (382, 30465), (438, 30315), (443, 30303), (455, 30243), (460, 30207), (462, 30201), (466, 30183), (467, 30177), (468, 30171), (480, 30117), (485, 30084), (490, 30063), (501, 30024),

Gene: GardenB\_40 Start: 31225, Stop: 29840, Start Num: 139

Candidate Starts for GardenB\_40:

(128, 31255), (Start: 139 @31225 has 146 MA's), (181, 31102), (188, 31081), (Start: 190 @31075 has 1 MA's), (191, 31072), (217, 30958), (240, 30871), (247, 30844), (248, 30841), (271, 30745), (279, 30703), (323, 30532), (335, 30496), (377, 30376), (387, 30352), (438, 30217), (450, 30163), (462, 30103), (467, 30079), (468, 30073), (471, 30061), (490, 29965), (506, 29911),

Gene: Garey24\_41 Start: 30782, Stop: 29394, Start Num: 139

Candidate Starts for Garey24\_41:

(59, 31004), (Start: 139 @30782 has 146 MA's), (188, 30638), (Start: 190 @30632 has 1 MA's), (191, 30629), (217, 30515), (228, 30488), (240, 30428), (247, 30401), (248, 30398), (271, 30302), (279, 30260), (323, 30089), (329, 30068), (335, 30053), (338, 30041), (346, 29993), (377, 29933), (438, 29774), (450, 29720), (467, 29636), (468, 29630), (471, 29618), (485, 29543), (490, 29522), (506, 29468), (507, 29465), (511, 29441),

Gene: Gargoyle\_41 Start: 31123, Stop: 29735, Start Num: 139

Candidate Starts for Gargoyle\_41:

(2, 31774), (42, 31420), (59, 31345), (Start: 139 @31123 has 146 MA's), (188, 30979), (Start: 190 @30973 has 1 MA's), (191, 30970), (217, 30856), (228, 30829), (240, 30769), (247, 30742), (248, 30739), (271, 30643), (279, 30601), (323, 30430), (329, 30409), (335, 30394), (346, 30334), (377, 30274), (421, 30178), (438, 30115), (450, 30061), (467, 29977), (468, 29971), (471, 29959), (490, 29863), (506, 29809), (507, 29806), (511, 29782),

Gene: Gelo\_40 Start: 30809, Stop: 29421, Start Num: 139

Candidate Starts for Gelo\_40:

(59, 31031), (Start: 139 @30809 has 146 MA's), (188, 30665), (Start: 190 @30659 has 1 MA's), (191, 30656), (217, 30542), (228, 30515), (240, 30455), (247, 30428), (248, 30425), (271, 30329), (279, 30287), (323, 30116), (329, 30095), (335, 30080), (338, 30068), (346, 30020), (377, 29960), (421, 29864), (438, 29801), (450, 29747), (467, 29663), (468, 29657), (471, 29645), (485, 29570), (490, 29549), (506, 29495), (507, 29492), (511, 29468),

Gene: Gerri43\_39 Start: 26376, Stop: 24544, Start Num: 23

Candidate Starts for Gerri43\_39:

(Start: 23 @26376 has 9 MA's), (34, 26319), (92, 26118), (Start: 139 @25983 has 146 MA's), (180, 25848), (187, 25821), (220, 25764), (223, 25749), (233, 25695), (255, 25599), (257, 25593), (262, 25578), (270, 25533), (278, 25485), (285, 25464), (289, 25446), (297, 25395), (320, 25302), (323, 25290), (338, 25227), (361, 25155), (389, 25095), (396, 25074), (420, 25008), (427, 24990), (430, 24972), (431, 24969), (440, 24933), (460, 24825), (463, 24816), (475, 24756), (484, 24708),

Gene: Gershwin\_40 Start: 30816, Stop: 29428, Start Num: 139

Candidate Starts for Gershwin\_40:

(59, 31038), (Start: 139 @30816 has 146 MA's), (188, 30672), (Start: 190 @30666 has 1 MA's), (191, 30663), (217, 30549), (228, 30522), (240, 30462), (247, 30435), (248, 30432), (270, 30339), (271, 30336), (279, 30294), (323, 30123), (329, 30102), (335, 30087), (338, 30075), (346, 30027), (377, 29967), (421, 29871), (438, 29808), (450, 29754), (467, 29670), (468, 29664), (471, 29652), (485, 29577), (490, 29556), (506, 29502), (507, 29499), (511, 29475),

Gene: GiKK\_57 Start: 39360, Stop: 37885, Start Num: 119

Candidate Starts for GiKK\_57:

(Start: 119 @39360 has 10 MA's), (129, 39318), (146, 39270), (Start: 152 @39243 has 1 MA's), (168, 39189), (175, 39168), (177, 39159), (181, 39153), (204, 39069), (206, 39060), (212, 39042), (214, 39036), (248, 38913), (259, 38859), (261, 38853), (263, 38847), (274, 38802), (281, 38769), (335, 38556), (341, 38523), (350, 38484), (372, 38439), (379, 38421), (381, 38415), (407, 38370), (409, 38364), (416, 38343), (430, 38295), (431, 38292), (441, 38250), (442, 38247), (445, 38232), (463, 38136), (473, 38085), (474, 38082), (485, 38022), (495, 37989), (498, 37974), (500, 37965), (511, 37920), (516, 37899),

Gene: Gibbous\_48 Start: 37401, Stop: 35911, Start Num: 117

Candidate Starts for Gibbous\_48:

(Start: 117 @37401 has 3 MA's), (129, 37359), (144, 37317), (146, 37311), (Start: 152 @37284 has 1 MA's), (168, 37230), (170, 37224), (181, 37194), (Start: 190 @37167 has 1 MA's), (211, 37086), (212, 37083), (214, 37077), (216, 37056), (232, 36990), (248, 36954), (253, 36930), (259, 36900), (261, 36894), (263, 36888), (277, 36825), (281, 36810), (286, 36795), (318, 36669), (336, 36591), (342, 36552), (345, 36540), (346, 36537), (363, 36501), (370, 36483), (372, 36480), (374, 36477), (379, 36462), (391, 36435), (395, 36423), (430, 36321), (441, 36276), (442, 36273), (450, 36231), (453, 36216), (461, 36168), (463, 36162), (473, 36111), (495, 36015), (500, 35991), (508, 35958), (516, 35925), (517, 35922),

Gene: Gibson\_70 Start: 50318, Stop: 48432, Start Num: 21

Candidate Starts for Gibson\_70:

(Start: 21 @50318 has 16 MA's), (Start: 28 @50303 has 6 MA's), (36, 50240), (38, 50231), (63, 50126), (75, 50087), (84, 50063), (Start: 114 @49988 has 1 MA's), (124, 49964), (168, 49805), (182, 49766), (185, 49757), (212, 49649), (235, 49541), (272, 49388), (283, 49337), (294, 49277), (318, 49190), (319, 49187), (342, 49082), (344, 49073), (348, 49061), (388, 48962), (435, 48845), (438, 48833), (445, 48806), (461, 48716), (465, 48701), (475, 48647), (486, 48590), (512, 48482), (516, 48464),

Gene: Gilda\_40 Start: 25935, Stop: 27842, Start Num: 26

Candidate Starts for Gilda\_40:

(Start: 26 @25935 has 34 MA's), (36, 25998), (41, 26019), (51, 26073), (Start: 114 @26250 has 1 MA's), (129, 26295), (182, 26469), (185, 26478), (207, 26568), (219, 26625), (263, 26811), (292, 26946), (294, 26958), (303, 26991), (338, 27120), (375, 27237), (408, 27312), (460, 27546), (461, 27549), (473, 27609), (490, 27699), (498, 27729), (508, 27771), (522, 27822),

Gene: Glamour\_40 Start: 31091, Stop: 29679, Start Num: 143

Candidate Starts for Glamour\_40:

(Start: 143 @31091 has 22 MA's), (150, 31061), (Start: 152 @31055 has 1 MA's), (164, 31022), (217, 30830), (228, 30803), (240, 30743), (247, 30716), (248, 30713), (255, 30671), (271, 30617), (279, 30575), (307, 30461), (323, 30404), (329, 30383), (335, 30368), (338, 30356), (339, 30344), (340, 30341), (342, 30323), (363, 30242), (377, 30206), (405, 30152), (419, 30110), (430, 30080), (436, 30056), (437, 30050), (448, 30008), (460, 29939), (466, 29915), (467, 29909), (468, 29903), (471, 29891), (490, 29795), (493, 29786), (498, 29768), (501, 29756), (512, 29711),

Gene: GodonK\_184 Start: 93693, Stop: 91774, Start Num: 23

Candidate Starts for GodonK\_184:

(Start: 23 @93693 has 9 MA's), (32, 93651), (57, 93537), (80, 93462), (109, 93393), (127, 93324), (223, 93051), (227, 93033), (231, 93009), (243, 92970), (282, 92790), (299, 92706), (304, 92682), (320, 92622), (323, 92610), (329, 92583), (342, 92514), (343, 92511), (406, 92295), (410, 92277), (412, 92271), (429, 92205), (438, 92166), (443, 92154), (448, 92127), (463, 92046), (469, 92013), (474, 91992), (481, 91959), (490, 91908), (496, 91890),

Gene: GoingMerry\_42 Start: 31128, Stop: 29740, Start Num: 139

Candidate Starts for GoingMerry\_42:

(42, 31425), (59, 31350), (Start: 139 @31128 has 146 MA's), (188, 30984), (Start: 190 @30978 has 1 MA's), (191, 30975), (217, 30861), (228, 30834), (240, 30774), (247, 30747), (248, 30744), (271, 30648), (279, 30606), (323, 30435), (329, 30414), (338, 30387), (346, 30339), (377, 30279), (438, 30120), (450, 30066), (467, 29982), (468, 29976), (471, 29964), (490, 29868), (506, 29814), (507, 29811), (511, 29787),

Gene: GoldHunter\_54 Start: 38843, Stop: 37365, Start Num: 116

Candidate Starts for GoldHunter\_54:

(Start: 116 @38843 has 46 MA's), (144, 38756), (146, 38750), (168, 38669), (175, 38648), (211, 38525), (212, 38522), (259, 38339), (261, 38333), (263, 38327), (281, 38249), (308, 38135), (318, 38108), (323, 38084), (338, 38024), (345, 37979), (351, 37958), (372, 37919), (379, 37901), (429, 37784), (441, 37736), (442, 37733), (445, 37718), (463, 37622), (467, 37601), (473, 37571),

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

Candidate Starts for Golden\_39:

(Start: 140 @30647 has 8 MA's), (Start: 143 @30644 has 22 MA's), (150, 30614), (188, 30506), (191, 30497), (202, 30443), (226, 30362), (240, 30296), (248, 30266), (256, 30221), (271, 30170), (321, 29966), (323, 29957), (335, 29918), (338, 29906), (339, 29894), (340, 29891), (347, 29855), (350, 29846), (363, 29831), (377, 29795), (382, 29783), (387, 29771), (421, 29696), (438, 29636), (460, 29528), (463, 29519), (466, 29504), (467, 29498), (468, 29492), (521, 29270),

Gene: GoldenEssence\_87 Start: 74530, Stop: 76368, Start Num: 21

Candidate Starts for GoldenEssence\_87:

(Start: 21 @74530 has 16 MA's), (57, 74689), (87, 74785), (125, 74845), (132, 74875), (161, 74965), (169, 74995), (185, 75046), (219, 75106), (306, 75502), (311, 75523), (323, 75568), (337, 75625), (338, 75631), (342, 75664), (345, 75676), (349, 75688), (357, 75703), (366, 75733), (382, 75772), (408, 75829), (410, 75835), (420, 75868), (437, 75937), (456, 76021), (479, 76138), (517, 76312), (526, 76354),

Gene: GoneGirl\_41 Start: 31218, Stop: 29833, Start Num: 139

Candidate Starts for GoneGirl\_41:

(128, 31248), (Start: 139 @31218 has 146 MA's), (181, 31095), (188, 31074), (Start: 190 @31068 has 1 MA's), (191, 31065), (217, 30951), (240, 30864), (247, 30837), (248, 30834), (271, 30738), (279, 30696), (323, 30525), (335, 30489), (377, 30369), (387, 30345), (438, 30210), (450, 30156), (462, 30096), (467, 30072), (468, 30066), (471, 30054), (490, 29958), (506, 29904),

Gene: Greenlvy\_40 Start: 29681, Stop: 28254, Start Num: 139

Candidate Starts for Greenlvy\_40:

(46, 29951), (53, 29927), (62, 29900), (77, 29852), (90, 29813), (Start: 139 @29681 has 146 MA's), (148, 29651), (150, 29645), (Start: 190 @29531 has 1 MA's), (191, 29528), (192, 29525), (247, 29291), (248, 29288), (307, 29033), (322, 28982), (323, 28976), (338, 28928), (342, 28895), (377, 28781), (381, 28772), (405, 28727), (408, 28721), (417, 28694), (438, 28622), (455, 28550), (460, 28514), (463, 28505), (466, 28490), (467, 28484), (471, 28466), (480, 28424), (493, 28361), (511, 28289),

Gene: Greenbelt\_68 Start: 46451, Stop: 44553, Start Num: 17

Candidate Starts for Greenbelt\_68:

(10, 46496), (Start: 17 @46451 has 1 MA's), (Start: 18 @46445 has 1 MA's), (24, 46433), (38, 46355), (51, 46289), (57, 46271), (63, 46250), (78, 46205), (84, 46187), (93, 46157), (Start: 114 @46112 has 1 MA's), (124, 46088), (160, 45962), (184, 45887), (185, 45884), (194, 45851), (200, 45818), (212, 45779), (236, 45668), (248, 45629), (264, 45554), (294, 45407), (303, 45374), (319, 45317), (342, 45212), (348, 45191), (411, 45050), (438, 44960), (446, 44927), (465, 44828), (473, 44783), (475, 44774), (506, 44639), (522, 44573), (523, 44570),

Gene: Greys\_41 Start: 31116, Stop: 29728, Start Num: 139

Candidate Starts for Greys\_41:

(2, 31767), (42, 31413), (59, 31338), (Start: 139 @31116 has 146 MA's), (188, 30972), (Start: 190 @30966 has 1 MA's), (191, 30963), (217, 30849), (228, 30822), (240, 30762), (247, 30735), (248, 30732), (271, 30636), (279, 30594), (323, 30423), (329, 30402), (338, 30375), (346, 30327), (377, 30267), (438, 30108), (450, 30054), (467, 29970), (468, 29964), (471, 29952), (490, 29856), (506, 29802), (507, 29799), (511, 29775),

Gene: Gubbabump\_40 Start: 30796, Stop: 29408, Start Num: 139

Candidate Starts for Gubbabump\_40:

(2, 31447), (42, 31093), (59, 31018), (Start: 139 @30796 has 146 MA's), (188, 30652), (Start: 190 @30646 has 1 MA's), (191, 30643), (217, 30529), (228, 30502), (240, 30442), (247, 30415), (248, 30412), (271, 30316), (279, 30274), (323, 30103), (329, 30082), (335, 30067), (346, 30007), (377, 29947), (421, 29851), (438, 29788), (450, 29734), (467, 29650), (468, 29644), (471, 29632), (490, 29536), (506, 29482), (507, 29479), (511, 29455),

Gene: Guetzie\_40 Start: 30629, Stop: 29241, Start Num: 143

Candidate Starts for Guetzie\_40:

(Start: 140 @30632 has 8 MA's), (Start: 143 @30629 has 22 MA's), (150, 30599), (188, 30491), (191, 30482), (202, 30428), (226, 30347), (240, 30281), (248, 30251), (256, 30206), (271, 30155), (321, 29951), (323, 29942), (335, 29903), (338, 29891), (339, 29879), (340, 29876), (347, 29840), (350, 29831), (363, 29816), (377, 29780), (382, 29768), (387, 29756), (421, 29681), (438, 29621), (460, 29513), (463, 29504), (466, 29489), (467, 29483), (468, 29477), (521, 29255),

Gene: Hager\_41 Start: 25422, Stop: 27329, Start Num: 26

Candidate Starts for Hager\_41:

(4, 25248), (Start: 26 @25422 has 34 MA's), (36, 25485), (41, 25506), (51, 25560), (108, 25722), (Start: 114 @25737 has 1 MA's), (129, 25782), (182, 25956), (185, 25965), (207, 26055), (208, 26058), (216, 26097), (219, 26112), (223, 26130), (263, 26298), (284, 26391), (287, 26406), (292, 26433), (294, 26445), (303, 26478), (338, 26607), (375, 26724), (456, 26997), (461, 27036), (473, 27096), (490, 27186), (498, 27216), (508, 27258), (522, 27309),

Gene: HairyMan\_37 Start: 30138, Stop: 28738, Start Num: 141

Candidate Starts for HairyMan\_37:

(126, 30183), (Start: 139 @30141 has 146 MA's), (Start: 141 @30138 has 2 MA's), (Start: 143 @30132 has 22 MA's), (188, 29994), (Start: 190 @29988 has 1 MA's), (191, 29985), (203, 29928), (228,

29844), (248, 29754), (271, 29658), (277, 29625), (279, 29616), (302, 29523), (323, 29445), (329, 29424), (338, 29397), (377, 29286), (419, 29193), (422, 29187), (448, 29088), (459, 29025), (460, 29019), (466, 28995), (467, 28989), (468, 28983), (471, 28971), (490, 28875), (506, 28821),

Gene: Hamlet\_40 Start: 31266, Stop: 29875, Start Num: 139

Candidate Starts for Hamlet\_40:

(89, 31368), (91, 31365), (92, 31362), (Start: 139 @31266 has 146 MA's), (188, 31119), (Start: 190 @31113 has 1 MA's), (191, 31110), (217, 30996), (228, 30969), (240, 30909), (247, 30882), (248, 30879), (271, 30783), (279, 30741), (323, 30570), (329, 30549), (338, 30522), (377, 30414), (421, 30318), (450, 30201), (455, 30183), (467, 30117), (468, 30111), (471, 30099), (490, 30003), (506, 29949), (507, 29946), (511, 29922), (519, 29892),

Gene: HanSolo\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for HanSolo\_40:

(2, 31454), (42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: HankSprout\_41 Start: 30683, Stop: 29295, Start Num: 139

Candidate Starts for HankSprout\_41:

(59, 30905), (Start: 139 @30683 has 146 MA's), (188, 30539), (Start: 190 @30533 has 1 MA's), (191, 30530), (217, 30416), (228, 30389), (240, 30329), (247, 30302), (248, 30299), (271, 30203), (279, 30161), (306, 30050), (323, 29990), (329, 29969), (335, 29954), (346, 29894), (377, 29834), (421, 29738), (438, 29675), (450, 29621), (467, 29537), (468, 29531), (471, 29519), (490, 29423), (506, 29369), (507, 29366), (511, 29342),

Gene: Hasitha\_40 Start: 29084, Stop: 27657, Start Num: 139

Candidate Starts for Hasitha\_40:

(Start: 139 @29084 has 146 MA's), (148, 29054), (150, 29048), (Start: 190 @28934 has 1 MA's), (191, 28931), (247, 28694), (248, 28691), (307, 28436), (322, 28385), (323, 28379), (338, 28331), (342, 28298), (346, 28283), (366, 28211), (377, 28184), (381, 28175), (405, 28130), (408, 28124), (417, 28097), (438, 28025), (455, 27953), (460, 27917), (463, 27908), (466, 27893), (467, 27887), (471, 27869), (480, 27827), (493, 27764), (509, 27701), (511, 27692),

Gene: Haunter\_40 Start: 25327, Stop: 27234, Start Num: 26

Candidate Starts for Haunter\_40:

(Start: 26 @25327 has 34 MA's), (36, 25390), (41, 25411), (51, 25465), (64, 25507), (Start: 114 @25642 has 1 MA's), (129, 25687), (182, 25861), (185, 25870), (207, 25960), (219, 26017), (263, 26203), (292, 26338), (294, 26350), (303, 26383), (315, 26428), (338, 26512), (375, 26629), (456, 26902), (460, 26938), (461, 26941), (473, 27001), (490, 27091), (498, 27121), (508, 27163), (522, 27214),

Gene: Hendrix\_115 Start: 71918, Stop: 73936, Start Num: 12

Candidate Starts for Hendrix\_115:

(Start: 6 @71888 has 1 MA's), (Start: 12 @71918 has 4 MA's), (50, 72131), (57, 72152), (67, 72185), (78, 72218), (95, 72272), (Start: 119 @72323 has 10 MA's), (125, 72353), (142, 72404), (170, 72506), (175, 72521), (222, 72707), (230, 72749), (231, 72752), (235, 72773), (242, 72797), (248, 72821), (250, 72827), (256, 72866), (265, 72899), (274, 72932), (279, 72962), (299, 73058), (303, 73073), (306, 73085), (313, 73112), (317, 73124), (321, 73142), (335, 73196), (342, 73241), (345, 73253), (346, 73256), (375, 73325), (413, 73403), (430, 73457), (447, 73529), (455, 73571), (458, 73598), (461, 73616), (466, 73637), (470, 73661), (493, 73775), (511, 73847), (524, 73895), (525, 73898),

Gene: HerculesXL\_40 Start: 29477, Stop: 28092, Start Num: 139

Candidate Starts for HerculesXL\_40:

(Start: 139 @29477 has 146 MA's), (204, 29264), (217, 29201), (226, 29180), (247, 29087), (248, 29084), (252, 29063), (255, 29042), (279, 28946), (323, 28775), (330, 28751), (335, 28739), (338, 28727), (339, 28715), (340, 28712), (342, 28694), (346, 28679), (377, 28619), (382, 28607), (387, 28595), (421, 28523), (430, 28493), (438, 28460), (460, 28352), (463, 28343), (466, 28328), (467, 28322), (468, 28316), (471, 28304), (490, 28208), (493, 28199), (501, 28169), (511, 28127),

Gene: Hexbug\_60 Start: 41082, Stop: 39607, Start Num: 119

Candidate Starts for Hexbug\_60:

(Start: 119 @41082 has 10 MA's), (129, 41040), (146, 40992), (Start: 152 @40965 has 1 MA's), (175, 40890), (177, 40881), (181, 40875), (204, 40791), (209, 40773), (212, 40764), (214, 40758), (248, 40635), (259, 40581), (261, 40575), (263, 40569), (277, 40506), (281, 40491), (286, 40476), (335, 40278), (341, 40245), (350, 40206), (372, 40161), (403, 40098), (409, 40086), (416, 40065), (420, 40050), (430, 40017), (431, 40014), (442, 39969), (453, 39912), (463, 39858), (473, 39807), (498, 39696), (504, 39675),

Gene: Hiddenleaf\_40 Start: 25169, Stop: 27076, Start Num: 26

Candidate Starts for Hiddenleaf\_40:

(4, 24995), (Start: 26 @25169 has 34 MA's), (36, 25232), (41, 25253), (51, 25307), (94, 25442), (Start: 114 @25484 has 1 MA's), (129, 25529), (182, 25703), (185, 25712), (207, 25802), (216, 25844), (219, 25859), (263, 26045), (292, 26180), (294, 26192), (303, 26225), (338, 26354), (375, 26471), (456, 26744), (461, 26783), (473, 26843), (490, 26933), (498, 26963), (508, 27005), (522, 27056),

Gene: HippoPololi\_50 Start: 37814, Stop: 36324, Start Num: 116

Candidate Starts for HippoPololi\_50:

(Start: 116 @37814 has 46 MA's), (129, 37772), (144, 37730), (146, 37724), (Start: 152 @37697 has 1 MA's), (168, 37643), (181, 37607), (Start: 190 @37580 has 1 MA's), (211, 37499), (212, 37496), (214, 37490), (216, 37469), (232, 37403), (248, 37367), (253, 37343), (259, 37313), (261, 37307), (263, 37301), (281, 37223), (318, 37082), (336, 37004), (342, 36965), (346, 36950), (363, 36914), (372, 36893), (374, 36890), (379, 36875), (391, 36848), (409, 36803), (430, 36734), (441, 36689), (442, 36686), (450, 36644), (453, 36629), (460, 36584), (461, 36581), (463, 36575), (473, 36524), (480, 36494), (500, 36404), (508, 36371), (517, 36335),

Gene: Horseradish\_55 Start: 38581, Stop: 37103, Start Num: 116

Candidate Starts for Horseradish\_55:

(Start: 116 @38581 has 46 MA's), (144, 38494), (146, 38488), (160, 38437), (175, 38386), (181, 38371), (204, 38287), (211, 38263), (214, 38254), (248, 38131), (259, 38077), (261, 38071), (263, 38065), (271, 38035), (281, 37987), (308, 37873), (318, 37846), (323, 37822), (341, 37741), (345, 37717), (351, 37696), (372, 37657), (379, 37639), (381, 37633), (429, 37522), (431, 37516), (441, 37474), (445, 37456), (460, 37369), (463, 37360), (467, 37339), (473, 37309), (480, 37279), (485, 37246), (501, 37186), (508, 37156),

Gene: HungryHenry\_40 Start: 30808, Stop: 29420, Start Num: 139

Candidate Starts for HungryHenry\_40:

(2, 31459), (42, 31105), (59, 31030), (Start: 139 @30808 has 146 MA's), (188, 30664), (Start: 190 @30658 has 1 MA's), (191, 30655), (217, 30541), (228, 30514), (240, 30454), (247, 30427), (248, 30424), (271, 30328), (279, 30286), (323, 30115), (329, 30094), (335, 30079), (346, 30019), (377, 29959), (421, 29863), (438, 29800), (450, 29746), (467, 29662), (468, 29656), (471, 29644), (490, 29548), (506, 29494), (507, 29491), (511, 29467),

Gene: Huwbert\_59 Start: 36808, Stop: 38358, Start Num: 114

Candidate Starts for Huwbert\_59:

(Start: 111 @36805 has 1 MA's), (Start: 114 @36808 has 1 MA's), (133, 36874), (146, 36904), (153, 36934), (166, 36973), (173, 37000), (177, 37015), (195, 37069), (201, 37099), (221, 37183), (239, 37267), (241, 37276), (242, 37279), (271, 37399), (274, 37414), (291, 37501), (307, 37567), (315, 37591), (342, 37714), (345, 37726), (386, 37813), (425, 37912), (429, 37930), (458, 38068), (508, 38296), (510, 38305), (511, 38308),

Gene: Ilzat\_40 Start: 30819, Stop: 29431, Start Num: 139

Candidate Starts for Ilzat\_40:

(2, 31470), (42, 31116), (59, 31041), (Start: 139 @30819 has 146 MA's), (188, 30675), (Start: 190 @30669 has 1 MA's), (191, 30666), (217, 30552), (228, 30525), (240, 30465), (247, 30438), (248, 30435), (271, 30339), (279, 30297), (323, 30126), (329, 30105), (335, 30090), (346, 30030), (377, 29970), (421, 29874), (438, 29811), (450, 29757), (467, 29673), (468, 29667), (471, 29655), (490, 29559), (506, 29505), (507, 29502), (511, 29478),

Gene: Inventa\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Inventa\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (321, 30430), (323, 30421), (329, 30400), (335, 30385), (338, 30373), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: loannes\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for loannes\_41:

(59, 31340), (Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (270, 30641), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (335, 30389), (338, 30377), (346, 30329), (377, 30269), (421, 30173), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (485, 29879), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: Ixel\_41 Start: 29711, Stop: 28434, Start Num: 174

Candidate Starts for Ixel\_41:

(Start: 139 @29819 has 146 MA's), (Start: 174 @29711 has 1 MA's), (188, 29675), (191, 29666), (217, 29543), (226, 29522), (247, 29429), (248, 29426), (255, 29384), (269, 29336), (271, 29330), (279, 29288), (309, 29165), (323, 29117), (329, 29096), (338, 29069), (339, 29057), (340, 29054), (342, 29036), (377, 28961), (382, 28949), (421, 28865), (434, 28820), (455, 28730), (460, 28694), (463, 28685), (466, 28670), (467, 28664), (468, 28658), (471, 28646), (490, 28550), (501, 28511),

Gene: JDawG\_39 Start: 25586, Stop: 27493, Start Num: 26

Candidate Starts for JDawG\_39:

(4, 25412), (Start: 26 @25586 has 34 MA's), (36, 25649), (41, 25670), (51, 25724), (94, 25859), (Start: 114 @25901 has 1 MA's), (129, 25946), (182, 26120), (185, 26129), (207, 26219), (216, 26261), (219, 26276), (263, 26462), (292, 26597), (294, 26609), (303, 26642), (328, 26735), (338, 26771), (363, 26861), (375, 26888), (460, 27197), (461, 27200), (473, 27260), (490, 27350), (498, 27380), (508, 27422), (522, 27473),

Gene: JacoRen57\_46 Start: 39673, Stop: 38201, Start Num: 120

Candidate Starts for JacoRen57\_46:

(113, 39685), (Start: 120 @39673 has 2 MA's), (145, 39586), (146, 39583), (170, 39496), (175, 39481), (177, 39472), (211, 39358), (259, 39172), (263, 39160), (281, 39082), (331, 38881), (342, 38821), (345, 38809), (346, 38806), (441, 38566), (445, 38548), (456, 38494), (463, 38452), (467, 38431), (473, 38401), (476, 38386), (498, 38290), (501, 38278), (515, 38218),

Gene: Jamzy\_58 Start: 39427, Stop: 37952, Start Num: 119

Candidate Starts for Jamzy\_58:

(Start: 119 @39427 has 10 MA's), (146, 39337), (Start: 152 @39310 has 1 MA's), (168, 39256), (175, 39235), (177, 39226), (181, 39220), (204, 39136), (206, 39127), (212, 39109), (214, 39103), (248, 38980), (259, 38926), (261, 38920), (263, 38914), (274, 38869), (281, 38836), (335, 38623), (341, 38590), (350, 38551), (372, 38506), (379, 38488), (381, 38482), (407, 38437), (409, 38431), (416, 38410), (430, 38362), (431, 38359), (441, 38317), (442, 38314), (445, 38299), (463, 38203), (473, 38152), (485, 38089), (504, 38020), (516, 37966),

Gene: Janus167\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Janus167\_40:

(59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (338, 30062), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: JasonD\_43 Start: 31699, Stop: 30293, Start Num: 137

Candidate Starts for JasonD\_43:

(68, 31888), (104, 31798), (105, 31795), (Start: 137 @31699 has 6 MA's), (188, 31552), (Start: 190 @31546 has 1 MA's), (204, 31483), (217, 31429), (228, 31402), (240, 31342), (247, 31315), (248, 31312), (271, 31216), (279, 31174), (321, 31012), (323, 31003), (329, 30982), (332, 30976), (335, 30967), (347, 30904), (363, 30883), (377, 30847), (387, 30823), (422, 30748), (434, 30706), (467, 30550), (468, 30544), (471, 30532), (490, 30436), (498, 30409), (506, 30382),

Gene: JasperRussell\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for JasperRussell\_40:

(42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Jemerald\_42 Start: 31717, Stop: 30299, Start Num: 139

Candidate Starts for Jemerald\_42:

(Start: 139 @31717 has 146 MA's), (Start: 143 @31711 has 22 MA's), (188, 31573), (202, 31510), (217, 31450), (226, 31429), (245, 31342), (247, 31336), (248, 31333), (252, 31312), (263, 31267), (269, 31243), (271, 31237), (279, 31195), (315, 31057), (323, 31024), (330, 31000), (346, 30928), (354, 30901), (366, 30853), (377, 30826), (417, 30739), (421, 30730), (447, 30631), (460, 30559), (463, 30550), (466, 30535), (467, 30529), (490, 30415), (501, 30376), (503, 30370), (511, 30334), (512, 30331),

Gene: Jenos\_44 Start: 32344, Stop: 30941, Start Num: 139

Candidate Starts for Jenos\_44:

(48, 32587), (52, 32578), (68, 32527), (74, 32506), (104, 32437), (Start: 139 @32344 has 146 MA's), (188, 32200), (Start: 190 @32194 has 1 MA's), (204, 32131), (217, 32077), (228, 32050), (240, 31990), (247, 31963), (248, 31960), (271, 31864), (279, 31822), (321, 31660), (323, 31651), (329, 31630), (338, 31603), (347, 31552), (377, 31495), (405, 31441), (421, 31399), (434, 31354), (462, 31222), (467, 31198), (468, 31192), (471, 31180), (490, 31084), (498, 31057), (506, 31030), (520, 30973),

Gene: Jerbirus\_42 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Jerbirus\_42:

(2, 31454), (42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: JeriBeth\_42 Start: 30666, Stop: 29278, Start Num: 139

Candidate Starts for JeriBeth\_42:

(59, 30888), (Start: 139 @30666 has 146 MA's), (188, 30522), (Start: 190 @30516 has 1 MA's), (191, 30513), (217, 30399), (228, 30372), (240, 30312), (247, 30285), (248, 30282), (271, 30186), (279, 30144), (323, 29973), (329, 29952), (335, 29937), (346, 29877), (377, 29817), (421, 29721), (438, 29658), (450, 29604), (467, 29520), (468, 29514), (471, 29502), (490, 29406), (506, 29352), (507, 29349), (511, 29325),

Gene: JingleBells\_40 Start: 25290, Stop: 27197, Start Num: 26

Candidate Starts for JingleBells\_40:

(4, 25116), (Start: 26 @25290 has 34 MA's), (36, 25353), (41, 25374), (51, 25428), (70, 25491), (94, 25563), (Start: 114 @25605 has 1 MA's), (129, 25650), (182, 25824), (185, 25833), (207, 25923), (216, 25965), (219, 25980), (263, 26166), (292, 26301), (294, 26313), (303, 26346), (338, 26475), (375, 26592), (460, 26901), (461, 26904), (473, 26964), (490, 27054), (498, 27084), (508, 27126), (522, 27177),

Gene: Jingles\_39 Start: 30570, Stop: 29173, Start Num: 134

Candidate Starts for Jingles\_39:

(83, 30717), (98, 30672), (112, 30642), (Start: 134 @30570 has 2 MA's), (Start: 140 @30558 has 8 MA's), (Start: 143 @30552 has 22 MA's), (150, 30522), (188, 30414), (Start: 190 @30408 has 1 MA's), (191, 30405), (194, 30390), (238, 30213), (240, 30204), (243, 30195), (248, 30174), (255, 30132), (271, 30078), (323, 29865), (329, 29844), (335, 29829), (338, 29817), (340, 29802), (347, 29766), (350, 29757), (363, 29742), (377, 29706), (421, 29607), (438, 29544), (445, 29517), (459, 29442), (460, 29436), (463, 29427), (466, 29412), (467, 29406), (468, 29400), (471, 29388), (498, 29265), (501, 29253),

Gene: Juanyo\_39 Start: 30553, Stop: 29183, Start Num: 143

Candidate Starts for Juanyo\_39:

(Start: 140 @30556 has 8 MA's), (Start: 143 @30553 has 22 MA's), (Start: 174 @30451 has 1 MA's), (217, 30292), (228, 30265), (240, 30205), (247, 30178), (248, 30175), (266, 30094), (271, 30079), (307, 29923), (323, 29866), (329, 29845), (332, 29839), (335, 29830), (339, 29806), (342, 29785), (346, 29770), (355, 29746), (377, 29710), (405, 29656), (438, 29551), (443, 29539), (448, 29512), (455, 29479), (460, 29443), (463, 29434), (466, 29419), (467, 29413), (468, 29407), (471, 29395), (490, 29299), (493, 29290), (498, 29272), (501, 29260), (511, 29218), (518, 29191),

Gene: Juicer\_42 Start: 31717, Stop: 30299, Start Num: 139

Candidate Starts for Juicer\_42:

(Start: 139 @31717 has 146 MA's), (Start: 143 @31711 has 22 MA's), (188, 31573), (202, 31510), (217, 31450), (226, 31429), (245, 31342), (247, 31336), (248, 31333), (252, 31312), (263, 31267), (269, 31243), (271, 31237), (279, 31195), (315, 31057), (323, 31024), (330, 31000), (346, 30928), (354, 30901), (366, 30853), (377, 30826), (417, 30739), (421, 30730), (447, 30631), (460, 30559), (463, 30550), (466, 30535), (467, 30529), (490, 30415), (501, 30376), (503, 30370), (511, 30334), (512, 30331),

Gene: KSunshine22\_95 Start: 77618, Stop: 79462, Start Num: 21

Candidate Starts for KSunshine22\_95:

(Start: 21 @77618 has 16 MA's), (87, 77891), (Start: 139 @77999 has 146 MA's), (158, 78065), (180, 78134), (182, 78143), (220, 78218), (290, 78527), (296, 78572), (311, 78632), (323, 78677), (337, 78734), (338, 78740), (342, 78773), (345, 78785), (349, 78797), (396, 78914), (398, 78920), (423, 78983), (433, 79022), (437, 79043), (456, 79127), (474, 79220), (479, 79244), (515, 79412), (516, 79415),

Gene: Kale\_40 Start: 30818, Stop: 29430, Start Num: 139

Candidate Starts for Kale\_40:

(59, 31040), (Start: 139 @30818 has 146 MA's), (188, 30674), (Start: 190 @30668 has 1 MA's), (191, 30665), (217, 30551), (228, 30524), (240, 30464), (247, 30437), (248, 30434), (271, 30338), (279, 30296), (323, 30125), (329, 30104), (335, 30089), (346, 30029), (377, 29969), (421, 29873), (438, 29810), (450, 29756), (467, 29672), (468, 29666), (471, 29654), (485, 29579), (490, 29558), (506, 29504), (507, 29501), (511, 29477),

Gene: KannH\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for KannH\_40:

(2, 31454), (42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Karate\_39 Start: 25940, Stop: 27847, Start Num: 26

Candidate Starts for Karate\_39:

(4, 25766), (Start: 26 @25940 has 34 MA's), (36, 26003), (41, 26024), (51, 26078), (108, 26240), (Start: 114 @26255 has 1 MA's), (129, 26300), (182, 26474), (185, 26483), (207, 26573), (208, 26576), (219, 26630), (263, 26816), (292, 26951), (294, 26963), (338, 27125), (375, 27242), (461, 27554), (473, 27614), (490, 27704), (498, 27734), (508, 27776), (522, 27827),

Gene: KatChan\_42 Start: 30536, Stop: 29130, Start Num: 139

Candidate Starts for KatChan\_42:

(Start: 139 @30536 has 146 MA's), (148, 30506), (189, 30389), (Start: 190 @30386 has 1 MA's), (191, 30383), (204, 30323), (210, 30302), (217, 30260), (228, 30233), (247, 30146), (248, 30143), (255, 30101), (269, 30050), (307, 29888), (323, 29831), (339, 29771), (341, 29762), (342, 29750), (363, 29711), (375, 29684), (376, 29681), (377, 29675), (417, 29588), (422, 29576), (460, 29408), (463, 29399), (466, 29384), (467, 29378), (468, 29372), (471, 29360), (498, 29237), (505, 29213), (511, 29183),

Gene: Kate\_41 Start: 25943, Stop: 27850, Start Num: 26

Candidate Starts for Kate\_41:

(Start: 26 @25943 has 34 MA's), (36, 26006), (41, 26027), (51, 26081), (Start: 114 @26258 has 1 MA's), (129, 26303), (182, 26477), (185, 26486), (207, 26576), (219, 26633), (263, 26819), (292, 26954), (294, 26966), (303, 26999), (338, 27128), (375, 27245), (408, 27320), (460, 27554), (461, 27557), (473, 27617), (490, 27707), (498, 27737), (508, 27779), (522, 27830),

Gene: Kauala\_39 Start: 30568, Stop: 29171, Start Num: 134

Candidate Starts for Kauala\_39:

(61, 30784), (83, 30715), (88, 30700), (112, 30640), (Start: 134 @30568 has 2 MA's), (Start: 140 @30556 has 8 MA's), (Start: 143 @30550 has 22 MA's), (150, 30520), (188, 30412), (Start: 190 @30406 has 1 MA's), (191, 30403), (194, 30388), (240, 30202), (248, 30172), (255, 30130), (271, 30076), (277, 30043), (323, 29863), (329, 29842), (335, 29827), (338, 29815), (339, 29803), (340, 29800), (347, 29764), (363, 29740), (370, 29722), (377, 29704), (438, 29542), (450, 29488), (459, 29440), (460, 29434), (463, 29425), (466, 29410), (467, 29404), (468, 29398), (471, 29386), (498,

29263), (501, 29251),

Gene: Kavo\_39 Start: 29315, Stop: 27930, Start Num: 136

Candidate Starts for Kavo\_39:

(Start: 136 @29315 has 1 MA's), (188, 29171), (204, 29102), (217, 29039), (224, 29030), (226, 29018), (247, 28925), (248, 28922), (252, 28901), (255, 28880), (279, 28784), (323, 28613), (330, 28589), (335, 28577), (338, 28565), (339, 28553), (340, 28550), (342, 28532), (346, 28517), (377, 28457), (382, 28445), (387, 28433), (421, 28361), (430, 28331), (438, 28298), (460, 28190), (463, 28181), (466, 28166), (467, 28160), (468, 28154), (471, 28142), (490, 28046), (493, 28037), (501, 28007), (511, 27965),

Gene: KayGee\_58 Start: 40792, Stop: 39314, Start Num: 116

Candidate Starts for KayGee\_58:

(Start: 116 @40792 has 46 MA's), (135, 40729), (144, 40708), (146, 40702), (Start: 152 @40675 has 1 MA's), (168, 40621), (181, 40585), (186, 40570), (211, 40474), (214, 40465), (216, 40444), (232, 40378), (248, 40342), (259, 40288), (261, 40282), (263, 40276), (281, 40198), (286, 40183), (308, 40084), (328, 40009), (335, 39985), (338, 39973), (341, 39952), (343, 39937), (345, 39928), (351, 39907), (372, 39868), (376, 39859), (381, 39844), (409, 39793), (431, 39721), (441, 39679), (442, 39676), (445, 39661), (463, 39565), (473, 39514), (480, 39484), (485, 39451), (500, 39394), (505, 39379),

Gene: KellyGreen\_42 Start: 30800, Stop: 29412, Start Num: 139

Candidate Starts for KellyGreen\_42:

(59, 31022), (Start: 139 @30800 has 146 MA's), (188, 30656), (Start: 190 @30650 has 1 MA's), (191, 30647), (217, 30533), (228, 30506), (240, 30446), (247, 30419), (248, 30416), (271, 30320), (279, 30278), (323, 30107), (329, 30086), (335, 30071), (338, 30059), (346, 30011), (377, 29951), (421, 29855), (438, 29792), (450, 29738), (467, 29654), (468, 29648), (471, 29636), (485, 29561), (490, 29540), (506, 29486), (507, 29483), (511, 29459),

Gene: KimJongPhill\_74 Start: 51796, Stop: 53328, Start Num: 106

Candidate Starts for KimJongPhill\_74:

(13, 51421), (40, 51580), (44, 51595), (76, 51715), (Start: 106 @51796 has 2 MA's), (144, 51910), (146, 51916), (157, 51958), (159, 51964), (160, 51967), (162, 51973), (169, 52000), (176, 52021), (191, 52063), (199, 52105), (205, 52126), (209, 52141), (211, 52147), (212, 52150), (213, 52153), (246, 52294), (248, 52300), (259, 52354), (263, 52366), (269, 52390), (274, 52411), (281, 52444), (294, 52507), (296, 52516), (307, 52558), (336, 52675), (341, 52702), (342, 52714), (345, 52726), (346, 52729), (429, 52912), (436, 52942), (439, 52954), (441, 52960), (446, 52984), (461, 53068), (473, 53125), (477, 53143), (498, 53236), (502, 53251), (508, 53278),

Gene: KingJulien\_40 Start: 31269, Stop: 29878, Start Num: 139

Candidate Starts for KingJulien\_40:

(39, 31557), (45, 31536), (Start: 139 @31269 has 146 MA's), (188, 31122), (Start: 190 @31116 has 1 MA's), (191, 31113), (204, 31053), (217, 30999), (228, 30972), (240, 30912), (247, 30885), (248, 30882), (271, 30786), (279, 30744), (323, 30573), (329, 30552), (377, 30417), (421, 30321), (450, 30204), (455, 30186), (467, 30120), (468, 30114), (471, 30102), (490, 30006), (506, 29952), (507, 29949), (511, 29925), (519, 29895),

Gene: Klimt\_41 Start: 30834, Stop: 29413, Start Num: 139

Candidate Starts for Klimt\_41:

(59, 31056), (Start: 139 @30834 has 146 MA's), (188, 30690), (Start: 190 @30684 has 1 MA's), (191, 30681), (217, 30567), (228, 30540), (240, 30480), (247, 30453), (248, 30450), (271, 30354), (279, 30312), (321, 30150), (323, 30141), (329, 30120), (338, 30093), (342, 30060), (346, 30045), (370, 29970), (377, 29952), (421, 29856), (438, 29793), (450, 29739), (467, 29655), (468, 29649), (471,

29637), (485, 29562), (490, 29541), (506, 29487), (507, 29484), (511, 29460),

Gene: Knox\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for Knox\_41:

(2, 31769), (42, 31415), (59, 31340), (Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (338, 30377), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

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

Candidate Starts for Koji\_39:

(83, 30885), (98, 30840), (112, 30810), (130, 30756), (Start: 134 @30738 has 2 MA's), (Start: 140 @30726 has 8 MA's), (Start: 143 @30720 has 22 MA's), (150, 30690), (188, 30582), (Start: 190 @30576 has 1 MA's), (191, 30573), (194, 30558), (240, 30372), (243, 30363), (248, 30342), (255, 30300), (271, 30246), (323, 30033), (329, 30012), (335, 29997), (338, 29985), (340, 29970), (347, 29934), (363, 29910), (377, 29874), (380, 29868), (421, 29775), (438, 29712), (445, 29685), (459, 29610), (460, 29604), (463, 29595), (466, 29580), (467, 29574), (468, 29568), (471, 29556), (498, 29433), (501, 29421), (521, 29346),

Gene: Kors\_42 Start: 26688, Stop: 28622, Start Num: 28

Candidate Starts for Kors\_42:

(3, 26448), (Start: 6 @26592 has 1 MA's), (25, 26682), (Start: 28 @26688 has 6 MA's), (51, 26835), (57, 26853), (60, 26862), (Start: 114 @27012 has 1 MA's), (154, 27138), (182, 27228), (185, 27237), (203, 27312), (207, 27327), (216, 27369), (222, 27399), (253, 27531), (294, 27717), (299, 27735), (303, 27750), (319, 27807), (335, 27867), (350, 27939), (400, 28077), (424, 28143), (430, 28173), (449, 28251), (461, 28329), (473, 28389), (490, 28479), (497, 28497), (523, 28605),

Gene: Kouch\_41 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Kouch\_41:

(59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Krampus\_40 Start: 25943, Stop: 27850, Start Num: 26

Candidate Starts for Krampus\_40:

(4, 25769), (Start: 26 @25943 has 34 MA's), (36, 26006), (41, 26027), (51, 26081), (108, 26243), (Start: 114 @26258 has 1 MA's), (129, 26303), (182, 26477), (185, 26486), (207, 26576), (216, 26618), (219, 26633), (263, 26819), (292, 26954), (294, 26966), (303, 26999), (338, 27128), (375, 27245), (408, 27320), (460, 27554), (461, 27557), (473, 27617), (490, 27707), (498, 27737), (508, 27779), (522, 27830),

Gene: Kurt1\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Kurt1\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (321, 30430), (323, 30421), (329, 30400), (335, 30385), (338, 30373), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: LastNadiia\_40 Start: 28701, Stop: 26893, Start Num: 23

Candidate Starts for LastNadiia\_40:

(Start: 23 @28701 has 9 MA's), (34, 28641), (92, 28440), (133, 28323), (Start: 139 @28311 has 146 MA's), (165, 28227), (220, 28089), (262, 27903), (278, 27810), (285, 27789), (288, 27777), (323, 27618), (326, 27603), (338, 27555), (369, 27486), (373, 27480), (378, 27465), (396, 27426), (399, 27417), (418, 27363), (420, 27360), (427, 27342), (430, 27324), (431, 27321), (463, 27168), (469, 27135), (475, 27108), (480, 27087), (484, 27060), (505, 26970), (516, 26919),

Gene: Lauer\_52 Start: 41675, Stop: 40197, Start Num: 116

Candidate Starts for Lauer\_52:

(Start: 116 @41675 has 46 MA's), (135, 41612), (146, 41585), (Start: 152 @41558 has 1 MA's), (168, 41504), (175, 41483), (186, 41453), (214, 41348), (216, 41327), (232, 41261), (248, 41225), (259, 41171), (261, 41165), (263, 41159), (281, 41081), (286, 41066), (308, 40967), (328, 40892), (335, 40868), (338, 40856), (341, 40835), (343, 40820), (345, 40811), (351, 40790), (372, 40751), (376, 40742), (409, 40676), (431, 40604), (441, 40562), (442, 40559), (445, 40544), (463, 40448), (473, 40397), (480, 40367), (485, 40334), (500, 40277), (505, 40262),

Gene: Laure\_105 Start: 73569, Stop: 75428, Start Num: 21

Candidate Starts for Laure\_105:

(Start: 21 @73569 has 16 MA's), (72, 73788), (80, 73809), (87, 73830), (89, 73836), (115, 73869), (132, 73938), (Start: 139 @73953 has 146 MA's), (147, 73980), (151, 73995), (155, 74007), (161, 74028), (178, 74085), (185, 74109), (237, 74256), (243, 74268), (285, 74460), (311, 74586), (323, 74631), (327, 74649), (332, 74670), (337, 74688), (338, 74694), (342, 74727), (345, 74739), (357, 74766), (363, 74787), (370, 74805), (396, 74871), (397, 74874), (420, 74931), (437, 75000), (454, 75078), (456, 75084), (457, 75087), (479, 75201), (501, 75309), (514, 75366),

Gene: Leaf\_117 Start: 70672, Stop: 72663, Start Num: 12

Candidate Starts for Leaf\_117:

(Start: 12 @70672 has 4 MA's), (16, 70705), (55, 70900), (57, 70906), (58, 70909), (67, 70939), (72, 70960), (78, 70972), (95, 71026), (107, 71053), (110, 71062), (Start: 134 @71116 has 2 MA's), (144, 71134), (145, 71137), (159, 71188), (172, 71230), (198, 71332), (235, 71494), (242, 71518), (248, 71542), (249, 71545), (256, 71587), (263, 71608), (269, 71632), (274, 71653), (277, 71674), (279, 71683), (299, 71779), (300, 71782), (303, 71794), (306, 71806), (313, 71833), (316, 71842), (317, 71845), (321, 71863), (335, 71917), (342, 71962), (352, 71998), (375, 72046), (413, 72124), (426, 72160), (429, 72175), (430, 72178), (447, 72250), (455, 72292), (461, 72337), (466, 72358), (468, 72370), (470, 72382), (482, 72436), (493, 72496), (500, 72523), (511, 72568), (527, 72646),

Gene: Leafus\_40 Start: 31402, Stop: 30011, Start Num: 139

Candidate Starts for Leafus\_40:

(91, 31516), (128, 31432), (Start: 139 @31402 has 146 MA's), (188, 31255), (Start: 190 @31249 has 1 MA's), (191, 31246), (217, 31132), (228, 31105), (240, 31045), (247, 31018), (248, 31015), (271, 30919), (279, 30877), (323, 30706), (329, 30685), (338, 30658), (377, 30550), (421, 30454), (450, 30337), (455, 30319), (467, 30253), (468, 30247), (471, 30235), (490, 30139), (506, 30085), (507, 30082), (511, 30058), (519, 30028),

Gene: LeoJr\_100 Start: 80857, Stop: 82713, Start Num: 21

Candidate Starts for LeoJr\_100:

(Start: 21 @80857 has 16 MA's), (87, 81130), (Start: 139 @81235 has 146 MA's), (175, 81358), (180, 81370), (182, 81379), (225, 81475), (243, 81550), (255, 81610), (290, 81763), (296, 81808), (311, 81868), (323, 81913), (337, 81970), (338, 81976), (342, 82009), (345, 82021), (349, 82033), (396, 82150), (397, 82153), (420, 82210), (430, 82246), (433, 82258), (437, 82279), (456, 82363), (474, 82456), (479, 82480), (515, 82648), (516, 82651),

Gene: Librie\_40 Start: 29071, Stop: 27644, Start Num: 139

Candidate Starts for Librie\_40:

(Start: 139 @29071 has 146 MA's), (148, 29041), (150, 29035), (Start: 190 @28921 has 1 MA's), (191, 28918), (247, 28681), (248, 28678), (307, 28423), (322, 28372), (323, 28366), (338, 28318), (342, 28285), (346, 28270), (366, 28198), (377, 28171), (381, 28162), (405, 28117), (408, 28111), (417, 28084), (438, 28012), (455, 27940), (460, 27904), (463, 27895), (466, 27880), (467, 27874), (471, 27856), (480, 27814), (493, 27751), (509, 27688), (511, 27679),

Gene: LilTerminator\_40 Start: 29093, Stop: 27666, Start Num: 139

Candidate Starts for LilTerminator\_40:

(Start: 139 @29093 has 146 MA's), (148, 29063), (150, 29057), (Start: 190 @28943 has 1 MA's), (191, 28940), (192, 28937), (226, 28796), (247, 28703), (248, 28700), (307, 28445), (322, 28394), (323, 28388), (338, 28340), (339, 28328), (342, 28307), (377, 28193), (381, 28184), (405, 28139), (408, 28133), (417, 28106), (438, 28034), (455, 27962), (460, 27926), (463, 27917), (466, 27902), (467, 27896), (471, 27878), (480, 27836), (493, 27773), (511, 27701),

Gene: Lizz\_70 Start: 50158, Stop: 48272, Start Num: 21

Candidate Starts for Lizz\_70:

(9, 50218), (Start: 21 @50158 has 16 MA's), (Start: 28 @50143 has 6 MA's), (36, 50080), (38, 50071), (41, 50059), (63, 49966), (84, 49903), (89, 49885), (Start: 114 @49828 has 1 MA's), (124, 49804), (168, 49645), (182, 49606), (185, 49597), (212, 49489), (235, 49381), (262, 49276), (283, 49177), (294, 49117), (318, 49030), (319, 49027), (342, 48922), (344, 48913), (348, 48901), (388, 48802), (435, 48685), (438, 48673), (445, 48646), (461, 48556), (465, 48541), (475, 48487), (486, 48430), (516, 48304),

Gene: LongHai\_51 Start: 39283, Stop: 37772, Start Num: 99

Candidate Starts for LongHai\_51:

(Start: 99 @39283 has 2 MA's), (118, 39247), (145, 39157), (146, 39154), (159, 39106), (181, 39037), (211, 38929), (249, 38794), (259, 38743), (261, 38737), (263, 38731), (269, 38707), (281, 38653), (318, 38512), (319, 38509), (331, 38452), (334, 38443), (345, 38380), (346, 38377), (430, 38182), (441, 38137), (460, 38032), (473, 37972), (476, 37957), (512, 37804), (517, 37783),

Gene: LordBart\_42 Start: 26597, Stop: 28531, Start Num: 28

Candidate Starts for LordBart\_42:

(3, 26357), (Start: 6 @26501 has 1 MA's), (25, 26591), (Start: 28 @26597 has 6 MA's), (51, 26744), (57, 26762), (Start: 114 @26921 has 1 MA's), (182, 27137), (185, 27146), (207, 27236), (216, 27278), (222, 27308), (253, 27440), (294, 27626), (299, 27644), (303, 27659), (319, 27716), (335, 27776), (350, 27848), (400, 27986), (424, 28052), (430, 28082), (431, 28085), (449, 28160), (461, 28238), (473, 28298), (490, 28388), (497, 28406),

Gene: Lovelyunicorn\_41 Start: 31119, Stop: 29731, Start Num: 139

Candidate Starts for Lovelyunicorn\_41:

(2, 31770), (42, 31416), (59, 31341), (Start: 139 @31119 has 146 MA's), (188, 30975), (Start: 190 @30969 has 1 MA's), (191, 30966), (217, 30852), (228, 30825), (240, 30765), (247, 30738), (248, 30735), (271, 30639), (279, 30597), (323, 30426), (329, 30405), (338, 30378), (346, 30330), (377, 30270), (438, 30111), (450, 30057), (467, 29973), (468, 29967), (471, 29955), (490, 29859), (506, 29805), (507, 29802), (511, 29778),

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

Candidate Starts for Lucky3\_39:

(Start: 140 @30647 has 8 MA's), (Start: 143 @30644 has 22 MA's), (150, 30614), (188, 30506), (191, 30497), (202, 30443), (226, 30362), (240, 30296), (248, 30266), (256, 30221), (271, 30170), (321, 29966), (323, 29957), (335, 29918), (338, 29906), (339, 29894), (340, 29891), (347, 29855), (350, 29846), (363, 29831), (377, 29795), (382, 29783), (387, 29771), (421, 29696), (438, 29636), (460,

29528), (463, 29519), (466, 29504), (467, 29498), (468, 29492), (521, 29270),

Gene: Ludgate\_41 Start: 31117, Stop: 29729, Start Num: 139

Candidate Starts for Ludgate\_41:

(59, 31339), (Start: 139 @31117 has 146 MA's), (188, 30973), (Start: 190 @30967 has 1 MA's), (191, 30964), (217, 30850), (228, 30823), (240, 30763), (247, 30736), (248, 30733), (271, 30637), (279, 30595), (323, 30424), (329, 30403), (335, 30388), (338, 30376), (346, 30328), (377, 30268), (421, 30172), (438, 30109), (450, 30055), (467, 29971), (468, 29965), (471, 29953), (485, 29878), (490, 29857), (506, 29803), (507, 29800), (511, 29776),

Gene: Luna18\_42 Start: 30536, Stop: 29130, Start Num: 139

Candidate Starts for Luna18\_42:

(Start: 139 @30536 has 146 MA's), (148, 30506), (189, 30389), (Start: 190 @30386 has 1 MA's), (191, 30383), (204, 30323), (210, 30302), (217, 30260), (228, 30233), (247, 30146), (248, 30143), (255, 30101), (269, 30050), (307, 29888), (323, 29831), (339, 29771), (341, 29762), (342, 29750), (363, 29711), (375, 29684), (376, 29681), (377, 29675), (417, 29588), (422, 29576), (460, 29408), (463, 29399), (466, 29384), (467, 29378), (468, 29372), (471, 29360), (498, 29237), (505, 29213), (511, 29183),

Gene: MAnor\_58 Start: 41147, Stop: 39669, Start Num: 116

Candidate Starts for MAnor\_58:

(103, 41174), (Start: 116 @41147 has 46 MA's), (135, 41084), (146, 41057), (Start: 152 @41030 has 1 MA's), (168, 40976), (175, 40955), (176, 40952), (181, 40940), (186, 40925), (Start: 190 @40913 has 1 MA's), (214, 40820), (248, 40697), (259, 40643), (261, 40637), (263, 40631), (281, 40553), (286, 40538), (308, 40439), (332, 40349), (335, 40340), (338, 40328), (341, 40307), (343, 40292), (345, 40283), (351, 40262), (372, 40223), (376, 40214), (381, 40199), (405, 40157), (430, 40079), (431, 40076), (441, 40034), (445, 40016), (463, 39920), (473, 39869), (480, 39839), (485, 39806), (500, 39749), (505, 39734),

Gene: MCubed\_40 Start: 30968, Stop: 29556, Start Num: 143

Candidate Starts for MCubed\_40:

(Start: 140 @30971 has 8 MA's), (Start: 143 @30968 has 22 MA's), (150, 30938), (Start: 152 @30932 has 1 MA's), (164, 30899), (217, 30707), (228, 30680), (240, 30620), (247, 30593), (248, 30590), (255, 30548), (271, 30494), (279, 30452), (307, 30338), (323, 30281), (329, 30260), (335, 30245), (338, 30233), (339, 30221), (340, 30218), (342, 30200), (363, 30119), (377, 30083), (405, 30029), (419, 29987), (430, 29957), (434, 29942), (436, 29933), (437, 29927), (448, 29885), (460, 29816), (466, 29792), (467, 29786), (468, 29780), (471, 29768), (490, 29672), (493, 29663), (498, 29645), (501, 29633), (503, 29627), (512, 29588),

Gene: MScarn\_57 Start: 38763, Stop: 37285, Start Num: 116

Candidate Starts for MScarn\_57:

(Start: 116 @38763 has 46 MA's), (144, 38676), (146, 38670), (160, 38619), (175, 38568), (181, 38553), (204, 38469), (211, 38445), (214, 38436), (248, 38313), (259, 38259), (261, 38253), (263, 38247), (281, 38169), (308, 38055), (318, 38028), (323, 38004), (341, 37923), (345, 37899), (351, 37878), (372, 37839), (379, 37821), (381, 37815), (429, 37704), (431, 37698), (441, 37656), (445, 37638), (460, 37551), (463, 37542), (467, 37521), (473, 37491), (480, 37461), (485, 37428), (501, 37368), (508, 37338),

Gene: MaVan\_49 Start: 37938, Stop: 36448, Start Num: 116

Candidate Starts for MaVan\_49:

(Start: 116 @37938 has 46 MA's), (146, 37848), (Start: 152 @37821 has 1 MA's), (166, 37779), (181, 37731), (Start: 190 @37704 has 1 MA's), (211, 37623), (212, 37620), (214, 37614), (216, 37593), (232, 37527), (259, 37437), (263, 37425), (277, 37362), (281, 37347), (286, 37332), (315, 37215), (318,

37206), (336, 37128), (341, 37101), (342, 37089), (345, 37077), (363, 37038), (372, 37017), (374, 37014), (379, 36999), (409, 36927), (430, 36858), (441, 36813), (450, 36768), (453, 36753), (458, 36723), (463, 36699), (473, 36648), (480, 36618), (495, 36552), (500, 36528), (508, 36495), (517, 36459),

Gene: Maco6\_48 Start: 38222, Stop: 36711, Start Num: 99

Candidate Starts for Maco6\_48:

(Start: 99 @38222 has 2 MA's), (118, 38186), (145, 38096), (146, 38093), (159, 38045), (181, 37976), (213, 37862), (249, 37733), (259, 37682), (261, 37676), (263, 37670), (269, 37646), (281, 37592), (318, 37451), (319, 37448), (331, 37391), (345, 37319), (346, 37316), (425, 37142), (430, 37121), (441, 37076), (460, 36971), (473, 36911), (512, 36743), (517, 36722),

Gene: MaeLinda\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for MaeLinda\_41:

(42, 31415), (59, 31340), (Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (250, 30728), (271, 30638), (279, 30596), (323, 30425), (335, 30389), (338, 30377), (342, 30344), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: Makima\_38 Start: 27813, Stop: 26014, Start Num: 23

Candidate Starts for Makima\_38:

(Start: 23 @27813 has 9 MA's), (34, 27756), (47, 27693), (133, 27438), (Start: 139 @27426 has 146 MA's), (165, 27342), (220, 27204), (253, 27054), (262, 27018), (268, 26982), (278, 26928), (285, 26907), (319, 26757), (323, 26736), (337, 26679), (338, 26673), (360, 26628), (369, 26604), (373, 26598), (382, 26574), (396, 26544), (399, 26535), (427, 26460), (430, 26442), (431, 26439), (463, 26286), (475, 26226), (484, 26178), (515, 26040), (516, 26037),

Gene: ManRay\_40 Start: 30816, Stop: 29428, Start Num: 139

Candidate Starts for ManRay\_40:

(59, 31038), (Start: 139 @30816 has 146 MA's), (188, 30672), (Start: 190 @30666 has 1 MA's), (191, 30663), (217, 30549), (228, 30522), (240, 30462), (247, 30435), (248, 30432), (271, 30336), (279, 30294), (323, 30123), (329, 30102), (335, 30087), (346, 30027), (377, 29967), (421, 29871), (438, 29808), (450, 29754), (467, 29670), (468, 29664), (471, 29652), (490, 29556), (506, 29502), (507, 29499), (511, 29475),

Gene: Mandalorian\_39 Start: 30635, Stop: 29223, Start Num: 143

Candidate Starts for Mandalorian\_39:

(Start: 140 @30638 has 8 MA's), (Start: 143 @30635 has 22 MA's), (150, 30605), (Start: 152 @30599 has 1 MA's), (Start: 190 @30491 has 1 MA's), (192, 30485), (217, 30374), (228, 30347), (238, 30296), (240, 30287), (247, 30260), (248, 30257), (255, 30215), (271, 30161), (307, 30005), (322, 29954), (323, 29948), (329, 29927), (332, 29921), (335, 29912), (338, 29900), (339, 29888), (356, 29810), (377, 29750), (380, 29744), (405, 29696), (419, 29654), (438, 29591), (443, 29579), (447, 29555), (448, 29552), (460, 29483), (463, 29474), (466, 29459), (467, 29453), (468, 29447), (471, 29435), (493, 29330), (498, 29312), (501, 29300), (512, 29255),

Gene: Mareelih\_167 Start: 96276, Stop: 94366, Start Num: 20

Candidate Starts for Mareelih\_167:

(Start: 20 @96276 has 5 MA's), (69, 96072), (85, 96024), (107, 95979), (127, 95898), (131, 95886), (162, 95781), (169, 95754), (217, 95649), (223, 95625), (263, 95460), (321, 95193), (323, 95184), (329, 95157), (342, 95088), (420, 94839), (435, 94773), (443, 94749), (468, 94614), (481, 94554), (496, 94482),

Gene: Margaret\_58 Start: 39745, Stop: 38270, Start Num: 119

Candidate Starts for Margaret\_58:

(Start: 119 @39745 has 10 MA's), (129, 39703), (146, 39655), (Start: 152 @39628 has 1 MA's), (162, 39598), (168, 39574), (175, 39553), (177, 39544), (181, 39538), (Start: 190 @39511 has 1 MA's), (204, 39454), (206, 39445), (212, 39427), (214, 39421), (248, 39298), (259, 39244), (261, 39238), (263, 39232), (277, 39169), (281, 39154), (286, 39139), (332, 38950), (335, 38941), (338, 38929), (341, 38908), (350, 38869), (352, 38860), (372, 38824), (379, 38806), (381, 38800), (407, 38755), (409, 38749), (430, 38680), (442, 38632), (445, 38617), (450, 38590), (453, 38575), (463, 38521), (473, 38470), (485, 38407), (498, 38359), (501, 38347), (504, 38338),

Gene: Martin\_42 Start: 31123, Stop: 29735, Start Num: 139

Candidate Starts for Martin\_42:

(2, 31774), (42, 31420), (59, 31345), (Start: 139 @31123 has 146 MA's), (188, 30979), (Start: 190 @30973 has 1 MA's), (191, 30970), (217, 30856), (228, 30829), (240, 30769), (247, 30742), (248, 30739), (271, 30643), (279, 30601), (321, 30439), (323, 30430), (329, 30409), (335, 30394), (338, 30382), (346, 30334), (377, 30274), (421, 30178), (438, 30115), (450, 30061), (467, 29977), (468, 29971), (471, 29959), (490, 29863), (506, 29809), (507, 29806), (511, 29782),

Gene: Mayweather\_61 Start: 41658, Stop: 40414, Start Num: 190

Candidate Starts for Mayweather\_61:

(Start: 116 @41892 has 46 MA's), (135, 41829), (146, 41802), (Start: 152 @41775 has 1 MA's), (168, 41721), (175, 41700), (176, 41697), (181, 41685), (186, 41670), (Start: 190 @41658 has 1 MA's), (214, 41565), (248, 41442), (259, 41388), (261, 41382), (263, 41376), (281, 41298), (286, 41283), (308, 41184), (332, 41094), (335, 41085), (338, 41073), (341, 41052), (343, 41037), (345, 41028), (351, 41007), (372, 40968), (376, 40959), (381, 40944), (405, 40902), (430, 40824), (431, 40821), (441, 40779), (445, 40761), (463, 40665), (473, 40614), (480, 40584), (485, 40551), (500, 40494), (505, 40479),

Gene: McDazzle\_58 Start: 40821, Stop: 39343, Start Num: 116

Candidate Starts for McDazzle\_58:

(79, 40902), (103, 40848), (Start: 116 @40821 has 46 MA's), (135, 40758), (144, 40737), (146, 40731), (Start: 152 @40704 has 1 MA's), (168, 40650), (175, 40629), (181, 40614), (186, 40599), (206, 40518), (214, 40494), (232, 40407), (248, 40371), (259, 40317), (261, 40311), (263, 40305), (281, 40227), (286, 40212), (306, 40122), (308, 40113), (318, 40086), (332, 40023), (335, 40014), (338, 40002), (341, 39981), (343, 39966), (345, 39957), (351, 39936), (372, 39897), (376, 39888), (381, 39873), (405, 39831), (416, 39801), (430, 39753), (431, 39750), (441, 39708), (445, 39690), (463, 39594), (473, 39543), (480, 39513), (485, 39480), (500, 39423), (505, 39408),

Gene: McGalleon\_43 Start: 32555, Stop: 31152, Start Num: 139

Candidate Starts for McGalleon\_43:

(52, 32789), (68, 32738), (104, 32648), (Start: 139 @32555 has 146 MA's), (188, 32411), (Start: 190 @32405 has 1 MA's), (204, 32342), (217, 32288), (228, 32261), (240, 32201), (247, 32174), (248, 32171), (270, 32078), (271, 32075), (279, 32033), (321, 31871), (323, 31862), (329, 31841), (338, 31814), (347, 31763), (377, 31706), (405, 31652), (421, 31610), (434, 31565), (462, 31433), (467, 31409), (468, 31403), (471, 31391), (490, 31295), (498, 31268), (506, 31241), (511, 31214), (520, 31184),

Gene: Mercedes\_36 Start: 28234, Stop: 26813, Start Num: 139

Candidate Starts for Mercedes\_36:

(Start: 139 @28234 has 146 MA's), (150, 28198), (179, 28114), (202, 28027), (204, 28021), (224, 27949), (226, 27937), (247, 27844), (248, 27841), (258, 27790), (307, 27586), (323, 27529), (338, 27481), (342, 27448), (347, 27430), (377, 27334), (381, 27325), (405, 27280), (408, 27274), (421, 27238), (434, 27193), (438, 27175), (460, 27067), (463, 27058), (466, 27043), (467, 27037), (505,

26872),

Gene: Merida02\_43 Start: 31117, Stop: 29729, Start Num: 139

Candidate Starts for Merida02\_43:

(59, 31339), (Start: 139 @31117 has 146 MA's), (188, 30973), (Start: 190 @30967 has 1 MA's), (191, 30964), (217, 30850), (228, 30823), (240, 30763), (247, 30736), (248, 30733), (250, 30727), (271, 30637), (279, 30595), (323, 30424), (335, 30388), (338, 30376), (342, 30343), (346, 30328), (377, 30268), (421, 30172), (438, 30109), (450, 30055), (467, 29971), (468, 29965), (471, 29953), (490, 29857), (506, 29803), (507, 29800), (511, 29776),

Gene: MillyPhilly\_41 Start: 31111, Stop: 29723, Start Num: 139

Candidate Starts for MillyPhilly\_41:

(2, 31762), (42, 31408), (59, 31333), (Start: 139 @31111 has 146 MA's), (188, 30967), (Start: 190 @30961 has 1 MA's), (191, 30958), (217, 30844), (228, 30817), (240, 30757), (247, 30730), (248, 30727), (271, 30631), (279, 30589), (321, 30427), (323, 30418), (329, 30397), (335, 30382), (338, 30370), (346, 30322), (377, 30262), (421, 30166), (438, 30103), (450, 30049), (467, 29965), (468, 29959), (471, 29947), (490, 29851), (506, 29797), (507, 29794), (511, 29770),

Gene: Mimi\_101 Start: 80085, Stop: 81923, Start Num: 21

Candidate Starts for Mimi\_101:

(Start: 21 @80085 has 16 MA's), (35, 80166), (57, 80244), (87, 80340), (125, 80400), (132, 80430), (169, 80550), (185, 80601), (219, 80661), (293, 81000), (306, 81057), (311, 81078), (323, 81123), (337, 81180), (338, 81186), (342, 81219), (345, 81231), (349, 81243), (366, 81288), (382, 81327), (408, 81384), (410, 81390), (420, 81423), (437, 81492), (456, 81576), (479, 81693), (517, 81867), (526, 81909),

Gene: MiniVolent\_38 Start: 30515, Stop: 29145, Start Num: 143

Candidate Starts for MiniVolent\_38:

(Start: 140 @30518 has 8 MA's), (Start: 143 @30515 has 22 MA's), (Start: 174 @30413 has 1 MA's), (217, 30254), (228, 30227), (240, 30167), (247, 30140), (248, 30137), (266, 30056), (271, 30041), (323, 29828), (329, 29807), (332, 29801), (335, 29792), (339, 29768), (342, 29747), (346, 29732), (355, 29708), (377, 29672), (405, 29618), (438, 29513), (443, 29501), (448, 29474), (455, 29441), (460, 29405), (463, 29396), (466, 29381), (467, 29375), (468, 29369), (471, 29357), (490, 29261), (493, 29252), (498, 29234), (501, 29222), (511, 29180), (518, 29153),

Gene: Mireles\_41 Start: 27371, Stop: 25572, Start Num: 23

Candidate Starts for Mireles\_41:

(Start: 23 @27371 has 9 MA's), (34, 27314), (47, 27251), (133, 26996), (Start: 139 @26984 has 146 MA's), (165, 26900), (195, 26789), (220, 26762), (253, 26612), (262, 26576), (268, 26540), (278, 26486), (285, 26465), (323, 26294), (337, 26237), (338, 26231), (360, 26186), (369, 26162), (373, 26156), (382, 26132), (396, 26102), (399, 26093), (427, 26018), (430, 26000), (431, 25997), (463, 25844), (475, 25784), (484, 25736), (515, 25598), (516, 25595),

Gene: MonChoix\_39 Start: 31157, Stop: 29766, Start Num: 139

Candidate Starts for MonChoix\_39:

(Start: 139 @31157 has 146 MA's), (188, 31010), (Start: 190 @31004 has 1 MA's), (191, 31001), (217, 30887), (228, 30860), (240, 30800), (247, 30773), (248, 30770), (271, 30674), (279, 30632), (323, 30461), (332, 30434), (346, 30365), (377, 30305), (450, 30092), (455, 30074), (460, 30038), (467, 30008), (468, 30002), (471, 29990), (490, 29894), (506, 29840), (507, 29837),

Gene: Morrigan\_42 Start: 30540, Stop: 29155, Start Num: 141

Candidate Starts for Morrigan\_42:

(Start: 139 @30543 has 146 MA's), (Start: 141 @30540 has 2 MA's), (148, 30513), (Start: 152 @30501 has 1 MA's), (153, 30498), (Start: 174 @30435 has 1 MA's), (204, 30330), (215, 30279), (217, 30267), (247, 30153), (248, 30150), (255, 30108), (269, 30057), (323, 29838), (338, 29790), (339, 29778), (340, 29775), (341, 29769), (342, 29757), (363, 29718), (377, 29682), (382, 29670), (405, 29628), (417, 29595), (421, 29586), (422, 29583), (438, 29523), (460, 29415), (463, 29406), (466, 29391), (467, 29385), (468, 29379), (471, 29367), (493, 29262), (498, 29244), (505, 29220), (511, 29190),

Gene: MortySmith\_38 Start: 24974, Stop: 26881, Start Num: 26

Candidate Starts for MortySmith\_38:

(4, 24800), (Start: 26 @24974 has 34 MA's), (36, 25037), (41, 25058), (51, 25112), (94, 25247), (Start: 114 @25289 has 1 MA's), (129, 25334), (182, 25508), (185, 25517), (207, 25607), (216, 25649), (219, 25664), (263, 25850), (292, 25985), (294, 25997), (303, 26030), (338, 26159), (375, 26276), (460, 26585), (461, 26588), (473, 26648), (490, 26738), (498, 26768), (508, 26810), (522, 26861),

Gene: MrWorldwide\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for MrWorldwide\_41:

(2, 31772), (42, 31418), (59, 31343), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (321, 30437), (323, 30428), (329, 30407), (335, 30392), (338, 30380), (346, 30332), (377, 30272), (421, 30176), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: Muddy\_50 Start: 39454, Stop: 37943, Start Num: 99

Candidate Starts for Muddy\_50:

(Start: 99 @39454 has 2 MA's), (118, 39418), (145, 39328), (146, 39325), (159, 39277), (181, 39208), (213, 39094), (249, 38965), (259, 38914), (261, 38908), (263, 38902), (269, 38878), (281, 38824), (318, 38683), (319, 38680), (331, 38623), (345, 38551), (346, 38548), (425, 38374), (430, 38353), (441, 38308), (460, 38203), (473, 38143), (512, 37975), (517, 37954),

Gene: MunkgeeRoachy\_51 Start: 38189, Stop: 36711, Start Num: 116

Candidate Starts for MunkgeeRoachy\_51:

(Start: 116 @38189 has 46 MA's), (146, 38096), (168, 38015), (175, 37994), (211, 37871), (212, 37868), (259, 37685), (261, 37679), (263, 37673), (271, 37643), (281, 37595), (308, 37481), (318, 37454), (323, 37430), (338, 37370), (345, 37325), (351, 37304), (372, 37265), (379, 37247), (381, 37241), (441, 37082), (442, 37079), (445, 37064), (463, 36968), (467, 36947), (473, 36917),

Gene: Nagem\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Nagem\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (321, 30430), (323, 30421), (329, 30400), (335, 30385), (338, 30373), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (485, 29875), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: NarutoRun\_40 Start: 25911, Stop: 27818, Start Num: 26

Candidate Starts for NarutoRun\_40:

(Start: 26 @25911 has 34 MA's), (36, 25974), (41, 25995), (51, 26049), (Start: 114 @26226 has 1 MA's), (129, 26271), (182, 26445), (185, 26454), (207, 26544), (219, 26601), (263, 26787), (292, 26922), (294, 26934), (303, 26967), (338, 27096), (375, 27213), (408, 27288), (460, 27522), (461, 27525), (473, 27585), (490, 27675), (498, 27705), (508, 27747), (522, 27798),

Gene: Nattles\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Nattles\_40:

(59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (270, 30326), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (338, 30062), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (485, 29564), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Nebulous\_39 Start: 32131, Stop: 30701, Start Num: 137

Candidate Starts for Nebulous\_39:

(Start: 137 @32131 has 6 MA's), (148, 32098), (164, 32053), (Start: 190 @31978 has 1 MA's), (191, 31975), (224, 31843), (226, 31831), (247, 31738), (248, 31735), (249, 31732), (277, 31603), (322, 31429), (323, 31423), (329, 31402), (338, 31375), (339, 31363), (340, 31360), (342, 31342), (356, 31285), (377, 31228), (382, 31216), (405, 31174), (421, 31132), (428, 31108), (438, 31069), (450, 31015), (460, 30961), (463, 30952), (466, 30937), (467, 30931), (493, 30808), (498, 30790), (505, 30766),

Gene: Neferthema\_41 Start: 31335, Stop: 29905, Start Num: 137

Candidate Starts for Neferthema\_41:

(Start: 137 @31335 has 6 MA's), (148, 31302), (164, 31257), (188, 31188), (Start: 190 @31182 has 1 MA's), (191, 31179), (224, 31047), (247, 30942), (248, 30939), (322, 30633), (323, 30627), (329, 30606), (338, 30579), (342, 30546), (356, 30489), (372, 30447), (377, 30432), (382, 30420), (405, 30378), (421, 30336), (428, 30312), (434, 30291), (438, 30273), (450, 30219), (460, 30165), (463, 30156), (466, 30141), (467, 30135), (490, 30021), (503, 29976), (505, 29970), (509, 29949), (511, 29940),

Gene: Neptune\_40 Start: 25911, Stop: 27818, Start Num: 26

Candidate Starts for Neptune\_40:

(Start: 26 @25911 has 34 MA's), (36, 25974), (41, 25995), (51, 26049), (Start: 114 @26226 has 1 MA's), (129, 26271), (182, 26445), (185, 26454), (207, 26544), (263, 26787), (292, 26922), (294, 26934), (303, 26967), (338, 27096), (375, 27213), (408, 27288), (460, 27522), (461, 27525), (473, 27585), (490, 27675), (498, 27705), (508, 27747), (522, 27798),

Gene: Neuville\_38 Start: 26376, Stop: 24544, Start Num: 23

Candidate Starts for Neuville\_38:

(Start: 23 @26376 has 9 MA's), (34, 26319), (92, 26118), (Start: 139 @25983 has 146 MA's), (180, 25848), (187, 25821), (220, 25764), (223, 25749), (233, 25695), (255, 25599), (257, 25593), (262, 25578), (270, 25533), (278, 25485), (285, 25464), (289, 25446), (297, 25395), (320, 25302), (323, 25290), (338, 25227), (361, 25155), (389, 25095), (396, 25074), (420, 25008), (427, 24990), (430, 24972), (431, 24969), (440, 24933), (460, 24825), (463, 24816), (475, 24756), (484, 24708),

Gene: Nibbles\_48 Start: 37634, Stop: 36144, Start Num: 116

Candidate Starts for Nibbles\_48:

(Start: 116 @37634 has 46 MA's), (146, 37544), (Start: 152 @37517 has 1 MA's), (166, 37475), (177, 37433), (181, 37427), (Start: 190 @37400 has 1 MA's), (211, 37319), (212, 37316), (214, 37310), (216, 37289), (232, 37223), (259, 37133), (263, 37121), (281, 37043), (286, 37028), (315, 36911), (318, 36902), (336, 36824), (341, 36797), (342, 36785), (345, 36773), (363, 36734), (372, 36713), (374, 36710), (379, 36695), (409, 36623), (441, 36509), (450, 36464), (453, 36449), (458, 36419), (463, 36395), (473, 36344), (474, 36341), (480, 36314), (495, 36248), (500, 36224), (508, 36191), (517, 36155),

Gene: NickSell\_41 Start: 31124, Stop: 29736, Start Num: 139

Candidate Starts for NickSell\_41:

(2, 31775), (42, 31421), (59, 31346), (Start: 139 @31124 has 146 MA's), (188, 30980), (Start: 190 @30974 has 1 MA's), (191, 30971), (217, 30857), (228, 30830), (240, 30770), (247, 30743), (248,

30740), (271, 30644), (279, 30602), (321, 30440), (323, 30431), (329, 30410), (335, 30395), (338, 30383), (346, 30335), (377, 30275), (421, 30179), (438, 30116), (450, 30062), (467, 29978), (468, 29972), (471, 29960), (490, 29864), (506, 29810), (507, 29807), (511, 29783),

Gene: Nina\_53 Start: 39329, Stop: 37851, Start Num: 116

Candidate Starts for Nina\_53:

(Start: 116 @39329 has 46 MA's), (144, 39242), (146, 39236), (168, 39155), (211, 39011), (212, 39008), (259, 38825), (261, 38819), (263, 38813), (281, 38735), (308, 38621), (318, 38594), (323, 38570), (338, 38510), (345, 38465), (351, 38444), (372, 38405), (379, 38387), (429, 38270), (441, 38222), (442, 38219), (445, 38204), (463, 38108), (467, 38087), (473, 38057),

Gene: NoShow\_58 Start: 42406, Stop: 40934, Start Num: 120

Candidate Starts for NoShow\_58:

(Start: 120 @42406 has 2 MA's), (146, 42316), (Start: 152 @42289 has 1 MA's), (170, 42229), (204, 42115), (213, 42085), (259, 41905), (261, 41899), (263, 41893), (281, 41815), (331, 41614), (345, 41542), (346, 41539), (350, 41527), (372, 41482), (405, 41422), (416, 41392), (445, 41281), (456, 41227), (463, 41185), (473, 41134), (495, 41038), (501, 41011), (512, 40966),

Gene: Nodigi\_60 Start: 41112, Stop: 39637, Start Num: 119

Candidate Starts for Nodigi\_60:

(71, 41229), (73, 41223), (Start: 119 @41112 has 10 MA's), (129, 41070), (146, 41022), (Start: 152 @40995 has 1 MA's), (175, 40920), (177, 40911), (181, 40905), (204, 40821), (209, 40803), (212, 40794), (214, 40788), (248, 40665), (259, 40611), (261, 40605), (263, 40599), (277, 40536), (281, 40521), (286, 40506), (335, 40308), (341, 40275), (350, 40236), (372, 40191), (403, 40128), (407, 40122), (409, 40116), (416, 40095), (420, 40080), (430, 40047), (431, 40044), (442, 39999), (453, 39942), (463, 39888), (473, 39837), (485, 39774), (498, 39726), (504, 39705),

Gene: Nucci\_39 Start: 30618, Stop: 29206, Start Num: 143

Candidate Starts for Nucci\_39:

(Start: 140 @30621 has 8 MA's), (Start: 143 @30618 has 22 MA's), (150, 30588), (Start: 152 @30582 has 1 MA's), (164, 30549), (Start: 190 @30474 has 1 MA's), (192, 30468), (217, 30357), (228, 30330), (238, 30279), (240, 30270), (247, 30243), (248, 30240), (255, 30198), (271, 30144), (307, 29988), (322, 29937), (323, 29931), (329, 29910), (332, 29904), (335, 29895), (338, 29883), (339, 29871), (356, 29793), (377, 29733), (380, 29727), (405, 29679), (419, 29637), (438, 29574), (443, 29562), (447, 29538), (448, 29535), (460, 29466), (463, 29457), (466, 29442), (467, 29436), (468, 29430), (471, 29418), (493, 29313), (498, 29295), (501, 29283), (512, 29238),

Gene: Oats\_40 Start: 30816, Stop: 29428, Start Num: 139

Candidate Starts for Oats\_40:

(59, 31038), (Start: 139 @30816 has 146 MA's), (188, 30672), (Start: 190 @30666 has 1 MA's), (191, 30663), (217, 30549), (228, 30522), (240, 30462), (247, 30435), (248, 30432), (270, 30339), (271, 30336), (279, 30294), (323, 30123), (329, 30102), (335, 30087), (338, 30075), (346, 30027), (377, 29967), (421, 29871), (438, 29808), (450, 29754), (467, 29670), (468, 29664), (471, 29652), (485, 29577), (490, 29556), (506, 29502), (507, 29499), (511, 29475),

Gene: OhDear\_40 Start: 25909, Stop: 27816, Start Num: 26

Candidate Starts for OhDear\_40:

(Start: 26 @25909 has 34 MA's), (36, 25972), (41, 25993), (51, 26047), (Start: 114 @26224 has 1 MA's), (129, 26269), (182, 26443), (185, 26452), (207, 26542), (219, 26599), (263, 26785), (292, 26920), (294, 26932), (303, 26965), (338, 27094), (375, 27211), (408, 27286), (460, 27520), (461, 27523), (473, 27583), (490, 27673), (498, 27703), (508, 27745), (522, 27796),

Gene: OldNelly\_42 Start: 31120, Stop: 29732, Start Num: 139

Candidate Starts for OldNelly\_42:

(59, 31342), (Start: 139 @31120 has 146 MA's), (188, 30976), (Start: 190 @30970 has 1 MA's), (191, 30967), (217, 30853), (228, 30826), (240, 30766), (247, 30739), (248, 30736), (250, 30730), (271, 30640), (279, 30598), (323, 30427), (335, 30391), (338, 30379), (342, 30346), (346, 30331), (377, 30271), (421, 30175), (438, 30112), (450, 30058), (467, 29974), (468, 29968), (471, 29956), (490, 29860), (506, 29806), (507, 29803), (511, 29779),

Gene: Orla\_60 Start: 41041, Stop: 39566, Start Num: 119

Candidate Starts for Orla\_60:

(Start: 119 @41041 has 10 MA's), (129, 40999), (146, 40951), (Start: 152 @40924 has 1 MA's), (175, 40849), (177, 40840), (181, 40834), (204, 40750), (209, 40732), (212, 40723), (214, 40717), (248, 40594), (259, 40540), (261, 40534), (263, 40528), (277, 40465), (281, 40450), (286, 40435), (335, 40237), (341, 40204), (350, 40165), (372, 40120), (403, 40057), (407, 40051), (409, 40045), (430, 39976), (431, 39973), (442, 39928), (453, 39871), (463, 39817), (473, 39766), (498, 39655), (504, 39634),

Gene: OverHedge\_40 Start: 25901, Stop: 27808, Start Num: 26

Candidate Starts for OverHedge\_40:

(Start: 26 @25901 has 34 MA's), (36, 25964), (41, 25985), (51, 26039), (Start: 114 @26216 has 1 MA's), (129, 26261), (182, 26435), (185, 26444), (207, 26534), (219, 26591), (263, 26777), (292, 26912), (294, 26924), (303, 26957), (338, 27086), (375, 27203), (408, 27278), (460, 27512), (461, 27515), (473, 27575), (490, 27665), (498, 27695), (508, 27737), (522, 27788),

Gene: Oxtobor96\_42 Start: 31119, Stop: 29731, Start Num: 139

Candidate Starts for Oxtobor96\_42:

(2, 31770), (42, 31416), (59, 31341), (Start: 139 @31119 has 146 MA's), (188, 30975), (Start: 190 @30969 has 1 MA's), (191, 30966), (217, 30852), (228, 30825), (240, 30765), (247, 30738), (248, 30735), (271, 30639), (279, 30597), (323, 30426), (329, 30405), (338, 30378), (346, 30330), (377, 30270), (438, 30111), (450, 30057), (467, 29973), (468, 29967), (471, 29955), (490, 29859), (506, 29805), (507, 29802), (511, 29778),

Gene: PHTowN\_70 Start: 50156, Stop: 48270, Start Num: 21

Candidate Starts for PHTowN\_70:

(9, 50216), (Start: 21 @50156 has 16 MA's), (Start: 28 @50141 has 6 MA's), (36, 50078), (38, 50069), (41, 50057), (63, 49964), (84, 49901), (89, 49883), (Start: 114 @49826 has 1 MA's), (124, 49802), (168, 49643), (182, 49604), (185, 49595), (212, 49487), (235, 49379), (262, 49274), (283, 49175), (294, 49115), (318, 49028), (319, 49025), (342, 48920), (344, 48911), (348, 48899), (388, 48800), (411, 48761), (435, 48683), (438, 48671), (445, 48644), (461, 48554), (465, 48539), (475, 48485), (486, 48428), (516, 48302),

Gene: PSirce\_40 Start: 31102, Stop: 29690, Start Num: 143

Candidate Starts for PSirce\_40:

(Start: 140 @31105 has 8 MA's), (Start: 143 @31102 has 22 MA's), (150, 31072), (Start: 152 @31066 has 1 MA's), (164, 31033), (217, 30841), (228, 30814), (240, 30754), (247, 30727), (248, 30724), (255, 30682), (263, 30658), (271, 30628), (279, 30586), (323, 30415), (329, 30394), (335, 30379), (338, 30367), (339, 30355), (340, 30352), (342, 30334), (363, 30253), (377, 30217), (405, 30163), (419, 30121), (430, 30091), (436, 30067), (437, 30061), (447, 30022), (448, 30019), (460, 29950), (466, 29926), (467, 29920), (468, 29914), (471, 29902), (490, 29806), (493, 29797), (498, 29779), (501, 29767), (512, 29722),

Gene: Pajaza\_37 Start: 29766, Stop: 28396, Start Num: 143

Candidate Starts for Pajaza\_37:

(Start: 143 @29766 has 22 MA's), (185, 29637), (192, 29616), (217, 29505), (218, 29502), (239, 29418), (240, 29412), (244, 29400), (248, 29382), (252, 29361), (271, 29286), (277, 29253), (321, 29082), (322, 29079), (323, 29073), (324, 29070), (335, 29037), (346, 28977), (377, 28917), (380, 28911), (381, 28908), (382, 28905), (419, 28821), (454, 28689), (460, 28650), (466, 28626), (467, 28620), (471, 28602), (490, 28506), (498, 28479), (501, 28467), (509, 28434), (512, 28422),

Gene: Panchaali\_97 Start: 77571, Stop: 79412, Start Num: 21

Candidate Starts for Panchaali\_97:

(Start: 21 @77571 has 16 MA's), (82, 77829), (87, 77844), (Start: 139 @77949 has 146 MA's), (149, 77985), (158, 78015), (180, 78084), (182, 78093), (185, 78105), (194, 78138), (243, 78264), (290, 78477), (296, 78522), (311, 78582), (323, 78627), (337, 78684), (338, 78690), (342, 78723), (345, 78735), (349, 78747), (396, 78864), (397, 78867), (410, 78891), (423, 78933), (430, 78960), (437, 78993), (444, 79017), (456, 79077), (474, 79170), (479, 79194), (515, 79362), (516, 79365),

Gene: Papafritta\_40 Start: 30824, Stop: 29436, Start Num: 139

Candidate Starts for Papafritta\_40:

(42, 31121), (59, 31046), (Start: 139 @30824 has 146 MA's), (188, 30680), (Start: 190 @30674 has 1 MA's), (191, 30671), (217, 30557), (228, 30530), (240, 30470), (247, 30443), (248, 30440), (271, 30344), (279, 30302), (323, 30131), (329, 30110), (335, 30095), (346, 30035), (366, 30002), (377, 29975), (421, 29879), (438, 29816), (450, 29762), (467, 29678), (468, 29672), (471, 29660), (490, 29564), (506, 29510), (507, 29507), (511, 29483),

Gene: ParleG\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for ParleG\_41:

(2, 31772), (42, 31418), (59, 31343), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (321, 30437), (323, 30428), (329, 30407), (335, 30392), (338, 30380), (346, 30332), (377, 30272), (421, 30176), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: Patbob\_102 Start: 80820, Stop: 82658, Start Num: 21

Candidate Starts for Patbob\_102:

(Start: 21 @80820 has 16 MA's), (57, 80979), (87, 81075), (125, 81135), (132, 81165), (161, 81255), (169, 81285), (185, 81336), (219, 81396), (306, 81792), (311, 81813), (323, 81858), (338, 81921), (342, 81954), (345, 81966), (349, 81978), (366, 82023), (382, 82062), (408, 82119), (410, 82125), (420, 82158), (437, 82227), (456, 82311), (479, 82428), (517, 82602), (526, 82644),

Gene: PauloDiaboli\_114 Start: 78533, Stop: 76683, Start Num: 23

Candidate Starts for PauloDiaboli\_114:

(8, 78602), (11, 78596), (Start: 23 @78533 has 9 MA's), (33, 78488), (34, 78476), (65, 78350), (85, 78287), (125, 78212), (157, 78104), (163, 78086), (183, 78017), (192, 77990), (217, 77930), (255, 77765), (288, 77621), (304, 77534), (311, 77507), (321, 77471), (323, 77462), (337, 77405), (338, 77399), (345, 77354), (349, 77342), (359, 77321), (367, 77297), (382, 77261), (401, 77216), (431, 77132), (432, 77129), (433, 77123), (448, 77060), (467, 76958), (484, 76871), (492, 76829), (506, 76778),

Gene: Peep\_41 Start: 31106, Stop: 29718, Start Num: 139

Candidate Starts for Peep\_41:

(59, 31328), (123, 31166), (Start: 139 @31106 has 146 MA's), (188, 30962), (Start: 190 @30956 has 1 MA's), (191, 30953), (217, 30839), (228, 30812), (240, 30752), (247, 30725), (248, 30722), (271, 30626), (279, 30584), (323, 30413), (329, 30392), (335, 30377), (338, 30365), (346, 30317), (377, 30257), (421, 30161), (438, 30098), (450, 30044), (467, 29960), (468, 29954), (471, 29942), (490, 29846), (506, 29792), (507, 29789), (511, 29765),

Gene: Penta\_37 Start: 29174, Stop: 27789, Start Num: 136

Candidate Starts for Penta\_37:

(Start: 136 @29174 has 1 MA's), (204, 28961), (217, 28898), (226, 28877), (247, 28784), (248, 28781), (252, 28760), (255, 28739), (279, 28643), (307, 28529), (315, 28505), (323, 28472), (330, 28448), (335, 28436), (338, 28424), (339, 28412), (340, 28409), (342, 28391), (364, 28349), (377, 28316), (382, 28304), (387, 28292), (421, 28220), (430, 28190), (460, 28049), (463, 28040), (466, 28025), (467, 28019), (468, 28013), (490, 27905), (493, 27896), (501, 27866), (511, 27824),

Gene: Peppino\_40 Start: 31250, Stop: 29859, Start Num: 139

Candidate Starts for Peppino\_40:

(91, 31364), (128, 31280), (Start: 139 @31250 has 146 MA's), (188, 31103), (Start: 190 @31097 has 1 MA's), (191, 31094), (217, 30980), (228, 30953), (240, 30893), (247, 30866), (248, 30863), (271, 30767), (279, 30725), (323, 30554), (329, 30533), (338, 30506), (377, 30398), (421, 30302), (450, 30185), (455, 30167), (467, 30101), (468, 30095), (490, 29987), (506, 29933), (507, 29930), (511, 29906), (519, 29876),

Gene: Phanita\_41 Start: 30883, Stop: 29468, Start Num: 140

Candidate Starts for Phanita\_41:

(Start: 140 @30883 has 8 MA's), (Start: 143 @30880 has 22 MA's), (150, 30850), (Start: 152 @30844 has 1 MA's), (164, 30811), (217, 30619), (228, 30592), (240, 30532), (247, 30505), (248, 30502), (255, 30460), (271, 30406), (279, 30364), (307, 30250), (323, 30193), (329, 30172), (338, 30145), (339, 30133), (340, 30130), (342, 30112), (363, 30031), (377, 29995), (405, 29941), (419, 29899), (430, 29869), (436, 29845), (437, 29839), (448, 29797), (460, 29728), (466, 29704), (467, 29698), (468, 29692), (471, 29680), (498, 29557), (501, 29545), (512, 29500),

Gene: Pharpay\_40 Start: 25956, Stop: 27863, Start Num: 26

Candidate Starts for Pharpay\_40:

(Start: 26 @25956 has 34 MA's), (36, 26019), (41, 26040), (51, 26094), (Start: 114 @26271 has 1 MA's), (129, 26316), (182, 26490), (185, 26499), (207, 26589), (219, 26646), (263, 26832), (292, 26967), (294, 26979), (303, 27012), (338, 27141), (375, 27258), (408, 27333), (460, 27567), (461, 27570), (473, 27630), (490, 27720), (498, 27750), (508, 27792), (522, 27843),

Gene: Phendrix\_173 Start: 92821, Stop: 90896, Start Num: 23

Candidate Starts for Phendrix\_173:

(Start: 23 @92821 has 9 MA's), (32, 92779), (57, 92665), (80, 92590), (109, 92521), (127, 92452), (223, 92179), (227, 92161), (231, 92137), (243, 92098), (282, 91918), (299, 91834), (304, 91810), (320, 91750), (323, 91738), (329, 91711), (342, 91642), (343, 91639), (392, 91474), (406, 91423), (412, 91399), (429, 91333), (438, 91294), (443, 91282), (463, 91174), (469, 91141), (474, 91120), (481, 91087), (490, 91036), (496, 91018),

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

Candidate Starts for Pherbot\_39:

(130, 30581), (Start: 140 @30554 has 8 MA's), (Start: 143 @30551 has 22 MA's), (150, 30521), (188, 30413), (Start: 190 @30407 has 1 MA's), (191, 30404), (194, 30389), (240, 30203), (243, 30194), (248, 30173), (255, 30131), (271, 30077), (323, 29864), (329, 29843), (335, 29828), (338, 29816), (340, 29801), (347, 29765), (350, 29756), (363, 29741), (377, 29705), (421, 29606), (438, 29543), (445, 29516), (459, 29441), (460, 29435), (463, 29426), (466, 29411), (467, 29405), (468, 29399), (471, 29387), (498, 29264), (501, 29252),

Gene: Pherferi\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Pherferi\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (321, 30430), (323, 30421), (329, 30400), (335, 30385), (338, 30373), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: Phiderman\_41 Start: 31111, Stop: 29723, Start Num: 139

Candidate Starts for Phiderman\_41:

(2, 31762), (42, 31408), (59, 31333), (Start: 139 @31111 has 146 MA's), (188, 30967), (Start: 190 @30961 has 1 MA's), (191, 30958), (217, 30844), (228, 30817), (240, 30757), (247, 30730), (248, 30727), (271, 30631), (279, 30589), (321, 30427), (323, 30418), (329, 30397), (335, 30382), (338, 30370), (346, 30322), (377, 30262), (421, 30166), (438, 30103), (450, 30049), (467, 29965), (468, 29959), (471, 29947), (490, 29851), (506, 29797), (507, 29794), (511, 29770),

Gene: PhillyPhantom\_40 Start: 31093, Stop: 29849, Start Num: 188

Candidate Starts for PhillyPhantom\_40:

(91, 31354), (128, 31270), (Start: 139 @31240 has 146 MA's), (188, 31093), (Start: 190 @31087 has 1 MA's), (191, 31084), (217, 30970), (228, 30943), (240, 30883), (247, 30856), (248, 30853), (271, 30757), (279, 30715), (323, 30544), (329, 30523), (338, 30496), (377, 30388), (421, 30292), (450, 30175), (455, 30157), (467, 30091), (468, 30085), (471, 30073), (490, 29977), (506, 29923), (507, 29920), (511, 29896), (519, 29866),

Gene: Phireproof\_41 Start: 31120, Stop: 29732, Start Num: 139

Candidate Starts for Phireproof\_41:

(59, 31342), (Start: 139 @31120 has 146 MA's), (188, 30976), (Start: 190 @30970 has 1 MA's), (191, 30967), (217, 30853), (228, 30826), (240, 30766), (247, 30739), (248, 30736), (271, 30640), (279, 30598), (321, 30436), (323, 30427), (329, 30406), (335, 30391), (338, 30379), (346, 30331), (377, 30271), (421, 30175), (438, 30112), (450, 30058), (467, 29974), (468, 29968), (471, 29956), (490, 29860), (506, 29806), (507, 29803), (511, 29779),

Gene: Phrampa\_96 Start: 82318, Stop: 84156, Start Num: 21

Candidate Starts for Phrampa\_96:

(Start: 21 @82318 has 16 MA's), (57, 82477), (87, 82573), (125, 82633), (132, 82663), (161, 82753), (169, 82783), (219, 82894), (293, 83233), (311, 83311), (323, 83356), (338, 83419), (342, 83452), (345, 83464), (349, 83476), (357, 83491), (358, 83494), (366, 83521), (382, 83560), (408, 83617), (410, 83623), (420, 83656), (437, 83725), (456, 83809), (479, 83926), (517, 84100), (526, 84142),

Gene: PhredFlintston\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for PhredFlintston\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (321, 30430), (323, 30421), (329, 30400), (335, 30385), (338, 30373), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: Phriends\_41 Start: 31120, Stop: 29732, Start Num: 139

Candidate Starts for Phriends\_41:

(59, 31342), (Start: 139 @31120 has 146 MA's), (188, 30976), (Start: 190 @30970 has 1 MA's), (191, 30967), (217, 30853), (228, 30826), (240, 30766), (247, 30739), (248, 30736), (250, 30730), (271, 30640), (279, 30598), (323, 30427), (335, 30391), (338, 30379), (342, 30346), (346, 30331), (377, 30271), (421, 30175), (438, 30112), (450, 30058), (467, 29974), (468, 29968), (471, 29956), (490, 29860), (506, 29806), (507, 29803), (511, 29779),

Gene: PhunaPhoke\_40 Start: 25929, Stop: 27836, Start Num: 26

Candidate Starts for PhunaPhoke\_40:

(Start: 26 @25929 has 34 MA's), (36, 25992), (41, 26013), (51, 26067), (Start: 114 @26244 has 1 MA's), (129, 26289), (182, 26463), (185, 26472), (207, 26562), (219, 26619), (263, 26805), (292, 26940), (294, 26952), (303, 26985), (338, 27114), (375, 27231), (408, 27306), (460, 27540), (461, 27543), (473, 27603), (490, 27693), (498, 27723), (508, 27765), (522, 27816),

Gene: Pikmin\_37 Start: 29766, Stop: 28396, Start Num: 143

Candidate Starts for Pikmin\_37:

(Start: 143 @29766 has 22 MA's), (185, 29637), (192, 29616), (217, 29505), (218, 29502), (239, 29418), (240, 29412), (244, 29400), (248, 29382), (252, 29361), (271, 29286), (277, 29253), (321, 29082), (322, 29079), (323, 29073), (324, 29070), (335, 29037), (346, 28977), (377, 28917), (380, 28911), (381, 28908), (382, 28905), (419, 28821), (454, 28689), (460, 28650), (466, 28626), (467, 28620), (471, 28602), (490, 28506), (498, 28479), (501, 28467), (509, 28434), (512, 28422),

Gene: Pocket\_40 Start: 30843, Stop: 29422, Start Num: 139

Candidate Starts for Pocket\_40:

(59, 31065), (Start: 139 @30843 has 146 MA's), (188, 30699), (Start: 190 @30693 has 1 MA's), (191, 30690), (217, 30576), (228, 30549), (240, 30489), (247, 30462), (248, 30459), (271, 30363), (279, 30321), (321, 30159), (323, 30150), (329, 30129), (338, 30102), (342, 30069), (346, 30054), (370, 29979), (377, 29961), (421, 29865), (438, 29802), (450, 29748), (467, 29664), (468, 29658), (471, 29646), (485, 29571), (490, 29550), (506, 29496), (507, 29493), (511, 29469),

Gene: Pons\_58 Start: 40779, Stop: 39301, Start Num: 116

Candidate Starts for Pons\_58:

(79, 40860), (103, 40806), (Start: 116 @40779 has 46 MA's), (135, 40716), (146, 40689), (Start: 152 @40662 has 1 MA's), (168, 40608), (175, 40587), (176, 40584), (186, 40557), (Start: 190 @40545 has 1 MA's), (214, 40452), (248, 40329), (259, 40275), (261, 40269), (263, 40263), (281, 40185), (286, 40170), (306, 40080), (308, 40071), (318, 40044), (332, 39981), (335, 39972), (338, 39960), (341, 39939), (343, 39924), (345, 39915), (351, 39894), (372, 39855), (376, 39846), (381, 39831), (430, 39711), (431, 39708), (441, 39666), (445, 39648), (463, 39552), (473, 39501), (480, 39471), (485, 39438), (500, 39381), (505, 39366),

Gene: PotPie\_56 Start: 41318, Stop: 39840, Start Num: 116

Candidate Starts for PotPie\_56:

(79, 41396), (101, 41345), (103, 41342), (Start: 116 @41318 has 46 MA's), (135, 41255), (144, 41234), (146, 41228), (Start: 152 @41201 has 1 MA's), (168, 41147), (181, 41111), (186, 41096), (211, 41000), (214, 40991), (216, 40970), (232, 40904), (248, 40868), (259, 40814), (261, 40808), (263, 40802), (281, 40724), (286, 40709), (308, 40610), (328, 40535), (335, 40511), (338, 40499), (341, 40478), (343, 40463), (345, 40454), (351, 40433), (372, 40394), (376, 40385), (381, 40370), (409, 40319), (430, 40250), (431, 40247), (441, 40205), (445, 40187), (463, 40091), (473, 40040), (480, 40010), (485, 39977), (500, 39920), (505, 39905),

Gene: Potty\_40 Start: 25934, Stop: 27841, Start Num: 26

Candidate Starts for Potty\_40:

(Start: 26 @25934 has 34 MA's), (36, 25997), (41, 26018), (51, 26072), (Start: 114 @26249 has 1 MA's), (129, 26294), (182, 26468), (185, 26477), (207, 26567), (219, 26624), (263, 26810), (292, 26945), (294, 26957), (303, 26990), (338, 27119), (375, 27236), (408, 27311), (460, 27545), (461, 27548), (473, 27608), (490, 27698), (498, 27728), (508, 27770), (522, 27821),

Gene: Poultruss\_39 Start: 26280, Stop: 28187, Start Num: 26

Candidate Starts for Poultruss\_39:

(Start: 26 @26280 has 34 MA's), (36, 26343), (41, 26364), (51, 26418), (Start: 114 @26595 has 1 MA's), (129, 26640), (182, 26814), (185, 26823), (207, 26913), (219, 26970), (263, 27156), (292, 27291), (294, 27303), (303, 27336), (338, 27465), (375, 27582), (461, 27894), (473, 27954), (490, 28044), (498, 28074), (508, 28116), (522, 28167),

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

Candidate Starts for PrincePhergus\_39:

(130, 30600), (Start: 140 @30573 has 8 MA's), (Start: 143 @30570 has 22 MA's), (150, 30540), (188, 30432), (Start: 190 @30426 has 1 MA's), (191, 30423), (194, 30408), (238, 30231), (240, 30222), (243, 30213), (248, 30192), (255, 30150), (271, 30096), (323, 29883), (329, 29862), (335, 29847), (338, 29835), (340, 29820), (347, 29784), (350, 29775), (363, 29760), (377, 29724), (421, 29625), (438, 29562), (445, 29535), (459, 29460), (460, 29454), (463, 29445), (466, 29430), (467, 29424), (468, 29418), (471, 29406), (498, 29283), (501, 29271),

Gene: PsychoKiller\_52 Start: 38727, Stop: 37249, Start Num: 116

Candidate Starts for PsychoKiller\_52:

(Start: 116 @38727 has 46 MA's), (144, 38640), (146, 38634), (168, 38553), (175, 38532), (211, 38409), (212, 38406), (259, 38223), (261, 38217), (263, 38211), (281, 38133), (308, 38019), (318, 37992), (323, 37968), (338, 37908), (345, 37863), (351, 37842), (372, 37803), (379, 37785), (429, 37668), (441, 37620), (442, 37617), (445, 37602), (463, 37506), (467, 37485), (473, 37455),

Gene: Pumpernickel\_111 Start: 80095, Stop: 78248, Start Num: 23

Candidate Starts for Pumpernickel\_111:

(Start: 23 @80095 has 9 MA's), (85, 79855), (86, 79852), (93, 79831), (125, 79780), (157, 79672), (165, 79651), (220, 79489), (268, 79276), (282, 79210), (288, 79189), (290, 79180), (300, 79123), (304, 79102), (311, 79075), (321, 79039), (323, 79030), (325, 79018), (337, 78973), (338, 78967), (342, 78934), (383, 78823), (384, 78820), (398, 78778), (418, 78727), (448, 78607), (452, 78580), (464, 78520), (491, 78382), (492, 78376), (505, 78328), (519, 78268),

Gene: PuppyEggo\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for PuppyEggo\_41:

(2, 31772), (42, 31418), (59, 31343), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (323, 30428), (329, 30407), (338, 30380), (346, 30332), (377, 30272), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: QuadZero\_39 Start: 29101, Stop: 27674, Start Num: 139

Candidate Starts for QuadZero\_39:

(122, 29158), (Start: 139 @29101 has 146 MA's), (148, 29071), (150, 29065), (Start: 190 @28951 has 1 MA's), (191, 28948), (192, 28945), (247, 28711), (248, 28708), (307, 28453), (322, 28402), (323, 28396), (338, 28348), (342, 28315), (346, 28300), (377, 28201), (405, 28147), (408, 28141), (417, 28114), (438, 28042), (455, 27970), (460, 27934), (463, 27925), (466, 27910), (467, 27904), (471, 27886), (480, 27844), (493, 27781), (511, 27709),

Gene: Quartz\_40 Start: 30748, Stop: 29336, Start Num: 143

Candidate Starts for Quartz\_40:

(Start: 140 @30751 has 8 MA's), (Start: 143 @30748 has 22 MA's), (150, 30718), (Start: 152 @30712 has 1 MA's), (164, 30679), (Start: 190 @30604 has 1 MA's), (192, 30598), (217, 30487), (228, 30460), (238, 30409), (240, 30400), (247, 30373), (248, 30370), (255, 30328), (271, 30274), (307, 30118), (322, 30067), (323, 30061), (329, 30040), (332, 30034), (335, 30025), (338, 30013), (339, 30001), (356, 29923), (377, 29863), (380, 29857), (405, 29809), (419, 29767), (438, 29704), (443, 29692), (447, 29668), (448, 29665), (460, 29596), (463, 29587), (466, 29572), (467, 29566), (468, 29560),

(471, 29548), (493, 29443), (498, 29425), (501, 29413), (512, 29368),

Gene: Quasar\_53 Start: 39431, Stop: 37953, Start Num: 116

Candidate Starts for Quasar\_53:

(Start: 116 @39431 has 46 MA's), (144, 39344), (146, 39338), (175, 39236), (211, 39113), (212, 39110), (259, 38927), (261, 38921), (263, 38915), (281, 38837), (308, 38723), (318, 38696), (323, 38672), (338, 38612), (345, 38567), (351, 38546), (372, 38507), (379, 38489), (429, 38372), (441, 38324), (442, 38321), (445, 38306), (463, 38210), (467, 38189), (473, 38159),

Gene: RADical\_54 Start: 38721, Stop: 37243, Start Num: 116

Candidate Starts for RADical\_54:

(Start: 116 @38721 has 46 MA's), (144, 38634), (146, 38628), (168, 38547), (175, 38526), (212, 38400), (259, 38217), (261, 38211), (263, 38205), (281, 38127), (308, 38013), (318, 37986), (323, 37962), (338, 37902), (345, 37857), (351, 37836), (372, 37797), (379, 37779), (429, 37662), (441, 37614), (442, 37611), (445, 37596), (463, 37500), (467, 37479), (473, 37449),

Gene: RSchmailzl\_54 Start: 38877, Stop: 37399, Start Num: 116

Candidate Starts for RSchmailzl\_54:

(Start: 116 @38877 has 46 MA's), (144, 38790), (146, 38784), (175, 38682), (212, 38556), (259, 38373), (261, 38367), (263, 38361), (281, 38283), (308, 38169), (318, 38142), (323, 38118), (338, 38058), (345, 38013), (351, 37992), (372, 37953), (379, 37935), (429, 37818), (441, 37770), (442, 37767), (445, 37752), (463, 37656), (467, 37635), (473, 37605), (517, 37416),

Gene: Raccoon\_40 Start: 31223, Stop: 29832, Start Num: 139

Candidate Starts for Raccoon\_40:

(89, 31325), (91, 31322), (92, 31319), (Start: 139 @31223 has 146 MA's), (188, 31076), (Start: 190 @31070 has 1 MA's), (191, 31067), (217, 30953), (228, 30926), (240, 30866), (247, 30839), (248, 30836), (271, 30740), (279, 30698), (323, 30527), (329, 30506), (338, 30479), (377, 30371), (421, 30275), (450, 30158), (455, 30140), (467, 30074), (468, 30068), (471, 30056), (490, 29960), (506, 29906), (507, 29903), (511, 29879), (519, 29849),

Gene: Racecar\_102 Start: 80738, Stop: 82576, Start Num: 21

Candidate Starts for Racecar\_102:

(Start: 21 @80738 has 16 MA's), (35, 80819), (57, 80897), (87, 80993), (125, 81053), (132, 81083), (169, 81203), (185, 81254), (219, 81314), (293, 81653), (306, 81710), (311, 81731), (323, 81776), (337, 81833), (338, 81839), (342, 81872), (345, 81884), (349, 81896), (366, 81941), (382, 81980), (408, 82037), (410, 82043), (420, 82076), (437, 82145), (456, 82229), (479, 82346), (517, 82520), (526, 82562),

Gene: Rachella\_40 Start: 25937, Stop: 27844, Start Num: 26

Candidate Starts for Rachella\_40:

(Start: 26 @25937 has 34 MA's), (36, 26000), (41, 26021), (51, 26075), (Start: 114 @26252 has 1 MA's), (129, 26297), (182, 26471), (185, 26480), (207, 26570), (219, 26627), (263, 26813), (292, 26948), (294, 26960), (303, 26993), (338, 27122), (375, 27239), (408, 27314), (460, 27548), (461, 27551), (473, 27611), (490, 27701), (498, 27731), (508, 27773), (522, 27824),

Gene: RanchParmCat\_57 Start: 39886, Stop: 38411, Start Num: 119

Candidate Starts for RanchParmCat\_57:

(Start: 119 @39886 has 10 MA's), (129, 39844), (146, 39796), (Start: 152 @39769 has 1 MA's), (162, 39739), (168, 39715), (175, 39694), (177, 39685), (181, 39679), (Start: 190 @39652 has 1 MA's), (204, 39595), (206, 39586), (212, 39568), (214, 39562), (248, 39439), (259, 39385), (261, 39379), (263, 39373), (277, 39310), (281, 39295), (286, 39280), (332, 39091), (335, 39082), (341, 39049), (350, 39010), (352, 39001), (372, 38965), (379, 38947), (381, 38941), (407, 38896), (409, 38890), (430,

38821), (442, 38773), (445, 38758), (453, 38716), (463, 38662), (469, 38629), (473, 38611), (485, 38548), (498, 38500), (501, 38488), (504, 38479), (517, 38422),

Gene: Rapheph\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Rapheph\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (321, 30430), (323, 30421), (329, 30400), (335, 30385), (338, 30373), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: Raptor\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for Raptor\_41:

(59, 31343), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (323, 30428), (329, 30407), (335, 30392), (338, 30380), (346, 30332), (377, 30272), (421, 30176), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (485, 29882), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: Rasputia\_111 Start: 69328, Stop: 71340, Start Num: 12

Candidate Starts for Rasputia\_111:

(Start: 12 @69328 has 4 MA's), (50, 69541), (55, 69556), (56, 69559), (67, 69595), (72, 69616), (78, 69628), (95, 69682), (142, 69802), (179, 69931), (198, 70009), (222, 70105), (231, 70150), (235, 70171), (242, 70195), (248, 70219), (256, 70264), (263, 70285), (274, 70330), (279, 70360), (299, 70456), (303, 70471), (306, 70483), (313, 70510), (317, 70522), (321, 70540), (335, 70594), (342, 70639), (346, 70654), (375, 70723), (402, 70777), (413, 70801), (415, 70810), (430, 70855), (431, 70858), (447, 70930), (455, 70972), (458, 70999), (460, 71014), (461, 71017), (466, 71038), (493, 71176), (500, 71203), (511, 71248), (528, 71329),

Gene: RedBaron\_56 Start: 39388, Stop: 37904, Start Num: 113

Candidate Starts for RedBaron\_56:

(113, 39388), (Start: 119 @39379 has 10 MA's), (135, 39316), (144, 39295), (146, 39289), (168, 39208), (175, 39187), (211, 39064), (212, 39061), (250, 38926), (259, 38878), (261, 38872), (263, 38866), (281, 38788), (308, 38674), (318, 38647), (323, 38623), (338, 38563), (345, 38518), (351, 38497), (372, 38458), (379, 38440), (429, 38323), (441, 38275), (442, 38272), (445, 38257), (463, 38161), (467, 38140), (473, 38110),

Gene: Redfield\_40 Start: 31255, Stop: 29864, Start Num: 139

Candidate Starts for Redfield\_40:

(89, 31357), (91, 31354), (92, 31351), (Start: 139 @31255 has 146 MA's), (188, 31108), (Start: 190 @31102 has 1 MA's), (191, 31099), (217, 30985), (228, 30958), (240, 30898), (247, 30871), (248, 30868), (271, 30772), (279, 30730), (323, 30559), (329, 30538), (338, 30511), (377, 30403), (421, 30307), (450, 30190), (455, 30172), (467, 30106), (468, 30100), (471, 30088), (490, 29992), (506, 29938), (507, 29935), (511, 29911), (519, 29881),

Gene: ReginaGlobina\_100 Start: 80422, Stop: 82278, Start Num: 21

Candidate Starts for ReginaGlobina\_100:

(Start: 21 @80422 has 16 MA's), (87, 80695), (Start: 139 @80800 has 146 MA's), (175, 80923), (180, 80935), (182, 80944), (225, 81040), (243, 81115), (255, 81175), (290, 81328), (296, 81373), (311, 81433), (323, 81478), (337, 81535), (338, 81541), (342, 81574), (345, 81586), (349, 81598), (396, 81715), (397, 81718), (420, 81775), (430, 81811), (433, 81823), (437, 81844), (456, 81928), (474, 82021), (479, 82045), (515, 82213), (516, 82216),

Gene: RenegadeRaider\_42 Start: 30486, Stop: 29236, Start Num: 188

Candidate Starts for RenegadeRaider\_42:

(83, 30789), (98, 30744), (112, 30714), (130, 30660), (Start: 134 @30642 has 2 MA's), (Start: 140 @30630 has 8 MA's), (Start: 143 @30624 has 22 MA's), (150, 30594), (188, 30486), (Start: 190 @30480 has 1 MA's), (191, 30477), (194, 30462), (240, 30276), (243, 30267), (248, 30246), (255, 30204), (271, 30150), (323, 29937), (329, 29916), (335, 29901), (338, 29889), (340, 29874), (347, 29838), (350, 29829), (363, 29814), (377, 29778), (421, 29679), (438, 29616), (445, 29589), (459, 29514), (460, 29508), (463, 29499), (466, 29484), (467, 29478), (468, 29472), (498, 29337), (501, 29325), (521, 29250),

Gene: Renzie\_41 Start: 31109, Stop: 29721, Start Num: 139

Candidate Starts for Renzie\_41:

(59, 31331), (Start: 139 @31109 has 146 MA's), (188, 30965), (Start: 190 @30959 has 1 MA's), (191, 30956), (217, 30842), (228, 30815), (240, 30755), (247, 30728), (248, 30725), (271, 30629), (279, 30587), (323, 30416), (329, 30395), (335, 30380), (338, 30368), (346, 30320), (377, 30260), (421, 30164), (438, 30101), (450, 30047), (467, 29963), (468, 29957), (471, 29945), (485, 29870), (490, 29849), (506, 29795), (507, 29792), (511, 29768),

Gene: Rie18\_40 Start: 25493, Stop: 27400, Start Num: 26

Candidate Starts for Rie18\_40:

(4, 25319), (Start: 26 @25493 has 34 MA's), (36, 25556), (41, 25577), (51, 25631), (108, 25793), (Start: 114 @25808 has 1 MA's), (129, 25853), (182, 26027), (185, 26036), (207, 26126), (208, 26129), (216, 26168), (219, 26183), (254, 26333), (263, 26369), (287, 26477), (292, 26504), (294, 26516), (303, 26549), (338, 26678), (375, 26795), (461, 27107), (473, 27167), (490, 27257), (498, 27287), (499, 27293), (508, 27329), (522, 27380),

Gene: RikSengupta\_42 Start: 26725, Stop: 28659, Start Num: 28

Candidate Starts for RikSengupta\_42:

(Start: 6 @26629 has 1 MA's), (25, 26719), (Start: 28 @26725 has 6 MA's), (51, 26872), (57, 26890), (Start: 114 @27049 has 1 MA's), (154, 27175), (182, 27265), (185, 27274), (207, 27364), (216, 27406), (222, 27436), (253, 27568), (294, 27754), (299, 27772), (303, 27787), (319, 27844), (335, 27904), (350, 27976), (394, 28093), (400, 28114), (424, 28180), (430, 28210), (449, 28288), (461, 28366), (473, 28426), (482, 28465), (490, 28516), (497, 28534), (523, 28642),

Gene: Riyhil\_41 Start: 31124, Stop: 29736, Start Num: 139

Candidate Starts for Riyhil\_41:

(59, 31346), (Start: 139 @31124 has 146 MA's), (188, 30980), (Start: 190 @30974 has 1 MA's), (191, 30971), (217, 30857), (228, 30830), (240, 30770), (247, 30743), (248, 30740), (271, 30644), (279, 30602), (323, 30431), (329, 30410), (335, 30395), (338, 30383), (346, 30335), (377, 30275), (421, 30179), (438, 30116), (450, 30062), (467, 29978), (468, 29972), (471, 29960), (490, 29864), (506, 29810), (507, 29807), (511, 29783),

Gene: Roberts\_38 Start: 26376, Stop: 24544, Start Num: 23

Candidate Starts for Roberts\_38:

(Start: 23 @26376 has 9 MA's), (34, 26319), (92, 26118), (Start: 139 @25983 has 146 MA's), (180, 25848), (187, 25821), (220, 25764), (223, 25749), (233, 25695), (255, 25599), (257, 25593), (262, 25578), (270, 25533), (278, 25485), (285, 25464), (289, 25446), (297, 25395), (320, 25302), (323, 25290), (338, 25227), (361, 25155), (389, 25095), (396, 25074), (420, 25008), (427, 24990), (430, 24972), (431, 24969), (440, 24933), (460, 24825), (463, 24816), (475, 24756), (484, 24708),

Gene: Robinson\_41 Start: 31112, Stop: 29724, Start Num: 139

Candidate Starts for Robinson\_41:

(59, 31334), (Start: 139 @31112 has 146 MA's), (188, 30968), (Start: 190 @30962 has 1 MA's), (191, 30959), (217, 30845), (228, 30818), (240, 30758), (247, 30731), (248, 30728), (271, 30632), (279, 30590), (323, 30419), (329, 30398), (335, 30383), (338, 30371), (346, 30323), (377, 30263), (421, 30167), (438, 30104), (450, 30050), (467, 29966), (468, 29960), (471, 29948), (490, 29852), (506, 29798), (507, 29795), (511, 29771),

Gene: Rockabye\_105 Start: 73971, Stop: 75830, Start Num: 21

Candidate Starts for Rockabye\_105:

(Start: 21 @73971 has 16 MA's), (72, 74187), (87, 74229), (89, 74235), (115, 74268), (132, 74337), (Start: 139 @74352 has 146 MA's), (149, 74388), (161, 74427), (185, 74508), (219, 74568), (288, 74871), (311, 74985), (323, 75030), (338, 75093), (342, 75126), (345, 75138), (363, 75186), (370, 75204), (396, 75270), (397, 75273), (408, 75291), (420, 75330), (437, 75399), (443, 75414), (448, 75441), (454, 75477), (456, 75483), (479, 75600), (505, 75720), (516, 75771),

Gene: Rog141\_40 Start: 30803, Stop: 29415, Start Num: 139

Candidate Starts for Rog141\_40:

(2, 31454), (42, 31100), (59, 31025), (Start: 139 @30803 has 146 MA's), (188, 30659), (Start: 190 @30653 has 1 MA's), (191, 30650), (217, 30536), (228, 30509), (240, 30449), (247, 30422), (248, 30419), (271, 30323), (279, 30281), (323, 30110), (329, 30089), (335, 30074), (346, 30014), (377, 29954), (421, 29858), (438, 29795), (450, 29741), (467, 29657), (468, 29651), (471, 29639), (490, 29543), (506, 29489), (507, 29486), (511, 29462),

Gene: Rooney\_70 Start: 50294, Stop: 48408, Start Num: 21

Candidate Starts for Rooney\_70:

(Start: 21 @50294 has 16 MA's), (Start: 28 @50279 has 6 MA's), (36, 50216), (38, 50207), (63, 50102), (75, 50063), (84, 50039), (Start: 114 @49964 has 1 MA's), (124, 49940), (168, 49781), (182, 49742), (185, 49733), (212, 49625), (235, 49517), (250, 49469), (272, 49364), (283, 49313), (294, 49253), (310, 49187), (318, 49166), (319, 49163), (342, 49058), (344, 49049), (348, 49037), (388, 48938), (435, 48821), (438, 48809), (445, 48782), (461, 48692), (465, 48677), (475, 48623), (486, 48566), (512, 48458), (516, 48440),

Gene: RosieMae\_40 Start: 30861, Stop: 29473, Start Num: 139

Candidate Starts for RosieMae\_40:

(59, 31083), (Start: 139 @30861 has 146 MA's), (188, 30717), (Start: 190 @30711 has 1 MA's), (191, 30708), (216, 30603), (217, 30594), (228, 30567), (240, 30507), (247, 30480), (248, 30477), (271, 30381), (279, 30339), (323, 30168), (329, 30147), (335, 30132), (346, 30072), (377, 30012), (421, 29916), (438, 29853), (450, 29799), (467, 29715), (468, 29709), (471, 29697), (490, 29601), (506, 29547), (507, 29544), (511, 29520),

Gene: SJReid\_105 Start: 73084, Stop: 74940, Start Num: 21

Candidate Starts for SJReid\_105:

(Start: 21 @73084 has 16 MA's), (87, 73342), (89, 73348), (115, 73381), (Start: 119 @73390 has 10 MA's), (132, 73450), (Start: 139 @73465 has 146 MA's), (161, 73540), (169, 73570), (185, 73621), (219, 73681), (288, 73984), (311, 74098), (323, 74143), (337, 74200), (338, 74206), (342, 74239), (345, 74251), (363, 74299), (366, 74308), (370, 74317), (397, 74386), (420, 74443), (437, 74512), (454, 74590), (456, 74596), (474, 74689), (479, 74713), (496, 74794), (505, 74833), (516, 74884),

Gene: SJay\_41 Start: 31115, Stop: 29727, Start Num: 139

Candidate Starts for SJay\_41:

(2, 31766), (42, 31412), (59, 31337), (Start: 139 @31115 has 146 MA's), (188, 30971), (Start: 190 @30965 has 1 MA's), (191, 30962), (217, 30848), (228, 30821), (240, 30761), (247, 30734), (248, 30731), (271, 30635), (279, 30593), (321, 30431), (323, 30422), (329, 30401), (335, 30386), (338, 30374), (346, 30326), (377, 30266), (421, 30170), (438, 30107), (450, 30053), (467, 29969), (468,

29963), (471, 29951), (485, 29876), (490, 29855), (506, 29801), (507, 29798), (511, 29774),

Gene: Salvus\_51 Start: 39283, Stop: 37772, Start Num: 99

Candidate Starts for Salvus\_51:

(Start: 99 @39283 has 2 MA's), (118, 39247), (145, 39157), (146, 39154), (159, 39106), (181, 39037), (211, 38929), (249, 38794), (259, 38743), (261, 38737), (263, 38731), (269, 38707), (281, 38653), (318, 38512), (319, 38509), (331, 38452), (334, 38443), (345, 38380), (346, 38377), (430, 38182), (441, 38137), (460, 38032), (473, 37972), (476, 37957), (512, 37804), (517, 37783),

Gene: Sansa\_39 Start: 31177, Stop: 29765, Start Num: 143

Candidate Starts for Sansa\_39:

(Start: 143 @31177 has 22 MA's), (150, 31147), (Start: 152 @31141 has 1 MA's), (164, 31108), (217, 30916), (228, 30889), (240, 30829), (247, 30802), (248, 30799), (255, 30757), (271, 30703), (279, 30661), (307, 30547), (323, 30490), (329, 30469), (335, 30454), (338, 30442), (339, 30430), (340, 30427), (342, 30409), (363, 30328), (377, 30292), (405, 30238), (419, 30196), (430, 30166), (434, 30151), (436, 30142), (437, 30136), (448, 30094), (460, 30025), (466, 30001), (467, 29995), (468, 29989), (471, 29977), (493, 29872), (498, 29854), (501, 29842), (512, 29797),

Gene: Saratos\_40 Start: 30928, Stop: 29516, Start Num: 143

Candidate Starts for Saratos\_40:

(Start: 140 @30931 has 8 MA's), (Start: 143 @30928 has 22 MA's), (150, 30898), (Start: 152 @30892 has 1 MA's), (164, 30859), (217, 30667), (228, 30640), (240, 30580), (247, 30553), (248, 30550), (250, 30544), (255, 30508), (263, 30484), (271, 30454), (279, 30412), (307, 30298), (323, 30241), (329, 30220), (335, 30205), (338, 30193), (339, 30181), (340, 30178), (342, 30160), (363, 30079), (377, 30043), (405, 29989), (419, 29947), (430, 29917), (434, 29902), (436, 29893), (437, 29887), (448, 29845), (460, 29776), (466, 29752), (467, 29746), (468, 29740), (471, 29728), (493, 29623), (498, 29605), (501, 29593), (512, 29548),

Gene: SassyC\_75 Start: 51233, Stop: 49344, Start Num: 21

Candidate Starts for SassyC\_75:

(Start: 21 @51233 has 16 MA's), (36, 51155), (38, 51146), (57, 51062), (63, 51041), (84, 50978), (112, 50909), (Start: 114 @50903 has 1 MA's), (124, 50879), (182, 50681), (202, 50597), (203, 50594), (212, 50564), (216, 50537), (235, 50456), (272, 50303), (283, 50252), (294, 50192), (318, 50105), (319, 50102), (342, 49997), (344, 49988), (348, 49976), (388, 49877), (411, 49838), (438, 49748), (445, 49721), (446, 49715), (461, 49631), (473, 49571), (475, 49562), (478, 49547), (486, 49505), (488, 49487), (504, 49433), (511, 49400), (516, 49379), (522, 49361),

Gene: Schimmels22\_39 Start: 29851, Stop: 28466, Start Num: 139

Candidate Starts for Schimmels22\_39:

(Start: 139 @29851 has 146 MA's), (217, 29575), (226, 29554), (247, 29461), (248, 29458), (252, 29437), (255, 29416), (279, 29320), (323, 29149), (330, 29125), (335, 29113), (338, 29101), (339, 29089), (340, 29086), (342, 29068), (346, 29053), (364, 29026), (377, 28993), (387, 28969), (421, 28897), (430, 28867), (438, 28834), (460, 28726), (463, 28717), (466, 28702), (467, 28696), (468, 28690), (471, 28678), (490, 28582), (493, 28573), (501, 28543), (511, 28501),

Gene: Schnapsidee\_40 Start: 31262, Stop: 29871, Start Num: 139

Candidate Starts for Schnapsidee\_40:

(89, 31364), (91, 31361), (92, 31358), (Start: 139 @31262 has 146 MA's), (188, 31115), (Start: 190 @31109 has 1 MA's), (191, 31106), (217, 30992), (228, 30965), (240, 30905), (247, 30878), (248, 30875), (271, 30779), (279, 30737), (323, 30566), (329, 30545), (338, 30518), (377, 30410), (421, 30314), (450, 30197), (455, 30179), (467, 30113), (468, 30107), (471, 30095), (490, 29999), (506, 29945), (507, 29942), (511, 29918), (519, 29888),

Gene: Schubert\_39 Start: 30441, Stop: 29047, Start Num: 138

Candidate Starts for Schubert\_39:

(Start: 138 @30441 has 1 MA's), (188, 30297), (Start: 190 @30291 has 1 MA's), (191, 30288), (192, 30285), (228, 30147), (240, 30087), (248, 30057), (271, 29961), (279, 29919), (306, 29808), (323, 29748), (335, 29712), (338, 29700), (347, 29649), (349, 29643), (377, 29592), (382, 29580), (416, 29508), (419, 29496), (438, 29433), (460, 29325), (466, 29301), (467, 29295), (468, 29289), (471, 29277), (480, 29235), (498, 29154), (501, 29142), (512, 29097),

Gene: Scissor2024\_40 Start: 29498, Stop: 28113, Start Num: 139

Candidate Starts for Scissor2024\_40:

(Start: 139 @29498 has 146 MA's), (204, 29285), (217, 29222), (226, 29201), (247, 29108), (248, 29105), (252, 29084), (255, 29063), (279, 28967), (323, 28796), (330, 28772), (335, 28760), (338, 28748), (339, 28736), (340, 28733), (342, 28715), (346, 28700), (364, 28673), (377, 28640), (382, 28628), (387, 28616), (421, 28544), (434, 28499), (438, 28481), (460, 28373), (463, 28364), (466, 28349), (467, 28343), (468, 28337), (490, 28229), (493, 28220), (501, 28190), (511, 28148),

Gene: Sedgewig\_40 Start: 30801, Stop: 29413, Start Num: 139

Candidate Starts for Sedgewig\_40:

(2, 31452), (42, 31098), (59, 31023), (Start: 139 @30801 has 146 MA's), (188, 30657), (Start: 190 @30651 has 1 MA's), (191, 30648), (216, 30543), (217, 30534), (228, 30507), (240, 30447), (247, 30420), (248, 30417), (271, 30321), (279, 30279), (323, 30108), (329, 30087), (335, 30072), (346, 30012), (377, 29952), (421, 29856), (438, 29793), (450, 29739), (467, 29655), (468, 29649), (471, 29637), (506, 29487), (507, 29484), (511, 29460),

Gene: ShaiHulud\_41 Start: 31118, Stop: 29730, Start Num: 139

Candidate Starts for ShaiHulud\_41:

(2, 31769), (42, 31415), (59, 31340), (Start: 139 @31118 has 146 MA's), (188, 30974), (Start: 190 @30968 has 1 MA's), (191, 30965), (217, 30851), (228, 30824), (240, 30764), (247, 30737), (248, 30734), (271, 30638), (279, 30596), (323, 30425), (329, 30404), (338, 30377), (346, 30329), (377, 30269), (438, 30110), (450, 30056), (467, 29972), (468, 29966), (471, 29954), (490, 29858), (506, 29804), (507, 29801), (511, 29777),

Gene: ShakeNBake\_70 Start: 50183, Stop: 48297, Start Num: 21

Candidate Starts for ShakeNBake\_70:

(9, 50243), (Start: 21 @50183 has 16 MA's), (Start: 28 @50168 has 6 MA's), (36, 50105), (38, 50096), (41, 50084), (63, 49991), (84, 49928), (89, 49910), (Start: 114 @49853 has 1 MA's), (124, 49829), (168, 49670), (182, 49631), (185, 49622), (212, 49514), (235, 49406), (262, 49301), (283, 49202), (294, 49142), (318, 49055), (319, 49052), (342, 48947), (344, 48938), (348, 48926), (388, 48827), (411, 48788), (435, 48710), (438, 48698), (445, 48671), (461, 48581), (465, 48566), (475, 48512), (486, 48455), (516, 48329),

Gene: Shamu\_41 Start: 31107, Stop: 29695, Start Num: 143

Candidate Starts for Shamu\_41:

(Start: 140 @31110 has 8 MA's), (Start: 143 @31107 has 22 MA's), (150, 31077), (Start: 152 @31071 has 1 MA's), (164, 31038), (217, 30846), (228, 30819), (240, 30759), (247, 30732), (248, 30729), (255, 30687), (263, 30663), (271, 30633), (279, 30591), (307, 30477), (323, 30420), (329, 30399), (335, 30384), (338, 30372), (339, 30360), (340, 30357), (342, 30339), (363, 30258), (377, 30222), (405, 30168), (419, 30126), (430, 30096), (436, 30072), (437, 30066), (448, 30024), (460, 29955), (466, 29931), (467, 29925), (468, 29919), (471, 29907), (490, 29811), (493, 29802), (498, 29784), (501, 29772), (512, 29727),

Gene: SheckWes\_60 Start: 40367, Stop: 38889, Start Num: 116

Candidate Starts for SheckWes\_60:

(79, 40448), (103, 40394), (Start: 116 @40367 has 46 MA's), (135, 40304), (144, 40283), (146, 40277), (Start: 152 @40250 has 1 MA's), (168, 40196), (175, 40175), (181, 40160), (186, 40145), (206, 40064), (214, 40040), (232, 39953), (248, 39917), (259, 39863), (261, 39857), (263, 39851), (281, 39773), (286, 39758), (306, 39668), (308, 39659), (318, 39632), (332, 39569), (335, 39560), (338, 39548), (341, 39527), (343, 39512), (345, 39503), (351, 39482), (372, 39443), (376, 39434), (381, 39419), (405, 39377), (416, 39347), (430, 39299), (431, 39296), (441, 39254), (445, 39236), (463, 39140), (473, 39089), (480, 39059), (485, 39026), (500, 38969), (505, 38954),

Gene: Shee\_41 Start: 31111, Stop: 29723, Start Num: 139

Candidate Starts for Shee\_41:

(2, 31762), (42, 31408), (59, 31333), (Start: 139 @31111 has 146 MA's), (188, 30967), (Start: 190 @30961 has 1 MA's), (191, 30958), (217, 30844), (228, 30817), (240, 30757), (247, 30730), (248, 30727), (271, 30631), (279, 30589), (321, 30427), (323, 30418), (329, 30397), (335, 30382), (338, 30370), (346, 30322), (377, 30262), (421, 30166), (438, 30103), (450, 30049), (467, 29965), (468, 29959), (471, 29947), (490, 29851), (506, 29797), (507, 29794), (511, 29770),

Gene: Shrew\_71 Start: 40994, Stop: 42517, Start Num: 119

Candidate Starts for Shrew\_71:

(96, 40949), (97, 40955), (Start: 119 @40994 has 10 MA's), (129, 41036), (132, 41054), (146, 41087), (160, 41138), (169, 41171), (177, 41198), (188, 41225), (212, 41315), (259, 41531), (260, 41534), (269, 41567), (273, 41585), (291, 41660), (301, 41699), (302, 41705), (342, 41873), (345, 41885), (409, 42023), (425, 42071), (505, 42440), (506, 42443), (511, 42470), (513, 42476),

Gene: SilentWarrior\_40 Start: 25182, Stop: 27089, Start Num: 26

Candidate Starts for SilentWarrior\_40:

(4, 25008), (Start: 26 @25182 has 34 MA's), (36, 25245), (41, 25266), (51, 25320), (94, 25455), (Start: 114 @25497 has 1 MA's), (129, 25542), (182, 25716), (185, 25725), (207, 25815), (216, 25857), (219, 25872), (263, 26058), (292, 26193), (294, 26205), (303, 26238), (338, 26367), (375, 26484), (456, 26757), (461, 26796), (473, 26856), (490, 26946), (498, 26976), (508, 27018), (522, 27069),

Gene: Sinatra\_40 Start: 30565, Stop: 29183, Start Num: 140

Candidate Starts for Sinatra\_40:

(130, 30592), (Start: 140 @30565 has 8 MA's), (Start: 143 @30562 has 22 MA's), (150, 30532), (188, 30424), (Start: 190 @30418 has 1 MA's), (191, 30415), (194, 30400), (240, 30214), (243, 30205), (248, 30184), (255, 30142), (271, 30088), (323, 29875), (329, 29854), (335, 29839), (338, 29827), (340, 29812), (347, 29776), (350, 29767), (363, 29752), (377, 29716), (421, 29617), (438, 29554), (445, 29527), (459, 29452), (460, 29446), (463, 29437), (466, 29422), (467, 29416), (468, 29410), (471, 29398), (498, 29275), (501, 29263),

Gene: SirVictor\_40 Start: 30629, Stop: 29241, Start Num: 143

Candidate Starts for SirVictor\_40:

(Start: 140 @30632 has 8 MA's), (Start: 143 @30629 has 22 MA's), (150, 30599), (188, 30491), (191, 30482), (202, 30428), (226, 30347), (240, 30281), (248, 30251), (256, 30206), (271, 30155), (321, 29951), (323, 29942), (335, 29903), (338, 29891), (339, 29879), (340, 29876), (347, 29840), (350, 29831), (363, 29816), (377, 29780), (382, 29768), (387, 29756), (421, 29681), (438, 29621), (460, 29513), (463, 29504), (466, 29489), (467, 29483), (468, 29477), (521, 29255),

Gene: Sixama\_168 Start: 96248, Stop: 94338, Start Num: 20

Candidate Starts for Sixama\_168:

(Start: 20 @96248 has 5 MA's), (29, 96227), (31, 96218), (32, 96200), (37, 96155), (43, 96140), (47, 96116), (57, 96086), (85, 95996), (107, 95951), (112, 95939), (127, 95870), (162, 95753), (169, 95726), (223, 95597), (251, 95480), (263, 95432), (276, 95363), (311, 95201), (321, 95165), (323, 95156), (326, 95141), (329, 95129), (338, 95093), (342, 95060), (365, 94985), (370, 94973), (385,

94934), (393, 94883), (443, 94721), (481, 94526), (491, 94469), (502, 94424),

Gene: SketchMex\_53 Start: 38648, Stop: 37170, Start Num: 116

Candidate Starts for SketchMex\_53:

(Start: 116 @38648 has 46 MA's), (144, 38561), (146, 38555), (160, 38504), (175, 38453), (181, 38438), (204, 38354), (211, 38330), (214, 38321), (248, 38198), (259, 38144), (261, 38138), (263, 38132), (281, 38054), (308, 37940), (318, 37913), (323, 37889), (341, 37808), (345, 37784), (351, 37763), (372, 37724), (379, 37706), (381, 37700), (429, 37589), (431, 37583), (441, 37541), (445, 37523), (460, 37436), (463, 37427), (467, 37406), (473, 37376), (480, 37346), (485, 37313), (508, 37223),

Gene: Snakehole\_40 Start: 25114, Stop: 27021, Start Num: 26

Candidate Starts for Snakehole\_40:

(Start: 26 @25114 has 34 MA's), (36, 25177), (41, 25198), (51, 25252), (Start: 114 @25429 has 1 MA's), (129, 25474), (182, 25648), (185, 25657), (207, 25747), (219, 25804), (263, 25990), (292, 26125), (294, 26137), (303, 26170), (338, 26299), (375, 26416), (460, 26725), (461, 26728), (473, 26788), (490, 26878), (498, 26908), (508, 26950), (522, 27001),

Gene: Socotra\_54 Start: 38839, Stop: 37361, Start Num: 116

Candidate Starts for Socotra\_54:

(Start: 116 @38839 has 46 MA's), (144, 38752), (146, 38746), (168, 38665), (175, 38644), (212, 38518), (259, 38335), (261, 38329), (263, 38323), (281, 38245), (308, 38131), (318, 38104), (323, 38080), (338, 38020), (345, 37975), (351, 37954), (372, 37915), (379, 37897), (429, 37780), (441, 37732), (442, 37729), (445, 37714), (463, 37618), (467, 37597), (473, 37567), (517, 37378),

Gene: SoilGremlin\_42 Start: 31117, Stop: 29729, Start Num: 139

Candidate Starts for SoilGremlin\_42:

(59, 31339), (Start: 139 @31117 has 146 MA's), (188, 30973), (Start: 190 @30967 has 1 MA's), (191, 30964), (217, 30850), (228, 30823), (240, 30763), (247, 30736), (248, 30733), (250, 30727), (271, 30637), (279, 30595), (323, 30424), (335, 30388), (338, 30376), (342, 30343), (346, 30328), (377, 30268), (421, 30172), (438, 30109), (450, 30055), (467, 29971), (468, 29965), (471, 29953), (490, 29857), (506, 29803), (507, 29800), (511, 29776),

Gene: SolidSnake\_43 Start: 31120, Stop: 29732, Start Num: 139

Candidate Starts for SolidSnake\_43:

(59, 31342), (Start: 139 @31120 has 146 MA's), (188, 30976), (Start: 190 @30970 has 1 MA's), (191, 30967), (217, 30853), (228, 30826), (240, 30766), (247, 30739), (248, 30736), (250, 30730), (271, 30640), (279, 30598), (323, 30427), (335, 30391), (338, 30379), (342, 30346), (346, 30331), (377, 30271), (421, 30175), (438, 30112), (450, 30058), (467, 29974), (468, 29968), (471, 29956), (490, 29860), (506, 29806), (507, 29803), (511, 29779),

Gene: SonOfLevi\_41 Start: 30834, Stop: 29413, Start Num: 139

Candidate Starts for SonOfLevi\_41:

(59, 31056), (Start: 139 @30834 has 146 MA's), (188, 30690), (Start: 190 @30684 has 1 MA's), (191, 30681), (217, 30567), (228, 30540), (240, 30480), (247, 30453), (248, 30450), (271, 30354), (279, 30312), (321, 30150), (323, 30141), (329, 30120), (338, 30093), (342, 30060), (346, 30045), (370, 29970), (377, 29952), (421, 29856), (438, 29793), (450, 29739), (467, 29655), (468, 29649), (471, 29637), (485, 29562), (490, 29541), (506, 29487), (507, 29484), (511, 29460),

Gene: Sopespian\_50 Start: 38728, Stop: 37250, Start Num: 116

Candidate Starts for Sopespian\_50:

(Start: 116 @38728 has 46 MA's), (144, 38641), (146, 38635), (168, 38554), (175, 38533), (211, 38410), (212, 38407), (259, 38224), (261, 38218), (263, 38212), (281, 38134), (308, 38020), (318,

37993), (323, 37969), (338, 37909), (345, 37864), (351, 37843), (372, 37804), (379, 37786), (429, 37669), (441, 37621), (442, 37618), (445, 37603), (463, 37507), (467, 37486), (473, 37456),

Gene: Soror1\_40 Start: 31284, Stop: 29893, Start Num: 139

Candidate Starts for Soror1\_40:

(39, 31572), (45, 31551), (Start: 139 @31284 has 146 MA's), (188, 31137), (Start: 190 @31131 has 1 MA's), (191, 31128), (204, 31068), (217, 31014), (228, 30987), (240, 30927), (247, 30900), (248, 30897), (271, 30801), (279, 30759), (323, 30588), (329, 30567), (377, 30432), (421, 30336), (450, 30219), (455, 30201), (467, 30135), (468, 30129), (471, 30117), (490, 30021), (506, 29967), (507, 29964), (511, 29940), (519, 29910),

Gene: Sparcetus\_42 Start: 26604, Stop: 28538, Start Num: 28

Candidate Starts for Sparcetus\_42:

(Start: 6 @26508 has 1 MA's), (25, 26598), (Start: 28 @26604 has 6 MA's), (51, 26751), (57, 26769), (Start: 114 @26928 has 1 MA's), (154, 27054), (182, 27144), (185, 27153), (207, 27243), (222, 27315), (253, 27447), (294, 27633), (299, 27651), (303, 27666), (319, 27723), (335, 27783), (350, 27855), (400, 27993), (424, 28059), (430, 28089), (431, 28092), (449, 28167), (461, 28245), (473, 28305), (482, 28344), (490, 28395), (497, 28413), (523, 28521),

Gene: Stanktossa\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Stanktossa\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (306, 30481), (323, 30421), (335, 30385), (338, 30373), (342, 30340), (346, 30325), (377, 30265), (421, 30169), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: Starburst\_53 Start: 38723, Stop: 37245, Start Num: 116

Candidate Starts for Starburst\_53:

(Start: 116 @38723 has 46 MA's), (144, 38636), (146, 38630), (168, 38549), (175, 38528), (212, 38402), (259, 38219), (261, 38213), (263, 38207), (281, 38129), (308, 38015), (318, 37988), (323, 37964), (338, 37904), (345, 37859), (351, 37838), (372, 37799), (379, 37781), (429, 37664), (441, 37616), (442, 37613), (445, 37598), (463, 37502), (467, 37481), (473, 37451),

Gene: SteamedHams\_54 Start: 38292, Stop: 36814, Start Num: 116

Candidate Starts for SteamedHams\_54:

(Start: 116 @38292 has 46 MA's), (146, 38199), (Start: 152 @38172 has 1 MA's), (175, 38097), (Start: 190 @38055 has 1 MA's), (211, 37974), (248, 37842), (259, 37788), (263, 37776), (281, 37698), (308, 37584), (318, 37557), (323, 37533), (332, 37494), (345, 37428), (351, 37407), (379, 37350), (429, 37233), (441, 37185), (445, 37167), (463, 37071), (467, 37050), (473, 37020),

Gene: Stewart25555\_92 Start: 77330, Stop: 79183, Start Num: 21

Candidate Starts for Stewart25555\_92:

(Start: 21 @77330 has 16 MA's), (87, 77603), (Start: 139 @77708 has 146 MA's), (149, 77744), (158, 77774), (180, 77843), (182, 77852), (194, 77897), (243, 78023), (290, 78236), (296, 78281), (311, 78341), (323, 78386), (338, 78449), (342, 78482), (345, 78494), (349, 78506), (396, 78623), (423, 78692), (437, 78752), (456, 78836), (469, 78908), (474, 78929), (479, 78953), (515, 79121), (516, 79124),

Gene: StingRay\_40 Start: 30819, Stop: 29431, Start Num: 139

Candidate Starts for StingRay\_40:

(59, 31041), (Start: 139 @30819 has 146 MA's), (188, 30675), (Start: 190 @30669 has 1 MA's), (191, 30666), (217, 30552), (228, 30525), (240, 30465), (247, 30438), (248, 30435), (271, 30339), (279,

30297), (323, 30126), (329, 30105), (335, 30090), (346, 30030), (366, 29997), (377, 29970), (421, 29874), (438, 29811), (450, 29757), (467, 29673), (468, 29667), (471, 29655), (490, 29559), (506, 29505), (507, 29502), (511, 29478),

Gene: StirfryIV\_40 Start: 30812, Stop: 29424, Start Num: 139

Candidate Starts for StirfryIV\_40:

(2, 31463), (42, 31109), (59, 31034), (Start: 139 @30812 has 146 MA's), (188, 30668), (Start: 190 @30662 has 1 MA's), (191, 30659), (217, 30545), (228, 30518), (240, 30458), (247, 30431), (248, 30428), (271, 30332), (279, 30290), (323, 30119), (329, 30098), (335, 30083), (346, 30023), (377, 29963), (421, 29867), (438, 29804), (450, 29750), (467, 29666), (468, 29660), (471, 29648), (490, 29552), (506, 29498), (507, 29495), (511, 29471),

Gene: Stormbreaker8\_40 Start: 31269, Stop: 29878, Start Num: 139

Candidate Starts for Stormbreaker8\_40:

(39, 31557), (45, 31536), (Start: 139 @31269 has 146 MA's), (188, 31122), (Start: 190 @31116 has 1 MA's), (191, 31113), (204, 31053), (217, 30999), (228, 30972), (240, 30912), (247, 30885), (248, 30882), (271, 30786), (279, 30744), (323, 30573), (329, 30552), (377, 30417), (421, 30321), (450, 30204), (455, 30186), (467, 30120), (468, 30114), (471, 30102), (490, 30006), (506, 29952), (507, 29949), (511, 29925), (519, 29895),

Gene: Strathdee\_41 Start: 31119, Stop: 29731, Start Num: 139

Candidate Starts for Strathdee\_41:

(2, 31770), (42, 31416), (59, 31341), (Start: 139 @31119 has 146 MA's), (188, 30975), (Start: 190 @30969 has 1 MA's), (191, 30966), (217, 30852), (228, 30825), (240, 30765), (247, 30738), (248, 30735), (271, 30639), (279, 30597), (323, 30426), (329, 30405), (338, 30378), (346, 30330), (377, 30270), (438, 30111), (450, 30057), (467, 29973), (468, 29967), (471, 29955), (490, 29859), (506, 29805), (507, 29802), (511, 29778),

Gene: Studio\_40 Start: 27739, Stop: 25907, Start Num: 23

Candidate Starts for Studio\_40:

(Start: 23 @27739 has 9 MA's), (34, 27682), (92, 27481), (Start: 139 @27346 has 146 MA's), (180, 27211), (187, 27184), (220, 27127), (223, 27112), (233, 27058), (255, 26962), (257, 26956), (262, 26941), (275, 26866), (278, 26848), (285, 26827), (289, 26809), (320, 26665), (323, 26653), (338, 26590), (361, 26518), (389, 26458), (396, 26437), (420, 26371), (423, 26362), (427, 26353), (430, 26335), (431, 26332), (440, 26296), (460, 26188), (463, 26179), (469, 26146), (475, 26119), (484, 26071),

Gene: SummitAcademy\_56 Start: 40461, Stop: 38983, Start Num: 116

Candidate Starts for SummitAcademy\_56:

(79, 40539), (101, 40488), (103, 40485), (Start: 116 @40461 has 46 MA's), (135, 40398), (144, 40377), (146, 40371), (Start: 152 @40344 has 1 MA's), (168, 40290), (181, 40254), (186, 40239), (211, 40143), (214, 40134), (216, 40113), (232, 40047), (248, 40011), (259, 39957), (261, 39951), (263, 39945), (281, 39867), (286, 39852), (308, 39753), (328, 39678), (335, 39654), (338, 39642), (341, 39621), (343, 39606), (345, 39597), (351, 39576), (372, 39537), (376, 39528), (381, 39513), (409, 39462), (431, 39390), (441, 39348), (442, 39345), (445, 39330), (463, 39234), (473, 39183), (480, 39153), (485, 39120), (500, 39063), (505, 39048),

Gene: Superfresh\_41 Start: 31109, Stop: 29721, Start Num: 139

Candidate Starts for Superfresh\_41:

(59, 31331), (Start: 139 @31109 has 146 MA's), (188, 30965), (Start: 190 @30959 has 1 MA's), (191, 30956), (217, 30842), (228, 30815), (240, 30755), (247, 30728), (248, 30725), (271, 30629), (279, 30587), (323, 30416), (329, 30395), (335, 30380), (338, 30368), (346, 30320), (377, 30260), (421, 30164), (438, 30101), (450, 30047), (467, 29963), (468, 29957), (471, 29945), (485, 29870), (490,

29849), (506, 29795), (507, 29792), (511, 29768),

Gene: Survivors\_49 Start: 37834, Stop: 36344, Start Num: 116

Candidate Starts for Survivors\_49:

(Start: 116 @37834 has 46 MA's), (146, 37744), (Start: 152 @37717 has 1 MA's), (166, 37675), (177, 37633), (181, 37627), (Start: 190 @37600 has 1 MA's), (211, 37519), (212, 37516), (214, 37510), (216, 37489), (232, 37423), (259, 37333), (263, 37321), (277, 37258), (281, 37243), (286, 37228), (315, 37111), (318, 37102), (336, 37024), (341, 36997), (342, 36985), (345, 36973), (363, 36934), (372, 36913), (374, 36910), (379, 36895), (409, 36823), (441, 36709), (450, 36664), (453, 36649), (458, 36619), (463, 36595), (473, 36544), (480, 36514), (495, 36448), (500, 36424), (508, 36391), (517, 36355),

Gene: SweatNTears\_55 Start: 38970, Stop: 37492, Start Num: 116

Candidate Starts for SweatNTears\_55:

(Start: 116 @38970 has 46 MA's), (144, 38883), (146, 38877), (168, 38796), (211, 38652), (212, 38649), (259, 38466), (261, 38460), (263, 38454), (281, 38376), (308, 38262), (318, 38235), (323, 38211), (338, 38151), (345, 38106), (351, 38085), (372, 38046), (379, 38028), (429, 37911), (441, 37863), (442, 37860), (445, 37845), (463, 37749), (467, 37728), (473, 37698),

Gene: Symere\_40 Start: 30799, Stop: 29411, Start Num: 139

Candidate Starts for Symere\_40:

(2, 31450), (42, 31096), (59, 31021), (Start: 139 @30799 has 146 MA's), (188, 30655), (Start: 190 @30649 has 1 MA's), (191, 30646), (216, 30541), (217, 30532), (228, 30505), (240, 30445), (247, 30418), (248, 30415), (271, 30319), (279, 30277), (323, 30106), (329, 30085), (335, 30070), (346, 30010), (377, 29950), (421, 29854), (438, 29791), (450, 29737), (467, 29653), (468, 29647), (471, 29635), (506, 29485), (507, 29482), (511, 29458),

Gene: TMaxx\_40 Start: 26999, Stop: 25191, Start Num: 23

Candidate Starts for TMaxx\_40:

(14, 27044), (Start: 23 @26999 has 9 MA's), (34, 26939), (47, 26876), (92, 26738), (Start: 139 @26609 has 146 MA's), (165, 26525), (220, 26387), (262, 26201), (278, 26108), (285, 26087), (323, 25916), (326, 25901), (338, 25853), (369, 25784), (373, 25778), (378, 25763), (396, 25724), (399, 25715), (418, 25661), (420, 25658), (427, 25640), (430, 25622), (463, 25466), (469, 25433), (475, 25406), (480, 25385), (505, 25268), (516, 25217),

Gene: Talia1610\_101 Start: 80103, Stop: 81941, Start Num: 21

Candidate Starts for Talia1610\_101:

(Start: 21 @80103 has 16 MA's), (35, 80184), (57, 80262), (87, 80358), (125, 80418), (132, 80448), (169, 80568), (185, 80619), (219, 80679), (293, 81018), (306, 81075), (311, 81096), (323, 81141), (337, 81198), (338, 81204), (342, 81237), (345, 81249), (349, 81261), (366, 81306), (382, 81345), (408, 81402), (410, 81408), (420, 81441), (437, 81510), (456, 81594), (479, 81711), (517, 81885), (526, 81927),

Gene: TatarkaPM\_41 Start: 31124, Stop: 29736, Start Num: 139

Candidate Starts for TatarkaPM\_41:

(2, 31775), (42, 31421), (59, 31346), (Start: 139 @31124 has 146 MA's), (188, 30980), (Start: 190 @30974 has 1 MA's), (191, 30971), (217, 30857), (228, 30830), (240, 30770), (247, 30743), (248, 30740), (271, 30644), (279, 30602), (321, 30440), (323, 30431), (329, 30410), (335, 30395), (338, 30383), (346, 30335), (377, 30275), (421, 30179), (438, 30116), (450, 30062), (467, 29978), (468, 29972), (471, 29960), (490, 29864), (506, 29810), (507, 29807), (511, 29783),

Gene: Teagan\_41 Start: 31114, Stop: 29726, Start Num: 139

Candidate Starts for Teagan\_41:

(2, 31765), (42, 31411), (59, 31336), (Start: 139 @31114 has 146 MA's), (188, 30970), (Start: 190 @30964 has 1 MA's), (191, 30961), (217, 30847), (228, 30820), (240, 30760), (247, 30733), (248, 30730), (271, 30634), (279, 30592), (323, 30421), (329, 30400), (338, 30373), (346, 30325), (377, 30265), (438, 30106), (450, 30052), (467, 29968), (468, 29962), (471, 29950), (490, 29854), (506, 29800), (507, 29797), (511, 29773),

Gene: TeddyBear\_40 Start: 30816, Stop: 29428, Start Num: 139

Candidate Starts for TeddyBear\_40:

(59, 31038), (Start: 139 @30816 has 146 MA's), (188, 30672), (Start: 190 @30666 has 1 MA's), (191, 30663), (217, 30549), (228, 30522), (240, 30462), (247, 30435), (248, 30432), (270, 30339), (271, 30336), (279, 30294), (323, 30123), (329, 30102), (335, 30087), (338, 30075), (346, 30027), (377, 29967), (421, 29871), (438, 29808), (450, 29754), (467, 29670), (468, 29664), (471, 29652), (485, 29577), (490, 29556), (506, 29502), (507, 29499), (511, 29475),

Gene: Tedro\_40 Start: 25407, Stop: 27314, Start Num: 26

Candidate Starts for Tedro\_40:

(Start: 26 @25407 has 34 MA's), (36, 25470), (41, 25491), (51, 25545), (Start: 114 @25722 has 1 MA's), (129, 25767), (182, 25941), (185, 25950), (207, 26040), (219, 26097), (263, 26283), (292, 26418), (294, 26430), (303, 26463), (315, 26508), (338, 26592), (375, 26709), (456, 26982), (460, 27018), (461, 27021), (473, 27081), (490, 27171), (498, 27201), (508, 27243), (522, 27294),

Gene: Tenda\_40 Start: 30814, Stop: 29426, Start Num: 139

Candidate Starts for Tenda\_40:

(59, 31036), (Start: 139 @30814 has 146 MA's), (188, 30670), (Start: 190 @30664 has 1 MA's), (191, 30661), (217, 30547), (228, 30520), (240, 30460), (247, 30433), (248, 30430), (271, 30334), (279, 30292), (323, 30121), (329, 30100), (335, 30085), (346, 30025), (377, 29965), (421, 29869), (438, 29806), (450, 29752), (467, 29668), (468, 29662), (471, 29650), (490, 29554), (506, 29500), (507, 29497), (511, 29473),

Gene: Thompsone\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for Thompsone\_41:

(2, 31772), (42, 31418), (59, 31343), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (323, 30428), (329, 30407), (338, 30380), (346, 30332), (377, 30272), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (485, 29882), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: Thorongil\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for Thorongil\_41:

(97, 31220), (100, 31217), (102, 31214), (132, 31130), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (323, 30428), (329, 30407), (335, 30392), (338, 30380), (346, 30332), (377, 30272), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (485, 29882), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: TinSulphur\_42 Start: 31120, Stop: 29732, Start Num: 139

Candidate Starts for TinSulphur\_42:

(2, 31771), (42, 31417), (59, 31342), (Start: 139 @31120 has 146 MA's), (188, 30976), (Start: 190 @30970 has 1 MA's), (191, 30967), (217, 30853), (228, 30826), (240, 30766), (247, 30739), (248, 30736), (271, 30640), (279, 30598), (321, 30436), (323, 30427), (329, 30406), (335, 30391), (338, 30379), (346, 30331), (377, 30271), (421, 30175), (438, 30112), (450, 30058), (467, 29974), (468, 29968), (471, 29956), (490, 29860), (506, 29806), (507, 29803), (511, 29779),

Gene: TinyMiny\_42 Start: 26527, Stop: 28557, Start Num: 6

Candidate Starts for TinyMiny\_42:

(3, 26383), (Start: 6 @26527 has 1 MA's), (25, 26617), (Start: 28 @26623 has 6 MA's), (51, 26770), (57, 26788), (60, 26797), (Start: 114 @26947 has 1 MA's), (154, 27073), (182, 27163), (185, 27172), (207, 27262), (216, 27304), (253, 27466), (294, 27652), (299, 27670), (303, 27685), (319, 27742), (335, 27802), (350, 27874), (400, 28012), (424, 28078), (430, 28108), (449, 28186), (461, 28264), (473, 28324), (482, 28363), (490, 28414), (497, 28432), (523, 28540),

Gene: Tinyman4\_39 Start: 29477, Stop: 28092, Start Num: 139

Candidate Starts for Tinyman4\_39:

(Start: 139 @29477 has 146 MA's), (204, 29264), (217, 29201), (226, 29180), (247, 29087), (248, 29084), (252, 29063), (255, 29042), (279, 28946), (323, 28775), (330, 28751), (335, 28739), (338, 28727), (339, 28715), (340, 28712), (342, 28694), (346, 28679), (377, 28619), (382, 28607), (387, 28595), (421, 28523), (430, 28493), (438, 28460), (460, 28352), (463, 28343), (466, 28328), (467, 28322), (468, 28316), (471, 28304), (490, 28208), (493, 28199), (501, 28169), (511, 28127),

Gene: Tolls\_54 Start: 38563, Stop: 37085, Start Num: 116

Candidate Starts for Tolls\_54:

(Start: 116 @38563 has 46 MA's), (146, 38470), (Start: 152 @38443 has 1 MA's), (175, 38368), (Start: 190 @38326 has 1 MA's), (211, 38245), (248, 38113), (259, 38059), (263, 38047), (281, 37969), (308, 37855), (318, 37828), (323, 37804), (345, 37699), (351, 37678), (372, 37639), (379, 37621), (381, 37615), (429, 37504), (441, 37456), (445, 37438), (463, 37342), (467, 37321), (473, 37291),

Gene: Tongui\_40 Start: 25537, Stop: 27444, Start Num: 26

Candidate Starts for Tongui\_40:

(4, 25363), (Start: 26 @25537 has 34 MA's), (36, 25600), (41, 25621), (51, 25675), (69, 25735), (108, 25837), (Start: 114 @25852 has 1 MA's), (129, 25897), (182, 26071), (185, 26080), (207, 26170), (208, 26173), (219, 26227), (263, 26413), (287, 26521), (292, 26548), (294, 26560), (338, 26722), (375, 26839), (461, 27151), (473, 27211), (490, 27301), (498, 27331), (508, 27373), (522, 27424),

Gene: TripleC\_38 Start: 29350, Stop: 27542, Start Num: 23

Candidate Starts for TripleC\_38:

(14, 29395), (Start: 23 @29350 has 9 MA's), (34, 29290), (66, 29167), (92, 29089), (133, 28972), (Start: 139 @28960 has 146 MA's), (165, 28876), (220, 28738), (262, 28552), (278, 28459), (285, 28438), (306, 28333), (323, 28267), (326, 28252), (338, 28204), (369, 28135), (371, 28132), (373, 28129), (378, 28114), (396, 28075), (399, 28066), (408, 28048), (418, 28012), (420, 28009), (427, 27991), (430, 27973), (431, 27970), (438, 27937), (463, 27817), (469, 27784), (475, 27757), (484, 27709), (505, 27619), (516, 27568),

Gene: Triscuit\_58 Start: 36727, Stop: 38280, Start Num: 111

Candidate Starts for Triscuit\_58:

(Start: 111 @36727 has 1 MA's), (Start: 114 @36730 has 1 MA's), (146, 36826), (153, 36856), (166, 36895), (173, 36922), (177, 36937), (193, 36982), (195, 36991), (201, 37021), (221, 37105), (239, 37189), (241, 37198), (242, 37201), (271, 37321), (274, 37336), (291, 37423), (315, 37513), (342, 37636), (345, 37648), (386, 37735), (425, 37834), (429, 37852), (458, 37990), (508, 38218), (510, 38227), (511, 38230),

Gene: Troje\_55 Start: 38986, Stop: 37508, Start Num: 116

Candidate Starts for Troje\_55:

(Start: 116 @38986 has 46 MA's), (144, 38899), (146, 38893), (160, 38842), (175, 38791), (181, 38776), (204, 38692), (211, 38668), (214, 38659), (248, 38536), (259, 38482), (261, 38476), (263, 38470), (271, 38440), (281, 38392), (308, 38278), (318, 38251), (323, 38227), (341, 38146), (345, 38122), (351, 38101), (372, 38062), (379, 38044), (381, 38038), (429, 37927), (431, 37921), (441,

37879), (445, 37861), (460, 37774), (463, 37765), (467, 37744), (473, 37714), (480, 37684), (485, 37651), (508, 37561),

Gene: TwoBits\_38 Start: 29402, Stop: 28083, Start Num: 174

Candidate Starts for TwoBits\_38:

(Start: 139 @29510 has 146 MA's), (148, 29480), (150, 29474), (Start: 174 @29402 has 1 MA's), (189, 29363), (Start: 190 @29360 has 1 MA's), (191, 29357), (204, 29297), (247, 29120), (248, 29117), (269, 29024), (286, 28955), (307, 28862), (323, 28805), (338, 28757), (339, 28745), (342, 28724), (364, 28643), (377, 28610), (405, 28556), (408, 28550), (421, 28514), (422, 28511), (438, 28451), (460, 28343), (463, 28334), (466, 28319), (467, 28313), (471, 28295), (493, 28190), (511, 28118),

Gene: Typhonomachy\_52 Start: 38552, Stop: 37074, Start Num: 116

Candidate Starts for Typhonomachy\_52:

(Start: 116 @38552 has 46 MA's), (144, 38465), (146, 38459), (168, 38378), (175, 38357), (212, 38231), (259, 38048), (261, 38042), (263, 38036), (281, 37958), (308, 37844), (318, 37817), (323, 37793), (338, 37733), (345, 37688), (351, 37667), (372, 37628), (379, 37610), (429, 37493), (441, 37445), (442, 37442), (445, 37427), (463, 37331), (467, 37310), (473, 37280),

Gene: Velene\_41 Start: 31119, Stop: 29731, Start Num: 139

Candidate Starts for Velene\_41:

(2, 31770), (42, 31416), (59, 31341), (Start: 139 @31119 has 146 MA's), (188, 30975), (Start: 190 @30969 has 1 MA's), (191, 30966), (217, 30852), (228, 30825), (240, 30765), (247, 30738), (248, 30735), (271, 30639), (279, 30597), (323, 30426), (329, 30405), (338, 30378), (346, 30330), (377, 30270), (438, 30111), (450, 30057), (467, 29973), (468, 29967), (471, 29955), (490, 29859), (506, 29805), (507, 29802), (511, 29778),

Gene: Vine\_59 Start: 41084, Stop: 39606, Start Num: 116

Candidate Starts for Vine\_59:

(79, 41162), (101, 41111), (103, 41108), (Start: 116 @41084 has 46 MA's), (135, 41021), (144, 41000), (146, 40994), (Start: 152 @40967 has 1 MA's), (168, 40913), (181, 40877), (186, 40862), (211, 40766), (214, 40757), (216, 40736), (232, 40670), (248, 40634), (259, 40580), (261, 40574), (263, 40568), (281, 40490), (286, 40475), (308, 40376), (328, 40301), (335, 40277), (338, 40265), (341, 40244), (343, 40229), (345, 40220), (351, 40199), (372, 40160), (376, 40151), (381, 40136), (409, 40085), (430, 40016), (431, 40013), (441, 39971), (445, 39953), (463, 39857), (473, 39806), (480, 39776), (485, 39743), (500, 39686), (505, 39671),

Gene: Virizion\_75 Start: 50499, Stop: 48628, Start Num: 28

Candidate Starts for Virizion\_75:

(Start: 21 @50514 has 16 MA's), (Start: 28 @50499 has 6 MA's), (36, 50436), (38, 50427), (63, 50322), (75, 50283), (84, 50259), (Start: 114 @50184 has 1 MA's), (124, 50160), (168, 50001), (182, 49962), (185, 49953), (212, 49845), (235, 49737), (250, 49689), (272, 49584), (283, 49533), (294, 49473), (310, 49407), (318, 49386), (319, 49383), (342, 49278), (344, 49269), (348, 49257), (388, 49158), (435, 49041), (438, 49029), (445, 49002), (461, 48912), (465, 48897), (475, 48843), (486, 48786), (512, 48678), (516, 48660),

Gene: Vispitious\_41 Start: 31121, Stop: 29733, Start Num: 139

Candidate Starts for Vispitious\_41:

(2, 31772), (42, 31418), (59, 31343), (Start: 139 @31121 has 146 MA's), (188, 30977), (Start: 190 @30971 has 1 MA's), (191, 30968), (217, 30854), (228, 30827), (240, 30767), (247, 30740), (248, 30737), (271, 30641), (279, 30599), (323, 30428), (329, 30407), (338, 30380), (346, 30332), (377, 30272), (438, 30113), (450, 30059), (467, 29975), (468, 29969), (471, 29957), (490, 29861), (506, 29807), (507, 29804), (511, 29780),

Gene: WaddleDee\_88 Start: 75744, Stop: 77588, Start Num: 21

Candidate Starts for WaddleDee\_88:

(Start: 21 @75744 has 16 MA's), (87, 76017), (Start: 139 @76125 has 146 MA's), (158, 76191), (180, 76260), (182, 76269), (220, 76344), (290, 76653), (296, 76698), (306, 76737), (311, 76758), (323, 76803), (337, 76860), (338, 76866), (342, 76899), (345, 76911), (349, 76923), (396, 77040), (398, 77046), (430, 77136), (437, 77169), (456, 77253), (474, 77346), (479, 77370), (515, 77538), (516, 77541),

Gene: Wardwill\_41 Start: 29255, Stop: 27828, Start Num: 139

Candidate Starts for Wardwill\_41:

(Start: 139 @29255 has 146 MA's), (148, 29225), (150, 29219), (Start: 190 @29105 has 1 MA's), (191, 29102), (192, 29099), (247, 28865), (248, 28862), (307, 28607), (315, 28583), (322, 28556), (323, 28550), (338, 28502), (342, 28469), (377, 28355), (381, 28346), (405, 28301), (408, 28295), (417, 28268), (438, 28196), (455, 28124), (460, 28088), (463, 28079), (466, 28064), (467, 28058), (471, 28040), (480, 27998), (493, 27935), (511, 27863),

Gene: Wentworth\_70 Start: 50269, Stop: 48383, Start Num: 21

Candidate Starts for Wentworth\_70:

(7, 50335), (9, 50326), (15, 50305), (19, 50272), (Start: 21 @50269 has 16 MA's), (Start: 28 @50254 has 6 MA's), (36, 50191), (38, 50182), (41, 50170), (49, 50122), (60, 50089), (63, 50077), (69, 50056), (84, 50014), (Start: 114 @49939 has 1 MA's), (124, 49915), (182, 49717), (185, 49708), (196, 49663), (212, 49600), (235, 49492), (250, 49444), (272, 49339), (283, 49288), (294, 49228), (318, 49141), (319, 49138), (342, 49033), (344, 49024), (348, 49012), (388, 48913), (435, 48796), (438, 48784), (445, 48757), (446, 48751), (461, 48667), (475, 48598), (486, 48541), (488, 48523), (504, 48469), (516, 48415),

Gene: WestPM\_37 Start: 29337, Stop: 27952, Start Num: 136

Candidate Starts for WestPM\_37:

(Start: 136 @29337 has 1 MA's), (204, 29124), (217, 29061), (226, 29040), (247, 28947), (248, 28944), (252, 28923), (255, 28902), (279, 28806), (307, 28692), (315, 28668), (323, 28635), (330, 28611), (335, 28599), (338, 28587), (339, 28575), (340, 28572), (342, 28554), (364, 28512), (377, 28479), (382, 28467), (387, 28455), (421, 28383), (460, 28212), (463, 28203), (466, 28188), (467, 28182), (468, 28176), (490, 28068), (493, 28059), (501, 28029), (509, 27996), (511, 27987),

Gene: WildNOut\_41 Start: 31117, Stop: 29729, Start Num: 139

Candidate Starts for WildNOut\_41:

(2, 31768), (42, 31414), (59, 31339), (Start: 139 @31117 has 146 MA's), (188, 30973), (Start: 190 @30967 has 1 MA's), (191, 30964), (217, 30850), (228, 30823), (240, 30763), (247, 30736), (248, 30733), (271, 30637), (279, 30595), (323, 30424), (329, 30403), (338, 30376), (346, 30328), (377, 30268), (438, 30109), (450, 30055), (467, 29971), (468, 29965), (471, 29953), (490, 29857), (506, 29803), (507, 29800), (511, 29776),

Gene: Wilkos\_72 Start: 50432, Stop: 48546, Start Num: 21

Candidate Starts for Wilkos\_72:

(5, 50525), (7, 50498), (9, 50489), (15, 50468), (19, 50435), (Start: 21 @50432 has 16 MA's), (Start: 28 @50417 has 6 MA's), (36, 50354), (38, 50345), (41, 50333), (49, 50285), (60, 50252), (63, 50240), (69, 50219), (84, 50177), (Start: 114 @50102 has 1 MA's), (147, 49994), (160, 49949), (182, 49880), (185, 49871), (212, 49763), (250, 49607), (267, 49523), (272, 49502), (283, 49451), (294, 49391), (319, 49301), (333, 49247), (342, 49196), (344, 49187), (348, 49175), (362, 49142), (388, 49076), (438, 48947), (445, 48920), (446, 48914), (461, 48830), (475, 48761), (478, 48746), (486, 48704), (488, 48686), (504, 48632), (516, 48578),

Gene: WilliamStrong\_40 Start: 30915, Stop: 29497, Start Num: 139

Candidate Starts for WilliamStrong\_40:

(Start: 139 @30915 has 146 MA's), (Start: 143 @30909 has 22 MA's), (148, 30885), (Start: 174 @30807 has 1 MA's), (189, 30768), (Start: 190 @30765 has 1 MA's), (204, 30702), (215, 30651), (224, 30630), (228, 30612), (234, 30573), (247, 30525), (248, 30522), (249, 30519), (255, 30480), (269, 30429), (307, 30267), (321, 30219), (322, 30216), (323, 30210), (329, 30189), (339, 30150), (342, 30129), (377, 30015), (382, 30003), (405, 29961), (417, 29928), (421, 29919), (438, 29856), (460, 29748), (463, 29739), (466, 29724), (467, 29718), (468, 29712), (471, 29700), (498, 29577), (501, 29565),

Gene: Winzigespinne\_40 Start: 30802, Stop: 29414, Start Num: 139

Candidate Starts for Winzigespinne\_40:

(59, 31024), (Start: 139 @30802 has 146 MA's), (188, 30658), (Start: 190 @30652 has 1 MA's), (191, 30649), (217, 30535), (228, 30508), (240, 30448), (247, 30421), (248, 30418), (271, 30322), (279, 30280), (323, 30109), (329, 30088), (335, 30073), (338, 30061), (346, 30013), (377, 29953), (421, 29857), (438, 29794), (450, 29740), (467, 29656), (468, 29650), (471, 29638), (485, 29563), (506, 29488), (507, 29485), (511, 29461),

Gene: Wolfwood\_51 Start: 37906, Stop: 36416, Start Num: 116

Candidate Starts for Wolfwood\_51:

(Start: 116 @37906 has 46 MA's), (146, 37816), (Start: 152 @37789 has 1 MA's), (166, 37747), (181, 37699), (Start: 190 @37672 has 1 MA's), (211, 37591), (212, 37588), (214, 37582), (216, 37561), (232, 37495), (259, 37405), (263, 37393), (277, 37330), (281, 37315), (286, 37300), (315, 37183), (318, 37174), (336, 37096), (341, 37069), (342, 37057), (345, 37045), (363, 37006), (372, 36985), (374, 36982), (379, 36967), (409, 36895), (430, 36826), (441, 36781), (450, 36736), (453, 36721), (458, 36691), (463, 36667), (473, 36616), (480, 36586), (495, 36520), (500, 36496), (508, 36463), (517, 36427),

Gene: Wollypog\_43 Start: 30596, Stop: 32524, Start Num: 22

Candidate Starts for Wollypog\_43:

(Start: 22 @30596 has 1 MA's), (30, 30620), (51, 30746), (66, 30794), (84, 30848), (109, 30911), (Start: 114 @30923 has 1 MA's), (149, 31034), (168, 31100), (171, 31106), (197, 31199), (203, 31229), (207, 31244), (209, 31250), (271, 31514), (280, 31562), (284, 31574), (292, 31619), (308, 31688), (314, 31709), (342, 31829), (366, 31895), (382, 31934), (410, 31997), (463, 32228), (483, 32327), (487, 32354), (508, 32453), (510, 32462),

Gene: Xebius\_40 Start: 30931, Stop: 29519, Start Num: 143

Candidate Starts for Xebius\_40:

(Start: 143 @30931 has 22 MA's), (150, 30901), (Start: 152 @30895 has 1 MA's), (164, 30862), (217, 30670), (228, 30643), (240, 30583), (247, 30556), (248, 30553), (255, 30511), (271, 30457), (279, 30415), (307, 30301), (323, 30244), (329, 30223), (335, 30208), (338, 30196), (339, 30184), (340, 30181), (342, 30163), (363, 30082), (377, 30046), (405, 29992), (419, 29950), (430, 29920), (436, 29896), (437, 29890), (448, 29848), (460, 29779), (466, 29755), (467, 29749), (468, 29743), (471, 29731), (490, 29635), (493, 29626), (498, 29608), (501, 29596), (512, 29551),

Gene: Yakult\_55 Start: 39767, Stop: 38292, Start Num: 119

Candidate Starts for Yakult\_55:

(Start: 119 @39767 has 10 MA's), (129, 39725), (146, 39677), (Start: 152 @39650 has 1 MA's), (160, 39626), (168, 39596), (175, 39575), (177, 39566), (181, 39560), (204, 39476), (206, 39467), (209, 39458), (212, 39449), (214, 39443), (248, 39320), (259, 39266), (261, 39260), (263, 39254), (274, 39209), (281, 39176), (332, 38972), (335, 38963), (350, 38891), (372, 38846), (379, 38828), (381, 38822), (407, 38777), (409, 38771), (416, 38750), (430, 38702), (431, 38699), (441, 38657), (442, 38654), (445, 38639), (463, 38543), (473, 38492), (485, 38429), (498, 38381), (504, 38360), (517, 38303),

Gene: Yara\_66 Start: 49125, Stop: 47230, Start Num: 21

Candidate Starts for Yara\_66:

(Start: 21 @49125 has 16 MA's), (27, 49113), (Start: 28 @49110 has 6 MA's), (33, 49071), (36, 49047), (38, 49038), (41, 49026), (63, 48933), (84, 48870), (Start: 114 @48795 has 1 MA's), (124, 48771), (126, 48756), (160, 48645), (167, 48624), (182, 48576), (216, 48438), (264, 48240), (272, 48198), (283, 48147), (294, 48087), (295, 48081), (319, 47997), (342, 47892), (348, 47871), (353, 47853), (368, 47820), (388, 47772), (435, 47649), (438, 47637), (445, 47610), (461, 47520), (462, 47517), (475, 47451), (486, 47394), (488, 47376), (489, 47373), (508, 47301), (522, 47250),

Gene: Yarn\_50 Start: 38320, Stop: 36842, Start Num: 116

Candidate Starts for Yarn\_50:

(Start: 116 @38320 has 46 MA's), (146, 38227), (Start: 152 @38200 has 1 MA's), (175, 38125), (Start: 190 @38083 has 1 MA's), (211, 38002), (248, 37870), (259, 37816), (263, 37804), (281, 37726), (308, 37612), (318, 37585), (323, 37561), (332, 37522), (345, 37456), (351, 37435), (379, 37378), (429, 37261), (441, 37213), (445, 37195), (463, 37099), (467, 37078), (473, 37048),

Gene: Yucky\_59 Start: 40876, Stop: 39398, Start Num: 116

Candidate Starts for Yucky\_59:

(79, 40954), (101, 40903), (103, 40900), (Start: 116 @40876 has 46 MA's), (135, 40813), (144, 40792), (146, 40786), (Start: 152 @40759 has 1 MA's), (168, 40705), (181, 40669), (186, 40654), (211, 40558), (214, 40549), (216, 40528), (232, 40462), (248, 40426), (259, 40372), (261, 40366), (263, 40360), (281, 40282), (286, 40267), (308, 40168), (328, 40093), (335, 40069), (338, 40057), (341, 40036), (343, 40021), (345, 40012), (351, 39991), (372, 39952), (376, 39943), (381, 39928), (409, 39877), (430, 39808), (431, 39805), (441, 39763), (445, 39745), (463, 39649), (473, 39598), (480, 39568), (485, 39535), (500, 39478), (505, 39463),

Gene: Yummy\_55 Start: 38695, Stop: 37217, Start Num: 116

Candidate Starts for Yummy\_55:

(Start: 116 @38695 has 46 MA's), (144, 38608), (146, 38602), (160, 38551), (175, 38500), (181, 38485), (204, 38401), (211, 38377), (214, 38368), (248, 38245), (259, 38191), (261, 38185), (263, 38179), (271, 38149), (281, 38101), (308, 37987), (318, 37960), (323, 37936), (341, 37855), (345, 37831), (351, 37810), (372, 37771), (379, 37753), (381, 37747), (429, 37636), (431, 37630), (441, 37588), (445, 37570), (460, 37483), (463, 37474), (467, 37453), (473, 37423), (480, 37393), (485, 37360), (501, 37300), (508, 37270),

Gene: YuuY\_40 Start: 31212, Stop: 29842, Start Num: 143

Candidate Starts for YuuY\_40:

(Start: 143 @31212 has 22 MA's), (164, 31143), (192, 31062), (217, 30951), (228, 30924), (240, 30864), (247, 30837), (248, 30834), (271, 30738), (307, 30582), (323, 30525), (329, 30504), (335, 30489), (338, 30477), (339, 30465), (341, 30456), (342, 30444), (346, 30429), (355, 30405), (377, 30369), (381, 30360), (405, 30315), (419, 30273), (438, 30210), (443, 30198), (448, 30171), (460, 30102), (463, 30093), (466, 30078), (467, 30072), (468, 30066), (471, 30054), (490, 29958), (493, 29949), (498, 29931), (501, 29919),

Gene: Zada\_42 Start: 31090, Stop: 29702, Start Num: 139

Candidate Starts for Zada\_42:

(42, 31387), (59, 31312), (Start: 139 @31090 has 146 MA's), (188, 30946), (Start: 190 @30940 has 1 MA's), (191, 30937), (217, 30823), (228, 30796), (240, 30736), (247, 30709), (248, 30706), (271, 30610), (279, 30568), (306, 30457), (323, 30397), (335, 30361), (338, 30349), (346, 30301), (377, 30241), (421, 30145), (438, 30082), (450, 30028), (467, 29944), (468, 29938), (471, 29926), (490, 29830), (506, 29776), (507, 29773), (511, 29749),

Gene: Zareef\_49 Start: 37928, Stop: 36438, Start Num: 116

Candidate Starts for Zareef\_49:

(Start: 116 @37928 has 46 MA's), (146, 37838), (Start: 152 @37811 has 1 MA's), (166, 37769), (177, 37727), (181, 37721), (Start: 190 @37694 has 1 MA's), (211, 37613), (212, 37610), (214, 37604), (216, 37583), (232, 37517), (259, 37427), (263, 37415), (277, 37352), (281, 37337), (286, 37322), (315, 37205), (318, 37196), (336, 37118), (341, 37091), (342, 37079), (345, 37067), (363, 37028), (372, 37007), (374, 37004), (379, 36989), (409, 36917), (430, 36848), (441, 36803), (450, 36758), (453, 36743), (458, 36713), (463, 36689), (473, 36638), (480, 36608), (495, 36542), (500, 36518), (508, 36485), (517, 36449),

Gene: Zayuliv\_40 Start: 29694, Stop: 28267, Start Num: 139

Candidate Starts for Zayuliv\_40:

(Start: 139 @29694 has 146 MA's), (148, 29664), (150, 29658), (Start: 190 @29544 has 1 MA's), (191, 29541), (192, 29538), (247, 29304), (248, 29301), (307, 29046), (322, 28995), (323, 28989), (338, 28941), (342, 28908), (377, 28794), (381, 28785), (405, 28740), (408, 28734), (417, 28707), (438, 28635), (455, 28563), (460, 28527), (463, 28518), (466, 28503), (467, 28497), (471, 28479), (480, 28437), (493, 28374), (511, 28302),

Gene: Zenitsu\_40 Start: 30973, Stop: 29561, Start Num: 143

Candidate Starts for Zenitsu\_40:

(Start: 140 @30976 has 8 MA's), (Start: 143 @30973 has 22 MA's), (150, 30943), (Start: 152 @30937 has 1 MA's), (164, 30904), (217, 30712), (228, 30685), (240, 30625), (247, 30598), (248, 30595), (255, 30553), (271, 30499), (279, 30457), (307, 30343), (323, 30286), (329, 30265), (335, 30250), (338, 30238), (339, 30226), (340, 30223), (342, 30205), (363, 30124), (377, 30088), (405, 30034), (419, 29992), (430, 29962), (434, 29947), (436, 29938), (437, 29932), (448, 29890), (460, 29821), (466, 29797), (467, 29791), (468, 29785), (471, 29773), (490, 29677), (493, 29668), (498, 29650), (501, 29638), (503, 29632), (512, 29593),

Gene: Zepp\_40 Start: 29128, Stop: 27701, Start Num: 139

Candidate Starts for Zepp\_40:

(Start: 139 @29128 has 146 MA's), (148, 29098), (150, 29092), (Start: 190 @28978 has 1 MA's), (191, 28975), (238, 28774), (247, 28738), (248, 28735), (307, 28480), (322, 28429), (323, 28423), (338, 28375), (339, 28363), (342, 28342), (366, 28255), (377, 28228), (381, 28219), (405, 28174), (417, 28141), (434, 28087), (438, 28069), (455, 27997), (460, 27961), (463, 27952), (466, 27937), (467, 27931), (471, 27913), (493, 27808), (511, 27736),

Gene: Zooman\_98 Start: 76212, Stop: 74272, Start Num: 23

Candidate Starts for Zooman\_98:

(Start: 23 @76212 has 9 MA's), (47, 76086), (56, 76059), (85, 75966), (86, 75963), (125, 75891), (149, 75810), (156, 75786), (218, 75510), (282, 75225), (288, 75204), (305, 75114), (321, 75054), (323, 75045), (326, 75030), (337, 74988), (338, 74982), (342, 74949), (345, 74937), (348, 74928), (359, 74904), (382, 74844), (398, 74808), (432, 74712), (433, 74706), (448, 74643), (451, 74622), (452, 74616), (467, 74541), (468, 74535), (472, 74514), (484, 74454), (492, 74412), (498, 74388), (501, 74376),

Gene: Zuko\_72 Start: 51866, Stop: 53398, Start Num: 106

Candidate Starts for Zuko\_72:

(76, 51788), (Start: 106 @51866 has 2 MA's), (121, 51899), (146, 51986), (157, 52028), (159, 52034), (160, 52037), (162, 52043), (169, 52070), (176, 52091), (177, 52097), (191, 52133), (199, 52175), (205, 52196), (209, 52211), (211, 52217), (212, 52220), (246, 52364), (248, 52370), (249, 52373), (259, 52424), (261, 52430), (263, 52436), (269, 52460), (274, 52481), (281, 52514), (294, 52577), (296, 52586), (312, 52649), (336, 52745), (341, 52772), (342, 52784), (345, 52796), (346, 52799), (409, 52916), (436, 53012), (441, 53030), (446, 53054), (460, 53135), (461, 53138), (462, 53141),

(473, 53195), (480, 53225), (491, 53282), (498, 53306), (502, 53321),